

# **THE EPA'S CLEAN POWER PLAN: ITS EFFECT ON ELECTRIC RELIABILITY IN NORTH AMERICA**

March 31 - April 1, 2015

Houston Marriott West Loop by The Galleria  
Houston, TX

Pre-Conference Workshop

**EPA Clean Power Plan/111-D Utility and Power  
Generator Implementation**

Tuesday, March 31, 2015



EUCI is authorized by IACET to offer 1.0 CEUs for the conference and 0.4 CEUs for the workshop.

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# THE EPA'S CLEAN POWER PLAN: ITS EFFECT ON ELECTRIC RELIABILITY IN NORTH AMERICA

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## OVERVIEW

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The EPA's Clean Power Plan (CPP), the recent Mercury and Air Toxics Standards (MATS) ruling and the New Source Review (NSR) are poised to remake electric generation in the United States. These measures will accelerate the decline of coal-fired generation, which currently accounts for just under 40 percent of total generation. Among the many questions this raises, perhaps the most significant one will be the impact this forced shift in generation has on resource adequacy and reliability of the nation's electric grid.

This conference will 1) analyze the components of the CPP, MATS and NSR, 2) appraise the likely impacts that coal-fired plant retirements, and their replacement by gas-fired plants as well as renewables integration, will produce on electric reliability, and 3) seek to address strategies for minimizing adverse outcomes on resource adequacy. The conference will also explore the current status of the EPA's rules and pending legal challenges, as well as the potential for conflict between EPA and other federal and state agencies' mandates and rule-making. Finally, the conference will review the costs associated with the rules, and whether those costs within the various US markets will allow the market constructs to provide the appropriate pricing signals to maintain reliability.

## WHO SHOULD ATTEND

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### **This program will inform professionals at:**

- Utilities (IOUs, Municipal and public power)
- Local distribution companies (LDCs) and load-serving entities (LSEs)
- Independent Power Producers (IPPs)
- Regional Transmission Organizations (RTOs)
- Environmental and State Regulators
- Consultants
- Attorneys
- Solar, wind and renewable energy providers

### **Whose expertise supports the following functions:**

- Coal plant management
- Energy efficiency initiatives and measures
- Capacity planning and management
- Resource and long-range planning
- Load forecasting
- Regulatory, policy and governmental affairs
- Legal
- Solar and wind development

## LEARNING OUTCOMES

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Through presentations and panel discussions, attendees will have the opportunity at this conference to:

- Examine the elements of electric reliability and which organizations administrate it
- Identify strategies for states to meet emissions mandates beyond the EPA's Building Blocks
- Evaluate the legal status of the Clean Power Plan and other EPA mandates that impact reliability
- Appraise market impacts on electric reliability
- Analyze current and projected coal plant retirements and generation loss on reliability
- Assess regional reliability impact from CPP and other EPA rules

## AGENDA

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Tuesday, March 31, 2015

12:30 – 1:00 p.m.

### Registration

1:00 – 2:30 p.m.

### Electric Reliability-What it is/Why it Matters

Modern life in North America is predicated on the premise that electric power will be available when wanted and needed. If weather events like Hurricane Katrina and Super Storm Sandy don't point out how vital electricity is, brown and blackouts during times of high demand remind us of the concept of reliability and how forces that take generation off-line, including regulation, can be cause for concern. This session will review reliability from the perspective of the organization charged with maintaining it: The North American Reliability Council

- What is reliability?
- How is it measured?
- Forces that impact it

### Assessing the Impact of the EPA Measures on Reliability

- How is reliability measured?
- What are the components of the EPA actions that undermine reliability?
- Is it possible to follow the published EPA guidelines and still maintain reliability? If so, how does that translate into financial terms?
- Are there regional differences in the ability of states and the power industry to comply?

### The Reliability Organizations' Role

- NERC
- WECC
- SERC

- Thomas Coleman, Director of Reliability Assessment, North American Reliability Council (NERC)

2:30 – 2:45 p.m.

### Afternoon Break

2:45 – 3:45 p.m.

### "First, we call all the lawyers..."- Billy Shakespeare

EPA rules and lawsuit challenges are intertwined as certainly as night follows day. Industry critics assert regulatory overreach or that the proposed standards are too strict or unobtainable, whereas environmental stakeholders complain that the rules did not go far enough. This session will review the legal standing of the various rules:

- MATS
- Clean Power Plan
- New Source Review

- Scott Segal, Executive Director, Electric Reliability Coordinating Council

- John Finnigan, Senior Regulatory Attorney, Environmental Defense Fund (Invited)

3:45 – 5:00 p.m.

### The States' Role

Each state will be required under the Clean Power Plan to submit its plan for compliance by July of 2016. If a state chooses to join with other states for a regional compliance or cooperative effort to meet the mandates, it has an additional year to submit. If a state fails to submit on time, or if the EPA deems the submitted plan unacceptable, then the EPA will write and administer a plan for that state. This leaves decision-makers (PUC, state legislature, state energy office) in each state with a Sophie's choice: Comply and surrender its right to govern how its citizens receive power and how much it costs, or engage in a lengthy and costly legal battle. In preparing a plan filing, a state will need to consider:

- Did the EPA properly credit its past efforts at CO<sub>2</sub> emissions reductions?
- Does the state need to incentivize nuclear power plants to remain operating/increase output?
- Does partnering with other states make sense?
- Can it meet the mandates in the prescribed timeframe?

- Rob Patrylak, Managing Director – Energy Markets & Planning Practice Lead, Black & Veatch

- Ken Colburn, Senior Associate, Regulatory Assistance Program (RAP)

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## AGENDA

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Wednesday, April 1, 2015

**7:30 – 8:00 a.m.**

### **Continental Breakfast**

**8:00 – 9:45 a.m.**

### **Coal Retirements and Generation Replacement Impacts**

Many in the power industry believe the effects of these rules will ripple through electric generation in North America for the next several decades. One significant basis for this view is that the CPP precludes the construction of any new coal plants, unless equipped with expensive and somewhat unproven Carbon Capture Sequestration (CCS) technologies. Further exacerbating this condition is the likely acceleration of the retirement of coal burning power plants continent-wide. The combination of these two measures contributes to the reliability concerns across many markets. Further, with little prospect for significant gains in nuclear power generation, the bulk of generation currently handled by coal will largely be shifted to current and yet to be constructed natural gas-fired plants and an increasing percentage of renewables. This session will examine:

- Coal plant retirement and generation loss forecast
- Gas plant and infrastructure construction forecast
- The likely role of renewables to fill the gap

- Mark Shepherd, Vice President – Environmental Health & Safety, Topaz Power Management, LP

- Metin Celebi, Principal, Brattle Group

**9:45 – 10:15 a.m.**

### **Networking Break**

**10:15 a.m. – 12:00 p.m. Examining Specific Reliability Concerns**

While FERC and NERC take no policy positions on the EPA's rules, both agencies are studying possible impacts on electric reliability and gas markets/infrastructure from the rules, especially as they relate to:

- Accelerating the early coal retirement trend
- Gas-electric power coordination
- Physical build-out timing of new generation as a critical reliability component
- Can market constructs maintain reliability or are they a hindrance?

This segment will consider the potential impacts that the EPA regulations will bring to bear on market forces in the power industry that are already underway.

- John Lawhorn, Director, Regulatory and Economic Studies, MISO

- Rob Patrylak, Managing Director – Energy Markets & Planning Practice Lead, Black & Veatch

- Devin Hartman, Analyst, Federal Regulatory Energy Commission (FERC)

**12:00 – 1:00 p.m.**

### **Group Luncheon**

**1:00 - 2:00 p.m.**

### **EPA Clean Power Plan Impacts to Wholesale Markets & Expected Ramifications**

Most policy modeling uses a holistic model to get the general trend of policy impact. The Clean Power Plan was applied to a model used for daily trading strategies to show the impact of wholesale power markets. The real implications of the Clean Power Plan are found in the details and not the overall cost and benefits impact.

This session will explore how various wholesale markets will be impacted and how individual states will have vast differences in impacts to:

- Wholesale and retail electricity rates
- Renewable and DSM penetrations impacts
- Expected Carbon Prices
- Political fallout

- David Bellman, Founder & Principal, All Energy Consulting, LLC

## AGENDA

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Wednesday, April 1, 2015 (Continued)

**2:00 - 2:45 p.m.**

### **The Utility's Role**

Utilities and merchant generation owners will be on the front lines of the EPA rules and ultimately responsible for complying with mandates. Should they wait for their public utility commissions and the electricity markets to tell them what to do, or should they play an early and active role in planning with the state(s) and other jurisdictions on how they meet the EPA timetable? Other considerations they must evaluate and prepare supporting documentation in response to include:

- How to recover costs on stranded assets like early retired coal plants
- What generation/transmission assets will be needed or possible to replace lost coal-fired generation
- How the costs of new assets will be recovered
- What role renewables will need to play
- What analysis and planning will be needed to prepare for the required shift in generation fuels and technology
- How likely they are to be caught between conflicting regulatory mandates for reliability and CO<sub>2</sub> compliance

- Kenan Ogelman, Director of Energy Market Policy, CPS Energy

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

### **Afternoon Break**

**3:00 - 4:00 p.m.**

### **The Grid Operators' and Balancing Authorities' Role**

Regional transmission operators (RTOs), independent system operators (ISOs) and regional entities (REs) are tasked with maintaining reliability and resource adequacy in their service territories and many of these organizations are already on record with concerns about the CPP and MATS impacts. This is especially true for regions that rely on coal for the bulk of their generation. With the onus on each state to develop its compliance plan and the threat of an EPA-imposed plan should a state fail to submit a plan, along with the reliability mandates of FERC and NERC, these balancing authorities face considerable challenges for future resource adequacy planning. In this session representatives from RTO/ISO/RE organizations will explore the reliability challenges and their potential responses along with discussing:

- The ISO/RTO Council's reliability safety valve concept
- State's consultation on compliance with the operator/balancing authority
- Can RTOs/ISOs act as a regional compliance clearinghouse for the states?
- EPA's interim goal planning challenges

- Kevin Hanson, Supervisor – Resource Planning, ERCOT

- John Lawhorn, Director, Regulatory and Economic Studies, MISO

**4:00 - 5:00 p.m.**

### **FERC's Role**

The Federal Energy Regulatory Commission (FERC) is charged with regulating transmission and wholesale electricity sales in interstate commerce, the transportation and sale of natural gas for resale in interstate commerce, and protecting the reliability of the high voltage interstate electricity transmission system. As these systems are interrelated and will only become more so under the CPP, understanding FERC's role is vital for reliability planning undertaken by power producers, states and balancing authorities. This session will consider the important consequences of the EPA regulations as they relate to these important FERC's roles with regard to:

- Oversight
- Conflict with other policies
- Enforcement
- Interaction with the Clean Power Plan

- Devin Hartman, Analyst, Federal Regulatory Energy Commission (FERC)

**5:00 p.m.**

### **Conference Adjourns**

# THE EPA'S CLEAN POWER PLAN: ITS EFFECT ON ELECTRIC RELIABILITY IN NORTH AMERICA

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## PRE-CONFERENCE WORKSHOP: EPA CLEAN POWER PLAN/111-D UTILITY AND POWER GENERATOR IMPLEMENTATION

TUESDAY, MARCH 31, 2015

### OVERVIEW

The EPA's proposed Clean Power Plan (CPP) has generated much discussion in the power industry and more than 1.6 million written submissions during the public comment period, relating to such challenging requirements as:

- Its aggressive time-line for reducing CO<sub>2</sub> emissions by 30 percent
- The flexibility of the states in how to meet the requirements
- The recent threat to enforce a federal plan if the states do not provide one, or it fails to meet the EPA's standard

This workshop will provide a thorough, yet straightforward overview of the basics of the CPP, then shift into a more detailed analysis of the various aspects of the rule. Attendees will gain understanding of the avenues provided by the plan for states, and power producers within them, to meet the compliance standards.

### LEARNING OUTCOMES

- Assess factors applicable to each state/power plant from the EPA's "Building Blocks"
- Review performance metrics within each building block
- Evaluate the combination of "blocks" for state and individual generator effectiveness
- Appraise the cost of retiring-replacing-retrofitting generation for reduce CO<sub>2</sub> emissions

### AGENDA

Tuesday, March 31, 2015

**8:00 – 8:30 a.m. Registration and Continental Breakfast**

**8:30 a.m. – 12:00 p.m. Workshop Timing**

**A. Overview of EPA's Four "Building Blocks" to achieve the 30 per cent reduction**

- o Building Block 1) 6 percent increase in efficiencies of existing coal plants
- o Building Block 2) 70 percent operations of existing natural gas plants
- o Building Block 3) Increasing share of renewables
- o Building Block 4) EE measures to reduce demand

While these are the suggested methods for states to consider in meeting the mandate, states are free to pursue other options and combinations. To be considered: Do these EPA mandates make sense in the real world? Did the EPA consider adding renewables and EE measures as straight-across replacement for coal generation?

**B. Cost to Power Generators of Implementing the Plan(s):**

The EPA believes the Plan will lower electric rates to consumers and cost less than running under current conditions. Many disagree, including NERA, who put the cost per year of the Plan in the billions. Both can't be right. Might both be wrong? This session will explore costs associated with various assumptions.

### INSTRUCTOR

#### **Rob Patrylak / Managing Director – Energy Markets & Planning Practice Lead / Black & Veatch**

With more than 23 years of energy industry experience and half of that time working for both a gas and electric utility or a trading and risk management company, Mr. Patrylak currently leads Black & Veatch's Strategic Resource Planning Service Line under the Management Consulting Strategy practice. Responsible for oversight and delivery, the service line focuses on integrated resource planning (IRP) to both the electric and natural gas sectors and encompasses such services as Portfolio and Asset (Generation and Transmission) Strategy Advisory, Integrated Resource Planning, as well as Power Procurement Strategy and Implementation. He is also an advisor supporting the Asset Valuation and Due Diligence service lines. Prior to Black & Veatch, Mr. Patrylak led and directed R. W. Beck/SAIC's Energy Markets Consulting Practice. The practice included the sub-practices of power market advisory and asset valuation, transmission planning and analysis, fuels strategy and analytics, and strategic resource planning and risk management. Before that, Mr. Patrylak led and directed the New Energy Associates/Ventyx consulting/advisors organization, focusing on resource and supply planning/integrated resource planning, RTO market design and implementation, LMP market advisory, trading operations and strategy development, asset valuation, as well as energy procurement strategy and implementation. The group supported the Strategist IRP and PROMOD IV software. Mr. Patrylak also held leadership roles and gained energy experience through his previous positions at The Energy Authority where he established and oversaw the Midwest ISO trading desk as well as transmission and trading strategy analytics; at Navigant Consulting Inc., he led the RTO markets sub-practice and developed an expertise in resource planning and project implementation; and at PECO Energy Company where he held leadership roles in various business units including nuclear generation, gas operations and distribution as well as electric transmission & distribution. Mr. Patrylak holds a B.S. in Mechanical Engineering from Pennsylvania State University and an M.B.A. from St. Joseph's University.



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## INSTRUCTIONAL METHODS

Case Studies, PowerPoint presentations, and panel discussions will be used.

## REQUIREMENTS FOR SUCCESSFUL COMPLETION OF PROGRAM

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



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 1.0 CEUs for the conference. and 0.4 CEUs for the workshop

## EVENT LOCATION

A room block has been reserved at the Houston Marriott West Loop by The Galleria, 1750 W Loop S Fwy, Houston, TX 77027, for the nights of March 30-31, 2015. Room rates are \$189, plus applicable tax. Call 1-713-960-0111 for reservations and mention the EUCI program to get the group rate. The cutoff date to receive the group rate is February 28, 2015 but as there are a limited number of rooms available at this rate, the room block may close sooner. **Please make your reservations early.**

## REGISTER 3 SEND THE 4TH FREE

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

## PROCEEDINGS

A copy of the conference proceedings will be distributed to attendees at the event. If you are unable to attend or would like to purchase additional copies, flash drives are available two weeks after the conference is complete. The cost per flash drive is US \$395 (add US \$50 for international shipments). Flash drives include visual presentations only. Upon receipt of order and payment, the flash drive will be shipped to you via regular USPS mail.

NOTE: All presentation flash drive sales are final and are nonrefundable.

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Custom sponsorship opportunities are also available. Please contact C.R. Lane at 720-988-1252 or [clane@euci.com](mailto:clane@euci.com) for more information.

## REGISTRATION INFORMATION

## LOCATION INFO

### Mail Directly To:

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P: 303-770-8800  
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**OR**, scan and email to: [conferences@euci.com](mailto:conferences@euci.com)

## PLEASE REGISTER THE FOLLOWING

- THE EPA'S CLEAN POWER PLAN AND PRE-CONFERENCE WORKSHOP: EPA CLEAN POWER PLAN/111-D UTILITY AND POWER GENERATOR IMPLEMENTATION**  
MARCH 31- APRIL 1, 2015: US \$1795  
EARLY BIRD ON OR BEFORE MARCH 20, 2015: US \$1595
- THE EPA'S CLEAN POWER PLAN CONFERENCE ONLY**  
MARCH 31-APRIL 1, 2015: US \$1395  
EARLY BIRD ON OR BEFORE MARCH 20, 2015: US \$1195
- EPA CLEAN POWER PLAN/111-D UTILITY AND POWER GENERATOR IMPLEMENTATION**  
PRE-CONFERENCE WORKSHOP ONLY  
MARCH 31, 2015: US \$595  
EARLY BIRD ON OR BEFORE MARCH 20, 2015: US \$495
- I'M SORRY I CANNOT ATTEND, BUT PLEASE SEND ME THE CONFERENCE PROCEEDINGS FOR US \$395. (PLEASE ADD \$50 FOR INTERNATIONAL SHIPPING.)

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All cancellations received on or before February 27, 2015, will be subject to a US \$195 processing fee. Written cancellations received after this date will create a credit of the tuition (less processing fee) good toward any other EUCI event or publication. This credit will be good for six months. In case of event 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 at 303-770-8800.

EUCI reserves the right to alter this program without prior notice.



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