







**17<sup>th</sup> ISA POWID/EPRI CONTROLS & INSTRUMENTATION CONFERENCE**  
**50<sup>TH</sup> ANNUAL ISA POWID SYMPOSIUM**  
 JUNE 10 –15, 2007, PITTSBURGH, PENNSYLVANIA  
**A Golden Celebration of Innovations and Technologies**  
 Visiting the Past, Examining the Present, and Looking to the Future

# Final Program

<b>Sunday, June 10<sup>th</sup></b>	
8:00 am - 5:00 pm	Long Range Planning & Executive Committee Meeting (Ellwood I & II Rooms)
1:00 pm - 5:00 pm	Registration (Ballroom Hallway)
7:00 am – 3:00 pm	Setup Vendor Exhibits (Admiral Room and Grand Stations III, IV & V Ballrooms)
3:00 pm - 5:00 pm	Vendor Exhibits (Admiral Room and Grand Stations III, IV & V Ballrooms)
5:00 pm - 7:00 pm	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p align="center"> <b>Welcome Reception</b>            Entertainment by:  <b>Bob Mullins</b>            (Grand Station I &amp; II Ballrooms)         </p> </div> <div style="width: 45%; text-align: center;">  <p> <b>Bob Mullins</b>  <b>Hypnotist – Magician – Psychic Entertainer</b>            A new entertainment experience for today's            sophisticated audience            A performance that will amaze you and leave            you mystified         </p> </div> </div>

<b>Monday, June 11<sup>th</sup></b>	
6:30 am – 7:30 am	Author's Breakfast (Fountain View Room)
7:00 am - 5:00 pm	Registration (Ballroom Hallway)
7:30 am – 9:00 am	Spouse's Lounge & Breakfast (Fountain View Room)
8:00 am - 8:45 am	Welcome by ISA POWID Director Dan Lee (Grand Station I & II Ballrooms)
8:45 am - 9:30 am	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%; text-align: center;"> <p><b>ISA Welcome Speaker</b></p>  <p> <b>Steve Huffman</b>            2007 ISA President         </p> </div> <div style="width: 45%; text-align: center;"> <p><b>Keynote Speaker</b></p>  <p> <b>Jeffrey Kupfer</b>            Chief of Staff – U.S. Dept of Energy         </p> </div> </div>

10:00 am – 5:00 pm	<b>SP 67 (Nuclear) Committee Meeting</b> (Ellwood I & II Rooms)	
Morning Sessions 10:00 am - 12:00 pm	<p style="text-align: center;"><b>Power Plant Simulation &amp; Modeling</b> (Grand Station II Ballroom) <b>Session Developer – Alex Lekich, GSE Systems</b></p> <p>P034 – Estimating Heat Pickup in Super-Heaters, Erik Ydstie and Alan Abel, Carnegie Mellon University, Richard Kephart &amp; Xu Cheng, Emerson Process Management</p> <p>P038 - Control System Design Using Dynamic Simulation, Greg M Kosowski &amp; Kent M Kozak, TRAX, Dale P. Evely, Southern Company</p> <p>P040 - Effective Use of Simulators to Provide Flexible and Maintainable Training and Engineering Tools, Erin Flannery, Emerson Process Management</p>	<p style="text-align: center;"><b>Power Plant Instrumentation</b> (Grand Station I Ballroom) <b>Session Developer – Jimmy Thornton, DOE/National Energy Technology Laboratory</b></p> <p>P009 - ASME Code Considerations Associated with Steam Drum Level Measurement, Dale P. Evely, Southern Company</p> <p>P003 – Detecting Plugged Chutes in Coal Yard and Coal Fired Power Plants, William P Sholette, AMETEK Drexelbrook</p> <p>P030 - Implementation for a Flow Measurement Solution for Stable Operation of Parallel Pumps in Norte Fluminense Power Plant, Edson da Costa Bortoni, Augusto N.C. Viana, Roberto Alves de Almeida &amp; Zulucy de Souza, Itajuba Federal University, Brazil</p> <p>P031 - Gibson Method for Flow Measurement in Hydro Power Plants, Edson da Costa Bortoni, Mariana Santos Matos &amp; Eduardo Bonci Cavalca, Itajuba Federal University, Brazil</p>
12:00 pm – 2:00 pm	<p><b>Luncheon Guest Speaker</b></p>  <p><b>Stephen Cropper</b> WTAE-TV4 Meteorologist</p>	<p><b>Awards Luncheon</b> <b>Recognition of POWID Leadership Members, Facilities &amp; Authors</b> (Reflections &amp; Waterfront Rooms)</p>
Afternoon Sessions 2:15 pm – 5:00 pm	<p style="text-align: center;"><b>Advanced Control Techniques</b> (Grand Station II Ballroom) <b>Session Developer – Nancy Polowsky, The Babcock &amp; Wilcox Company</b></p> <p>P012 - A New Direct Energy Balance Control Concept for PC-Fired Boiler-Turbine Unit Bases on Radiation Energy Signal, Huai Chun Zhou, Zixue Luo, Lubin Wu &amp; Benyuan Huang, Huazhong University of Science and Technology</p> <p>P018 - Model Predictive Main Control for a Once-Thru CFB Unit, Jari Leppakoski, Kalle Anttonen &amp; Tero Joronen, Metso Automation</p> <p>P025 - Applications of Model Predictive Control (MPC) to Steam/Water System in a gas Fired Boiler Simulator, Abhinaya Joshi, Xinsheng Lou, Carl Neushaefer &amp; Joseph W. Quinn, ALSTOM Power &amp; Peter B. Luh, University of Connecticut</p> <p>P042 – The Use of Structural Analysis to Design a Fault Diagnosis System for the Steam Turbine of a Combined Cycle Power Plant, M. Sanchez Parra, Instituto de Investigaciones Eléctricas, A. Flores Abad, Universidad Autónoma de Ciudad Juárez, &amp; C. Verde, Instituto de Ingeniería - UNAM</p>	<p style="text-align: center;"><b>Plant Asset Management</b> (Grand Stations I Ballroom) <b>Session Developer – Susan Maley, DOE/National Energy Technology Laboratory</b></p> <p>P007 - Estimating the Value of Changes to the Operating Characteristics of Power Generating Units, Thomas Snowdon, Emerson Power Management</p> <p>P019 - Upgrading to Human-Machine Interface Systems for Modern-Day High-Speed and Effectiveness for Aging Steam and Gas Turbine Controls, Mike Dost &amp; Tom Laird, ALSTOM Power</p> <p>P028 - Old Fashion Control Systems Engineering Plus: A Must In the Times of Auto Design, Central Databases, Fieldbuses and all that Jazz, Jan Jekielek, Nutshell Models</p> <p>P050 –Configuration Management: A Practical Approach, Aaron L Castor, Hurst Technologies</p> <p>P052 - Improving Overall Equipment Effectiveness and Increasing ROA with Asset Monitors, Marc Antoine, Steve Johnson &amp; Rich Vesel, ABB Power Systems</p>

Afternoon Sessions 2:15 pm – 5:00 pm con't	P051 –Advanced Control Demonstration on a Combined Cycle Heat Recovery Steam Generator, Joe Baas, Alabama Power, Pascale Bendotti, Electricite' de France, John Sorge, Southern Company, & Cyrus Taft, EPRI	
5:00 pm – 7:00 pm	Vendor Exhibits (Admiral Room and Grand Stations III, IV & V Ballrooms)	

**Tuesday, June 12th**

6:30 am – 7:30 am	Author's Breakfast (Fountain View Room)	
7:00 am - 5:00 pm	Registration (Ballroom Hallway)	
7:30 am – 9:00 am	Spouse's Lounge & Breakfast (Fountain View Room)	

Morning Sessions 8:00 am – 11:00 am	<p align="center"><b>Advanced Plant Technologies</b> (Grand Station II Ballroom) <b>Session Developer – John Sorge, Southern Company</b></p> <p>P014 - A New Holistic Approach to Generator Diagnostics and Monitoring, Thomas E Laird &amp; Michael Drpic, ALSTOM Power</p> <p>P043 – NOx Reduction on Coal-Fired Units Utilizing Combustion Airflow Measurement and Control, Bill Kirkenir, Progress Energy and David J Earley, AMC Power/Combustion Technologies</p> <p>P046 - Control of Pulverized Coal Oxy-Combustion, Allan Zadiraka &amp; Denny McDonald, The Babcock &amp; Wilcox Company</p> <p>P047 -Facilities for the Validation of Line-of-Sight Combustion Gas Monitors for Coal-Fire Boilers, Ronald K. Hanson &amp; Jay B. Jeffries, Stanford University, Richard Himes, EPRI, Jessica Muncy, Fossil Energy Research Corporation, Ernie Padgett, Georgia Power Company, Jeremiah Haswell, &amp; John Sorge, Southern Company</p> <p>P055 - Bumpless Transfer with and without Controller Uncertainty: Resolution of Key Implementation Issues, J. Bentsman &amp; K. Zheng, University of Illinois at Urbana-Champaign and C. W. Taft, EPRI</p> <p>P056 - Soot Blow and NOx Optimization Enhance Once-Thru Unit Performance, Don Labbe &amp; Andy Speziale, Invensys Process Systems &amp; Don Andrasik, Mirant Morgantown Station</p>	<p align="center"><b>Nuclear Plant Issues and Technologies</b> (Reflections Room) <b>Session Developer – Aaron Hussey, EPRI</b></p> <p>P002 - Monitoring Sensor Drift Using Digital Systems, Lionel D Bates, Enstat &amp; T.J. Ravishankar, RR Consulting Services</p> <p>P013 - Processing of Redundant Measurements, SergeyAnikanov, Westinghouse, Igor V. Stolyetnyi, Weston</p> <p>P020 - Successful Replacement of I&amp;C Within 13 Months, Edmund Berger &amp; Roman Krempel, Westinghouse Electric Germany</p> <p>P044 - Neutron Detector Life Extension through Predictive Maintenance, H.M. Hashermian, B.D. Shumaker, C.D. Sexton, D.D. Beverly &amp; G.M. Morton, E.T. Riggsbee, Analysis and Measurement Services Corporation</p>
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11:00 am – 1:00 pm	Lunch (Reflections and Waterfront Rooms) Vendor Exhibits (Admiral Room and Grand Stations III, IV & V Ballrooms)	
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Afternoon Sessions 1:00 pm – 4:00 pm	<p align="center"><b>Power Plant Performance Improvement with Advanced Monitoring Systems</b> (Grand Station II Ballroom) <b>Session Developer – Tim Fuller &amp; Tom Flynn, The Babcock &amp; Wilcox Company</b></p> <p>P008 - Statistical Analysis in Performance, Jeffery Williams, Emerson Process Management, &amp; Konrad Swirski, Warsaw University of Technology</p> <p>P021 - Development of Data-Driven Modeling Methods for Monitoring Coal Pulverizer Units in Power Plants, Belle R Upadhyaya and Fan Li, University of Tennessee, Richard Kephart and N. Samardsija, Emerson Process Management, &amp; LA Coffey, Combustion Process Consultant</p> <p>P029 - A Novel Approach to Predictive Condition Monitoring and Knowledge Management in Power Systems, Murad Akhrarov &amp; Peter J Millett, iSagacity</p> <p>P039 - Web Enabled Artificial Intelligence (AI) Software a Home for the Virtual Operator with both Advisory and Control Modes of Operation, Peter Francino &amp; Glen Foster, Emerson Process Management</p> <p>P049 - Importance of Accurate Air Control for Combustion Optimization, Richard W Vesel, ABB Power Generation, &amp; John R Gregory, ABB Actuators &amp; Positioners</p>	<p align="center"><b>Instrumentation Networking</b> (Reflections Room) <b>Session Developer – Susan Maley, DOE/National Energy Technology Laboratory</b></p> <p>P001 - Wi-Fi Protected Access for Protection and Automation, Dennis K Holstein, &amp; Thomas E. Kropp, CIGRE Working Group B5.22</p> <p>P017 - Fieldbus Applications in Power Generation: Project Examples and Experience, John K Blaney &amp; Jim D Murray, Emerson Process Management, Gary L. Tingley, Portland General Electric</p> <p>P024 - Wireless Technology for Power Industry Process Monitoring Applications, John Perry, Emerson Process Management</p> <p>P057 – Wireless Infrastructure &amp; VoIP at LCRA's Power Facility, David Runkle, Lower Colorado River Authority &amp; Stephen Lambright, Apprion</p>
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4:00 pm – 6:00 pm	Vendor Exhibits (Admiral Room and Grand Stations III, IV & V Ballrooms)	
6:00 pm – 11:00 pm	<p><b>50<sup>th</sup> Anniversary &amp; Spouse's Dinner</b>  Entertainment by:  <b>the Van-Dells</b>  (Grand Stations I &amp; II Ballrooms)</p>	 <p><b>THE VAN-DELLS</b> are an oldies show group specializing in 50's and 60's Rock and Roll. They sing a cross section of oldies and combine a unique blend of comedy, choreography and tight harmonies</p>

<b>Wednesday, June 13<sup>th</sup></b>		
6:30 am – 7:30 am	Author's Breakfast (Hazelton II Room)	
7:00 am - 5:00 pm	Registration (Ballroom Hallway)	
7:30 am – 9:00 am	Spouse's Lounge & Breakfast (Hazelton I Room)	
8:00 am – 12:00 pm	Removal of Vendor Exhibits (Admiral Room and Grand Stations III, IV & V Ballrooms)	
8:00 am – 5:00 pm	SP 67 (Nuclear) Committee Meeting (Woodlawn I Room)	
8:00 am – 5:00 pm	Emerson Process Management Working Group Meeting ( Woodlawn II Room)	
Morning Sessions 8:00 am – 10:45 am	<p><b>Installation &amp; Commissioning</b>  (Grand Station II Ballroom)  <b>Session Developer – Tim Blackburn, Orbital Engineering</b></p> <p>P011 – Improvement of Reliability of the Power Plant DCS, Kwan Sik Bae, Korea Western Power Company</p> <p>P016 – Tuning Boiler Controls to Minimize Disruption on a FD Fan VFD Trip, Sang-jin Lee &amp; Jong-Youl Lee, Korea Western Power Co.</p> <p>P023 - Tracking and Reporting of Critical Plant Data in a Timely Manner, Jody Damron &amp; Laura Lewis, Salt River Project</p> <p>P027 - Value Added Engineering: An Account of the Customization That Goes Into DCS, Radhakrishnan Sarangapani &amp; Ashok Kumar Panda, NTPC Limited</p> <p>P033 - Cost Justification and Benefits for Converting a Steam Turbine Mechanical Hydraulic Control to an Electro-Hydraulic Control, Michael Stander, Nebraska Public Power Distric, &amp; Jim Jacoby, Invensys Process Systems</p> <p>P045 -Process Control Tuning Software Demonstration at Greene County, Henry Ellis, Alabama Power, Dale P. Evely &amp; John Sorge, Southern Company, &amp; Cyrus Taft, EPRI</p>	<p><b>I &amp; C System Security</b>  (Grand Station I Ballroom)  <b>Session Developer – Joe Weiss</b></p> <p>P053 – Securing your Control System, Kim Fenrich, ABB</p> <p>P022 - Security and Stability of DCS/PLC Based Control Systems in a Power Plant, Alok Shrivastava, NTPC Ltd</p> <p>P036 - Providing Secure Remote Access to Digital I&amp;C Systems Using Commercial Off-The-Shelf Products, James Bingham &amp; Harold Douglas Hester, Southern Nuclear Operating Co. and Bradley Yeates &amp; Eric Carlson, Southern Company Services</p> <p>P058 – Automation Security-Asking the impossible from Many Users, Robert C. Webb</p> <p>P026 - Study on Safety Instrumented System for Burner Management System (BMS), Alok Shrivastav &amp; Ashok Kumar Panda, NTPC Ltd</p> <p>P037 - SIL &amp; IPF Evaluation for Control System Upgrades, Harendra Jayant Relwani, Saudi Basic Industries Corporation</p>
	11:00 am – 12:00 pm	Closing Comments (Grand Stations I & II Ballrooms)
12:00 pm – 1:00 pm	Conference Critique Meeting Note: Open to Conference Committee and ExCom Members only (Ellwood I & II Rooms)	
1:00 pm – 5:00 pm	<p><b>Department of Energy Workshop</b>  (Brighton II, III, &amp; IV)</p> <p>The Advanced Research Program under the DOE National Energy Technology Laboratory (NETL) is sponsoring two round table workshop sessions to solicit input from the power industry and process control experts on emerging technologies and technology needs for the control of near zero emission coal fired power plants currently under development. The workshop sessions will target issue identification relative to power plant control algorithms developments that have direct benefit for coal-fired applications. These sessions will include select technical presentations but also solicit input from utilities, power generation technology developers, process control experts and academia. Input gained from these sessions will serve as a reference for state-of-the-art options in control and optimization. Information gained from this workshop will be incorporated into DOE NETL's Sensors and Controls Program.</p> <p>Those interested in participating in the workshop should contact Susan Maley prior to the conference to reserve space for the workshop and to receive a workshop agenda.</p>	

1:00 pm – 2:30 pm	SP 77 (Fossil) Committee Meeting (Ellwood I & II Rooms)	Emerson Process Management Training Class
3:00 pm – 8:00 pm	EPRI I&C Interest Group Meeting & Dinner (Ellwood I & II Rooms & Fountainview Room)	

<b>Thursday, June 14th</b>		
8:00 am - 5:00 pm	SP 77 (Fossil) Standards & Practice Meetings (Ellwood I & II Room)	
7:30 am – 9:00 am	Spouse's Lounge & Breakfast (Brighton I Room)	
8:00 am – 12:00 pm	Department of Energy Workshop (Brighton II, III, & IV)	
8:00 am – 5:00 pm	ISA Training Class – ES15C (Haselton I Room) Instructor – Jerry Gilman Introduction to Boiler Control Systems  ISA Training Class – IC55C (Haselton II Room) Instructor – Cameron Kamrani Implementing Enterprise/Control Integration	

<b>Friday, June 15th</b>		
8:00 am – 5:00 pm	ISA Training Class - ES16C (Edenberg Room) Instructor – Jerry Gilman Boiler Burner Management Systems – Meeting NFPA Standards  ISA Training Class – IC50C (Haselton I Room) Instructor – Larry Thompson OPC – The Windows to the World are Open  ISA Training Class – SP05PC (Haselton II Room) Instructor – Jim Jahnke Advances in Continuous Emission Monitoring (CEM) Techniques	