In this Issue
Division Officers ................................................................. 1
Division Representatives for Energy & Water Automation Conference .......... 1
Director’s Message ................................................................ 2
Editor’s Message .................................................................... 2
POWID Goals Update .......................................................... 3
EWAC Pictures ...................................................................... 3
EWAC Summary ................................................................. 7
EWAC Supporters .................................................................. 8
2019 Annual Leadership Conference Report .................................... 8
Abstract: Research on evidence driven condition early warning method with applications in power plant ......................................................... 10
Abstract: Electrically charged thermal energy storage systems for grid-level electricity storage ................................................................. 11
Reskilling is needed for I&C Professionals from Thermal (Coal Based) Power Plants .................................................................................. 11
ISA67 Symposium .................................................................. 12
ISA67 Nuclear Power Plant Standards Committee Update ..................... 12
ISA77 Committee Update ....................................................... 13
POWID Awards Nomination Request to All POWID Members ............... 14
POWID Membership Recognition ............................................. 15

Upcoming Events
April 27-29 2020 ISA Analysis Division Conference (AD) Long Beach, CA, USA
May 5-7 Fundamentals of Industrial Automation, Instrumentation, and Control Birmingham, AL, USA

Division Officers
DIRECTOR
Chad Kiger
AMS Corporation
Chad@ams-corp.com

PAST DIRECTOR
Xinsheng Lou
General Electric
xinsheng.lou@ge.com

NEWSLETTER ADVISOR
Dale Evely
Southern Company (Retired)
dpevely@southernco.com

NEWSLETTER EDITOR
Beth Clarkin
Southern Company
epclarki@southernco.com

POWID HONORS & AWARDS COORDINATOR
Don Labbe
Schneider Electric
Donald.Labbe@schneider-electric.com

POWID WEB PAGE COORDINATOR
Cyrus Taft
Taft Engineering
cwtaft@taftengineering.com

Division Representatives for ISA Energy & Water Automation Conference
Co-CHAIR
Josh Long
Bechtel
jalong@bechtel.com

PROGRAM CHAIR
John Sorge
Southern Company (Retired)
jsorge@gmail.com
Director’s Message
By: Chad Kiger, AMS Cooperation

It is hard to believe that 2019 is nearing an end, but welcome to the Fall POWID newsletter. I am sorry I missed everyone at the first ever 2019 Energy & Water Automation Conference (EWAC) held in Orlando in August 2019. I heard that it was a well-attended and informative event. Thank you to everyone who was able to contribute to the success of the conference. Planning is already on-going for next year’s event, and you should be hearing about that in the near future. If you would like to have a role in the event and/or have recommendations for making the event successful, please let me know. We hope to have a great line-up of speakers and event topics that should be of interest to the POWID community.

Let us also congratulate Xinsheng Lou on being voted as the Vice President-Elect for the Industries & Sciences Department. He will assume this role on January 1, 2020. I expect he will do a great job in his new role in much the same way that he led POWID over the past few years. Thank you again for all that you do to help with as current Director.

As we look forward to the next year, I ask for your help in volunteering to take on a role within the Power division to help make contributions to the newsletter, participate in our industry conference, serve as a division leader, or just make suggestions for how we can better serve your needs. We continuously try to improve our programming and outreach to better support the industry. Please do not sit back idle. Jump in and help volunteer, whether at a local section event or in helping organize the program for the next conference. Without your help, we cannot make a difference. We are looking to provide long-range planning of the division and cannot do that without volunteers who are willing to step-in and assume roles and responsibilities. It does not take a large time commitment but will greatly help our division. We currently have several vacant leadership positions and need your help.

Finally, I would like to announce an exciting line-up of webinars planned for the POWID community. Our first speaker will be Aaron Hussey discussing Fleet Monitoring and Diagnostics, planned for 2020. You should be receiving an email with additional details soon. We have several other planned webinars from Dan Lee, Josiah Long, and myself. We hope that you can find time to view these webinars and engage the speakers in productive dialogue to make use of their expertise for the implementation of the concepts and ideas that are presented. Again, if you have suggestions for future topics or would be interested in presenting please let us know.

Editor’s Message
By: Beth Clarkin, Southern Company

It sounds like the first EWAC Conference went well. Another such conference will most likely be held in August 2020. Watch your email and this newsletter for more information. If you have interest in planning the upcoming conference or in taking on a position in our division, please contact us. Serving the division is a great way to learn about the industry and gives you a chance to practice the leadership skills you will need later in your career. Plus, it’s a lot of fun!

Speaking of fun, as usual, we ask you to consider submitting an article to our newsletter. We are primarily looking for technical content related to the automation side of the power industry. However, historical and general technical items are also welcome. Please keep your articles non-commercial. We will not print heavy sales pitches. Please send these articles to epclarki@southernco.com. I am
POWID Goals Update
By: Chad Kiger, AMS Cooperation

Our goals for the upcoming year center around increased participation from the POWID community. The reason for combining the POWID symposium with the Water/Waste Water Automation Conference was to promote collaboration across multiple industries to leverage knowledge and expertise. We look forward to continuing to work with ISA staff to identify additional methods of reaching a wider audience. In addition, we are beginning a series of webinars meant to address emerging technologies in the POWER industry. There is currently an ISA effort, and we would also like to make this a POWID effort, to engage young professionals in the POWER industry. They will be the leaders of tomorrow that will have to help shepherd POWID forward into the future. Without their help, we will not be able to flourish as a division and community. Therefore, this is a call to all young (and old) professionals to step up and take an active role. We currently are in need of volunteers to step up and accept leadership positions within POWID to help continue to grow this division and to develop relevant methods to reach the power community through conferences and other avenues. Please contact me if you are interested in volunteering.

2019 EWAC Pictures
2019 EWAC Summary
Welcome to the first year of the joint Power Industry Division with Water and Wastewater Division. Held at the Orlando Omni with a new format focused on presentations and less on papers. There was a keynote speaker every day and a wrap-up every evening.

We invited Mark from InSource who gave a great presentation on why you need a digitization strategy. Snippet of his presentation showing the gains to be made by the integration of IoT and AI in instrumentation space: https://insource.solutions/wp-content/uploads/2019/08/EWAC-ISA-2019-Keynote-Mark-Delfunt-InSource.pdf

We found the Water and Wastewater group to be a friendly and easygoing group with great stories.

Topics included
- Synchronization of alarm management, graphics, and workstations
- Adoption of Fieldbus Networks for Plant Upgrades
- Functional Safety Assessment Stage 3 - in Practice
- An Emerging Approach to SCADA Infrastructure Methodology for 21st Century Water Infrastructure
- Surprises in a Decade of Evolving SCADA Security Advice
- Effluent Water Handling and Operational Efficiency
- Five Guidelines to Ensure the Integrity of Your Industrial Operations
- Nuclear Main Control Room Obsolescence & Cyber Security Regulations Are New Challenges To Overcome
- Process Control System Migrations
- Smart Transmitters Enable Smart Sensors
- Implementing ISA / IEC 62443 Strategies to Protect Process Control Systems
- Implementation of Functional Safety Management, Cost-Saving or Gold Plating
- Connecting the last mile of Industrial IoT – new enablers for the energy and water infrastructure
- Converge Asset and Vulnerability Management Processes and Controls Across IT and OT to Close Exploitable Gaps
- Typical controls and SCADA upgrades versus next generation hybrid systems
- Secure Data Communication Strategies for Predictive Maintenance of Control Valve Actuators
- Visibility and ICS Security in Water and Wastewater Process Automation
- Saving Money and Improving Operations Through RO Plant Automation
- The impact of efficient calibration during outages
- Experience with ISA 67.04 with Digital Safety Systems at DOE Non-Reactor Nuclear Plants
- What Does All This Data Mean to Drinking Water and Wastewater Plant Operations?
- How Final Element Proof Test Can Affect Your Safety Instrumented Function (SIF)
- Creating Cohesive and Unified SCADA Systems
- Equipment Tagging: A user with this Username already exists!
- SCADA and Cybersecurity Improvements at LRWWU
- Envisioning a Smart Utility - A SUEZ Approach
- Distributed Sewer Infrastructure: A Solution to Replace Septic Tanks
- ISA/IEC 62443 Certifications are Expanding and Becoming a Household Name
- Dynamic Simulations of Low Load Operation of Steam Power Plants
- Gain More Confidence in Your Flow Measurement
- Tales from the Field: Industrial Attack Surfaces seen in Real World Plants
- Central Control Room Project for Jezan Water Infrastructure, A Case Study
- Transforming Data into Information: Implementing Data Management Solutions to Drive Efficiencies
- Overview of NETL Sensors & Controls Development for Fossil Energy Power Generation
- Integrating CCR/ELG System Controls into the Power Plant Distributed Control System
- PLC-Based Real-time Rheological Process Analyzers for Non-Newtonian Processes
- Automatic Advanced and Intelligent control to Optimize treatment and distribution of produced water in the Oil & Gas Industry
- Calibrating multivariable instrumentation

After filming POWID 2018 ISA is trying to refine the format.
2019 ISA EWAC Supporters

SPONSORS

Gold

Indegy

Silver

ABB  exida  HATCH

Schneider Electric  Tesco Controls, Inc.

2019 Annual Leadership Conference Report
By: Graham Nasby, VP of Industries & Sciences
Some 200 ISA volunteer leaders from around the world gathered in San Diego, California, USA, to attend ISA’s 2019 Annual Leadership Conference (ALC). Known to many as the Fall Leaders Meeting, this event was an opportunity for both ISA’s staff and volunteer leadership to come together to plot the course forward for the society. The weekend meeting featured both large and small format meetings, social events, and the annual Honors and Awards Gala.

Of particular focus were ISA’s new strategic objectives which are Industry Reach and Awareness, Member Development and Engagement, Technical Education and Certification, and Leadership and Business Skill Development. During the course of the weekend, leaders came together to continue to develop the plans in these particular areas. The role of technical divisions, as a prime
source of technical content and expertise, was also discussed in terms of how divisions will play a vital role in the new framework. ISA has a leadership role to play in our various industry sectors, and divisions are a key part of the outreach strategy.

The ALC was also a chance to reconnect with old friends and meet new like-minded volunteers. Social events in the evenings and group activities rounded out the social activities on the weekend. The ISA’s many Standards Committees also met before and after the weekend as part of the ALC’s program. In all, both staff and volunteers left feeling energized and ready for the coming year.

Abstract: Research on evidence driven condition early warning method with applications in power plant

PhD Student’s Name: Xiaolong CHEN
Advisor: Prof. Peihong WANG
School: Southeast University, Nanjing, China

It is essential but challenging to monitor the equipment or the processes in power plants and thus make an early warning for abnormal conditions and diagnose the reason for the warning, so as to ensure the healthy and stable operation of thermal power units as well as the power grid. However, the inaccuracy and uncertainty involved in equipment’s operating conditions, the difficulty in modeling complex equipment, and the scarcity of fault samples have made the monitoring and early warning tasks more challenging. In view of these problems, this paper investigates the evidence-driven condition monitoring, early warning and diagnosis method for thermal power units. The content consists of typical condition mining and representation, condition monitoring and early warning, inversion analysis of the warning reason for potential abnormality. Besides, the practical applications of the condition early warning method on the Yunnan power generation monitoring and early warning platform are also introduced in this paper. The main contributions of this paper can be concluded as follows:

1. A typical condition mining method based on density peaks clustering (DPC) is proposed to find the typical operating conditions of the equipment, and the typical conditions are then described using mass functions under the framework of the Evidence Theory, to establish the condition library of the equipment. The clustering method DPC can find the typical operating conditions of the equipment reasonably according to the density distribution characteristics of the historical operating data, and does not need to predetermine the number of clusters. Describing the operating conditions in the form of evidence (mass function) can fully express the inaccuracy and uncertainty involved in the operating condition. However, performing clustering analysis with DPC directly on massive operating data of the equipment usually takes a long time and could be a challenge for ordinary computers. As a consequence, a dynamic density biased sampling (DBS) algorithm is proposed to solve this problem. A typical sample set is firstly sampled from the massive operating data by dynamic DBS. Then the typical operating conditions are found by DPC from the typical sample set. The dynamic DBS algorithm has solved the problem that there is always a deviation between the actual and the expected sampling size in the traditional DBS. In addition, an index PS that can evaluate the performance of the dynamic DBS algorithm is proposed based on the Adjusted Rand Index (ARI). On the basis of the performance index PS, some parameters in dynamic DBS algorithm are studied.

2. In view of the scarcity of fault samples, a condition monitoring and early warning method called CMEW-EKNN is proposed based on the modified evidential KNN rule (EKNN). The distance reject option in the EKNN rule is utilized, such that only normal operating data is needed to construct the monitoring and early warning model. To improve the accuracy and robustness of CMEW-EKNN, an adaptive discounting factor is proposed to make the early warning boundary adaptive to local distribution characteristics of the training samples. Besides, the leave-one-out cross-validation method is adopted to optimize the value of the discounting factor without damaging its adaptive ability, so as to further improve the performance of the early warning method. The CMEW-EKNN method is able to present the evolution processes of the equipment’s operating conditions and raise the alarm in a timely manner at the origin of a possible abnormality to prevent it from further deterioration.

3. A new distance calculation method for accurate search of k-nearest neighbors is proposed to make the searching process of k-nearest neighbors more accurate, especially when the equipment is in abnormal condition. In the EKNN based condition monitoring and early warning method, the searching process of the k-nearest neighbors (KNN) is determined according to the distances between the sample to be monitored and the typical condition samples of the equipment in the condition library. Consequently, the abnormality of one or more operating variables will lead to deviations in the KNN searching process. In fact, the operating variables of the equipment can usually be divided into two types, namely input variables and output variables. And the real abnormal condition of the equipment is usually reflected on the abnormal deviation of one or more output variables, while has almost no influence on those input variables. Based on this, a new distance, calculated as the weighted sum of the Euclidian distances of the input variables and the output variables, is utilized to search the k-nearest neighbors, which makes the KNN searching process more accurate especially when some abnormality happens. At the same time, the KNN searching deviation caused by inertia and delay between the input and output of the equipment can also be reduced.

4. Based on k-nearest neighbor (KNN) residuals, an inversion analysis method regarding early warning reasons for abnormal conditions of the equipment is proposed. According to the core idea of KNN, the typical operating samples in the condition library of the equipment are treated as the reference set to generate KNN residuals. In this case, the difficulty of mechanism modeling in the model-based residual generation method can be avoided. Then the generated KNN residuals are combined through evidence combination
rule, so as to locate the abnormal operating variables of the equipment. Based on the located abnormal variables, we can determine whether a real abnormal condition or a new condition is going to happen when the warning is triggered. For real abnormalities, the possible causes can be analyzed through evaluating the developing direction of the KNN residuals of the abnormal variables, in combination with expert knowledge or experience. The causes obtained can provide guidance for the maintenance of the equipment.

5. The simulation data regarding various types of abnormal conditions including abrupt and gradual abnormalities, such as leakage, fouling, etc. of a high-pressure heater and a condenser is used to verify the effectiveness of the proposed condition early warning method in this paper. Though some actual field anomaly data has already been used to test the performance of the condition warning method, it is still not enough. In view of the scarcity of abnormal and fault samples, dynamic simulation models of a high-pressure heater as well as a condenser from Taizhou No. 2 Power Plant are established. Based on the simulation models, full load normal operating conditions and different kinds of abnormal conditions of the two objects are simulated to get the test data. Then, typical condition library of the equipment is established using the normal operating data. Based on the condition library, the proposed condition early warning method is used to detect and diagnosis the simulated faults to see if all the faults can be detected and diagnosed accurately. The results have verified the ability of the evidence driven condition early warning method in detecting and diagnosing different types of abnormal conditions.

Abstract: Electrically charged thermal energy storage systems for grid-level electricity storage

Thesis: S.M., Massachusetts Institute of Technology, Department of Mechanical Engineering, 2018.
Author: Meroueh, Laureen
Advisor: Gang Chen.

Unlike most other commodities, electricity produced at any given time must match the electricity being consumed or the stability of the electric grid is jeopardized. Electricity demand changes throughout the day resulting in required generation ramp-ups that strain power plants, reduce cycle efficiency and increase CO2 emissions. This problem is exacerbated when renewable sources such as wind and solar are integrated into the grid, due to their intermittency. A change in methods of energy production globally that allows synergistic coupling of renewable and fossil fuels is needed. Currently, pumped hydroelectric and compressed air energy storage are the two most common methods of storage, but are highly geographic dependent systems and thus of limited applicability. There exists a strong demand for grid-scale energy storage that are cost-effective and without geographic constraints. In this thesis, storage systems that are charged by electricity and discharged to produce electricity at times of high demand, are theoretically evaluated. Various types of storage such as chemical, thermal, and mechanical, are reviewed to determine the most ideal method for grid-level energy storage. Thermal energy storage systems using phase change materials are most attractive on a cost and energy density basis. Two system designs are evaluated that can couple to both existing and future power plants since they are electrically charged, via joule heating for example, and later discharged to produce electricity using the plant's turbomachinery. Described within is a novel system in which silicon is used as the storage medium and energy release is predominantly through radiative heat transfer. Another design based on the eutectic alloy Al0.88 Si0.12 and other sensible energy storage materials is also evaluated. As an example, the energy storage systems are coupled to a power plant operating according to a supercritical Rankin cycle, and their performance is compared to that of a boiler. Additionally, system cost is compared to existing storage technologies. Although storing electricity as heat and back to electricity is thermodynamically unfavorable, we present an analysis to show that this approach can be cost competitive and provides a segue from fossil fuels to renewable energy.

Reskilling is needed for I&C Professionals from Thermal (Coal Based) Power Plants
By: Alok Shrivastava

Due to huge capacity additions in recent years, the power sector has typically attracted some of the best talent of the I&C/automation profession in India. Traditionally, Fossil (coal) based power plants have been the bedrock of Indian electricity sector. India has set for itself a target of installed capacity of 175 GW from Renewable Energy Sources (RE) by March 2022, as a part of India’s commitment to fight climate change. Now, with the large-scale integration of renewable energy sources (largely solar and wind), thermal power plants are backing down operations or not put into operation at all. As per Central electricity Authority (CEA) of India, the PLF of coal-based plants is reduced to 60.67% during 2017-18 from 78.6% during 2007-08. The following mosaic clearly depicts the disadvantageous position of the coal based plants vis-à-vis renewable plants based on the current state of technology, cost, acceptability and other factors. Some of the advantages like “Certainty to grid connectivity” (indicated in the mosaic below), that traditionally coal based plants had, have already been lost, and this will further drift away, as soon as battery storage becomes competitive.
Recently, in an interaction with young I&C professionals, they expressed the apprehension about the future for them in the power industry, and more specifically, in coal based thermal power plants, as there is no fresh investment going on, and the existing fleet is becoming non-competitive in merit order rating, due to their forced flexible mode of operations.

As per long term studies conducted by authorities in India, by the year 2030, sub critical coal-based power plants will be replaced in the existing fleet by more efficient supercritical, ultra-supercritical and advanced ultra-supercritical plants. Though, capacity augmentation will be at a slower pace, opportunity exists for I&C professional in developing and/or modifying existing control schemes to cater to the ramping requirements, developing machine learning (ML) and AI (artificial intelligence based tools to predict equipment performance, developing of digital-twins of power plants, developing measurement and control schemes for water conservations and developing tools for load forecasting. These are challenging times, but in challenges lie big opportunity to reskill and learn.

**ISA67 Symposium**

For Nuclear, Idaho Falls in September was the place to be. The head of ISA 67 opened the doors at Idaho National Laboratory (INL). The 67 Symposium was a 2-day event where the first day was a full day of 67 Subcommittee meetings and the 2nd day involved a series of tours of the facilities at INL.

The 67 Subcommittee meeting was held with close to 20 people present and more connecting over the phone. But Dan also spiced things up by distributing several great presentations throughout the day including: A presentation on the NuScale 12-unit Power Plant Utah Power is installing at INL and a great presentation on the next level of advanced reactor control being developed at INL

Dan following a great day with the code committees up with a great multi-stop tour which included in order:
1. High Temperature Test Lab where various tests are made with equipment fabricated through additive manufacturing.
2. Human System Simulation where different control rooms and HMI concepts are tested
3. EBR One - 1st reactor (and a breeder) to power a town (OK only 2 houses)
4. Advanced Test Reactor where multiple experiments are going on at any given time
5. Fast Transient Reactor Test Facility which is continuing to further our understanding of nuclear excursions
6. Materials and Fuels Complex which no one has been inside since 75 and has a series of stations where operators work on the outside of the room using manipulators

**ISA67 Nuclear Power Plant Standards Committee Update**

By: ISA Committee Secretary Ryan Hoover, Westinghouse Electric Company

ISA67 is the standards committee organized to support consensus standards and develop recommended practices for instrumentation and controls in the nuclear power industry. The ISA67 committee meets in person regularly once per year with associated working groups meeting periodically through teleconferences to discuss the various tasks being undertaken.


This year’s summer meeting was held at Idaho National Laboratory in Idaho Falls, ID. Daniel Steik, the chairman of the ISA67 committee, was gracious enough to arrange a tour of the EBR-1 Museum (the first power plant to produce electricity using atomic energy), Advanced Test Reactor, Transient Reactor Test Facility, and the Materials and Fuels Complex (home to the largest inert hot cell in the United States).
The next meeting will be held at the Westinghouse Electric Company in Cranberry Township, PA during the summer of 2020. All are welcome to attend so please consider joining us. Please bring your ideas, knowledge, and experience, or come to learn more about the industry and meet the other committee members.

If you have an interest in joining the ISA67 committee, please do not hesitate to contact Ryan Hoover at hooverrj@westinghouse.com.

**ISA77 Committee Update**

By: ISA77 Chair Daniel Lee

Hello, POWID Industry members! The ISA 77 committee last held a Skype meeting on November 13, 2019. You can find the ISA 77 meeting minutes posted on the ISA 77 committee web site. The main purpose of the meeting is to review the status of new/revision documents. The committee will now focus on complete three documents which are summarized here:

ISA77.13 Turbine Steam Bypass Systems (in revision and still in progress)
ISA77.22.01 Power Plant Automation (new document and still in progress)
ISA77.44.01 Steam Temperature (balloting completed – new to resolve editorial comments)

The ISA77.20.01 Fossil Power Plant Simulator working group chair Bill Talbot would like to revise this standard and is looking for working group members. If you would like to participate as a working group member, please contact Bill at talbot@TalbotSimulationAssociates.com.

It has become evident that my interest in performing the duties of ISA77 chair has waned as a result in my pending retirement. As such, I am announcing my resignation as ISA77 Chair effective with the S&P approval of a new ISA77 chair. I was one of the original ISA77 members which started in 1987 and have served as the ISA77 chair since 2001. I have enjoyed working with my industry peers over the years, which I now call my friends. The ISA77 committee has produced eighteen (18) documents that describe principles and applications practices for the power generation industry. Past and current members of ISA77 should be proud of our accomplishments. My involvement with ISA77 has helped my professional career grow technically and as a conduit to network with the industry. I am glad to report that Sinming Kwong (Emerson) has received his management approval and is willing to assume ISA77 chair. I hope all ISA 77
members support Sinming as he assumes the duties. Again, thanks Sinming and all past and current ISA 77 members acknowledgement as I have reached another milestone.

POWID Awards Nomination Request to All POWID Members

Each spring ISA and POWID present awards and scholarships to individuals and facilities based on nominations from ISA and POWID membership. This is our way of recognizing outstanding contributions and performance. The awards are quite unique and represent peer recognition across the power automation industry.

Perhaps you also have a deserving colleague or have seen a facility that should be considered for an award. Or perhaps you know a student that should be considered for a scholarship. Please nominate that person, or an exemplary Power Facility for a POWID award as listed below:

- POWID Achievement Award
- POWID Service Award
- POWID Facilities Award
- Robert N. Hubby Academic Scholarship

The Achievement Award recognizes individuals whose efforts have advanced the generation of electrical power. These efforts are exemplified through the individual’s outstanding achievements, original design application, or special contributions toward the development of engineering concepts in the field of instrumentation and controls within the power industry. The recipient of this award selects a deserving college student for an ISA scholarship ($4000).

The Service Award is for outstanding service in the field of instrumentation. The service of the individual must be noteworthy, exemplary, and exceed the normal duties of the office held. The service is of a nature that advances the stature of the Power Division and/or ISA.

The Facility Award was created to honor facilities that demonstrate innovative application of control systems or instrumentation technology within the power industry.

The Robert N. Hubby Academic Scholarship is POWID’s most esteemed scholarship and is awarded to a deserving student meeting the rigid technical requirements. Students may apply for the Robert N. Hubby Scholarship ($4000).

Nomination forms for these POWID awards and the Scholarship are available through the POWID website at: https://www.isa.org/division/powid/honors-and-awards/. Nominations for POWID Awards and Applications for the Hubby Scholarship are due by February 15, 2020.

There are also ISA Fellow Grade, Celebrating Excellence, and other awards that many ISA and POWID members should be considered for. Information on those awards and how to submit nominations for them can be found at: https://www.isa.org/members-corner/isa-honors-and-awards/.

Recognize deserving colleagues and facilities by nominating them for an award. Submit questions or forms to the POWID Honors & Awards Coordinator, Don Labbe at Donald.Labbe@Schneider-Electric.com.

If you don’t see a deserving POWID member’s name or an exemplary facility’s name below, then perhaps it’s time for you to nominate those members or facility for an Power Industry Division award.

Past POWID Achievement Award Recipients:

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>Ronald H. Johnson</td>
<td>Sargent &amp; Lundy Engineers</td>
</tr>
<tr>
<td>1998</td>
<td>Cyrus W. Taft</td>
<td>Consultant</td>
</tr>
<tr>
<td>1997</td>
<td>Robert W. Hill</td>
<td>Amtech Services</td>
</tr>
<tr>
<td>1996</td>
<td>Robert N. Hubby</td>
<td>Max Controls Systems</td>
</tr>
<tr>
<td>1995</td>
<td>Edwin M. Good</td>
<td>Florida Power Corporation</td>
</tr>
<tr>
<td>1994</td>
<td>Marjorie Widmeyer</td>
<td>Washington Public Power Supply</td>
</tr>
<tr>
<td>1993</td>
<td>Harold S. Hopkins</td>
<td>Utility Products of Arizona</td>
</tr>
<tr>
<td>1992</td>
<td>Joseph M. Weiss</td>
<td>Electric Power Research Institute</td>
</tr>
<tr>
<td>1991</td>
<td>Richard Hottenstein</td>
<td>Gilbert/Commonwealth</td>
</tr>
<tr>
<td>1990</td>
<td>Paul Kenney</td>
<td>Forney</td>
</tr>
<tr>
<td>1989</td>
<td>Gordon R. McFarland</td>
<td>Combustion Engineering</td>
</tr>
<tr>
<td>1988</td>
<td>Peter J. Clelland</td>
<td>Philadelphia Electric Company</td>
</tr>
<tr>
<td>1987</td>
<td>Q. B. Chou</td>
<td>Ontario Hydro</td>
</tr>
<tr>
<td>1986</td>
<td>Robert N. Buschell</td>
<td>Ebasco Services Incorporated</td>
</tr>
<tr>
<td>1985</td>
<td>John E. Coles</td>
<td>New Orleans Public Service Company</td>
</tr>
<tr>
<td>1984</td>
<td>Robert L. Criswell</td>
<td>Foster Wheeler Energy Corporation</td>
</tr>
<tr>
<td>1983</td>
<td>Porter J. Womeldorf</td>
<td>Iowa Power Company</td>
</tr>
<tr>
<td>1982</td>
<td>Theodore C. Reitz</td>
<td>Gilbert Associates, Incorporated</td>
</tr>
<tr>
<td>1981</td>
<td>Richard H. Morse</td>
<td>Leeds &amp; Northrup Company</td>
</tr>
<tr>
<td>1980</td>
<td>Richard T. Jones</td>
<td>Black &amp; Veatch</td>
</tr>
</tbody>
</table>

If you don’t see a deserving POWID member’s name or an exemplary facility’s name below, then perhaps it’s time for you to nominate those members or facility for an Power Industry Division award.

Past POWID Service Award Recipients:

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>Donald Larbey, Schneider Electric</td>
</tr>
<tr>
<td>2008</td>
<td>Allan “Zeke” Zadiraka, Babcock &amp; Wilcox Company</td>
</tr>
<tr>
<td>2007</td>
<td>Dr. Robert Smoak, Tennessee Tech</td>
</tr>
<tr>
<td>2006</td>
<td>Donald Larbey, Schneider Electric</td>
</tr>
<tr>
<td>2005</td>
<td>Jeffery Williams, Emerson Process Management</td>
</tr>
<tr>
<td>2004</td>
<td>Donald Christopher, Reliant Energy</td>
</tr>
<tr>
<td>2003</td>
<td>Frank Ryan, Leeds &amp; Northrup Company</td>
</tr>
<tr>
<td>2002</td>
<td>James Batug, Pennsylvania Power &amp; Light</td>
</tr>
<tr>
<td>2001</td>
<td>Leonard Gruber, Westinghouse Electric Corporation</td>
</tr>
<tr>
<td>2000</td>
<td>Ronald W. Hicks, Black &amp; Veatch</td>
</tr>
</tbody>
</table>

If you don’t see a deserving POWID member’s name or an exemplary facility’s name below, then perhaps it’s time for you to nominate those members or facility for an Power Industry Division award.

Past POWID Facilities Award Recipients:

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>Bailey Controls Company</td>
</tr>
<tr>
<td>2018</td>
<td>D. Edson Baroni, Itajubá Federal University, Brazil</td>
</tr>
<tr>
<td>2017</td>
<td>Carl H. Neuschafer, GE Alstom</td>
</tr>
<tr>
<td>2016</td>
<td>John Sorge, Southern Company</td>
</tr>
<tr>
<td>2015</td>
<td>Aaron Hussey, Expert Microsystems</td>
</tr>
<tr>
<td>2014</td>
<td>Joseph Bentsman, University of Illinois</td>
</tr>
<tr>
<td>2013</td>
<td>Robert Petlier, Power Magazine</td>
</tr>
<tr>
<td>2012</td>
<td>Daniel Lee, ABB, Inc.</td>
</tr>
<tr>
<td>2011</td>
<td>Jacques Smuts, Optimcontrols, Inc.</td>
</tr>
<tr>
<td>2010</td>
<td>Xinsheng Lou, Alstom</td>
</tr>
<tr>
<td>2009</td>
<td>Dale P. Evly, Southern Company</td>
</tr>
<tr>
<td>2008</td>
<td>Allan “Zeke” Zadiraka, Babcock &amp; Wilcox Company</td>
</tr>
<tr>
<td>2007</td>
<td>Dr. Robert Smoak, Tennessee Tech</td>
</tr>
<tr>
<td>2006</td>
<td>Donald Larbey, Schneider Electric</td>
</tr>
<tr>
<td>2005</td>
<td>Jeffery Williams, Emerson Process Management</td>
</tr>
<tr>
<td>2004</td>
<td>Donald Christopher, Reliant Energy</td>
</tr>
<tr>
<td>2003</td>
<td>Frank Ryan, Leeds &amp; Northrup Company</td>
</tr>
<tr>
<td>2002</td>
<td>James Batug, Pennsylvania Power &amp; Light</td>
</tr>
<tr>
<td>2001</td>
<td>Leonard Gruber, Westinghouse Electric Corporation</td>
</tr>
<tr>
<td>2000</td>
<td>Ronald W. Hicks, Black &amp; Veatch</td>
</tr>
</tbody>
</table>

If you don’t see a deserving POWID member’s name or an exemplary facility’s name below, then perhaps it’s time for you to nominate those members or facility for an Power Industry Division award.

Past POWID Achievement Award Recipients:

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>Susan Maley, Electric Power Research Institute</td>
</tr>
<tr>
<td>2018</td>
<td>Carl H. Neuschafer, GE Alstom</td>
</tr>
<tr>
<td>2017</td>
<td>Dr. Edson Baroni, Itajubá Federal University, Brazil</td>
</tr>
<tr>
<td>2016</td>
<td>John Sorge, Southern Company</td>
</tr>
<tr>
<td>2015</td>
<td>Aaron Hussey, Expert Microsystems</td>
</tr>
<tr>
<td>2014</td>
<td>Joseph Bentsman, University of Illinois</td>
</tr>
<tr>
<td>2013</td>
<td>Robert Petlier, Power Magazine</td>
</tr>
<tr>
<td>2012</td>
<td>Daniel Lee, ABB, Inc.</td>
</tr>
<tr>
<td>2011</td>
<td>Jacques Smuts, Optimcontrols, Inc.</td>
</tr>
<tr>
<td>2010</td>
<td>Xinsheng Lou, Alstom</td>
</tr>
<tr>
<td>2009</td>
<td>Dale P. Evly, Southern Company</td>
</tr>
<tr>
<td>2008</td>
<td>Allan “Zeke” Zadiraka, Babcock &amp; Wilcox Company</td>
</tr>
<tr>
<td>2007</td>
<td>Dr. Robert Smoak, Tennessee Tech</td>
</tr>
<tr>
<td>2006</td>
<td>Donald Larbey, Schneider Electric</td>
</tr>
<tr>
<td>2005</td>
<td>Jeffery Williams, Emerson Process Management</td>
</tr>
<tr>
<td>2004</td>
<td>Donald Christopher, Reliant Energy</td>
</tr>
<tr>
<td>2003</td>
<td>Frank Ryan, Leeds &amp; Northrup Company</td>
</tr>
<tr>
<td>2002</td>
<td>James Batug, Pennsylvania Power &amp; Light</td>
</tr>
<tr>
<td>2001</td>
<td>Leonard Gruber, Westinghouse Electric Corporation</td>
</tr>
<tr>
<td>2000</td>
<td>Ronald W. Hicks, Black &amp; Veatch</td>
</tr>
</tbody>
</table>

If you don’t see a deserving POWID member’s name or an exemplary facility’s name below, then perhaps it’s time for you to nominate those members or facility for an Power Industry Division award.

Past POWID Achievement Award Recipients:

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>Ronald H. Johnson</td>
<td>Sargent &amp; Lundy Engineers</td>
</tr>
<tr>
<td>1998</td>
<td>Cyrus W. Taft</td>
<td>Consultant</td>
</tr>
<tr>
<td>1997</td>
<td>Robert W. Hill</td>
<td>Amtech Services</td>
</tr>
<tr>
<td>1996</td>
<td>Robert N. Hubby</td>
<td>Max Controls Systems</td>
</tr>
<tr>
<td>1995</td>
<td>Edwin M. Good</td>
<td>Florida Power Corporation</td>
</tr>
<tr>
<td>1994</td>
<td>Marjorie Widmeyer</td>
<td>Washington Public Power Supply</td>
</tr>
<tr>
<td>1993</td>
<td>Harold S. Hopkins</td>
<td>Utility Products of Arizona</td>
</tr>
<tr>
<td>1992</td>
<td>Joseph M. Weiss</td>
<td>Electric Power Research Institute</td>
</tr>
<tr>
<td>1991</td>
<td>Richard Hottenstein</td>
<td>Gilbert/Commonwealth</td>
</tr>
<tr>
<td>1990</td>
<td>Paul Kenney</td>
<td>Forney</td>
</tr>
<tr>
<td>1989</td>
<td>Gordon R. McFarland</td>
<td>Combustion Engineering</td>
</tr>
<tr>
<td>1988</td>
<td>Peter J. Clelland</td>
<td>Philadelphia Electric Company</td>
</tr>
<tr>
<td>1987</td>
<td>Q. B. Chou</td>
<td>Ontario Hydro</td>
</tr>
<tr>
<td>1986</td>
<td>Robert N. Buschell</td>
<td>Ebasco Services Incorporated</td>
</tr>
<tr>
<td>1985</td>
<td>John E. Coles</td>
<td>New Orleans Public Service Company</td>
</tr>
<tr>
<td>1984</td>
<td>Robert L. Criswell</td>
<td>Foster Wheeler Energy Corporation</td>
</tr>
<tr>
<td>1983</td>
<td>Porter J. Womeldorf</td>
<td>Iowa Power Company</td>
</tr>
<tr>
<td>1982</td>
<td>Theodore C. Reitz</td>
<td>Gilbert Associates, Incorporated</td>
</tr>
<tr>
<td>1981</td>
<td>Richard H. Morse</td>
<td>Leeds &amp; Northrup Company</td>
</tr>
<tr>
<td>1980</td>
<td>Richard T. Jones</td>
<td>Black &amp; Veatch</td>
</tr>
</tbody>
</table>

If you don’t see a deserving POWID member’s name or an exemplary facility’s name below, then perhaps it’s time for you to nominate those members or facility for an Power Industry Division award.
Past POWID Service Award Recipients:

2019  Seth Olson, Chevron Power & Energy Management
2018-co Wayne Marquino, Retired
2018-co John Sorge, Southern Company
2017  Bob Queenan, Curtiss-Wright Scientec
2017  Mike Skoncey, First Energy
2016  Terri Graham, Hurst Technologies
2015  Don Labbe, Schneider Electric
2013  Cyrus Taff, Taff Engineering
2012  Joseph Weiss, Applied Control Solutions
2011  Robert N. Hubby, ISA and ASME Life Member
2009  Stephen E. “Skip” Wells, Southern Company

POWID Membership Recognition
July 2019 - October 2019

The Power Industry Division (POWID) would like to welcome all our new professional and student members. We hope you will take advantage of everything POWID has to offer for your work and your career including the opportunity to network with power industry professional colleagues across the globe. Our primary goal is to provide a means for information exchange among engineers, scientists, technicians, and managers involved in instrumentation, control and automation related to the production of power. POWID is active in developing industry safety and performance standards, working closely with two ISA standards committees—ISA67, Nuclear Power Plant Standards, and ISA77, Fossil Power Plant Standards. The Division also conducts technical training and sponsors awards for power plants and individuals advancing instrumentation and control within the power industry. POWID welcomes your involvement in our division activities. Opportunities are available to provide information for our newsletter and web site, to develop papers for presentation at our annual conference, and to participate in our division’s management structure. It’s a great way to get to know other industry professionals, to gain professional recognition, and to keep informed!

Welcome New and Returning Members!
Justin Abston, Electro Design Engineering, G.F. I&C Technician
Mrs. Luz Adriana Aguilar, Lead HMI Engineer
Nasser Al-Marri
Mr. Kiran Chaitanya Anne, Engineer
Girish Aralikatti, Aum Universal, Principal Consultant
Suriyachack Archwichai, SCG Chemicals, Reliability Engineer
Khawja Azizuddin, Capgemini North America, Managing Delivery Architect
Gurudath Balliga, Nuclear Power Corporation of India Ltd., Chief Engineer
Javier Bezures Del Cueto, BCB Information Control S.L., CEO
Carlos Boronat Ferrater, Responsable de Proyectos
Sauleo Silvino Bortolini
James Brown
Mr. Danny Robert Burton, Jr., Northwest Instruments & Controls, Solution Sales - Colorado
Gilsero Chavez, Instrumentation Technician
Iris Colón-Berrios, DSI
Jose Contreras Mora, Ingeniera de Proyectos
Ben Cox, Viridor Waste Management, Principal I&C Engineer
José Ricardo Díaz Guevara, Termopuerto, Instrumentista
Francois Dubois, Benchmark I&A Service Inc, Territory Manager
Neal Edwards, UCI, Instrument Control Technician
Mr. Dennis Fairchild, Maintenance Foreman
Muhammad Yousuf Faisal
Brain Dennis Gaon, University of New Hampshire, ISO
Michael Garza
Mr. William Genz
Emma Ghih, Burns & McDonnell,
David Goircelaya
Mr. Marco Roberto Goncalves, Application Engineering Analyst

Mike Grabowski, Jedson Engineering, Automation Specialist
Cristian Oswaldo Guzmán Hernández, Siemens S.A., Soporte Ventas
Joshua Hasenzahl, Ethos Energy Group, Electrical, I&C Technician
Azmí Hashim, Petronas
Muhammad Taufik Hidayat
Saurabh Jain
Mukesh Kesharwani
Pawan Kumar, GE Power System India Pvt. Ltd., Senior Engineer - I&C
Jean Leduc, Hydro Quebec, Cyber Security Architect
Mr. James Lemanowicz, ABB Inc, Cyber Security Manager
Haozhang Li, ESBI, C & I Engineer
Chad Lloyd, Schneider Electric
Phillip Lucero, PNM Resources, I&C Technician
Michael Martinez
Roel Mateo
João Batista Mello
Rasidi Mohamed, Petronas Gas BHD, Principle Engineer I&C
Imran Mohiuddin
Mohamed Momani, Precise Thinking TCT, Cybersecurity Consultant
Nina Nagrahenti, PT Badak NGL, Instrument Engineer
Emmanuel Okyere, Ghana National Gas Company
Sumit Pant, Midamerican Energy, Engineer II
Mr. Jose Luis Poderoso, Sales Engineer (Process Instrumentation)
Christopher Powell
Hareesh Ramachandran, Siemens LLC, Head of Commissioning and CyberSecurity
Ricardo Ribeiro Tavares, Gemina
Roger Roa
Andrew Romero, PNM, I&C Technician
Welcome New Students!

Divya A
Abdulrahman A K Alhammadi
Rohit Kumar Alok
Angie Vanesa Arboleda Sanchez
Daury Argueta
Bhoomika B
Debjeet Bhadra
VATSAL BHOYANIA
Leo Britt
Jyoti C
Edgar Enrique Cabrera Salazar
Daniel Edgardo Cabrera Sasi
Shubham Choudhury
Robert Copley
Shreya Dayananda
MAGNUN PHILLIPPE DE JESUS
Joshua Engels
Randal Gabel
Chaitanya Gadgil
Sudarshan Dixit GM
Ever Josué González Cruz
Aishwarya H
Anusha M H
Raksha Hegde
Omar Hernandez Díaz
Hima Honnaraju
Dillon Irick
Ashish Jha
Shlok Kumar
Manju L
Chen Li
Chandana M
René Alexander Menjivar Herrera
Israel Mojica
José Daniel Moz Henriquez
Devanand N
Chetan N
Urvi Naidu
Shanmukha V Naidu
Anthony Negethon
Miguel Ochoa
Preeti P
Val K. Paterson
Vivek B R
Miguel Ángel Rodríguez García
Ankitha K S
Manjushree C S
Jorge Luis Sánchez Aguilar
Ananya Satish
Diego Gustavo Souza Martins
Beau Stidham
Mohana Tappe
Jacob Thompson
Lame Lugo Yulieth Andrea
Juan Francisco Zepeda Hernández