Evolving RTO markets, renewables, distributed resources, and calls for increased grid resiliency present power supply planners with significant challenges to ensure flexibility and reliability while remaining cost competitive. This conference will explore current trends, relevant projects and market perspectives to gain insight to this changing industry. A roundtable discussion will provide an invaluable opportunity for open dialogue regarding challenges and best practices in meeting these challenges.

Who Should Attend
Power supply system planners, corporate and plant engineers, project managers and vendors who have key stake shaping the generation portfolios and providing reliable power to electric customers. Non-technical professionals in consulting, HR, asset management and finance will also benefit greatly in gaining an understanding of the issues facing the power generation industry.

DATE, TIME, LOCATION
March 11-12, 2020
March 11 - Conference and Roundtable
8:00 a.m. - 4:30 p.m.
March 12 – Conference and Roundtable
8:00 a.m. - 11:30 a.m.

DoubleTree DTC
7801 E Orchard Rd
Greenwood Village, CO 80111
(303) 779-6161
http://group.doubletree.com/REML3-10-20

Reservations
Use the link above for room reservations at the DoubleTree Denver Tech Center. A special room rate is available when you mention RMEL. The reservation deadline to receive this rate is February 25, 2020.

You must mention you are making your reservation as part of the RMEL room block when calling the hotel. By not doing so, you may be incorrectly told that the hotel is full or quoted a different room rate. If the contracted room block is not met, RMEL is financially liable for penalties.

Government Employees: If you are making your reservation at the federal government rate please be sure to mention you are part of RMEL so you will be

BRING ROUNDTABLE TOPICS
You can also send topics ahead of time to jamessakamoto@rmel.org.
Included is a discussion of how OPPD explicitly modeled all three of its competing objectives while using cloud computing and an efficient frontier approach to sift through millions of potential resource portfolios.

10:00-10:15 a.m.  
**Networking Break**

10:15-11:00 a.m.  
**Supporting the Distribution Grid with Energy Storage**  
Matthew Heimann, Power Systems Development, West Region, Siemens Energy, Inc.  
The presentation will explore battery energy storage as a viable alternative to enhancements to distribution networks, such as line upgrades or reactive power supporting equipment. After introductions and agenda, I will introduce a few technical issues such as reverse power flow and voltage issues caused from the integration of DERs and discuss impacts on the grid at a high level. Next will be a brief overview on battery storage technology followed by details on how batteries can mitigate these distribution issues by absorbing power, injecting power and provide volt VAR optimization through power electronics systems.

Additionally, I will run through a brief exercise using real option models to value energy storage optionality in T&D asset deferral. Finally, I will summarize the discussion and open the floor to Q&A.

11:00-Noon  
**Importance of Decision Flexibility in Resource Planning**  
Glen Justis, Experience on Demand  
Kevin Cox, P.E. Principal, CDG Engineers  
In traditional resource planning efforts, great effort is commonly expended in forecasting load and energy prices, researching technologies and operating costs, and estimating revenue requirements. However, what are leading practices in addressing the many uncertainties and risks inherent in both the analysis inputs as well as the resource development timeline? This presentation provides case study examples of resource analysis pitfalls, ways to avoid them, and planning approaches that maximize resiliency.

Noon - 1:00 p.m.  
**Networking Lunch**

1:00-1:45 p.m.  
**Beneficial Electrification**  
Matt Fitzgibbon, Beneficial Electrification Manager, Tri-State Generation & Transmission Association  
An overview of beneficial electrification in our industry and what it means for Tri-State.

1:45-2:45 p.m.  
**Intercooled Aeroderivative Gas Turbines: Challenges & Opportunities**  
Jared Kool, Operations Shift Supervisor, Arizona Public Service  
APS integrated new intercooled aeroderivative gas turbines into its generation portfolio in order to replace aging assets with efficient, flexible and quick-ramping generation in a critical load pocket. This was undertaken in response to growing demand but also to supplement the growth of renewable generation (largely solar) and its effects on our load profile.

This presentation will focus on our experiences since project completion and the challenges and opportunities in operating and maintaining the new GE LMS100 units. It will also touch on the regulatory, marketing and generation perspectives since completion.

Albert Montano, El Paso Electric Company  
I will provide a brief overview of EPE and our LMS100 sites. The EPE presentation will focus on our experience in Improving Insurance and Underwriter Ratings for Intercooled Gas Turbines, Intercooler Water Chemistry and Analytics improvement to reduce water cost and system degradation, Lack of spare/replacement parts for Package Components, Sand Infiltration on Generator Cooling Air Path and its effects, and Journal Bearings Jacking Oil Hose Failures.

2:45-3:00 p.m.  
**Networking Break**

3:00-3:15 p.m.  
**Attendee Announcements**  
Any registered attendee is invited to make a short announcement on their company, new products, technologies or informational updates. Announcements may include showing a product sample but not videos and power point slides. Please limit announcement to 5 minutes.

3:15-4:30 p.m.  
**Generation Vital Issues Roundtable**  
**Bringing roundtable topics for discussion and/or send topics ahead of time to jamessakamoto@rmel.org.**

Roundtables offer a unique forum for peer-to-peer sharing of experiences, critical issues and expertise. The roundtable is a discussion group. Discussion is based on topics brought by attendees. Roundtables are focused on the open discussion period and provide each attendee the opportunity for participation and dialogue on their particular issue.

4:30 p.m.  
**Networking Reception**
8:00-8:45 a.m.
The Gas Turbine’s Path to Zero Carbon
Kellen Walters, Mitsubishi-Hitachi
As society decarbonizes power generation and transportation, the path toward gas plus renewables and storage is becoming clearer. The type of fuel used for power generation has a profound effect on carbon emissions, and flexible high capacity technologies that can back intermittent renewables become more important.
Excess electricity from solar, wind, and other variable renewable energy sources can be used to create renewable hydrogen through electrolysis. The resulting hydrogen can then be stored and used as a dispatchable carbon free power generation or transportation fuel when needed.

8:45-9:30 a.m.
The Case for Carbon Capture to Extend a Coal Plant
Hank Adair, City of Farmington
Peter Mandelstam, COO and Chief Development Officer for Enchant Energy Corporation

The Farmington Electric Utility System and Enchant Developers have been working with a Carbon Capture Technology company, a CO2 purchaser, and a construction contractor to develop a feasible plan that would extend the life of San Juan Generating Station. Hank Adair, the FEUS Utility Director, and Peter Mandelstam, COO and Chief Development Officer for Enchant Energy Corporation, will present the plans and the specific features of the San Juan facility that lend themselves to a feasible solution.

9:30-9:45 a.m.
Networking Break

9:45-10:30 a.m.
Allam Cycle
Mike McGroddy, Principal, 8 Rivers Capital, LLC

The Allam Cycle is a breakthrough in power generation technology. It uses a high-pressure, highly recuperative, oxyfuel, supercritical CO2 cycle that makes emission capture a part of the core power generation process, rather than an afterthought. The result is high-efficiency power generation that inherently produces a pipeline-quality CO2 byproduct at no additional cost to the system’s performance. Charlie Bowser, of NET Power, will present on the technology as well as recent efforts to reach commercial scale.

10:30-11:15 a.m.
Costs and Considerations for Achieving Lofty Renewable Energy Goals
Kyle Combes, Project Manager, Resource Planning and Market Assessments, 1898 & Co.
Victor Aguirre, Project Manager, Resource Planning and Market Assessments, 1898 & Co.

Ambitious renewable energy goals are being set across the United States, and significant power infrastructure changes will be needed to accomplish them. One state’s current energy mix illustrates the challenges that utilities may encounter as they strive toward 100% renewable energy. We will also cover the cost differences to meet lower percentages of renewables in the presentation.

11:15-11:30 a.m.
Roundtable Wrap Up Discussion

9:00-11:30 a.m.

Thank You RMEL Generation Committee

CHAIR
Curt Brown
Black & Veatch
Central Region Director - Power Gen Services

VICE CHAIR
Tom Wos
Tri-State Generation and Transmission Assn.
Generation Project Manager

Dave Dufek
Arizona Public Service
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Louie Guaderrama
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Manager, Generation Integration

Jeff Kruse
CPS Energy
Sr. Director, Coal Generation Operations

Gary Ruhl
Omaha Public Power District
Manager - Programs

Kellen Walters
Mitsubishi Hitachi Power Systems Americas, Inc.
Director, Regional Sales

The RMEL Generation Committee plans all RMEL Generation events. If you’d like to send information to the committee, email James Sakamoto at jamessakamoto@rmel.org.
POWER SUPPLY PLANNING FOR MODERN ENERGY SOLUTIONS CONFERENCE REGISTRATION

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Power Supply Planning for Modern Energy Solutions Conference - March 11-12, 2020

Registration Includes: Breakfast, breaks, lunch, training, course materials, attendee roster and, upon course completion, a continuing education certificate.

- Member full conference (includes roundtable).............................................$395
- **Student Member full conference (includes roundtable)........................$248
- Non-RMEL member full conference............................................................$695

Payment

- Check (RMEL; 6855 S. Havana St, Ste 430; Centennial, CO 80112)
- Visa ☐ Master Card or ☐ American Express

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** To receive the student rate, you must be a full-time student at an RMEL member university. All student registrations must be faxed or called in, and a copy of your student ID and full-time class schedule are required.

Cancellation Policy: Fees are refundable if cancellation is received on or before 5 p.m. on March 1, 2020. If cancellation is received after that date, half of the registration fee will be refunded. Payments will be processed for those who do not attend or do not cancel by 5 p.m. the day before the event. To have someone take your place, please notify RMEL anytime before the event.