# NARUC Annual Meeting, Connecting the Dots

Looking Ahead to Kentucky

The National Association of Utility State Regulators held its 2020 Annual Meeting in November as it always does and as usual it was well attended. That might be all that was normal about the 2020 NARUC Annual Meeting and Education Conference, not held in Seattle as expected, but cancelled there due to pandemic.

Outgoing NARUC President Brandon Presley and Staff presided over a most unusual year in NARUC history, with a swift pivot to carry on, on-line, with the important business of regulating in the public interest. Indeed, Presley's critical Digital Divide theme announced a year ago in person in San Antonio was prescient as no one imagined the changes wrought by COVID-19 back then.

The PUF Staff attended this virtual NARUC Annual Meeting in cyberspace and brings you excerpts here. Truth be told, we are planning on seeing all of you in person at the 2021 meeting in Louisville, Kentucky. Not only because we miss you, but the restaurants are great.

# NARUC's Officers Elected

NARUC's President Brandon Presley kicked off Tuesday's General Session with the election of officers. He wasted no time getting down to business. With some rule changes to allow for on-line voting due to the pandemic, the time-honored tradition of the serious, yet fun, nomination process began.

Voted on were Idaho's Paul Kjellander to be NARUC's president from 2020 to 2021, along with Virginia's Judy Jagdmann as NARUC's first vice president, and Connecticut's Michael Caron as NARUC's second vice president.


Jack Betkoski


Sarah Hofman


Harold Gray


Beth Trombold

**Connecticut Public Utilities Regulatory Authority, Vice-Chairman Jack Betkoski:** It gives me a great deal of pleasure to nominate my dear friend and colleague from the Constitution State, Michael A. Caron, to be the second vice president of NARUC. We forged a bipartisan relationship in the legislature, which continues to stay pure. Commissioner Caron has such a way with words that I admire.

**Vermont Public Utility Commission, Commissioner Sarah Hofman:** It is my great honor and privilege to second the nomination of Connecticut Commissioner, Michael Caron, to be the second vice president. He's a blast to go on an excursion with, and his enthusiasm is catching. Commissioner Caron knows when to be serious and when to let his inner child soar.

**Delaware Public Service Commission, Commissioner Harold Gray:** I was thrilled when I was asked to nominate Judge Judy Williams Jagdmann for NARUC first vice-president. She has a long and storied career. Judge Judy is serving her third term on the Virginia State Corporation Commission and served as the 43rd attorney general of Virginia, and she's a graduate of the University of Virginia with a law degree from the University of Michigan.

**Public Utilities Commission of Ohio, Commissioner Beth Trombold:** I am thrilled today to be here to second the nomination for Judge Judy Jagdmann from the Commonwealth of Virginia as first vice president of NARUC. Judy is what I would call a classic gregarious person. She brings people together, makes them feel welcome, and then wants to hear

about their perspectives on issues. She can definitely see there's more than one side to every story and wants to bring that sort of openness to NARUC as members of a group that has many different views.

**Idaho Public Utilities Commission, Commissioner Kristine Raper:** I am here today by way of zoom to nominate my friend and colleague Paul Kjellander, to be the 2020, 2021 president of NARUC. Paul's presidency won't look like other NARUC presidencies. The coronavirus has altered at least for now, the way we all do business.

Yet he remains dedicated to educating new Commissioners, to making sure our national organization remains relevant, and dedicated to advancing the dialogue about utility regulation in a way that can and should make all of us better regulators.

He is a former legislator, disc jockey, and toilet paper factory worker. He's an incredible painter and was a chauffeur for years, driving his kids around the region for soccer tournaments. If you're having a bad day, you can count on him to make you laugh. Last but not least, he has a song lyric for every situation.

**Washington Utilities and Transportation Commission, Commissioner Ann Rendahl:** It's my pleasure to second the nomination of Paul Kjellander for president of NARUC. I've gotten to know Paul over the last six years, and I greatly appreciate his keen understanding of regulatory issues.


Kristine Raper


Ann Rendahl

He has an appreciation for what makes sense and has a sense of humor. I'm sure many of you also appreciate his advice and mentoring. Paul is so humble that you might not know about his talents outside the political and regulatory arena.

You may have seen him on a zoom call with this painting in the background of his children. Paul painted that. He's a talented artist and has been painting since grade school. His paintings hang in the Idaho State Capitol building, have graced the cover of Public Utilities Fortnightly, and he's painted his NARUC colleagues.

**NARUC President Brandon Presley:** We've all come through COVID-19 and are moving through it, understanding that we're probably going to enter a world that's different from the one we left this time last year, knowing the need for connectivity in this country is one of the most important needs for our citizens. They need to be able to have that broadband connection, and be able to connect to the outside world, because a community that can't connect can't compete. That's why my theme of bridging the divide has been one I feel is important as we have gone through this pandemic and this national crisis.

NARUC will continue to advocate for state Commissions, making sure we are doing our job to our utmost on education and keeping current topics before our members. We want to make sure we have a strong foundation for all our state Commissioners to lean on NARUC to be the national organization in which your voice is heard, and your voice is being expressed throughout our country, but especially in Congress.

The resiliency of NARUC has somewhat been tested through this. We know we have come through this in a manner in which our organization is stronger. We're going to be more efficient. We're going to build back better. ❍

# Bridging the Divide

**NARUC President Brandon Presley:** With the help of several experts, we're going to explore key areas that highlight divisions. Those areas are technology, including the digital divide, consumer communication and moratoriums, policy issues, and racial equity. Our members will offer honest perspectives and they're uniquely qualified in each of these topic areas.

First, we're going to discuss technology. We have all known there had been a digital divide early into the pandemic, and that divide became painfully more apparent, deep, and dark. How well are we addressing access to the technology needed to work and learn successfully? What else needs to be done to cross the bridge from searching for signals at McDonald's to surfing the net from your couch at home?

**Massachusetts Department of Public Utilities, Commissioner Karen Charles Peterson:** I want to commend the industry, because they have stepped up to the plate to address the need for service during the pandemic. They have done a tremendous job of working with states to ensure we find ways to allow our school-aged children to learn from home, and men and women to work from home. But there's more that can and should be done.

We have an example where if you have a family that was fully employed, but still trying to make ends meet, they may not have qualified for low income broadband service through their provider and they were paying in full for it.

One of the things that I've been asking providers is that they consider allowing families that are now struggling financially due to the pandemic, into their low-income programs. Right now, if you were paying before but you can't pay now, you're not allowed to get into those programs.

I'm asking providers to relax those policies during the pandemic so we can allow more families in need to have access to broadband. We have seen with respect to rural America that the depth of the digital divide is, in essence, the Grand Canyon.

**Vice President of Utilities, American Electric Power, Lisa Barton:** This is something, for example, that AEP has been focused on for the past couple of years, trying to figure out how can we play a meaningful role?

There are synergies we can apply to this. The middle mile backbone connection of fiber within our communities is essential. It's already in our cities, but it's not there in rural America. Time is truly of the essence.

That our children in rural America can't have access to the same level of education as those in the cities is something we need to come together on. This is a tremendous opportunity for us to all work together and be better together.

**Missouri Public Service Commission, Commissioner Maida Coleman:** I believe that the utility companies that I regulate here in Missouri, and those I have heard and read about across the country, have done a great job through social media, getting the word out through their company's website, and sending messages through the billing service. Utilities have made a concentrated effort to communicate with the customers, with the consumers.

We have all known there had been a digital divide early into the pandemic, and that divide became painfully more apparent, deep, and dark.
*– Brandon Presley*

**Maryland Public Service Commission, Chair Jason Stanek:** We've taken steps to ensure that large classes of customers, particularly those who have not previously had trouble paying their bills, are in contact with social services agencies, with utilities, and with the Commission.

We receive some glimmer of hope with the announcement on the vaccine. But we still recognize that customers in my state are in the hole by upward of three hundred million. We've begun to provide a number of tools customers could use, including longer-term repayment programs.

We're considering an arrearage forgiveness program for certain customers to

There've been many meetings I have attended where coal was never even discussed.
*– Kara Fornstrom*

Utility companies have done a great job getting the word out.
*– Maida Coleman*

We're considering an arrearage forgiveness program for certain customers.
*– Jason Stanek*

We hosted two forums, one on supplier diversity, and one on workforce diversity.
*– Lea Marquez Peterson*

The issue with customers and COVID is simple. Money is needed to help customers.
*– Jackie Roberts*

One of the things we do well is the process we use to develop our policy positions.
*– Chris Nelson*

encourage those customers that may not pay their utility bills. But it's important to communicate, and communication goes both ways, with utilities, with the state, and with customers, but we're beginning to see some positive outcomes in Maryland.

**National Association of State Utility Consumer Advocates, President Jackie Roberts:** The issue with customers and COVID is simple. Money is needed to help customers. You can communicate with them all you want, but if there are no funds to assist them, it's not very meaningful.

In West Virginia, we launched a program where twenty-five million dollars of the CARES Act Fund has been earmarked to assist customers from water, gas, electric, and wastewater that had been affected financially by COVID. It's not even beginning to cover the problem.

If we don't address this, we will face a tsunami of homelessness in all of our states. I know in other states it's different. Ameren Missouri put up five million. We need to call on our utilities to share the pain and to help customers find a solution.

**South Dakota Public Utilities Commission, Vice Chair Chris Nelson:** One of the things we do well is the process we use to develop our policy positions. NARUC gets the process where Commissioners, regardless of what their background is, can come together around a table and bring their policy or positions.

Regarding the things that they would like this organization to advocate for,

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*– Lisa Barton*

In the District of Columbia, we started an advisory council on supplier and workforce diversity. We're looking to shift the paradigm.
*– Willie Phillips*

I'm asking providers to relax those policies during the pandemic so we can allow more families in need to have access to broadband.
*– Karen Charles Peterson*

they bring them into the public arena and allow us to discuss those positions, refine them, and come up with a position that as a whole, we, as an organization, can support. You asked, what might we do better? I'm a big believer in engagement.

**Wyoming Public Service Commission, Chair Kara Fornstrom:** There's one area that seems to be lacking and that's our willingness to discuss diverse electricity generation resources. The fact is that coal, while declining, produced twenty-five percent of the electricity in this country last year.

There are many states like mine whose share of coal generated electricity is much apart from the national average. In all, more than twenty states consume greater than the national average of coal generated electricity. Yet, if you did a statistical review of how many times coal was the general session or electricity session topic at NARUC meetings, it's almost, non-existent. There've been many meetings I have attended where coal was never even discussed.

**District of Columbia Public Service Commission, Chair Willie Phillips:** The country is facing three immediate problems. Crisis number one is public health. The second crisis is a financial crisis, and the third is a crisis on race. What do you do when you have a crisis? You triage and treat it like an emergency. You bring all of the resources that you have to bear on that issue in order to solve it. The truth of the matter is my color does not matter. What matters is as leaders, we do what we were called to do. On this issue, we have to be intentional.

In the District of Columbia, we started an advisory council on supplier and workforce diversity. It focuses not just on goals, numbers, and sentences. We're looking to shift the paradigm to change the way we approach the issue so that we create a pipeline of accounts that can come into this industry and change the essence of the discussion.

**Arizona Corporation Commission, Commissioner Lea Marquez Peterson:** We've had racial challenges throughout the nation and our state. We're about thirty-five percent Hispanic or Latino. What I've attempted to do at our Commission and with the support of my fellow Commissioners is launch an effort related in Hispanics in Energy. We hosted two forums, one on supplier diversity, and one on workforce diversity. ❍

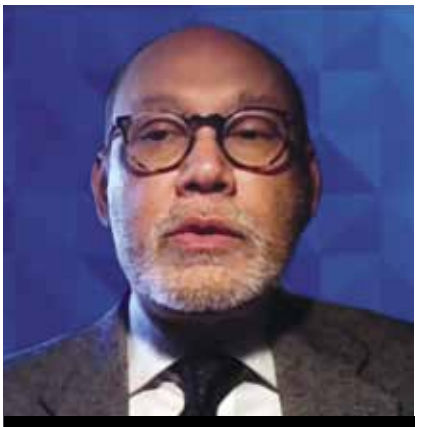
# Flexible Demand Side Grid Assets

This session examined how to unlock the full value of demand flexibility innovation in a variety of market and regulatory models. Panelists looked at the value of flexible grid-connected assets and the evolution on the horizon.

**Minnesota Public Utilities Commission, Commissioner Matthew Schuerger:** It's my great pleasure to be moderating this panel, unlocking the full value of flexible demand grid assets. We're looking at a full range of load flexibility, the capability of distributed energy resources to adjust demand profiles across different timescales, using a variety of programs and technologies including time varying rates, energy efficiency, and other distributed resources.

**The Brattle Group, Principal, Ahmad Faruqui:** We made an assessment of what is going to be the size of this cost effective load flexibility in the U.S. as a whole, and the number we come up with is about two hundred gigawatts. That's twenty percent of the system peak in the United States.

That's a staggering number. What's exciting about this number is that even though this particular number is focusing on peak demand, once you have this resource at your disposal you can also use it to build off-peak load. You can also use it to shift load from peak to off-peak. So, the entire load shape, the 24/7 load shape, 365 days a year, is now within the ambit of load flexibility.



We have to take a considerable amount of action through regulation, reaching out to customers, and convincing stakeholders and intervenors.
*– Ahmad Faruqui*

We're looking at a range of load flexibility, the capability of DERs to adjust demand profiles across timescales, using a variety of programs and technologies.
*– Matthew Schuerger*

Load flexibility benefits exist, but they won't drop into our lap. We will have

The overall takeaway was the utilities' buy-in is absolutely essential.
*– Salley Talberg*

We should consider demand flexibility could be enhanced by enabling more locational price signals to the customers and not just to the generators.
*– Paul Wattles*

to take a considerable amount of action through regulation, reaching out to customers, and convincing stakeholders and intervenors that this is a good thing to do.

The majority of the potential, however, resides in new load flexibility programs. What are those? In my view, those are innovative ways of pricing electricity, like dynamic pricing, for example, critical peak pricing or variable peak pricing or real-time pricing.

**Michigan Public Service Commission, Commissioner Sally Talberg:** Michigan a couple of years ago, with the justification based on cost causation with testimony from our Staff, decided to transition to default time-of-use rates for our two major investor-owned utilities. We're in the process of implementing that. Consumers Energy implemented a pilot in 2019, and it was successful. They did a tremendous amount of work to communicate with customers.

I was concerned about customers that were vulnerable, hard-to-reach, in terms of communication or ability to respond to the price signals and could be disproportionately impacted because of their income.

We saw good results in terms of their ability to respond and have peak demand reductions associated with this. But all of it ties back to extensive communication strategy that was put in place. The overall takeaway here was the utilities' buy-in is absolutely essential and they wanted to make this successful, and the results showed for themselves.

**ERCOT Senior Analyst, Market Design & Development, Paul Wattles:** We launched our nodal market in ERCOT in 2010. It's been tweaked on and off ever since. But one thing that has helped is the generators are settled at their nodal pricing, at their locational marginal price where they are, while load is settled at the load zone price.

It's diluted across, but the weighted average price is across the load side. This does not necessarily help with reliability in cases where you may have a zone that has high prices in one portion of the zone because of some transmission constraint. A level desk in the constrained area may be seen as diluted price.

A load that's outside the constrained area, they see a price that's higher than they normally see because the load zone prices are being affected by the high prices in the constrained area. They were saying, maybe it's worth me coming off.

The wrong load tends to come off in most cases. I'm not trying to change the market design, but I'm suggesting that maybe we should consider demand flexibility could be enhanced by enabling more locational price signals to the customers and not just to the generators. ❍

# Commercial Fleet Electrification

Across the country, companies are making commitments to decarbonize and electrify their fleets. This session explored fleet electrification infrastructure considerations from a grid perspective and offered insights into how commercial fleet operators and utilities are working to make fleet electrification a reality.

**Illinois Corporation Commission, Commissioner Maria Bocanegra:** The private sector, with or without federal mandates, collectively is making unprecedented commitments to decarbonize operations and electrify fleets.

In tandem with the growth of personal EV adoption globally and across the United States, it is expected that fifteen million EVs will be integrated into corporate fleets by 2040. From 2014 to 2018, the percentage of EVs within fleets quintupled.

Players beyond our utilities and regulators are shaping this transition – charging companies, infrastructure installers, OEMs, digital mobility access providers, along with our public utilities and agencies – will usher in this change.

We see that a larger effort to electrify fleets is materializing in the public sector,

If that forecast of EVs at the California Energy Commission isn't correct for medium/heavy duty vehicles, we will be hampered in amount of distribution we can build.
*– Katie Sloan*

We're looking for utilities and PUCs to provide better upfront information and planning tools.
*– Sara Forni*

Fleet electrification is real and it's coming much faster than everybody realizes.
*– James Ellis*

It is expected that fifteen million EVs will be integrated into corporate fleets by 2040.
*– Maria Bocanegra*

via municipalities and state goals. As they develop and continue to incentivize adoptions, the utilities will continue to play an important role in scaling to fleet adoption, along with broader TE working to help deploy charging infrastructure, level load management, and educate ratepayers on the benefits of EVs.

**Ceres, Senior Manager, Clean Vehicles, Sara Forni:** There's a significant role for not only companies, but also utilities, regulators, and policymakers in this transition. To better outline how they can support companies in accelerating the transition to EVs, we released an EV report in coordination with the California Trucking Association, Amazon, and Navigant, now Guidehouse, providing suggestions on how utilities and regulators can streamline and work to support corporate fleets in electrifying vehicles.

Some of the highlights are we're looking for utilities and PUCs to provide better upfront information and planning tools to companies and other types of fleets. We're looking for rates designed to incentivize charging, but that are also cost effective and clean. We would like to see more streamlined paperwork and processes to make it easier for corporate fleets to install charging infrastructure.

**Amazon, Sr. Program Manager, Fleet Strategy, James Ellis:** One of my key takeaways for policymakers and utilities is that fleet electrification is real and it's coming much faster than everybody realizes. This is not a small clustering of a few light duty vehicles in certain neighborhoods that we've seen with light duty EV adoption.

It's important to include medium and heavy duty fleet options in EV readiness planning and from a policy construct, allow utilities to have the flexibility and be more responsive to provide those tools for capacity planning, helping site locations and fleets and locations that are going to create long term grid benefits.

**Southern California Edison, Director,**

**eMobility & Building Electrification, Katie Sloan:** We partner a lot with the California Energy Commission to provide the forecast of electric vehicles that are coming on over the next five, ten, or twenty years.

That California Energy Commission forecast is then used by our PUC in our general rate cases to provide us with cost recovery for distribution. If that forecast of electric vehicles at the California Energy Commission isn't correct or it doesn't have as much electric load as we believe will be coming for medium and heavy duty vehicles, we will be hampered in the amount of distribution we can build out over multiple years.

We could get three or five years behind. That's where it's important that we partner, that we have information from customers like Amazon to go to the California Energy Commission and say, we know this is coming.

We know it's fast, because the regulators' side of the house, they don't want to approve a lot of distribution and infrastructure upgrades that aren't going to come to fruition.

The more we can partner with customers to show it's happening ahead of time, we'll be able to be prepared. ❍

# Clean Energy and Markets

In walking the tightrope between clean energy goals and energy, it seems customers, industry, investors, and regulators have turned out to watch this scene play out across the country, including a recent stop at FERC's technical conference on carbon pricing.

Will the show go on with adoption or expansion of carbon pricing or some other mechanism to try to resolve tensions between state policies and organized energy markets? How will RTOs/ISOs that include states with differing policies keep their balance?

**Virginia State Corporation Commission, Commissioner Judith Jagdmann:** The issues surrounding this topic have been, and continue to be, of utmost importance to the states and to our market participants.

From FERC's recent ruling on the Minimum Offer Price Rule and its recent pronouncement inviting the states to introduce carbon pricing and wholesale markets, to NESCOE's recent statement that it does not support a new incremental carbon pricing mechanism administered by the ISO New England and subject to FERC jurisdiction, but prefers other paths that the states consider viable to harmonize state laws and wholesale markets. Taken together, we have quite the balancing act.

**Rhode Island Public Utilities Commission, Commissioner Abigail Anthony:** These are my views on the criteria I think are needed to design a wholesale market to meet states' clean energy objectives. I have four criteria. The first is the market needs to deliver incremental carbon reductions. Second, clean energy projects need to be able to secure financing. Third, there needs to be market consequences if facilities don't deliver. Fourth, and probably most important, is the market should internalize externalities associated with the market and not be expected to deliver on policies that are not direct externalities of power generation.

**In PJM, that is looking at a patchwork of state laws and executive actions, and you can't even say all those rules are carbon-based.**
*– Talina Mathews*

The reason this last criteria is critically important is because it's going to take many billions of dollars in investment to mitigate climate change and achieve our states' greenhouse gas reduction targets, and we risk not having the means to meet those greenhouse gas reduction goals when we make economic development and local jobs the primary purpose of clean energy.

**Whatever the knock on restructured RTOs, they've managed a requirement that resources that prematurely retire or enter anew but may not have a long-term contract, the risk of those bets is placed on developers and asset owners like my company.**
*– Travis Kavulla*

**Kentucky Public Service Commission, Commissioner Talina Mathews:** I have the great fortune of having our utilities in two RTOs, and our largest block of utilities is now thinking of joining the southeast

energy market, which is not an RTO but will add some intricacies.

Markets do one thing well and that's security constrained economic dispatch. The megawatts get to the customers at the least cost available. That depends on a large footprint and megawatts being megawatts. When you start to carve out the footprint and start to change green megawatts, blue megawatts, red megawatts, black megawatts, then you suddenly started segmenting that market, and it becomes less efficient.

In PJM, that is looking at a patchwork of state laws and executive actions, and you can't even say all those rules are carbon-based. There are some renewable energy goals, clean energy goals, carbon free goals, and energy efficiency goals. You're kind of asking the market to do more than it was designed to do or asking if it can do it efficiently.

You'll get to a point in an RTO like PJM where there will be state policies that get promoted at the expense of other state policies, and you'll see either Commissions making the decision to pull their utilities out, or maybe in other states they'll tell their utilities they have to be a fixed-resource requirement. They have to acquire their own resources to meet their load, and the capacity market will just be residuals.

**NRG Energy, Vice President Regulatory Affairs, Travis Kavulla:** States and FERC alike would be well advised to consider setting up state led RTO facilitated markets for these clean energy credits. The forward clean energy market is one type of market design that could facilitate that, and there are real efficiencies to be wrung out of the system now.

That's because I think what Commissioners alluded to are lots of RPS and CES policies that are targeted toward particular technologies, locational requirements, and even specific market participants.

They are usually secured as well through long-term contracts that effectively shift risk to customers, and whatever the knock on restructured RTOs is, the one really good thing they've managed to accomplish is a turnover of capital assets and a requirement that our resources that prematurely retire or enter anew but may not have a long-term contract, that the risk of those bets is placed on developers and asset owners like my company.

To give a rule of thumb, about one-third of the total peak demand and resources has turned over in fifteen years in both PJM and ISO New England. Regarding the people who wound up stranded on undepreciated capital assets, that money was eaten by their shareholders, not by a captive set of consumers. The new resources coming in after them do not have any kind of assuredness that they'll be online for twenty, twenty-five, or thirty years. They

The issues surrounding this topic have been, and continue to be, of utmost importance to the states and to our market participants.
*– Judith Jagdmann*

We risk not having the means to meet greenhouse gas reduction goals when we make economic development and local jobs the primary purpose of clean energy.
*– Abigail Anthony*

MOPR was the main problem that may get thrown out with the next FERC. It may get thrown out by the courts, or RTOs and ISOs may just give up on it.
*– Rob Gramlich*

are essentially betting on the economic viability of the project.

**Grid Strategies, LLC President, Rob Gramlich:** Capacity markets with MOPR, my main concern reflecting the states I've worked with, the environmental groups, the renewable industries, and many others, is that FERC shouldn't be in the business of interfering with state policy, and that's what we've seen in recent years.

The ISOs and PJM are trying to now work better with the states. Any time the RTOs are working well with states, that's a good thing.

For capacity markets, MOPR was the main problem that may get thrown out with the next FERC. It may get thrown out by the courts, or RTOs and ISOs may just give up on it. There are some lingering issues with capacity markets as we look forward. ❍

# Annual Officer Installation

Wednesday was an important day at the NARUC annual meeting as incoming NARUC President Paul Kjellander of Idaho gave his vision for NARUC in 2021, a first of its kind, multi-year plan on innovation, agreed to by the triumvirate taking the reins.

Of course, there was more, as the prestigious Terry Barnich award was given to New York Commissioner Diane Burman. Then FERC's Chair Neil Chatterjee took center stage, always a welcome guest at NARUC, of course virtually.

**Paul Kjellander:** Traditionally, these presidential acceptance speeches have been a launching pad to unveil the path for the coming year. Generally, it's been a focused theme that creates a couple of task forces, generates several resolutions, and somehow culminates in successfully and miraculously cramming all the president's goals and objectives into a single year. There's been nothing wrong with this approach. But given the extraordinary circumstances we find ourselves in, we've decided to take a different path.

The core of this concept recognizes that as we transition from the pandemic to the next normal, NARUC has an opportunity to better refine the benefits we offer to members. For this effort, we need to focus on, further develop, and fully deploy NARUC's core competencies. Simply stated, we need to use the association sweet spot to continue building our brand and serving members.

At the base of this effort is a desire to develop a multi-year theme that can help us better serve our membership.

**In consultation with Judy Jagdmann and Michael Caron, the multi-year theme we're pursuing is called Connecting the Dots: Innovative Disruptive Technology and Regulation.**
*– Paul Kjellander*

Identifying a broad theme that is more inclusive of all the utility sectors we regulate will help us achieve this goal.

Utility sectors are facing unprecedented pressures created by policy shifts, growing consumer expectations, and rapidly evolving technological advancements that could completely alter the value proposition of the services they provide.

Concerns about deep decarbonization, electrification, grid modernization, aging infrastructure, the need for more renewable energy resources, cybersecurity, and the surge of distributed energy resource development along with the need for more contaminant wastewater tracking are among the many drivers that will alter the utility landscape.

The looming concern is, which emerging technologies' innovation will carry us forward, and what impact will those changes have on the current regulatory regime? As utilities confront these changes, questions arise.

What role should regulators play in the integration of these potentially disruptive technologies and innovation? How do we connect the dots that will help all stakeholders benefit from the changing utility ecosystem?

In consultation with Judy Jagdmann and Michael Caron, the multi-year theme we're pursuing is called Connecting the Dots: Innovative Disruptive Technology and Regulation. This theme seeks to explore the many different emerging technologies

and innovations that will impact electricity, natural gas, telecommunications, and wastewater utilities.

Beyond a clearer picture of the emerging technologies and their potential role in the utility ecosystem, this theme will include conversations on the role of regulation in this process. It will also include discussions of when regulators should be innovators, when they should get out of the way, and when they should just say no.

An opportunity to explore alternative and optional forms of regulation that might incent the implementation of new technology and practices can also emerge from this topic. In the coming days, I'll share an effort we intend to launch that utilizes the expertise of our subcommittee on research and education that will touch on alternative and optional forms of regulation.

What dots do we need to connect? We need to understand that the various ways that technological advances emerge, such as private entrepreneurial innovation, government grant programs, public private partnerships, and policy driven initiatives included in this discussion are the elements that either derail or advance these technologies into the marketplace.

Through this conversation, we can learn from the national labs and other innovators about what's on the horizon, and what impacts these emerging technologies might have on society and the regulatory process. We can also explore what problems might emerge as these technologies are integrated into existing systems.

Technological areas of interest will include such things as renewable natural gas, transitional technologies for smart grid and DDR deployment and integration, AMI for water systems, electrification and its impact on reliability and resilience, hydrogen, small scale nuclear, clean coal, cloud-based technologies, batteries, and other storage options and hybrid energy systems. Over the next few years, we'll explore these topics in greater detail. ❍

# Terry Barnich Award

**Wisconsin Public Service Commission, Commissioner Ellen Nowak:** Welcome to the International Relations Committee and to the Terry Barnich Award Ceremony. The annual award for promoting international cooperation among utility regulators and development of professional regulation acknowledges important contributions made by an outstanding NARUC Commissioner or Staff member who has dedicated his or her time, energy and expertise to furthering regulatory best practices in a global environment.

The Terry Barnich Award acknowledges contributions made by an outstanding Commissioner or Staff who has dedicated time, energy, and expertise to furthering regulatory best practices in a global environment.
*– Ellen Nowak*

The opportunity through international energy cooperation to enrich regulatory processes in other countries makes us all better regulators.
*– Diane Burman*

This award honors former Chairman of the Illinois Commerce Commission, Terrence "Terry" Barnich, who was killed on Memorial Day, May 25th, 2009 while working as the Deputy Director of the State Department Office, overseeing U.S. reconstruction projects in Iraq.

It is my honor to award this year's Terry Barnich award to Commissioner Diane X. Burman. Without a doubt, Commissioner Burman has gone that extra step. In addition to her duties on the New York Public Service Commission and as Chair of NARUC's Gas Committee, she has dedicated her time to helping our international partners.

She has participated in numerous NARUC and USAID programs, including ones with India, Tanzania, and Asia. She participated in a U.S.-Vietnam energy security dialogue and has provided training to leaders from India, Mexico, and Israel. Commissioner Burman has been an advocate for women in the energy industry and has served as a mentor for ICER's Women in Energy Program since 2013.

**New York Public Service Commission, Commissioner Diane Burman:** When I was informed I won the Terry Barnich Award, I contacted as many past awardees, past nominators, and others who went on international trips with me as I could.

I asked them, what were the most important lessons they learned from these experiences. There were several common themes expressed from all these amazing folks. These are one, we need to be champions of international energy cooperation. The opportunity through such cooperation to enrich regulatory processes in other countries makes us all better regulators. This requires true committed leadership at every level of government and the private sector.

Two, diversity of opinions around energy issues and engaging in robust, respectful dialogue on such opinions are key.

Three, energy is the lifeblood for the economic wellbeing of any country. The better the sector is organized and managed, the less strife and conflict there will be.

Four, it is the human relationships that we build and the country relationships that we build that are invaluable and necessary to make progress in the energy space.

Five, we are all one. ❍

# FERC of the Future

**FERC Chair Neil Chatterjee:** The views I express here are my own and do not necessarily reflect the opinion of my fellow commissioners or FERC Staff.

The Commission's ex parte rules do not allow me to discuss any contested proceedings that are currently before us.

Although I wish to cover the actions that gain unanimous approval, one of the challenges of making difficult decisions and what the nature of difficult decision-making is, you can't keep everybody happy. I know that some of the orders I have supported, like our PJM MOPR and New York ISO, buyer-side mitigation rules have caused me to be criticized by many.

Similarly, while we have great support, there were some concerns raised within the community on orders like 2222. I wish it were possible for everyone to support all the actions we've taken during my time as Chairman. As I reflect upon it, being criticized from both sides demonstrates I was a successful leader of an independent agency.

Being criticized from both sides demonstrates I was a successful leader of an independent agency.
*– Neil Chatterjee*

To me, all the actions we took under my leadership share a common theme. It reflects my commitment to advancing market-based solutions for the American people as we navigate this energy transition.

I've consistently fought for compromise and smart bipartisan action where possible. I've consistently refused to stick my head in the sand in the face of tough issues. That isn't going to change as I step back into the role of FERC commissioner.

To the contrary, my ability to be a leading voice and driver of change will only strengthen as we head into 2021, with the possibility that the administration and the Senate are potentially held by different parties. FERC, in my view, will become the epicenter of energy and environmental policy. I plan to continue to work with my colleagues as well as my colleagues across NARUC to advance the work I've started. ❍

## Larry Glover on Utilities Relating to Communities of Color

Excerpted from December 2018 PUF: "We have experience with African-American communities, Latino communities, and Asian communities. Within those ethnicities, there are a number of sub-segments that determine how people behave, how people respond to the offers they receive from energy companies. The way we collect end user information, is by engaging the end user. We go and spend time with them in-person and digitally. We do interviews. We do fieldwork to observe. Then we're able to understand, not just what end users say, but what's underneath. How they think? How they feel?"

# Resiliency in the West

A global pandemic. An unprecedented heatwave. Raging wildfires. Widespread smoke. Public safety power shut offs and rolling blackouts. Californians and nearby Western States will never forget summer 2020. Experts look to understand what happened and why.

**Washington Utilities and Transportation Commission, Commissioner Ann Rendahl:** I'm going to set the stage for the events of August, 2020 so our panelists can provide you with greater detail and help us with lessons learned and ideas for how to move forward.

On August 14 and 15 during a west wide heat event, California ISO declared a Stage 3 energy emergency, and as required under NERC reliability rules instructed several distribution utilities to shed a certain amount of load to avoid a cascading blackout.

It had significant impact for about half a million customers. We lost power and created headlines and concerns. We are all in an unprecedented pandemic with most people across the country working and going to school at home.

There was a significant heat wave that increased temperatures, not just in California, but across the west. The excessive heat across the Western United States resulted in stress for many balancing authorities due to high air conditioning demand.

Western Electric Coordinating Council or WECC identified eighteen energy emergency alerts from balancing authorities between August 14 and August 19. CAISO, in collaboration with the California PUC, California Energy Commission, and the governor's office, asked customers to reduce electric usage. Fires were raging in California.

A series of lightning strikes and strong winds resulted in fast moving fires resulting in unhealthy air, which kept residents indoors. A number of utilities instituted power shutoffs to areas of the grid to avoid equipment from causing fires, referred to as Public Safety Power Shutoffs.

The California Legislature has year after year considered changes to California ISO governance that would support more regional operation.
*– Cheryl LaFleur*

Utilities instituted power shutoffs to areas of the grid to avoid equipment from causing fires, referred to as Public Safety Power Shutoffs.
*– Ann Rendahl*

Significant wildfires also occurred over Labor Day weekend in Oregon, Washington, Colorado, and Arizona. Several fires were initiated by electric infrastructure as a result of high winds. Wildfires were also occurring in Nevada, Idaho, Utah, Montana, Wyoming, and New Mexico.

**FERC Commissioner Emeritus, ISO New England Board Member, Cheryl LaFleur:** California is large but it's not an island. California customers and customers across the west would benefit from a regional energy market, that regionalized dispatch as well from more construction of high voltage transmission across state lines and across time zones.

I know this has been discussed for years in California and across the west and some might say the events of the summer would make people jittery and put it on hold. Both California and other customers could benefit from California being able to plan on sharing the solar that's curtailed at peak and then benefiting from balancing resources across state lines when the sun goes down or when there's a low hydro year or whatever the precipitating event.

The California Legislature has year after year considered changes to California ISO governance that would support more regional operation. Maybe this summer's events are a stir to think about that once again.

**The Brattle Group, Principal, Ahmad Faruqui:** I believe we need to move toward dynamic pricing and maybe as a last resort rebate rather than voluntary appeals and Flex Alerts. The reality is Georgia Power has real-time pricing for its large customers.

They have twenty-three hundred large customers who are on real-time pricing. If you're above one megawatt, it is an hour ahead, if you are less than one megawatt it's a day ahead. Anytime the price goes above a dollar per kilowatt hour, seventeen percent of the load of those customers goes down.

This is California, the digital capital of the globe. Where is real-time pricing in this state? We don't have it. The good news is

we have moved through time of use rates but that's a kindergarten level of capability.

For our residential customers, we can look at Oklahoma Gas & Electric. They have the nation's most successful pricing program for residential customers. The prices go directly to the thermostats and the customer has preset the temperature setting based on the pricing coming through.

There are four different price signals. Every customer has their own choice to make and they find that their load goes down twenty percent when the highest price has come through. The customers save forty percent on their bills

**CAISO, COO, Mark Rothleder:** We performed an analysis and a preliminary root cause analysis of the events in conjunction with the California Public Utilities Commission and the California Energy Commission. The results led to a determination there was not a single root cause to the event. What we identified was a series of compounding conditions and causes that led to ultimately operating too close to the edge.

We've spent about two billion dollars on system hardening. We're using microgrids. Advanced technology is a key part of our solutions. Vegetation management is a huge piece of wildfire mitigation.
*– David Geier*

We need to move toward dynamic pricing. This is California, the digital capital of the globe. Where is real-time pricing in this state? We don't have it.
*– Ahmad Faruqui*

We performed an analysis and identified a series of compounding conditions and causes that led to ultimately operating too close to the edge.
*– Mark Rothleder*

The root cause is the extraordinary level of temperature and heat storm experienced and that highlighted that the resource planning processes that currently target a one and two load forecast do not cover sufficiently a heat storm event that is more like a one in thirty-five year heat event.

As we transition from the resource mix, we are identifying the time of day and conditions we need to cover in terms of resource sufficiency and resource adequacy needed to shift from the traditional peak hour, which is generally 4 p.m. to 5 p.m. to a couple hours later, which is now 6 p.m. to 7 p.m., what we call the net load peak.

What we're seeing is that the mechanisms for resource planning and securing the resource mix is not sufficiently keeping up with the pace of the change of that load shift and the resource mix shift.

Third, we found when you get into these stress conditions, some of the market practices that occur could exacerbate the underlying conditions in terms of supply. What we are experiencing is the most challenging period in terms of meeting demand around that 6 p.m. to 7 p.m. period. What's occurring is the load is remaining relatively high.

Some of the load that was previously served by behind the meter solar production now is coming back on the grid. In addition, in California we've got about twelve thousand megawatts of solar production that is ramping out during this time and we need to switch and be able to have enough capacity of other resources to dispatch up during this time.

This net demand peak at 7 p.m. is the most critical time, and that's what we experienced on this day. It's not unusual to be fairly stressed in this period, but in addition we lost some resources and other resources ramped down both on August 14 and 15, creating the scenario where we were close to the edge.

Those events made us susceptible to loss of any additional megawatts, and that threw us over the edge in terms of being able to meet our operating reserves. In order to maintain the reserves, we had to shed load.

There's an element of practice we're observing that may be contributing to, at

*(Cont. on page 89)*

We're all concerned with the welfare of our customers and are sensitive to the difficulties people are going through.

In Delaware this summer, Governor Carney issued an update to the state of emergency, allowing us to lift the moratoriums on the severances for nonpayment. Why was it so successful in Delaware? It was a collaboration. He had his administration bring all of the stakeholders to the virtual table – the Public Service Commission, utilities, public advocates, and municipalities.

We sat in a virtual room and discussed the best way to move forward, how to balance the needs of the companies to keep them solvent and allow for extended payment plans.

We also put additional funds into our Catholic charities programs for folks that need more assistance beyond a payment plan. In Delaware, part of why it works so well is it was a collaborative effort. I'm thankful to our Commissions for being so open-minded about bringing us together and finding the best way to work through this.

**SouthWest Water, CEO, Rob MacLean:** We call it return to the office because the field workers have always been out working and the office folks have been working from home. We are scheduled to be away at home until the end of the year.

We have a board meeting coming up next week, to talk about this issue. We've done all kinds of preparatory work. We had a call center in Texas where employees were basically shoulder to shoulder with no physical barriers.

We took out some conference rooms, expanded that space, and put in cubes. We've worked on the HVAC system. We evaluated how many air changes we need, changed out filters, and got UV disinfection in the Airstream. We've done things like taking doors off that don't need to be there. We've taken doors that we need, and asked, can we make them touchless?

We're going to take a cautious approach. The mission of our office people is to support the field folks. We want to keep them safe. We're not going to be the first mover. We're going to watch and see how others do it. In the new year, we'll start back on a voluntary basis and gradually evolve. It's subject to how things go over the winter.

**Aqua America, President, Colleen Arnold:** For the majority of our workforce, there was no working from home. We talked about returning our office folks to the office or workplace. We all worked, and none of us had a vacation. We have diverse office sizes and locations. The pandemic is so local. We set up tracking to watch the data on hotspots.

We were able to put protections in place, in terms of elevation and spacing to accommodate social distancing. We had the majority of our offices working onsite through summer.

You have to be agile. We have two large office locations. For most of the employees that work here, we're doing one-third capacity. We're keeping the building to minimize interaction with a conservative third capacity.

Just having that personal interaction again has been great. It's not completely back to normal by any means, but it's the new normal. We're doing it safely. It's been helpful to get back into the office. PUF

## NARUC Annual Meeting

*(Cont. from p. 76)*

least coming out of the day ahead market with potentially insufficient pattern of supply and imports and exports. We're seeing the amount of load that's actually scheduled in the ISO was about two to three thousand megawatts shy of what the actual load was.

**San Diego Gas & Electric, COO, David Geier:** We've spent about two billion dollars on system hardening, using a lot of steel poles, stronger conductors, wider conductors, and aggressive tree trimming. We have two hundred and twenty weather stations and over a hundred cameras.

We have a staff of five meteorologists, and fire coordinators, and we have a culture at SDG&E of continuously learning and using technology. We're in what we call fire safe 3.0. We're pinpointing more weather stations, more cameras and using modeling.

Every night we would run hundreds of thousands of cases where if there was a fire to start in this particular spot, where would it go? We look at that and tie that back to weather conditions. A big part of this is our partnerships with academic institutions. We work with Scripps Oceanography in San Diego, UCSD and their supercomputer center, San Jose State, from a fuels perspective.

We're flying a lot of drones for inspection maintenance. We've worked closely with Cal Fire and we have two aircraft for firefighting. We have a heavy-lift Aircrane, which Cal Fire uses. They dispatch it, use it for initial attack, and it could drop twenty-five hundred gallons of water.

We're using microgrids. We have four in service. The advanced technology is a key part of our solutions. We've designed and worked with manufacturers to come up with what we call our falling conductor. If a wire breaks before it can hit the ground, we shut the power off with high speed communications.

Vegetation management is a huge piece of wildfire mitigation. One thing that it helps us the most with is we have almost half a million trees in our GIS database. We know what the type of tree it is, we know how fast it's growing, and we know the last time we were out there. We're trying to get more distance between the wires and the vegetation. PUF