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# INTEGRATED RESOURCE PLANNING (IRP) SUMMIT

**March 25 – 26, 2020**  
**Le Pavillon Hotel**  
**New Orleans, LA**

POST-CONFERENCE WORKSHOP I

**Storage Forecasting, Modeling and Analytics for IRP**

FRIDAY, MARCH 27, 2020



*"We often find ourselves hearing and reading material that only confirms our exacting views. EUCI brings together the experience and emerging approaches of industry leaders from around the world. Much of the value of these presentations stems from discovering what we did not know."*

Division Director, NW Power and Conservation Council



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EUCI is authorized by IACET to offer 1.5 CEUs for the conference, 0.7 CEUs for each workshop.



## OVERVIEW

Traditional utility integrated resource planning (IRP) modeling, analysis and preparation have been dominated by:

- Central station firm generation sited at specific locations
- Fueled mainly by gas, coal, oil, and nuclear
- With one-way transmission and distribution systems
- And well-established reliability and high resource capacity factors

This program will pivot to the new IRP paradigm. It is designed by integrated resource planners for integrated resource planners and will tackle several conditions throttling contemporary resource planning. Leading utility, power resource planning professionals and related industry experts will address the key elements associated with these emerging operational issues, environmental mandates, variable energy resources, regulatory policies, and uncertainty factors that now dominate IRP planning requirements, such as:

- Increases in variable large-scale renewable generation and distributed energy resources (DERs), with their fair-weather reliability and low capacity factors, fueled by sources that cannot be controlled
- Analytical modeling tools that often do not fully encompass the requirements necessary to develop sound resource plan generation portfolios
- Emerging battery energy storage systems, grid modernization considerations, and multi-directional transmission and distribution technologies
- Load-eroding drivers such as energy efficiency, demand response (DR), smart grid, smart cities, and customer choice
- Legislative mandates requiring environmental, technological, and policy compliance that don't account for their complexity and implications

The conference will blend presentations from utilities, state regulatory staff/commissioners, non-utility SMEs, service providers and others from all over North America. Case studies will provide a solid survey of "best practices" thinking and methodologies by a full range of utilities and subject matter experts. And feature panels will draw out collaborative concepts for further consideration and implementation.

## LEARNING OUTCOMES

Attendees will gain practical skills and insights on how to:

- Develop resource plans that incorporate the full palette of supply and demand options
- Describe how IRP planners can analyze, model and incorporate storage in IRPs
- Determine the value of portfolio flexibility for resource planning and market operations
- Explore how resource planning can help utilities and competitive power businesses in a transforming utility business model environment
- Identify how to properly account for all variables when analyzing, modeling and planning portfolio decisions
- Review lessons learned to understand the range of different approaches across North America with regard to fully integrating distributed solar into utility planning
- Consider the broader range of inputs that future resource decisions should incorporate to map a pathway to the attainment of carbon-free generation resource outcomes
- Assess the portfolio effects of renewable energy resources



*"EUCI's IRP agenda is morphing with the industry."*

Senior Project Manager,  
Integrated Resource Planning,  
Southern California Edison



*"Excellent conference featuring coast-to-coast perspectives and approaches to complex challenges and opportunities."*

Solutions Specialist, Atonix Digital

## WHO SHOULD ATTEND

- Integrated resource planning
- Resource adequacy planning
- Strategic and long-range planning
- Forecasting and analysis
- Energy efficiency planning
- Demand response planning
- Generation and load planning
- Transmission planning
- Reliability planning
- Intra-hour operations analysis and modeling
- Renewable energy planning
- Environmental and GHG planning
- State regulatory and commission staff
- Carbon/emissions management teams
- Carbon/emissions market consultants and advisors
- Environmental compliance groups
- Regulatory affairs
- Asset management
- Financial analysis

## WHAT PAST ATTENDEES HAVE SAID



***“Excellent conference with top-level attendees from various companies and all regions of the country.”***

Director – Strategy & Planning, PSEG Long Island

***“A great overview from a wide cross-section of industry experts.”*** – Energy Resource Analyst, EWEB

***“This is a perfect forum to share, learn and take home a better/broader understanding of the issues facing our industry.”*** – Director – Energy Supply Planning, Northwestern Energy

***“Outstanding survey of topics for planners...”***  
– Resource Planner/Economist, Central Minnesota Municipal Power Agency

***“Extremely educational and accessible – well organized!”*** – Project Manager, Portland General Electric

***“Outstanding group of speakers! Informative and thought-provoking.”*** – Resource Planning Manager, American Electric Power (AEP)

***“Very insightful on how companies are dealing with all the industry change.”*** – Principal, Cadmus Group

***“There was great discussion and real-world applications. Very helpful content and networking opportunities.”*** – Senior Market Analyst, NextERA Energy

***“I benefitted from attending this summit in multiple ways: namely, high quality speakers, content and topics that are current and relevant, and high value networking.”*** – Senior Project Manager, Southern California Edison (SCE)

# AGENDA

WEDNESDAY, MARCH 25, 2020

- 7:45 – 8:15 am**      **Registration and Continental Breakfast**
- 8:15 – 8:30 am**      **Overview and Introductions**
- 8:30 – 9:40 am**      **Survey of Utility and State Efforts to Favor Renewable & Low Carbon Energy Resources**
- Historical development
  - Current landscape
  - Forward trends
  - Legislative vs regulatory commission imposition and governance
- Autumn Proudlove, Senior Manager – Policy Research, North Carolina Clean Energy Technology Center**  
**Joseph Ferrari, General Manager – Utility Market Development, Wärtsilä North America, Inc**
- 9:40 – 10:00 am**      **Morning Break**
- 10:00 – 11:00 am**      **Preparing IRP Documentation for Regulatory and Stakeholder Review and Engagement**
- Impact of transition to renewable energy on prudence requirements
  - Resilience
  - Integration of DER
  - Grid investment optimization
  - Modeling scenarios
  - NARUC/NASEO Task Force
  - Interpreting the mandated requirements
  - Re-calibrating the IRP and/or other short- and long-term planning documents
  - Confirming internal, stakeholder and regulatory buy-in
  - Institutionalizing the process and outcome
  - Balancing infrastructure utility with environmental and social objectives
- Laura Nelson, Energy Advisor/Executive Director – Office of Energy Development, State of Utah (invited)**  
**Matt Michels, Director – Corporate Analysis, Ameren**  
**Danielle Sass Byrnett, Director – Center for Partnerships & Innovation, National Association of Regulatory Utility Commissioners (NARUC)**
- 11:00 am – 12:15 pm**      **Impact of RPS & Clean Energy Standards on IRPs**
- Considering new and different value streams of energy resources
  - Energy prices and the importance of transmission
  - The proper positioning of storage resources
  - Weighing the economic value of energy vs conservation vs green attributes
  - Thermal generation asset re-configuration
  - Differentiating price forecasts for green versus unspecified energy
  - Resource development — build and own vs reliance on PPAs
  - Impact of transition to renewable energy on prudence requirements
- Phillip Popoff, Manager – Resource Planning and Analysis, Puget Sound Energy**  
**Carlos Romero, Principal – Solution Engineering, Energy Exemplar**
- 12:15 – 1:30 pm**      **Group Luncheon**

# AGENDA

WEDNESDAY, MARCH 25, 2020 (CONTINUED)

**1:30 – 2:45 pm**

**Dispatches from the Energy Transition Front: Using Analytics to Build Consensus and Find Win-Wins for Future Resource Portfolios**

Across the US, utilities are grappling with difficult decisions on how to replace retiring thermal assets and build clean and renewable portfolios for the future. Planning has become much more complex with resource options like renewables and batteries, as well as the need to consider distributed resources and transportation sector impacts. In this presentation, related work using advanced analytics and modern planning techniques to build stakeholder consensus for balanced, clean, reliable, and affordable energy resource portfolios will be examined from utilities across very different parts of the U.S.

**Dr. Gary Dorris, President, Ascend Analytics**

**2:45 – 3:45 pm**

**Accurately Modeling the Penetration and Impact of DER Resources**

A few short years ago the increasing penetration of distributed energy resources (mostly in the form of wind and solar generation) – and the resulting distribution system and grid impacts – was felt in maybe a handful of utility service areas. No longer is that the case! The advance of DERs is occurring aggressively and rapidly across the gamut of utility and balancing area systems. While the immediate impact is felt most acutely in the control center, the repercussions are rippling into the long-term IRP planning realm. This session will explore what tools are available to obtain greater system awareness for understanding the influences exerted by exogenous resources. It will also provide insight as to how planners can improve their systems’ long-term flexibility and resilience to accommodate these dynamic variables.

**Matt Michels, Director – Corporate Analysis, Ameren**  
**Scott Martin, Director – Resource & New Business Strategy, Sacramento Municipal Utility District (SMUD)**

**3:45 – 4:00 pm**

**Afternoon Break**

**4:00 – 5:15 pm**

**Integrated Resource Planning to Achieve 100% Renewables**

The drive towards 100 pct renewable energy is accelerating. Twelve states and more than a hundred cities have imposed 100 pct renewable or clean energy policies or laws. In addition, a growing number of large corporations and other large power loads within utilities’ service areas are actively implementing renewable and clean energy measures. For utilities and other LSEs to remain viable power providers, they must 1) adapt their integrated planning processes to move renewables to the top of the stack, 2) retire older conventional plants and 3) enable distributed renewables – all while maintaining required system reliability. This segment will explore and inform IRP planners:

- What new planning methodologies and solutions are needed?
- What are the challenges and limitations of achieving a 100 pct portfolio?
- What other sectors must be tapped to enable full achievement?

**Paul Maxwell, Managing Director, Black & Veatch Management Consulting LLC**  
**Denny Yeung, Principal Consultant, Black & Veatch Management Consulting LLC**

**5:15 – 6:15 pm**

**Networking Reception**



*“A great mix of topics and extensive industry knowledge.”*

Principal, Cadmus



*“This IRP conference was well executed; I learned a lot about the IRP process and how structural change in the markets are shaping the ways that IRPs are developed.”*

Director, Ascend Analytics

# AGENDA

THURSDAY, MARCH 26, 2020

7:45 – 8:15 am

**Continental Breakfast**

8:15 – 9:30 am

**Properly Reflecting Coal Plant Retirement in IRP**

Performing a retirement analysis of large coal plants requires careful planning and consideration of several factors, beyond just evaluating the cost of replacement generation. These multiple factors fall into quantitative and qualitative categories that specifically reflect the utility's particular regulatory framework, asset portfolio and corporate culture. This segment will discuss the planning and modeling adjustments that are appropriate to account for coal plant retirements, which may include reliability, compliance, flexibility, diversity and affordability for its stakeholders.

**Nick Phillips, Director – Integrated Resource Planning, Public Service Company of New Mexico (PNM) invited**

**Norm Richardson, President, Anchor Power Solutions**

**Greg Turk, Executive Consultant, Horizons Energy**

9:30 – 10:30 am

**How IRPs Must Be Adjusted to Reflect Vertically Integrated Utility Participation in an Energy Imbalance Market**

Vertically integrated utilities and balancing areas across the western interconnect have migrated steadily in the past five years into market services platforms operated by ISOs to offer energy balancing services. The resulting access to additional grid resources has shifted some requirements addressed in traditional IRPs. This panel discussion will evaluate what forecasting, modeling and analytical changes this has triggered in IRPs and what additional changes may occur if additional market services options emerge from these transmission system organizations.

**Panel Discussion**

10:30 – 10:45 am

**Morning Break**

10:45 – 12:00 pm

**Addressing De-carbonization in an IRP / Case Study**

Several states and utilities in the U.S. have announced goals for a totally carbon-free generation mix over the next two to three decades. While such announcements provide broad guidance, any utility's resource portfolio strategy to meet such targets will be influenced by its individual load shape, the available technology options, and the market and regulatory environment in which the utility operates. This presentation will address several resource planning considerations associated with a potential carbon-free future in the context of a practical case study.

**James McMahon, Vice President – Energy Practice, Charles River Associates (CRA)**

**Patrick Augustine, Principal, Charles River Associates (CRA)**

12:00 – 1:15 pm

**Group Luncheon**



*“Excellent agenda, and list of speakers. Right on target with issues I’m dealing with right now.”*

Manager of Resource Planning, Puget Sound Energy

# AGENDA

THURSDAY, MARCH 26, 2020 (CONTINUED)

1:15 – 2:30 pm



## IRP Involvement in Resource Procurement Evaluation

IRP staff, because of their analytical skills, are increasingly being consulted and brought in to contribute to the resource procurement process — especially in the bid evaluation phase — at their utilities. This session will consider best practices associated with process and evaluation methodology regarding the solicitation of eligible energy resources through Requests for Proposals (RFP):

- Request for Proposal (RFP) process
- Conducting Economic and non-economic analysis of bids
  - o Assumptions including price forecasts
  - o Renewable energy standard compliance
  - o Capacity expansion modeling
  - o Production cost modeling
  - o Avoided cost and net incremental cost/(benefit) analysis
  - o Sensitivity analysis for top ranked bids
  - o Non-economic evaluation criteria analysis

**Justin Briggs, Resource Planning Manager, Black Hills Corp**

**Diane Crockett, Principal Consultant – Advisors Consulting, ABB**

2:30 – 3:15 pm



## Formulating and Optimizing IRPs for Multiple Jurisdictional Operational Utilities: AEP Case Study

In 2019, American Electric Power (AEP) filed IRPs in five different regulatory jurisdictions for discrete operating utilities. This presentation will discuss in greater detail the uniqueness and similarities of the IRPs following aspects:

- Stakeholder processes
- Modeling
- Resource alternatives evaluated
- Results
- 5-Year Action Plan
- Filings
- Next Steps

The segment will also address how the actual approved plans differ from the submitted plans, so you will “now know the rest of the story...”

**Mark Becker, Resource Planning Manager, American Electric Power (AEP)**

3:15 – 3:30 pm

**Afternoon Break**



*“This conference was very relevant. I will come again.”*

Director – Research & Energy Technologies, Vectren



*“Valuable insights on the evolving topics of battery storage, integrated generation/transmission/distribution planning and others.”*

Director – Corporate Analytics

# AGENDA

THURSDAY, MARCH 26, 2020 (CONTINUED)

**3:30 – 4:45 pm**

## **Integrated GT&D Planning – Moving the Needle**

In 2019 at the EUCI IRP Summit, Siemens moderated a panel discussion that focused on how utility planning must evolve to address issues around rising DER penetration and modernizing the grid. The updated paradigm — integrated generation, transmission and distribution planning (IGT&D) — incorporates new business processes, software and data integration needs. Since this approach was introduced last year with case studies from Dominion Energy, Exelon and Puerto Rico, more utilities have embarked on an IGT&D planning path. In some instances, the driver has been regulatory requirements to focus on non-traditional solutions. In others, the IGT&D decision has been driven by customer DER penetration. A third compelling reason has been the need to improve resiliency for potential devastating events that result in significant damage to the grid. Finally, there are some cities and municipal distribution utilities assessing whether to take on the added responsibility of planning for their future power supply, rather than continuing to serve load through power purchases from their current suppliers. This panel will address the following issues that underscore the relevance and versatility provided by IGT&D planning:

1. What conditions raised awareness at these utilities that change is needed?
2. What were the near-term priorities identified and what steps have been undertaken to adopt IGT&D planning?
3. How have some utilities, customers and stakeholder worked together to form their plans?
4. What is the ultimate outcome of the IGT&D planning process, how does that differ from unenhanced traditional IRP planning and how long will it take to achieve?

**Gary Vicinus, Managing Director – Energy Business Advisory, Siemens**

**4:45 pm**

## **Summit Adjournment**



*“EUCI does a super job of keeping streamlined conference experience with rich content; will be attending more conferences in the future.”*

Senior Analyst,  
ScottMadden



*“Excellent conference featuring coast-to-coast perspectives and approaches to complex challenges and opportunities.”*

Solutions Specialist, Atonix Digital

## POST-CONFERENCE WORKSHOP

# Storage Forecasting, Modeling and Analytics for IRP

FRIDAY, MARCH 27, 2020

## OVERVIEW

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While specific practices vary by utility, integrated resource plans (IRPs) are mostly a highly technical exercise, and IRP processes generally make a number of simplifying assumptions. Because these processes were developed in an era of dispatchable, utility-scale generation, such assumptions often result in the undervaluation of scalable, flexible resources like energy storage.

This workshop will discuss the specific barriers that traditional resource planning practices create for energy storage and share a recent PNNL report that examined the degree to which utilities around the country are acknowledging those barriers and adapting their planning processes to more accurately value energy storage. It will provide an overview of emerging best practices in utility resource planning and policy efforts at the state level to facilitate the inclusion of energy storage in the electric grid. In addition, presentations will be made by three different segments of the storage analysis and modeling perspectives:

- A vertically integrated utility
- A project developer
- Multiple software solution providers will demonstrate their solutions for modeling, analyzing and prescribing storage applications in an IRP context

## LEARNING OUTCOMES

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- Assess the treatment of storage modeling and analytics in U.S. utility IRPs
- Identify emerging best practices in utility resource planning
- Evaluate storage cost assumptions and value streams
- Examine state policy options and their impact on activity associated with energy storage deployment
- Demonstrate a storage project developer's approach to analysis and modeling of storage for utility deployment
- Demonstrate a vertically integrated utility's approach to analysis and modeling of storage for IRP and utility deployment
- Demonstrate multiple service providers' solutions for analysis and modeling of storage for IRP and utility deployment

# AGENDA

FRIDAY, MARCH 27, 2020

**7:30 – 8:00 am**

**Registration and Continental Breakfast**

**8:00 – 8:15 am**

**Overview and Introductions**

**8:15 – 9:45 am**

**I. Surveying the Treatment of Storage Modeling and Analytics in U.S. Utility IRPs**

- A. Introduction to U.S. DOE's Energy Storage program and the role of the national labs
- B. Integrated Resource Plans
  - 1. Structure and objectives
  - 2. Simplifying assumptions that undervalue energy storage
- C. Report: Energy Storage in Integrated Resource Plans
  - 1. Report objectives
  - 2. Outcomes for batteries and pumped storage hydro (PSH) in the IRPs studied
  - 3. Key findings – storage cost assumptions and value streams
  - 4. Findings and recommendations
- D. Planning and Policy Responses
  - 1. Emerging best practices in utility resource planning
  - 2. State policy options for energy storage

**9:45 – 10:00 am**

**Morning Break**

**10:00 – 11:00 am**

**II. A Utility's Approach to Analysis and Modeling of Storage for IRP and Utility Deployment**

- A. Technologies utilities prefer
- B. Cost trends in battery storage
  - 1. 'LCOS' compared with LCOE of other technologies
- C. Applications of storage
  - 1. Renewables pairing for energy shifting and firming
  - 2. Distribution deferral services
  - 3. Pure market participation
- D. Solar + storage modeling
  - 1. Configurations – AC coupled vs. DC coupled
  - 2. Considerations for modeling in IRP framework — combined system production profile/SoC profile
- E. Energy arbitrage
  - 1. Modeling needs to consider sub-hourly prices — that is key to storage economics and viability
  - 2. Market price forecasts need to adequately account renewable penetration and impact on prices/price volatility, as well as penetration of storage
- F. Multiple applications: storage can provide additional value depending on the location
  - 1. Need to intersect the IRP and DRP
- G. Updates in market rules, which are in constant flux and makes battery economics challenging to model in long-term

# WORKSHOP AGENDA

FRIDAY, MARCH 27, 2020 (CONTINUED)

## III. Service Providers' Solutions for Analysis and Modeling of Storage for IRP and Utility Deployment

11:00 am – 12:00 pm **Ascend Analytics**

12:00 – 1:00 pm **Group Luncheon**

1:00 – 2:00 pm **Siemens**

2:05 – 3:10 pm **Energy Exemplar**

3:10 – 4:15 pm **Wärtsilä North America, Inc**

4:20 – 5:20 pm **Anchor Power**

5:20 pm **Workshop Adjourns**

# WORKSHOP INSTRUCTORS



## Jeremy Twitchell

**Energy Research Analyst, Pacific Northwest National Laboratory**

Jeremy Twitchell is an energy research analyst at the Pacific Northwest National Laboratory, where he leads the lab's work on Equitable Regulatory Environment area of the Department of Energy's Energy Storage Program. His research focuses on identifying the barriers to energy storage in traditional regulatory practices and developing and sharing alternative approaches. In that role, he also reaches out to states to provide technical assistance in incorporating energy storage into the regulatory process. He also assists in grid modernization programs at the lab. Prior to joining PNNL, Mr. Twitchell spent five years at the Washington Utilities and Transportation Commission. He holds a bachelor's degree in Communications (Print Journalism) from Brigham Young University and a master's degree in Public Service and Administration from Texas A&M University.



## Scott Martin

**Director of Resource & New Business Strategy – Grid Strategy & Operations, Sacramento Municipal Utility District (SMUD)**

Scott Martin is the Director of Resource and New Business Strategy at the Sacramento Municipal Utility District. In this position, he directs the development and implementation of SMUD's long-term resource plan including GHG reductions, renewable expansion and development and integration of distributed resources. He is also responsible for development of new revenues through the use of SMUD's intellectual property. Prior to this position, Mr. Martin was responsible for retail pricing, natural gas, electricity and environmental products hedging, and commodity budgeting. He has worked in the natural gas and electric industry throughout the western United States for nearly 30 years and holds a BA in Economics from the University of California, Berkeley and an MA in Economics from the University of Nevada, Las Vegas.

# WORKSHOP INSTRUCTORS



**Gary Dorris**  
**President, Ascend Analytics**

Gary Dorris, Ph.D., President, Ascend Analytics has been a thought leader in energy modeling and risk analysis for 18 years. He has led the development of over a dozen resource plans and pioneered new techniques for risk-based resource planning and portfolio selection. Dr. Dorris has developed new techniques in risk management that integrate uncertainty around both the physical and financial aspects of a utility's portfolio. His analytic innovations have extended toward the development of over a dozen software applications used by over 50 energy companies. In 2001, Dr. Dorris won distinguished recognition from the IPE for contributions to the field of energy risk management.



**Joseph Ferrari**  
**General Manager – Utility Market Development, Wärtsilä North America, Inc**

Joseph Ferrari is General Manager –Utility Market Development at Wärtsilä North America, Inc. His responsibilities include strategic market development, asset evaluations and portfolio planning for applications in the US and Latin America. He is an engineer and scientist with masters degrees in aerospace engineering and natural resource science. He has authored numerous articles on topics ranging from design of combined cycles, emission control systems, integrated resource planning, the impact of coal retirement and enabling renewables using flexible generation. Prior to assuming his current position, Mr. Ferrari worked at the University of Maryland for 5 years as a research scientist; 5 years at Wärtsilä North America, Inc. as a sales engineer for installation of over \$1 billion in power plant projects in North and Central America; and 5 years as the Market Development Analyst for Wärtsilä in the Americas.



**Steven Broad**  
**Vice President – Solution Engineering, Energy Exemplar**

Steven Broad is Vice President of Solution Engineering for Energy Exemplar. He has more than 15 years of experience working in the area of scientific computing and applied mathematics. He has deep experience in energy market simulation and forecasting, especially in the areas of short-term portfolio optimization and scheduling, economic assessment of transmission in nodal energy markets, energy market competitiveness metrics (such as RSI/HHI duration curves, and CMCP markup analysis), stochastic analysis of energy and gas futures and options, the development of market pricing algorithms, and extensive experience in the development of custom scheduling and optimization software systems for clients in the Americas, Europe, and Asia. He has built value for clients in the roles of software engineer, implementation lead, consultant, and market analyst. Prior to joining Energy Exemplar, Dr. Broad was a Professor of Mathematics at Saint Mary's College, a market monitoring analyst at CAISO, and a senior programmer/analyst at Henwood Energy Services (now part of Ventyx, an ABB company). He received his PhD in mathematics from the University of Notre Dame, holds Master's degrees in mathematics from the University of Notre Dame and Washington University in St Louis, and he received his BS in physics and applied mathematics from the University of Evansville.

# WORKSHOP INSTRUCTORS



## Michael Mount

**Principal, Siemens**

Michael Mount is a Principal at Siemens, where he provides strategic and commercial advisory consulting to a wide range of clients focused on the transformation of the utility industry and the growing contribution from renewable resources. His experience includes directing energy planning, engineering, construction and transaction advisory services for utilities, IPPs and large energy users from Hawaii to Maine. Mr. Mount has directed multiple engagements to guide C-level leadership teams and business units in developing actionable and measurable strategic plans in utilities and other industries. Prior to joining Siemens, he was the head of planning for a multi-state utility, and as a management consultant, he has led integrated resource planning in numerous states. Mr. Mount has also used his knowledge of the utility operations and management to lead multiple due diligence and assimilation projects for gas and electric utilities and IPPs, including large renewable energy companies. Much of his recent work has focused on assisting utility companies with DER integration analysis and utility transformation planning.



## Norm Richardson

**President, Anchor Power Solutions**

Norm Richardson is the President of Anchor Power Solutions and has 25 years of experience in market price forecasting, integrated resource planning, risk evaluation, and economic transmission analysis. His experience includes developing software models, collecting and analyzing market data, consulting projects, and expert witness testimony. He holds a Bachelor of Science in Mathematics from Furman University and a Master's of Science in Electrical Engineering from the Georgia Institute of Technology.



*“Well organized and well-run conference with a good cross-section of presenters representing their approaches on how to develop a thorough and defensible IRP.” Supervisor*

Strategic Transmission Analysis, Madison Gas & Electric

## INSTRUCTIONAL METHODS

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PowerPoint presentations and case studies will be used in this program.

## REQUIREMENTS FOR SUCCESSFUL COMPLETION

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Participants must sign in/out each day and be in attendance for the entirety of the conference to be eligible for continuing education credit.

## IACET CREDITS

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EUCI has been accredited as an Authorized Provider by the International Association for Continuing Education and Training (IACET). In obtaining this accreditation, EUCI has demonstrated that it complies with the ANSI/IACET Standard which is recognized internationally as a standard of good practice. As a result of their Authorized Provider status, EUCI is authorized to offer IACET CEUs for its programs that qualify under the ANSI/IACET Standard.

**EUCI is authorized by IACET to offer 1.5 CEUs for the conference, 0.7 CEUs for the workshop**

## EVENT LOCATION

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A room block has been reserved at the **Le Pavillon Hotel**, 833 Poydras St, New Orleans, LA 70112, for the nights of March 24-26, 2020. Room rates are US \$125 plus applicable tax. Call **1-504-581-3111** for reservations and mention the EUCI event to get the group rate. The cutoff date to receive the group rate is February 24, 2020 but as there are a limited number of rooms available at this rate, the room block may close sooner. **Please make your reservations.**

## REGISTER 3, SEND THE 4TH FREE

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Any organization wishing to send multiple attendees to this conference may send 1 FREE for every 3 delegates registered. Please note that all registrations must be made at the same time to qualify.

## SPONSORSHIP OPPORTUNITIES

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Do you want to drive new business through this event's powerful audience? Becoming a sponsor or exhibitor is an excellent opportunity to raise your profile before a manageably sized group of executives who make the key purchasing decisions for their businesses. There is a wide range of sponsorship opportunities available that can be customized to fit your budget and marketing objectives, including: **Platinum, Gold, or VIP sponsor, Reception host, Networking break host, Tabletop exhibit, Workshop sponsor, Lanyard sponsor, Luncheon host and Breakfast host.**

Please contact Stephen Coury at [scoury@euci.com](mailto:scoury@euci.com) or 720-988-1228 for more information.

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## PLEASE REGISTER

- BUNDLE PRICE: INTEGRATED RESOURCE PLANNING (IRP) SUMMIT AND POST-CONFERENCE WORKSHOP**  
MARCH 25 – 27, 2020: US \$2295  
EARLY BIRD on or before MARCH 6, 2020: US \$2095
- INTEGRATED RESOURCE PLANNING (IRP) SUMMIT ONLY**  
MARCH 25 – 26, 2020: US \$1495  
EARLY BIRD on or before MARCH 6, 2020: US \$1295
- POST-CONFERENCE WORKSHOP ONLY**  
*STORAGE FORECASTING, MODELING AND ANALYTICS FOR IRP*  
FRIDAY, MARCH 27, 2020: US \$995  
EARLY BIRD on or before MARCH 6, 2020: US \$895

## ENERGIZE WEEKLY

Energize Weekly is EUCI's free weekly newsletter, delivered to your inbox every Wednesday. We provide you with the latest industry news as well as in-depth analysis from our own team of experts. Subscribers also receive free downloadable presentations from our past events.

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**OR** Enclosed is a check for \$ \_\_\_\_\_ to cover \_\_\_\_\_ registrations.

### Substitutions & Cancellations

Your registration may be transferred to a member of your organization up to 24 hours in advance of the event. Cancellations must be received on or before February 21, 2020 in order to be refunded and will be subject to a US \$195.00 processing fee per registrant. No refunds will be made after this date. Cancellations received after this date will create a credit of the tuition (less processing fee) good toward any other EUCI event. This credit will be good for six months from the cancellation date. In the event of non-attendance, all registration fees will be forfeited. In case of conference cancellation, EUCI's liability is limited to refund of the event registration fee only. For more information regarding administrative policies, such as complaints and refunds, please contact our offices. EUCI reserves the right to alter this program without prior notice.