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FEDERAL ENERGY REGULATORY COMMISSION

Technical Conference:
Impacts of COVID-19 on
the Energy Industry Docket No: AD20-17-000

TECHNICAL VIDEO CONFERENCE

Federal Energy Regulatory Commission

888 1st Street NE

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9:00 a.m.

Panel 1: System Operations and Planning Challenges

Panelists:

Michael E. Bryson, Senior Vice President, Operations, PJM Interconnection

Timothy P. Cawley, President, Consolidated Edison Company of New York

Stanley Graham Chapman, III, Chief Executive Officer, TC Energy

Stanley W. Connally, Jr., Executive Vice President - Operations, Southern Company Services, Inc.

Eric DeBonis, Senior Vice President

Mike Haynes, Chief Operating Officer, Seattle City Light

Shawn M. Lyon, President of Marathon Pipe Line, and Vice President of Operations, MPLX GP LLOC

James B. Robb, President and Chief Executive Officer, North American Electric Reliability Corporation

Panel 2: Electricity Demand and Transmission Planning

Stefan Bird, President and Chief Executive Officer, Pacific Power, on behalf of PacifiCorp

Travis Fisher, President and Chief Executive Officer, ELCON

Robert "Mac" McLennan, President and Chief Operating Officer, Minnkota Power Cooperative

Clair Moeller, President and Chief Operating Officer, Midcontinent Independent System Operator, Inc. on behalf of the ISO/RTO Council.

Panel 2 (Continued)

Curtis A. "Curt" Morgan, President and Chief Executive Officer, New York Power Authority

Gil C. Quiniones, President and Chief Executive Officer, New York Power Authority

Sam Randazzo, Chairman, Ohio Public Utilities Commission

Paul Segal, President and Chief Executive Officer, LS Power Associates, LP

P R O C E E D I N G S

(9:00 a.m.)

Panel 1: System Operations and Planning Challenges

MS. RODER: All right. Well thank you so much for everybody who is here today. My name is Aileen Roder. I'm with the Commission's Office of Energy Policy and Innovation. We're extremely happy to welcome you to this two-day Technical Conference to consider the impacts of COVID-19 on the energy industry.

Before we begin with opening statements, I wanted to outline a few logistics of the Technical Conference. As you probably know from the Notice, we will have a two-day Technical Conference with two panels on each day. Only the Commissioners, the panelists, and a small group of Commission staff will have speaking and video roles today.

The Conference is being live streamed and transcribed. However, we will not be archiving it for future viewing. And with those initial matters out of the way, I'll now turn it over to Chairman Chatterjee to begin his opening statement. Thank you.

CHAIRMAN CATTERJEE: Thank you Aileen and welcome and good morning everyone. Thank you for joining us, albeit virtually, to examine the long-term implications of the COVID-19 Pandemic on the U.S. energy industry.

The Commission has been thinking a lot about how

this pandemic may affect the energy industry going forward as we recover from this economic upheaval it unleased. And I'm pleased we've all convened for this discussion. It's going to be extremely important today.

I'd like to kick things off this morning by recognizing the huge amount of work and preparation it took to bring us all together today. We have an incredibly talented and diligent staff team that worked tirelessly to develop our agenda for the Conference, and to coordinate many moving parts and I am so grateful for their efforts.

I'd also like to thank in advance our panelists for their preparation and participation. The value of these two days will be the ideas that you bring to the table and the ideas we further develop together, so thank you. And I'd like to thank everyone who's attending today who no doubt will contribute to the continuing conversations we need to be having in the weeks and months to come.

The mantra we've all seen popping up on signs and windows and on street corners that we are all in this together, and that's how I'm thinking about these next two days. We're here to exchange ideas and learn from each other. So the Commission and its staff have already taken multiple steps to provide the public and regulated entities regulatory relief in the short-term.

We hope the discussion over the course of today

and tomorrow will explore the potential longer term impacts of the pandemic. We're focused on helping to ensure the continued auspicious functioning of energy markets, the seamless transmission of electricity and transportation of natural gas and oil and the reliable operations of energy infrastructure today and into the future, while also protecting consumers.

Since March, we've been seeing decreased demand for electricity, gas and oil. We expect to see demand rebound as we enter summer peak season, but ultimately we don't know yet where these trends are heading and we all face uncertainty, especially as we see a resurgence of cases in various regions of the country.

That's why I want the Commission to get in front of these issues as much as we can and to think proactively about how we can respond over the coming months and even years. The next two days will address a wide range of topics that we must face head-on together. This includes a new set of challenges the COVID-19 Pandemic has presented related to supply chain, deferred maintenance, reliability and cybersecurity issues, changes in demand for electricity, oil and natural gas and infrastructure development.

We'll also have important discussions about the financial impact of the pandemic. Here I'm talking about the interrelated issues which is credit, liquidity, access

to capital and return on equity or ROE. We'll be talking to the most acute types of financial risk factors, particularly with respect to credit rating downgrades, as well as how the emergency has affected counterparty risks.

These are the types of pressing, challenging topics we're going to be working through together during this Tech Conference. I'm really looking forward to it, and I'm grateful for the level of engagement we've already seen. With that I won't delay us any further and we'll turn it over to my colleagues for any opening remarks they may have beginning with Commissioner Glick.

COMMISSIONER GLICK: Thank you Mr. Chairman can you hear me?

MS. RODER: Yes.

COMMISSIONER GLICK: Okay great, well thank you very much. The COVID-19 Pandemic has changed so many things in this country. It's altered the ways we live, the ways we work, the ways we do business with one another and these changes have dramatically impacted how this country produces and consumes energy.

The good news is that the energy industry has lived up to the challenge -- keeping the air conditioning running, keeping the heat on, keeping the lights on. The significant reason for that -- and we're going to hear I think a little bit more about that today is the emergency

planning and the drills that the industry regularly performs and conducts.

I want to take a second though to highlight the real heroes -- the unsung heroes in the story. These are the men and women who are out there on a daily basis to the utility control centers or go to fix downed power lines when there's damage to pipes, whether it be oil or natural gas pipes.

Think about every day in the field, there's some risk. When we get up in the morning and go downstairs and turn on our computers in the safety of our homes. And fortunately, it appears that this is something we're going to have to live with, we're going to keep on doing for a while as we see certainly test rates going way up, hospitalizations going way up in certain parts of the country and it's really growing at an alarming rate.

I think we're going to be with this situation for a while and I want to say again how much I appreciate those in the energy industry that are doing what they can to keep things running.

I look forward to hearing from the panelists today and tomorrow about the lessons learned as it relates to the U.S. energy industry -- what's gone right, what areas need improvement, and what are the implications for consumers, utilities and other stakeholders on a going

forward basis.

Finally, I'm hoping to see whether Commission action is necessary to address some of the issues during this pandemic. But at the same time, I'm concerned that some may try to take advantage of the situation and seek policy changes which aren't directly connected to the crisis before us.

We should not be abandoning and the transition of the policies, the bulk of the profits and specific resources that have had a difficult time competing before COVID-19. Markets come with risk and although the pandemic is certainly unprecedented, like during any challenge, markets should drive innovation and the Commission should not look to disrupt it to insulate some parties from this particular risk.

We I look forward to hearing from everybody today and thank you very much for holding this Technical Conference Mr. Chairman.

MR. CHATTERJEE: Thank you. Commissioner McNamee?

COMMISSIONER MCNAMEE: Thank you Mr. Chairman. You know like my colleagues, I'm very glad that we're having this Conference and that we have the opportunity to hear from so many people in the industry about what's going on, how they've handled the issues.

And I think it's going to be very information and help guide us as a Commission to better understand and make better policy decisions. One of the things I wanted to observe however, is how impressed I have been and how the different energy industries and utilities have been able to handle this crisis.

Clearly, many of them were prepared for a crisis, but also clearly, nobody was expecting to have this particular crisis. Now I've been very impressed at the adaptability that so many of these companies and utilities and individuals have made to be able to handle this.

I also need to say that I've been very impressed with how well FERC has handled this. The staff has been spectacular. The preparation by our IT department Executive Director to make sure that we could function remotely has been really impressive.

And so I applaud everybody at FERC for what they've done. But once again, we are just the regulators and it's really the people out there, the people that are either working on the lines, the administrators, those who are managing the companies, the CEO's who are trying to make sure that the capital is there to keep on operating.

They're the ones who are actually making our system work. As we go through the process though, there

are a few things that I'm going to be interested in hearing about. First of all, I'm going to be very interested in the issues of cyber, cyberattacks, cyber infiltration and how we're handling and how our adversaries may be trying to take advantage of us and are we properly prepared and what more should we be doing.

I also think that infrastructure is going to be a very important topic. It's very important for us to continue to look not just at the short-term issues about do we have the infrastructure to keep providing the electrical, natural gas and oil system that's needed to keep the operation of the country now, but are we continuing to work for tomorrow?

One day we are going to come out of this crisis, and we want to be in a position where we're able to take advantage of it. The benefit of customers, whether they be residential, commercial, industrial, but also for the benefit of the United States to be able to take advantage of a world that will hopefully turn into a strong growth mode and for us to be able to provide the energy to power the world and to be able to use that and provide the tools to policymakers so that we can be in a strong position, vis- -vis our adversaries such as China, Russia, and Iran.

I think these are important things because during any crisis it's easy to focus on just what we need to get

through today, but we also need to think about how are we going to deal with tomorrow and take advantage of those. I'm confident that the United States is going to be able to be strong, that we'll carry through this crisis and that we will continue to be able to be a strong beacon of not only economic strength but of liberty throughout the world.

And I'm looking forward to hearing about the various individual aspects of how the companies have been handling the issues that have come with the COVID crisis, and also what they think we should be doing for the future. Thank you Mr. Chairman, and thank you to all the panelists for joining us.

CHAIRMAN CHATTERJEE: Thank you Commissioner McNamee. Commissioner Danly?

COMMISSIONER DANLY: Thank you Mr. Chairman. I don't have any opening statement except to thank everybody for their attendance at the Conference.

CHAIRMAN CHATTERJEE: Thank you Commissioner Danly. I'll turn it over to Aileen.

MS. RODER: Thank you Mr. Chairman. We'll now start our first panel, which is entitled System Operations and Planning Challenges. Each panelist will introduce themselves and have the opportunity to give an initial opening statement of no longer than four minutes.

Afterwards, we will begin the question and answer

session. Just to let folks know, I will be calling for a 15 minute break partway through the first panel today. As we begin with opening remarks, I will remind all participants to refrain from discussing any open contested proceeding.

If anyone engages in these kinds of discussions, we will unfortunately have to interrupt them and ask them to move to a different topic. I will call each panelist in turn. Once the previous panelist finishes his or her remarks. And so to start things off, we have Michael Bryson, senior Vice President of Operations at PJM. Please go ahead Mr. Bryson, thank you.

MR. BRYSON: Good morning. Chairman Chatterjee, Commissioners, fellow panelists, thanks for having me on this panel. My name is Mike Bryson, I am responsible for PJM's system operations. I am very pleased to provide this opening statement to briefly outline how PJM Operations and even the larger PJM community have managed through the operating challenges brought on by this pandemic.

I would also like to acknowledge the extraordinary contributions and collaboration by our PJM staff, our members, state commissions, even law enforcement, public health officials and all of our industry and regulatory partners during this pandemic.

Although the COVID Pandemic was certainly not foreseeable, planning and operating through a pandemic was

not a totally new subject to PJM and the rest of the industry. Our own pandemic plan was adopted in 2006 and we participated on that team that drafted the 2010 NERC report, which was designed to provide guidance to the industry.

Over the years we've had some opportunities to exercise this plan in small ways in 2008 and again with SARS. PJM drew on this previously developed pandemic plan to secure our system operations and handle all of the evolving impacts to our employees and our stakeholders health issues, and we focused on information sharing and really responding to member needs all in consultation with an epidemiologist and our local public health officials.

The epidemiologist, by the way, was one of many ideas that we got from New England ISO. One of the primary focus areas as I think all of us will talk about was really protecting our control room operations. We did that by establishing a third sequestered fully operational control room manned by a team of operators which were living on site around the clock and we did that for about 11 weeks, just recently the operators came out of sequestration.

I would also like to highlight how much we learned about control room operation best practices through the ESCC and equity participation, as well as the sequestration best practices from Con Edison and New York ISO. Since mid-March PJM has observed some significant

reductions in our electricity peaks and overall electricity use, mostly related to the shutdowns, some government restrictions and also just change in consumer behavior.

In all, daily peak demand fell between 8 and 10 percent in April, accelerated to between 12 and 14 percent during the first half of May. Moving forward the pandemic experience has changed how we operate. We plan to continue to maintain our third control room and are in the process of setting up a new operator simulator to look to get training simulation back on track as soon as possible.

We established and will continue to maintain our bench operator program which creates a remote operator support based on job task analysis to be prepared for any extreme impacts which may happen in the future.

PJM's view of the threat landscape, particularly from a cyber perspective, COVID brought increased phishing emails with things related to the pandemic. PJM will continue to maintain all of its normal cybersecurity operations and continue to work with its government and commercial partners to get up to date cybersecurity threat intelligence information.

We will also continue to focus on our short-term and long-term load forecast. In the short-term, the summer has proved a bit challenging. It's been a bit challenging trying to estimate that mix between increased residential

mode and some level of increased commercial and industrial activity.

We are seeing some high peak loads the past few days due to warmer weather, and we will continue to analyze the impacts of the pandemic on the loads we are experiencing. Thank you again for the opportunity to be here today.

MS. RODER: Thank you very much Mr. Bryson. Next up we have Timothy Cawley, President of Consolidated Edison Company of New York. Please go ahead Mr. Cawley.

MR. CAWLEY: So good morning. As mentioned, Tim Cawley, President of Con Ed of New York. On behalf of Con Ed, I want to thank the Federal Energy Regulatory Commission for inviting me to this discussion. I'm very much looking forward to it.

So the COVID-19 crisis is a historical challenge for Con Edison and New York City and while we are far from past the pandemic, our city and region are in the process of recovering. There's no overstating how severely we were hit. Places that make New York the world capital of culture and commerce, the great restaurants, museums, schools, houses of worship were eerily empty and dark instead of bustling with New Yorkers and excited tourists.

At our low point, nighttime traffic was so light that the only constant sound was sirens on ambulances

carrying victims. It was clear before the virus hit the United States that reliable energy service would take on an even grater importance. Hospitals and first responders needed Con Edison's industry-leading reliability to perform their critical work of treating victims.

We formed a pandemic team about 10 years ago and as the pandemic hit we quickly assembled that team to gather information, communicate with employees and to plan our response. As we do with every task, we went right to our core principles -- safety, operational excellence, and the customer experience.

Safety is always first for us, so we moved on that right away. We halted non-essential visits to customer properties. This meant a suspension of meter reading, smart meter installations and energy efficiency visits and other customer contacts.

We took steps to protect our employees, setting up temporary reporting locations and staggering shift start times for social distancing. We sequestered some bulk power control room personnel to ensure availability of these critical employees.

Our workers showed their talents and dedication by quickly establishing electric service for temporary hospitals created to treat the expected wave of coronavirus patients. Some 8,000 employees who typically work in our

offices began working very efficiently from home.

The health crisis has painful economic consequences for many of the customers due to the necessary New York Pause order. To help, we suspended service turnoffs for non-payment and stopped adding new late fees to customer accounts. Bad actors will seize any opportunity to do harm, so we took action to protect our information systems.

An alert workforce is a great defense against cyber threats, so we provided daily messaging to keep everyone focused on security and privacy. We've seen an increase in vendors targeted by ransomware and email compromise attempts. In these cases, we follow a strict process to disable communications between our users and the compromised vendor until security is ensured.

We're grateful for the willingness of fellow energy companies, industry associations and other stakeholders to share information on best practices with us. It made a very difficult task a little bit easier. The timing of the crisis presented another challenge for us.

As a summer-peaking utility with most of our customers served by an underground system, we prepares for summer year-round. We were well into that process when it became clear the health crisis was coming to our area in a forceful way.

Our analysis showed that while overall energy usage would drop due to decreased office and commercial demand, usage in certain residential areas would increase. That analysis informed our strategy for this summer and we are ready to address this load shift.

A health crisis -- particularly a respiratory illness, points out the importance of a clean environment. We think clean energy will be an economic driver as we recover from the impact of the virus.

Here's something many people likely don't know -- through our Clean Energy Business, Con Ed is the second largest solar producer in North America and the seventh largest producer in the world. So we consider ourselves leaders in the transition to this clean energy economy.

As our city and region recover, Con Edison must maintain financial integrity to fulfill our integral role in restoring economic vibrancy, helping to meet climate goals and providing benefits for our communities.

We are likely to see more people across the economy working from home. This might provide an opportunity for energy companies and regulators to add value to their residential energy efficiency programs.

The work of our industry is powering ventilators, first responder facilities and other emergency equipment is critical. Coming out of the pandemic, customers are likely

to have even higher expectations when it comes to reliability.

Energy companies, regulators and other stakeholders will have the responsibility of investing adequately and wisely in infrastructure to meet these increased expectations. I'm confident we're up to that challenge. Thanks for your time, look forward to the discussion.

MS. RODER: Mr. Cawley, thank you so much. We now have Stan Chapman, Executive Vice President and President of U.S. Natural Gas Pipelines for TC Energy and Chairman of the Interstate Natural Gas Association of America. Mr. Chapman please go ahead.

MR. CHAPMAN: Good morning everybody and thank you Chairman Chatterjee, Commissioners McNamee, Danly and Glick. I appreciate the opportunity to address you all today. My name is Stan Chapman and I am the Executive Vice President and President of U.S. National Gas Pipelines at TC Energy, which is one of North America's largest energy infrastructure companies.

I also serve as the Chairman of INGAA, the Interstate Natural Gas Association of America. And as INGAA Chair, I represent over 25 member companies which really provides me with a broad overview of our nation's critical midstream infrastructure as we continue to safely deliver

the natural gas that millions of Americans rely on every single day to live their lives and to do their jobs.

Amid this global public health crisis, it's important to highlight how the transmission of natural gas through our nation's underground pipeline network is safely and reliably bringing stability to our nation.

As many businesses across the U.S. closed their doors over the past several months, our employees never stopped working. These men and women are recognized by the federal government as a critical workforce, the Department of Homeland security's Cybersecurity and Infrastructure Security Agency listed pipelines as one of the 16 critical infrastructure sectors that are I quote, "Considered so vital that their incapacitation or destruction would have a debilitating effect on security, national economic security, national public health or safety, or any combination thereof."

Across the country, pipeline operators work quickly to implement COVID-19 response and recovery plans that incorporate the guidance of CDC, OSHA and other local and state agencies. Our industry developed, through the INGAA Foundation, a publicly available guidance document that effectively synthesizes practices the pipeline industry is using to prevent and control the spread of COVID-19 during construction and maintenance work.

In the cases of TC Energy, nearly 2,000 field workers across 40 states continued to report for work along with more than 70 gas controllers, many of whom were sequestered away from their families and friends for extended periods of time. These individuals dutifully answered the call and helped underpin the work of essential health services.

With our industry workforce performing its essential work, doctors and hospitals were able to treat their patients, manufacturers were able to produce more medical equipment and PPE and millions of others were able to maintain their productivity by converting their homes into offices as natural gas, which accounts for 38 percent of electric generation, continued to be a safe, reliable and affordable energy source.

While there was understandably some initial confusion between local, state and federal guidelines with respect to what was or wasn't considered an essential service, differences were quickly resolved and many of the communities where we operate recognize the value in what we do.

Throughout this time, we have been able to support local businesses, such as hotels and restaurants and emergency medical services through our gas control sequestration, construction and maintenance projects. Many

of these small business owners have expressed their gratitude and emphasized that without our ongoing work, they would have had to furlough most, if not all, of their employees.

What our employees do is a duty, and we're really proud to serve. The natural gas community has worked tirelessly to prepare contingency plans for this crisis. That planning has prepared us well for the COVID-19 challenge that we face today. Through established continuity plans, coordination along the natural gas value chain and collaboration with government agencies, the industry is prepared for a range of emergency scenarios.

Health and safety process and procedures are a way of life for our industry. While we do not know what the future will bring, you can rest assured that we will be well prepared.

Perhaps now, more than ever, what we need in these uncertain times, and what the Commission can help deliver, is a stable and predictable regulatory climate. When I started in this industry more than 30 years ago, it took no longer than five months to secure a certificate for a pipeline expansion. Now, it routinely takes a year or long and once that certificate is received, it's no longer the start of the construction process, but the start of a whole new set of challenges.

Our nation is blessed with an abundance of resources, including cleaner burning natural gas. The continued production of these resources in a safe and environmentally efficient manner will not only continue to reduce energy costs for millions of U.S. consumers, but it will drive economic prosperity through the creation of real jobs that pay a living wage, enhance our domestic security by reducing our nations reliance on energy imports from volatile regions across the globe, and strengthen the security of our allies abroad as we continue to export LNG and the related energy products.

I am an optimist. I believe that we will emerge from the pandemic we currently face stronger and smarter. I believe that what we do collectively -- that is deliver the energy that millions of individuals rely on every day to live their lives and do their jobs, will be needed for many, many decades to come. And I believe that the Commission, by ensuring a stable, predictable regulatory climate, can create an environment of energy and economic prosperity for our country to ensure we continue to meet the challenges at the frontline, just as we are doing right now. Thank you very much.

MS. RODER: Thank you very much Mr. Chapman. We now have Stan Connally, Executive Vice President of Operations at Southern Company. Please go ahead Mr.

Connally.

MR. CONNALLY: Well good morning, thank you. Commissioners, Mr. Chairman, thank you for the opportunity to be here today. I'm Stan Connally, the Executive Vice President of operations at Southern Company and again we really appreciate the opportunity to speak with you today.

I've heard from several of you during this pandemic as we participate in industry calls and your support for what we do is very much appreciated and noticed as we work together to navigate everything that's in front of us around this pandemic.

Southern Company is one of the largest energy providers for our country and we operate seven regulated utilities serving 9 million natural gas and electric customers across six states. We also have a competitive generation business. It's also involved in that transition we talk about with our energy generation, our transition to you know, a different form of serving our customers going forward.

We also have a nationally recognized provider of customized energy solutions and distributed energy infrastructure that is valuable to many of our customers today as they think about resilience going forward. But please understand across all those businesses, keeping the customer at the center of everything we do really is the

focus for us and that hasn't changed, even across this pandemic.

I get the pleasure of working with 28,000 teammates who are totally committed to serving customers and communities. We get the privilege to serve. We recognize our awesome responsibility to deliver safe, clean, reliable and affordable energy, even in complex times like this.

But that's built on our core values. And in particular two of those core values, safety first, and total commitment really have guided our response to the COVID-19 Pandemic.

Certainly it starts as several of you have already heard, with keeping our employees safe and healthy. It's an absolute predicate to making sure we can continue reliably serving our communities. But also our ability to serve those communities is built on deep collaboration -- collaboration across the industry and collaboration with our regulators, and we're very thankful for the hard work and attention of our local state and national regulators, including this Commission.

I think in complex terms it's important that we keep things as simple as we can, and your hard work has given us the ability to focus. It's also given us the stability we need to continue operating again in these complex times.

We talked about it as you know well, utilities and service we provide really is essential to powering our nation's economy. And we have never stopped working to achieve that end during this pandemic. We recognize again that awesome responsibility to keep the energy flowing and we've been very successful at Southern Company in adapting our normal operating plans to keep the lights on and keep the gas flowing.

But that's built on our -- on years of preparation really and attention to our people. I think it was Commissioner Glick that acknowledged the men and women on the front lines, their training, their preparation, their attention to safety and health is an important element of our planning for times like this.

Flexibility business continuity plans is another area that we have all focused on, we've collaborated on. It needs to be a focus for us going forward with lessons learned. Having resilient infrastructure and systems that support that infrastructure certainly has borne its fruit during this pandemic.

You know, we've had the opportunity to test and improve the resilience of those systems. And we're proud to say they've been very successful. And then lastly our ability to draw funds during these unusual times, the access to credit markets and financial markets really is another

important thing to do and we have done during this time, and I look forward to discussing more about those critical elements during this panel.

Look, I want to acknowledge the important industry collaboration that I mentioned earlier. We worked very closely at Southern Company across the Electric Subsector Coordinating Counsel, or ESCC for short. Other groups like the North American Transmission Forum, American Gas Association, Southeast Electric Exchange here locally for us, all of us together have exchanged protocols, plans, leading practices, and I truly believe that's made us all stronger as we respond to this pandemic.

One example of that is the development of an ESCC resource guide that really has served as a valuable tool to utilities really across North America. I had the pleasure of serving alongside several other leaders from the Secretary of the ESCC to help facilitate that industry-wide discussion and it's been very rewarding, and I think also very valuable to our customers as we have navigated this pandemic.

At Southern Company, all responsible re-entry plan have been informed by our own business continuity experts, our medical experts, we've stayed very close to, but also that industry collaboration has helped informed our own re-entry plans and we think will make us smarter and

more effective as we navigate again in the months ahead.

Let me lastly say we're indeed grateful for this Commission and the hard work you've done thus far to support our industry with constructive regulation during this pandemic. I mentioned earlier your focus has helped us stay focused and helped us focus on stability of our business and serving customers.

These uncertain times have proven the value of that. Thank you for that. And we just ask for your continued partnership to minimize any operational or economic impact on our customers as we move forward and to keep us focused on those key priorities.

Thanks again for the opportunity to participate today. I look forward to answering your questions alongside my panelists. Thank you.

MS. RODER: Thank you very much Mr. Connally. Next up we have Eric DeBonis, Senior Vice President of Operations at Southwest Gas Corporation. Please go ahead sir.

MR. DEBONIS: Well good morning Chairman Chatterjee, Commissioners Glick, McNamee and Danly. My name is Eric DeBonis and I am Senior Vice President of Operations for Southwest Gas Corporation. Southwest provides natural gas service to over two million customers in Nevada, Arizona and portions of California. thank you for inviting me to

participate in this very important Technical Conference.

Throughout the COVID pandemic, America's natural gas distribution network continues to be safe and reliable. Systems that have been -- have remained fully operational, and natural gas has continued to flow to our country's over 71 million customers. Half of all Americans depend on natural gas as energy to fuel their homes and businesses.

This includes hospitals, grocery stores and other vital services that are critical to the nation's pandemic response. It also includes making sure people have heat, hot water and cooking when they are sheltered in place. They're counting on us now more than ever, and I'm proud to say that the natural gas industry is delivering.

Natural gas companies across the nation are committed to protecting their employees and customers. Companies have changed policies and procedures to prevent the spread of COVID 19 and to provide reassurance to employees and customers that their health and safety are always the most important consideration.

Utilities are closely following the CDC's guidelines and are using this information in developing and adjusting company policies and procedures. Utility personnel have been designated as essential critical infrastructure workers. This designation has afforded us the ability to continue responding to the needs of

customers, which includes emergency response activities which may require us to enter a customer's home.

Utility personnel have been provided the appropriate personal protective equipment such as masks, gloves, protective suits and coverings, soap and hand sanitizer to mitigate the threat of contamination. Natural gas utilities have deferred certain work activities, which do not diminish safety, that would otherwise have put utility workers in direct interface with customers.

For example, energy audits, meter reading and meter maintenance and other non-safety related work that would require a natural gas worker to enter a home or building have been delayed since the onset of the pandemic.

Gas distribution utilities recognized early on that many of our customers would face financial difficulties, so they took immediate action. Utilities across the country suspended late fees and service disconnections for non-payment, reconnected those who had been disconnected, and offered bill assistance for those struggling to keep up.

Furthermore, most large utilities have made significant contributions to local fundraising efforts in order to provide support for individuals in need. Utilities such as Southwest Gas Corporation, have taken various measures to ensure the energy systems remain safe and

reliable. In addition to elevated personal protective equipment for our gas company emergency responders, we have gone all out to protect our system controllers from exposure to COVID.

Gas controllers are responsible for quickly identifying any abnormal operating conditions such as drops or increases in pressure at regulatory stations or along the pipeline which could reflect a pipeline failure. These real-time pressures are monitored by controllers in a centralized location.

Natural gas utilities have taken aggressive actions to clean control rooms, perform temperature screening and restrict access to other company employees. The natural gas industry understands additional challenges lie ahead, given that many areas are seeing a rise in COVIC cases and most medical authorities are predicting a second wave for the virus to occur in the fall.

Similar to other industries, we have been studying leading practices used for possible re-entry of office workers who have a compelling need to be back in the office. Field personnel continue to use protocols which enable social distancing and minimize large group interactions.

Natural gas utilities will also continue collaborating with public safety officials to ensure that

our communities have a broad net of capable first responders who can respond to any type of large-scale incident.

Finally, our industry will continue to use technology here it can be effectively used to reduce larger gatherings. For instance, utilizing virtual training and virtual meetings will continue to be used across the industry. Thank you again for inviting me to speak today. I look forward to continued discussions on how the natural gas industry is responding to the pandemic.

MS. RODER: Thank you very much Mr. DeBonis. Mike Haynes, Chief Operating Officer of Seattle City Light is not going to give a formal statement today, but I wanted to give Mr. Haynes an opportunity t o introduce himself and his organization. Please go ahead.

MR. HAYNES: Thanks Aileen and good morning everybody. Really happy to be here this morning from the State of Washington and representing the City of Seattle. Seattle City Light is a municipally owned utility that operates over 2,000 megawatts of hydropower.

I'm really pleased to be here this morning and I look forward to discussion. So thank you Chair, and thank you Commissioners for hosting this. I really appreciate it, looking forward to the discussion.

MS. RODER: Thank you very much Mr. Haynes. Next up we have Shawn Lyon, President of Marathon Pipe Line and

Vice President of Operations of MPLX. Please go ahead.

MR. HAYNES: Good morning. This is Shawn Lyon, President of Marathon Pipe Line and I too, like everyone else, want to thank Chairman Chatterjee, the Commissioners and FERC staff for putting on this discussion.

And it's a great opportunity for us to share how the COVID-19 emergency has impacted the oil pipeline industry and the Marathon Pipe Line. Recovering from this pandemic will be a journey for everyone in the energy industry, and meetings and discussions like this, where we can all come together is part of the next step.

Marathon Pipe Line controls operations approximately 10,000 miles of crude oil, refined petroleum projects and LPG pipelines in 25 states via three pipeline operations centers in California, Texas and Ohio. Every day 24/7 365, approximately 700 front line workers manage Marathon Pipe Line's operations on the ground and within our operations centers.

Another 500 employees who normally work in our offices but who work from home during the pandemic, are slowly transitioning back to the office as we speak. We're approximately about 50 percent back at the office today.

While COVID-19 caused us to make alterations to how we complete our work, it did not and let me reiterate it did not alter our mission to safely and reliably operate

pipelines. In fact, it only strengthened our resolve.

When the pandemic hit, we reacted swift and quickly with detailed protocols across our enter enterprise. An incident command structure was set up that we drill on for many, many times for many years. Remote work guidelines quickly went into effect.

We procured and distributed PPE (masks and sanitizers and cleaning supplies), which as you all know was a challenge due to incredibly low availability across the nation. We limited on-site personnel in our pipeline operation centers to reduce exposure and ensure the safety of that mission-critical portion of our business. In fact, we didn't even allow manager supervisors in that work space.

We implemented health screening, social distancing and kept the size of crews and contractors minimal and lastly, we maintained an open line of communication to inform, education, reinforce and uplift our entire workforce.

In fact, some of the most positive feedback we got from our employees was keeping the open lines of communication that we had at least twice a week with all employees across our enterprise.

Due to these actions and our strong safety culture instilled in our 1,200 employees, I am happy to

report that Marathon Pipe Line has only had one confirmed case of COVID-19. And actually we just got that this past week from a family member of an employee, so we put protocols in place to ensure it didn't spread.

We did this not only to protect our people, but to protect our pipeline operations so that we can fuel the nation when our first responders, our healthcare professionals and front line workers need us the most.

And I think a great example of that resolve is we had an employee of a front line technician down in Louisiana who worked tiredly to make sure our pipelines are operating safely and reliably. While his wife, who is a registered nurse, was at a COVID wing at a local hospital. He set up a camper trailer in his driveway to help protect his wife and give her a safe place for his wife to clean up before she goes in the house to be with her daughter.

So he provided the energy and fuel for her to be on the nation's frontline to help the people who were in the most dire need due to this COVID Pandemic. A truly inspiring story.

As guardians of public safety, it's our duty to maintain safe and reliable operations not only for our people but for the people who live and work along the pipeline, regardless of pandemics or other emergencies that may occur. All 10,000 miles of our pipelines remained

operational during the COVID-19 emergency.

Our in-line inspection tool runs, our damage prevention and rights-of-way activities, maintenance activities, safety and regulatory requirements -- all these mission-critical activities continued without interruption. In some cases, we had to think creatively and find a new way to get the job done safely by asking "How can we?"

For example, we modified our valve hydrotest inspection process to witness via video conference instead of in-person at the valve vendor's shop. This is just one example of dining different ways to perform necessary activities to ensure safe and reliable operations continue.

We also evaluated non-mission-critical activities to determine which could be deferred due to COVID-19. Some proactive maintenance activities were rescheduled, and some scheduled projects were delayed to limit the number of contractors at any given site.

On the front the steep decline in demand for crude oil and refined products due to the economic conditions stemming from the pandemic resulted in industry-wide throughput reductions and lost revenue, which is still ongoing today. We have updated our 2020 business plan to reflect the current challenges by looking for opportunities to reduce our spending levels while still operating in a safe and reliable manner.

Our pipelines do not charge cost of service rates, but rely heavily on indexing, as do most in the oil pipeline industry. COVID-19 means t here are many costs that will not be recovered due to reduced revenue.

And the domino effect created by the COVID-19 emergency has rippled through the entire energy sector, and we'll be feeling the effects for some time. As we all work to return to some type of normalcy, I'm fortunate to be here with all of you to share the impacts and seek solutions.

As Chairman Chatterjee said, "We're all in this together." And I think that's exactly what's happening today, that we're all in this together discussing what we can do. So thank you for allowing me and Marathon Pipe Line to be a part of this important conversation.

MS. RODER: Thank you so much Mr. Lyon. And our next panelist is Jim Robb, President and Chief Executive Officer of North American Electric Reliability Corporation. Please go ahead Mr. Robb.

MR. ROBB: Okay, thank you very much. Mr. Chairman and excuse me, members of the Commission, I appreciate being invited to participate in this Technical Conference this morning. As we navigate the ongoing health crisis, NERC has tried to serve a vital role in addressing the pandemic risks to North America's interconnected grid.

In many ways I think our work has never been more

critical and I have to say that I'm very aware of how well the ecosystem of industry stakeholders, government partners, including the Commission and the ER enterprise have come together to ensure a reliable supply of electricity to meet society's critical needs.

Because pandemics are people events, mitigation requires keen focus on supporting the continuity of workforce and supply chain. The risks we focused on at NERC included potential shortages of critical staff, insuring system operations and control room continuity, preparation for the summer peak operating season, navigating typical summer challenges under heightened uncertainty and regrettably, increased cyber risk.

These threats are significant and real and yet I'm pleased to report that the industry has successfully risen to the challenge, coordinating effectively with government partners and taking aggressive steps to confront significant new risk. Throughout the crisis thus far, we have not observed any degradations to reliable operation of the BPS.

Our efforts at NERC are focused on three primary areas -- heightened situational awareness, active coordination with government partners and industry, and use of regulatory discretion. Even before the World Health Organization and the Centers for Disease Control indicated

significant pandemic risks related to the coronavirus, we identified potential issues on the horizon and in early February, the E-ISAC in an all points bulletin alerting companies of potential operational and security impacts of the pandemic conditions, and recommended that utilities take steps to prepare for the possibility of severe workforce and supply chain constraints.

On March 10th we issued a Level 2 alert concerning industry preparedness for pandemic. While responses from that alert found that pandemic planning across the workforce and supply chain was pervasive across the industry. Two-thirds of respondents said they would be prepared to support mutual aid request if asked.

Responses also identified other risk factors such as impacts through construction and maintenance delays. In April, NERC issued a special report reviewing reliability considerations and operational readiness. That report found no degradation in the reliable operation of the BPS. However we noted that prolonged periods of operator sequestration and deferred maintenance increases the impact, industry's risk profile and will continue to do so as we enter the critical summer months and as it appears now, potentially for longer periods of time.

Coordination with industry and government has been another critical focus area. NERC continues to convene

weekly calls with reliability coordinators across North America. These meetings provide a forum for the RC's to share their experiences and best practices, and to coordinate activities and thus far, the RC's have reported success in navigating all the challenges presented to them with no reliability impacts on the system.

Through the ESCC, as Stan Connally mentioned, NERC participates in ongoing coordination calls with government partners, EOE, DHS, Health and Human Services, and the CDC in support of the tiger teams working on cost-cutting industry issues, including the development of the resource guide that Stan mentioned.

We also worked with the North American Transmission Forum, Department of Energy, and with FERC to develop a pandemic response plan resource to help utilities create, update and formalize their pandemic plans. That document is available on the NATF website and it's gotten very good, very good reviews from folks who have used it.

And then finally working with the Commission, NERC has exercised targeted regulatory discretion to help industry stay focused on the immediate reliability and security needs in front of them. Areas of discretion we employed included guidance advising registered entities that we would consider the impacts of the pandemic in evaluating any non-compliance with reliability standards.

Temporary suspension of in-person compliance activities and then finally deferral with certain new standards requirements that were scheduled to come into play in the second half of 2020.

Throughout all this though, the ERO enterprise remains focused on a core mission -- work on supply chain and other standards is continuing. Through innovation, the regional entities have, with the support and cooperation of registered entities, performed remotely many oversight activities that normally would require a physical presence on site.

In closing, I'd like to thank the Commission for a strong working relationship and the support the Commission has provided us. I think the partnership between NERC and FERC has rarely performed better, and at the same time while providing regulatory relief, we haven't taken our eyes off of any balls, and the reliable performance of the grid under significant organizational stress demonstrates that.

So thank you again for the opportunity to be here and I look forward to the ensuing discussion.

MS. RODER: Thank you very much Mr. Robb. And thank you to all the panelists. We're going to now move into the question and answer session. Just a few things. If a panelist would like to answer a question, you can either use the webex raise your hand function, or

alternatively if you're having -- wanting to do something else, you can just say your name and I will call on each panelist that would like to respond in turn.

One kind of thing to note is turn on your mic and respond to the question and turn off your microphone when you have completed the response. With that, I will now turn it over to Chairman Chatterjee for his questions. Please go ahead.

CHAIRMAN CHATTERJEE: Thank you to all the panelists for your participation today and for your remarks. I want to begin I guess reflecting on a point that a number of you eloquently made about the work in factor prices that energy sector workers across the board have put in to get us through this pandemic and I thought it was particularly insightful to talk about the sacrifices that families have made, families of energy sector employees.

And so I want to start for everyone listening, to give my heartfelt and grateful thanks for the contributions that folks are making. A number of you spoke about various challenges to system restoration efforts given the precautions necessary during the pandemic. What additional challenges have you experienced, or do you foresee due to the ongoing response to COVID-19 during emergency restoration for seasonal events such as hurricanes and wild fires.

So if folks want to raise their hand and answer that I'll greatly appreciate it.

MS. RODER: Thank you Mr. Chairman. Stan Connally has his hand raised. Go ahead Mr. Connally.

MR. CONNALLY: Oh thank you. Thank you for that question Mr. Chairman. Certainly, I think we're in the midst of hurricane season right now. It's something the Southern Company and the utilities around us having a great deal of experience of planning for and executing on behalf of our customers.

Certainly, there will be new challenges to how we respond to those natural disasters. And back to your first point, making sure we can keep the men and women on the frontlines safe and healthy really comes at -- really is the heart of some of those new challenges. We have worked very closely together, particularly across the southeast electric exchange, but really nationally across all of the regional mutual assistance groups to think about what new protocols we really need to implement during those responses.

If you think about it -- I know many of you as Commissioners have witnessed these responses. You think about thousands of men and women coming together to respond to those natural disasters and we have typically housed, trained, oriented, you name it, fed, those men and women in very centralized ways. There's efficiencies that come with

that, but obviously that brings some risks to health and safety in our current pandemic.

So our new protocols really focus on decentralizing those operations, making sure that we take advantage of the technology that you've heard many of us speak to here recently on how we orient workers coming to our territory. We can do that virtually. We can do safety briefings virtually.

We're working hard and our plans are to provide for single occupancy for those men and women versus you know, multi-occupancy hotel rooms or tent cities as you've seen us establish in the past. Again, in support of making sure we can keep people as socially distanced, if you will, as we can during these pandemics or during these responses.

I would also say that getting the material to the men and women needs to take on new methods, rather than them coming for example, to centralized locations to get that material, we plan to distribute it to them in smaller segments of the territory that we're looking to restore.

So those are some examples of the challenges that we'll face and maybe some peak into the plans we have to respond. I would also say at Southern Company we've actually had a chance to practice this. Unfortunately, and then maybe fortunately in terms of being able to practice this across Easter weekend and even the weekend following

this, Southern Company experienced two major windstorms, nearly 600,000 of our customers across the southeast were impacted.

We were able to put these protocols into practice and I can tell you that they were largely successful. We learned a few lessons as we went through that. We always do a debrief on these storms and share it with our peers across the industry of lessons learned. And I think we're all learning from each other as we prepare for the even bigger storms that could be coming ahead of us.

So those are some of the challenges I think that are ahead of us. But I will tell you, I think we're prepared. I think our COVID protocols are well-established, well-communicated. All of the utilities around us, particularly in the hurricane zone, are ready to respond.

Some might ask what challenge will there be to restoration times as it relates to these COVID protocols. I would tell you our reflection on spring storms that I mentioned earlier is that it had very minimal impact on our restoration times.

But I think every storm is different. Every natural disaster is different and every utility across those response areas are going to have to access those -- the damage created from those storms and they themselves come up with restoration times. But the experience thus far, on our

response to these COVID protocols has been fairly minimal to restoration times, thankfully for our customers.

MS. RODER: Thank you so much Mr. Connally. The next hand I saw up was Mr. Stan Chapman. Please go ahead Mr. Chapman.

MR. CHAPMAN: Thank you Mr. Chairman for the question, just to kind of share some of our thoughts with respect to summer challenges in particular. When I looked at what's going on right now, I think in the natural gas space that we're seeing records, natural gas power generation, as a matter of fact, at its peak a few weeks back, over 40 percent of all natural gas that was being delivered was going to power generation.

And we're seeing the same with respect to our assets. We operate 13 different pipelines across the U.S. and many of our pipelines are seeing the record power limits as well. What that means to me is one thing that is critical is that we continue to receive in a great timely manner, accurate burn sheets from our power generator customers.

This is essential to ensuring that our pipelines are properly prepared with respect to line pack, et cetera. As a matter of fact, you know, we -- the Midstream Pipeline, through INGAA are meeting bi-monthly with the ISOs and the RTOs to ensure that there is proper communications on this

and many other issues, especially at the control room level.

And I think that these discussions are essential to ensuring that we're minimizing, if not eliminating, any impacts of gas outages on the power grid. With respect to hurricanes in particular, I would say that we continue to be well prepared. Many, if not all of our operation's personnel, continue to man their positions in the field.

Our contingency plans are in place and have been tested and refined, given prior year activities and we continue to drill for these scenarios. As a matter of fact, just a few weeks back we had a little bit of a storm come through the Gulf coast and everything was handled relatively routinely.

One thing I do worry about however, is an issue with bandwidth and internet outages, particularly with so much of our work force working from home and many of the homes don't have back-up generation and reliable back-up generation sources that we may have at the office. So that's one thing that I like to keep up, first and foremost in my mind, making sure that we physically have the connectivity to the extent that we have electric outages in homes in particular.

Another thing I would bring up is to the extent that we have outages with respect to our gas pipelines in the field. At times it requires us to closely coordinate

that work with local LVCs and we have received some justifiable pushback at times with respect to us asking to pushback that work for fear that the LVCs don't want to have to enter hundreds if not thousands of individual homes during the COVID crisis to relight pilot lights and the like.

But for the most part, we've been able to reschedule or delay some of that work to make sure that we're being respective of all the safety and health protocols associated with the pandemic.

MS. RODER: Mr. Chapman, thank you very much. The next hand I see up is Mr. Tim Cawley, please go ahead sir.

MR. CAWLEY: Sure, thanks. I'll really just echo the prior remarks. Stan Connally covered it well. The sharing across the industry has been really essential as we fine-tune our storm restoration plans, much more decentralized.

You can imagine feeding hundreds and thousands of line workers in buffet style. That's not going to work. So we have to rework those plans. And another example of sort of rework would be making sure we have support -- adequate support. Single occupancy rules is there lodging available? We're checking in locally.

Business travel is down so far so good on that.

We check in frequently. And also support functions like logistics and crew guides. We and likely many others pull in retirees to help as crew guides for mutual aid crews to steer them through the territory. And given their age, it's not appropriate to have them in, so we're reworking those rosters to make sure we're set, but we're ready, thanks.

MS. RODER: Mr. Cawley, thank you so much. I do not see any other hands raised at this time. If you have already responded to a question, please remember to unclick the raise your hand function so we'll know if you have a question. Please go ahead Mr. Chatterjee, Chairman Chatterjee.

CHAIRMAN CHATTERJEE: Thank you all for your insight. I want to follow-up with a question to Mr. Cawley. As a utility in a state that was particularly hard hit by COVID-19, what advice would you give to the utilities in states that are now seeing a rise in COVID-19 cases? What are some lessons learned that you would share?

MR. CAWLEY: Sure, thanks. So we were at the onset of this and very dynamic at the front end. I think many of our peer utilities are doing the things we've done and that's as a result of a number of industry groups, the FCC, EEI, sharing information about our experiences and other experiences throughout the country.

We took the steps early on, focused on safety and

delivering reliable service. It's what we do. We have a team of about 14,000 people that are incredibly dedicated to that and that's not unique in the industry. They have been tenacious and persistent, and safety focused and mission oriented and they've done an incredible job.

We set up an incident command structure in late March when the issues were really dynamic. And what that does for us is allows us to take in feedback and changing events very quickly, determine attack of action and then communicate it in a cohesive way to our workforce.

Many of our peers are doing this. Our guidance principle was if you can accomplish your job from home, stay home. And within about a week we went from very few employees who work from home regularly, to about 8,000 employees. That was a huge lift and accomplished by our IT staff to make all of that happen and to make sure we do that in a cybersecure way.

We curtailed contact with customers early, and I think many companies are doing this as well. So meter reads, smart meter installations, we slowed down on our gas main replacement work because in order to affect a replacement, you ultimately have to get into the house to transfer the service.

So if we didn't need to do it, we really just put it on the back burner. And in New York, as we moved through

late March into early May, at the peak there were 1,000 fatalities a day in New York City, so we really wanted to keep people home for their safety, for their family's safety and frankly for the good of society.

We stayed focused on ensuring that we responded to emergencies, that we operated in a safe fashion, and that we prepared for summer. And we are all ready for summer and we're in the middle of it now. So I would say the central incident command structure helped us a lot.

The sharing across the industry helped us a lot. We provided a fair amount of input to others, but also received a lot and we're able to implement that. And frankly, as we continue to move out of it, you know, I would like to say and hope the worst is over in our region, but we are very, very careful and cautious to reiterate the messages of social distancing, hygiene.

We are not in a tremendous rush to get back. Our employees have been incredibly resilient as I've mentioned, and we've been effective in their work from home. So we're really going to be deliberate about a re-entry plan. We don't want to get ahead of ourselves and we're delivering on the mission now, safely and we're going to continue to do that until the coast is clear.

MS. RODER: Go ahead with your next question Mr. Chairman.

CHAIRMAN CHATTERJEE: Thank you for that Tim, you have been dealing with the situation in a particular region. My next question is for Stan Chapman. TC Energy has assets in the U.S., Canada and Mexico, so you're in a unique position to talk about your experience with the COVID-19 across multiple countries.

Can you just talk a little bit more about your experiences as a company?

MR. CHAPMAN: Sure thing Mr. Chairman. We'd be happy to do that and you're exactly right, we've kind of worked from the bottom up if you will. Mexico City is having a large number of growth cases with respect to COVID-19, and as a matter of fact, as we go through our return to office plans, we're actually going to implement return to office work for about 25 percent of our employees in Calgary on July 15, but we're not going to implement a return to office plan in Mexico City given the number of cases.

A matter of fact, even if you look at things just within the U.S. themselves, we're not going to reopen our Houston office on July 15th as we initially planned, given the large number of COVID cases that we're see in Houston and in Texas, in particular, but we will go ahead and reopen our Charleston offices for about 25 percent of our employees.

I think, you know, one other thing that's been somewhat unique and perhaps a topic that we'll get into here in a little bit, has been the increased number of cybersecurity threats that we face. We were seeing increased phishing, we're seeing increased cyber, cyber threats coming through, all of which we've been able to manage without any significant incidents.

But the reminder for all of us should be that once we get distracted if you will, by something like a pandemic, you can't take our eye off the cybersecurity vehicle as well. With respect to operations I would say things have been fairly the same across all of the three locales -- Canada, U.S. and Mexico, in the context of we moved early to sequester our desk controllers in particular.

And I think that that early move has paid dividends. In the U.S. we have four different backup centers that we have our desk controllers sequestered in and we're just coming out of sequestration right now. We're actually going to move back to more of a normal environment.

Same thing in Calgary, we'll slowly be migrating out of the sequestration up there. But again, Mexico is a very different situation given the number of cases that they've been seeing of late.

MS. RODER: Go ahead with your next question Mr. Chairman.

CHAIRMAN CHATTERJEE: Thank you for that. Building on the issue of cybersecurity, my next question is for Jim Robb. Stan mentioned phishing, what new cybersecurity threats and vulnerabilities have been identified during the COVID-19 emergency?

What resources are available to help with these issues and actions that entities are taking in response? And finally, NERC has monitored the impacts of COVID-19 over the last several months. What have been your biggest concerns, and do you have any recommendations or advice for those in the energy industry? Thank you Jim.

MR. ROBB: Thank you Mr. Chairman. That's a great question and there's a lot to unpack in there. First of all the activities of our adversaries has been robust over the last several months, not surprisingly.

In one of the main attack vectors that adversaries employ are phishing emails. It's been mentioned several times here. And this particular situation is incredibly right to phishing attacks. You have a distracted workforce, the volume of email traffic because of remote work is extraordinarily high, and the ability to raise anxiety which is one of the key things adversaries do to get people to click on a malicious link is also very high.

So we've seen a tremendous increase in that sort of activity. You know, there have been a number of you

know, publicly recorded issues as well. The denial of the service attack on Health and Human Services in March, alleged Russian attacks on German infrastructure, ransomware attacks across the industry.

Very early on the collaboration software such as Webex, Zoom, Microsoft Office 365, all saw a vulnerability in attacks identified in -- or vulnerabilities identified in attacks made. Lots of disinformation playing out across the sector using social media, malware campaigns, attacks on managed service providers, you've got the whole soup to nuts of cyber activity.

I think the one thing that continues to impress me and has really impressed me over the course of the last several months is the level of partnership and collaboration across the government, our government partners. DOE has been terrific.

DHS, FBI and CIA have also been very good about sharing information and early information with the ISAC and the ISAC has been able to get that out to industry.

So I think the level of government intelligence sharing on emerging attacks has been -- or emerging threats, has been very, very good over this period of time. Industry sharing as several have noted here, has also been quite robust, particularly on the physical side, but also on cyber threats to the industry.

And that's one of the key ways that we maintain secure infrastructure is the voluntary information sharing across industry participants through the ISAC portals that allows people to see patterns where they might only see an isolated event on their own.

I think one of the key things that this all highlights though is that you know, basic cyber hygiene remains extraordinarily important. So keeping systems patched, there have been a number of key patching events over the last couple months with Microsoft products and other ubiquitous products across the sector.

It's critical that utilities keep their systems patched using multi-factor authentication and isolation of passwords across various systems remains very, very important and you can't stress enough the importance of keeping the workforce highly sensitized to the risk of phishing emails, because that continues to be the adversary's best vector of attack to get access to a system and trick someone into giving up their credentials.

And then finally, you know, using the ISAC, sharing information with it. As you see events, you know, one of the things I keep telling people is you know, when you see something, you see a single event, but when it gets put through the ISAC, there's the opportunity now to see patterns across industry. So continuing to share with ISAC

and the ISAC is going to continue this renaissance in trying to take the information we get from industry, the information we get from our government partners and turn that into actionable insights for the industry.

I think they're making great progress on that. The other thing I would note, and this kind of astounded us when we looked at it is that the rate of membership growth in the ISAC has been very, very high. I think we added 10 percent more members over the last four months and more than we added in like the previous two years, or a statistic similar to that.

So I think that's testament that the ISAC is becoming a more and more valuable resource industry in this area, and that industry is supporting it. And that's probably one of the best places to go for putting industry insights into cyber risk.

CHAIRMAN CHATTERJEE: Thank you Jim for that. I want to build on something that you teed up about communication, collaboration and information sharing. I want to turn right now to Mr. Bryson. Mike, can you just give us a sense of how the RTOs and ISOs have been communicating during this time and sharing information as you guys work through systems shortage due to COVID-19.

MR. BRYSON: Sure, thanks Mr. Chairman. So the IRC groups, which is the ISO RTO Council have a number of

groups inside of that, so the CEO's met several times a week. The operating -- my counterparts, met at least weekly and sometimes more often. We also met across some of the incident's response teams, the HR groups and this helped significantly.

So I pointed out in my opening remarks for instance, some of the lessons that we learned and from our partners. New York ISO was a leader along with their transmission owners in New York on sequestration operations. And so understanding how they worked those issues was very helpful to us.

And when you talk about things like having an epidemiologist on consultant over at New England ISO idea, the bench operator program and the simulator kind of reconstruction that we're going through are things that we picked up from FPP and frequent conversations. And then I also touched on this topic of trying to forecast load during summer operations.

You know we're trying to balance this. What does the new summer demand look like when you have some return to business, hot weather, a lot of residential use and we were kind of lucky to be able to learn some of the lessons that CAL ISO, SPP and ERCOT learned because they hit some very hot operations in the May timeframe.

So those are just some examples of the

coordination. I think we've been very dependent on the IRC to coordinate as well as a lot of the other reliability coordinators as Jim Robb touched on. Those weekly calls have been helpful as well.

CHAIRMAN CHATTERJEE: Thank you for that. For my next question, I want to go to San Connally. Stan, you literally wrote the book on re-entry. I just wanted to get a sense from you from what the ESEC has done to get utilities in a position to prepare to getting back to normal operations. I'm curious in that how you feel that process is working at FERC and then the final part of my three part is you guys have allegiance that comes across a number of states in the southeast.

I'm just curious if you guys are having any trouble with states with moving men and women across the territories. Thank you for bearing with me and thank you to my colleagues for your patience as I ask these questions.

MR. CONNALLY: Thank you Mr. Chairman. First let me get your and the Commissioner's decision to appoint Caroline Wozniak as a single point of contact, if you will for us. I think that has been incredibly effective having someone we could go to with questions, someone that's accountable for getting back to us has been incredibly helpful for us and so thank you.

And I would tell you that's going very well. It

probably is a lesson learned from this for FERC and really for all regulatory bodies in these complex times to give us a point of contact to keep things simple. I think that has been very helpful.

With regard to writing the book as you said, on re-entry. Certainly, I need to thank our industry peers around and those that served on the ESEC tiger team. We had a tiger team that was identified to coordinate across the industry on thinking through the critical elements of re-entry.

And certainly every region of our country, every company -- municipal or cooperative that's out there, has specific local health dynamics that they have to think through, but I think there's some leading practices involved kind of rallied around.

At Southern Company, our responsible re-entry is really built on three principles. One of them is clearly being responsible, making sure that we keep those critical workers at the forefront of our thinking. They've got to remain healthy. We've got to get them the tools they need to be healthy, the PPE, but also the work practices and the support around them.

That's the responsible piece of this and to make sure they can get home to their families. Secondly, a measured approach if you will, I would tell you that I think

largely across our industry we're being fairly conservative with bringing workers back to work locations.

Thankfully, and we talked about technology a second ago. Technology has been an enabler of us and at Southern Company we've got 16,000 of those 28,000 working from home and working from home very successfully. And we frankly feel no urgency to get them back to the work place where the risks could be hire for transmission of illnesses, and so a measured approach, a phased approach. We have three phases in our playbook and at Southern Company, most of our companies are sort of kind of in this phase one where we continue to do essential maintenance serving customers.

But we've communicated that it will likely be sometime before all workers come back to their workplaces, and maybe we'll establish like many in our industry, teleworking practices that we can keep permanent for the long-term.

And I think the last element of our playbook is priorities and flexibility. I said earlier, every company, every utility is in a jurisdiction that has its own health dynamics. We built our playbook to allow local leaders, our state CEO's to be responsible for the local decision-making in consultation with the medical experts in their areas, giving them the ability to bring their work as they see fit,

really built on that responsible and measured approach.

The ESEC has been amazing here. There are other resource guides, you heard Jim Robb speak to one earlier that's been very valuable. It was done in partnership with NERC and the North American Transmission Forum. But the resource guide that was developed here really was built on multi-phases.

We've got IOU's, we've got our municipal and public power, we've got a cooperative utility. We've all come together. We've included the natural gas associations in a few of those conversations, so we're all learning together.

It's been an incredible tool and I'm fortunate my Chairman CEO Tom Fanning Co-Chaired the ESEC with his leadership along with others. I think our industry has responded incredibly well. We've built tools through the ESEC for others to use and I think as we write the history on this pandemic, and hopefully we'll get to the point of writing history in the coming months, this won't linger too long.

I think one of the points of history will point to this collaboration that is embodied in the ESEC, but in other groups as well. It's one more proof point for our electric utility and natural gas industries where we've come together and responded to crisis in a very positive way I

think.

CHAIRMAN CHATTERJEE: Thank you Stan for that response and for all your efforts. I just want to ask one final question and then turn it over to my colleagues. For Shawn Lyon, Mr. Lyon, can you take us through Marathon and MPLX's planning for the impacts of COVID-19 over the next six months, what contingencies are you guys taking into account?

I noticed from the MPLX website, that you've been able to share maps and other PPE that you had available with local hospitals and healthcare facilities. Have you been able to get the supplies that you need going forward to ensure the safety of your personnel?

MR. LYON: Yeah, thank you Chairman Chatterjee for that question. You know I think let me break it down a little bit and I think planning is still very fluid, but the structure that we implemented right away and several of the panelists said the same thing -- intimate command structure really builds, walks you how to set up a structure that enables success to your objectives.

And the objectives are to keep your employees safe, your contractors safe, and the public safe. And so that remains as we move forward. So we'll continue with those meetings ongoing, and part of that is making sure you have the supply lines to get the resources you need, the

PPE.

And some of those things are easier to get now, but some are still very difficult, you know, the public is wearing more masks. You know initially masks were very sparse to find. Personally we had some nice planning and preparation by our corporate and our safety groups, and then when we realized here's what we need, we did share that with some of the nation's frontline workers, healthcare workers, hospitals, first responders because that was the right thing to do.

But you know if we continue a lot of our planning is also centered around how quickly the economy is responding to the demand for our products. And I've never, I mean I've been in this industry 30 years now and I've never seen the fluid nature of that.

You know, you go from hardly anyone driving to now there's a little bit of driving and sometimes you'll see a spike here or there, and so I think everyone is trying to figure out what's that picture and how do you plan for that because we've never been down this road before. So that's a big part of what we're trying to decipher is you know, how quickly things are coming back, you know, as previously mentioned several states, you know, there's been spikes in cases and people are you know, tamping down a little bit, so that's going to affect again, you know, the revenue side and

just the business -- the demand for our product.

So we're still trying to weave our way through there, but I would say the incident command system really allows us to really be on with what the latest information is and have a structure that enables a wide decision.

And then I'll just mention lastly, I think part of that planning is a strong industry that collaborates, and it's been mentioned several times. You know it's not only the formal association and you know, like FERC and PHMSA and everything that we work with, those are the individual relationships. You know, being able to pick up the cell phone and say, "Hey, how are you guys handling this?"

And that insight, you know, gives a perspective that can help us all really meet the needs of the nation. I think that's really what's on our radar for the next six months.

MS. RODER: Thank you Mr. Lyon. And just to fill-in, I know that Stan Connally has his hand raised. I believe he would like to supplement his previous answer.

CHAIRMAN CHATTERJEE: Perfect.

MR. CONNALLY: Mr. Chairman I apologize. I didn't answer your third question and I think it's an important one as it relates to the ability to move our workers around our service territories and even around the nation when times dictate that.

Still we need to be thankful for the work of our fellow government partners, Chris Krebbs at DHS, yourself partnering with NARUC President Brandon Presley and others, really coming out very clearly stating that our utility workers are a part of a critical infrastructure network and they're essential to keeping our economy powered and your help, others help has been great there.

I also just add that within our states our governors have been great partners, the state health organizations. We really have not experienced many really, if any, struggles with moving men and women around our service territories. I think a challenge going forward, and I'm going back to a previous conversation around emergency restoration, maybe hurricane response.

We will be calling on workers from other states to come and help us. I know there are some restrictions implemented by some states on men and women traveling from other areas. I think that's an area we're going to have to continue to focus on, again working very closely with our governors, working very closely with our states to ensure that when we need those men and women to come from other states into our territories, then we can do so freely and without delay.

But within our territories we've been very fortunate that our state partners and even our federal

partners, including this Commission have been great supporters of that and so far it's worked very well. Thank you for allowing me.

CHAIRMAN CHATTERJEE: Thank you Stan. And I just want to thank all of the panelists for your participation. I may have a few more questions if we have time at the end, but I want to give my colleagues an opportunity to weigh in starting with Commissioner Glick. Commissioner Glick, thank you for your patience.

COMMISSIONER GLICK: Thank you Chairman Chatterjee, I appreciate it. I want to start with a question for Mr. Robb. You know until recently I didn't know that NERC had put out a pandemic response plan back in 2009 which sounds really interesting.

I wondered if you could elaborate on the plan, talk about how it's worked, and how they've implemented it during this COVID-19 crisis. And then third, maybe you can talk about the importance of planning in general since that seems to be a very important topic for what we're considering today.

MR. ROBB: Well Commissioner Glick, that's a great question and I'll tell you I guess right now I wish I had gone back and reviewed that plan before this Conference. I would say though that that plan was done completely uninformed by the extraordinary circumstances that this

COVID situation has presented in terms of its breadth and depth of the crisis it has created in certain geographies.

But my sense is that that plan served us in the industry well in terms of the basics that needed to be done. But I think it would be very fair and self-critical to say that although we've proved to be foundational, that assessment as I think Mike Bryson mentioned earlier, in many ways we've been at some level building the plane as we're flying it because this particular virus has had so many uncertainties around it surrounding it and has just proven to be so extraordinary in its depth.

I think that's one of the reasons why the ESEC has been so fundamental to the success of the industry's response. As Stan Connally mentioned, the creation of the resource guide that was put in place. I think we're now on the 10th or 11th version of that.

It's been a living, breathing document and as we've been experiencing the pandemic, the great thing is we've been documenting it so that when we get to the other side of this crisis, we'll have a very good living document that will prepare us for the next one, which hopefully none of us will ever experience.

The other thing -- I think the other point I would say to you, the point around planning. I think planning is really critical because one of the things that

has served the industry well has been with its very early activation of the ESEC playbook, the integration and interactions with our government partners to really understand the facts as we understand them at the time.

And to really figure out quickly, you know, getting workers sequestered where they needed to be, prioritizing workers for personal protective equipment for testing, ultimately for vaccines. All of that activity needs to be talked to ahead of time.

I think one of the things that I've noted in talking with a number of CEOs around the industry is many of us had business continuity plans. We've exercised them, but this is the first time that we've really put them into practice in such an extraordinary way.

And I think there's a little bit of wow, that worked, as well as they wanted it to. But I think that goes to show the value of planning and the value of drilling. And even though our lens on this particular virus was pretty murky, all that preparation work -- even going back to the 2009 assessment, I think served us all very, very well.

MS. RODER: Chairman or Commissioner Glick, excuse me. I noticed that Mike Bryson also has his hand up.

MR. BRYSON: Yeah, Commissioner Glick, just briefly, just to kind of add on to what Jim Robb said. One of the things -- one of the chapters I think that's going to

be important in this updated pandemic plan is the sequestration operations. And we've got a number of utilities around the country who have done that -- Con Edison, certainly New York ISO, I think ITC, PJM did it and it was not -- one of the things I think from an RTO perspective that we had a disadvantage to I think, some of the transmission owners who do mutually, they do logistics support from big operations, is that we didn't have that.

And so that's an important part of the chapter because I think more utilities may rethink that sequestering and more may need to do it. One of the big things, and this may be an area FERC and our government partners can help with is the ability to test frequently was such an important part of the sequestration operations and we're going to have to figure that out.

I think we're still not even there today. If we had a second wave, testing becomes a huge barrier. We were lucky to have volunteers who were willing to go for 10-11 weeks, because so we didn't have to do as much testing, but that's going to be a big part and a good place that hopefully FERC and some of the federal partners can help with.

MS. RODER: Commissioner Glick, there are no other hands raised, so I think we're ready for your next question, thank you.

COMMISSIONER GLICK: Thank you. The next question relates to something Mr. Cawley said in his testimony. So we're talking about the fact that obviously a lot of us are working from home now and that's going to continue for a while, but that may be continuing beyond the COVID-19 crisis and that might have implications for utilities in a number of ways.

Particularly, for energy assistance, I think Mr. Cawley said that you know, this might provide an opportunity for utilities and other energy companies to go back and assess or reassess the residential energy efficiency. So I was wondering, this question is pretty much for everybody. What you think the opportunities might be with regard to residential energy efficiency coming out of this and what we should be looking for.

MS. RODER: Thank you Commissioner Glick. Mr. Cawley, please go ahead.

MR. CAWLEY: Sure, thanks Commissioner. Yes, so we're seeing in our service territory, in particular the residential commercial mix, has really been impacted. If you think of New York City and the island of Manhattan in particular, demand is down about 20 percent in Manhattan -- sales and demand. And in our residential areas, while there's some dip, it's much less and that's because more people are at home doing work, et cetera.

More activity at home yields more use and also yields larger bills. So we think that we have a number of residential programs that target efficiency at the residential level, but we think sort of redoubling in those efforts might be a really good target for us, allowing us to help clean the environment and allow customers to be responsible stewards and to lower their bills.

So really the idea would be to take a look at the programs that we've worked and innovated over the years, and infiltrate to a greater extent, a low and moderate income also heavily impacted, and that's a place where we think we can continue to play a larger role in helping clean up the environment and minimize bill impact for customers.

MS. RODER: Thank you very Mr. Cawley. The next hand that I saw raised was Mike Bryson. Please go ahead Mr. Bryson.

MR. BRYSON: I just forgot to put my hand down, so I'm going to take it off now.

MS. RODER: Very well thank you. The next hand I saw raised was Mr. Robb. Please go ahead Mr. Robb.

MR. ROBB: Sure. I was just going to make a tangential point related to energy efficiency. As we looked at our operations and activities over the past three to four months, one of the things we've been focused on at NERC is our sustained ability profile overall.

And one of the interesting things to us is that one of our biggest contributors to carbon emissions is related to the amount of travel that we do -- commuting and air travel. And I think one of the other big upsides in this is we think through how to use more remote work as opposed to having people commute to the office, more Webex-type meetings as opposed to having to fly to meetings and so forth.

The impact on our overall sustainability footprint I think will be significant as we go forward. Again, that's from a perspective of an intellectual capital organization without operating assets. But it's proven to be, I think, has the potential to be a very potent opportunity for us to do our part in the carbon emission issue.

MS. RODER: Thank you very much Mr. Robb. The next hand that I saw up was Mike Haynes. Please go ahead Mr. Haynes.

MR. HAYNES: Thanks Aileen, thanks to you Commissioner Glick for bringing this up. I think from Seattle's perspective, I didn't want to lose sight of everything the other panelists have mentioned, but also what's very important to us, especially in a municipal world, is not to lose sight of the underserved communities.

And we think that there's the efficiency measures

in particular, there's a huge opportunity to fill a gap there, and these recent events over the last three-four months have highlighted our need to really focus on, I think, the underserved communities. So we're going to create that opportunity and work really hard to make sure that energy efficiency proliferates, but also that the opportunities are made across the board to everybody who wants access will get access to those measures. So I didn't want to lose sight of that, thanks for the question.

MS. RODER: Thank you very much Mr. Haynes. I see that Stan Chapman has his hand raised. Please go ahead Mr. Chapman.

MR. CHAPMAN: Yes Commissioner, perhaps a second derivative of your question around residential efficiency is whether or not this environment really has so many individuals working from home with some to be permanent or temporary and that's something I know that our company is going to be taking a very hard look at and I think our initial thoughts are to a great extent, there may be some jobs that could be done at home on a permanent basis, but we see a large migration back to the work force, back to the office over time.

But I do actually have a comment around things like air travel for example. I think one of the things that we've learned through this process is that being able to

hold a meeting and communicate via Zoom or Webex or the like, is something that actually works pretty darn well in a lot of cases, and I would not be surprised to see a lot less air travel and the like due to that.

MS. RODER: Thank you very much. Mr. Chapman. Commissioner Glick, there are no other hands raised, so please ask your next question, thank you.

COMMISSIONER GLICK: Okay thank you. My next question maybe for Mr. Robb, but pretty much everybody as well I would think. I want to talk a little bit about the supply chain. On the one hand if with the onset of the COVID-19 pandemic, whether you all have seen significant disruptions in the supply chain and if not, do you foresee that it may occur as the situation progresses and what you all are doing about it.

MR. ROBB: So great question Commissioner. In terms of kind of core electric components and things for the system, we've not seen any issues identified or reported to us. And I would note that a number of restorations have occurred, storm related restorations over the last three to four months, and supply and critical equipment is spared, it has not been an issue.

Now I think the longer this goes, I think the risk of that continues to mount, but at this point we're not seeing any cause for contemporary alarm. I would say the

one thing that has been an issue, and probably will continue to be an issue, have been things like personal protective equipment, and getting the right -- getting maps into the right places.

I know in the last ESEC call, there was a series of issues raised about mask availability in California, particularly as you approach wildfire season. And as you move into hurricane season and restoration, will there be lots of workers working in close proximity? The availability of PPE becomes really very, very important at a very large scale.

And I think that's what we're seeing right now supply chain challenges. But in terms of the core electric components, nothing has manifested yet that would lead us to sound an alarm. We continue to encourage the industry, do the ISAC and through our work with the NERC alert and so forth to be very aware of supply chain vulnerabilities and the potential for disruption.

But again at this point I think we're feeling that that industry has taken that advice in hand and to date we've not had any issues.

MS. RODER: Thank you very much Mr. Robb. The next hand that I saw raised was Mr. Bryson. Please go ahead Mr. Bryson.

MR. BRYSON: Thank you Commissioner. So one of

the things that we saw particularly early on in the later half of March, early part of April is a lot of concerns about supply chain, particularly for a generator. A lot of this had to do with the concern that wound up not being as severe, about travel restrictions, curfews, and things like that.

We worked very closely with our state regulators to try to stay ahead of that, but I think it turned out to be not as big of an issue. I think that the issue I talked about before, PPE and testing in the future, is something we've got to stay focused on. And then I know it may be addressed a little bit later, but this -- your executive order that's out there and just coming up with a very thoughtful approach to how we kind of mitigate the implementation of supply chain when it comes to some big capital equipment and some of the embedded concerns that we have with that executive order, thanks.

MS. RODER: Thank you Mr. Bryson. The next hand that I saw raised was Stan Chapman. Please go ahead Mr. Chapman.

MR. CHAPMAN: I would say from the pipeline perspective, I'd echo the prior comments in that there have been some minor delays, but perhaps surprisingly, not being critical at this point early on in the process, hand sanitizer and PPE. At periods of time when they were a

little bit difficult to get our hands on, but that seems to have worked itself out over time.

I would note that one thing that we learned from our field employees is when you're wearing a mask in the field it tends to fog up your goggles, so maybe there's an opportunity for some innovation and some new products to be developed out of this.

I would also note that we're part of a global supply chain and there are certain items such as valves, to an extent, that tend to be supplied disproportionately from one country or one region of the world. And in those instances, we definitely need to take a step back and ensure that we have a broad supply of these types of critical parts and that we're not only dependent on getting a region or country to supply them to us.

MS. RODER: Thank you very much Mr. Chapman. I will now call on Stan Connally, please go ahead sir.

MR. CONNALLY: Thank you. Commissioner, I want to talk to some of the great points that have been made by my fellow panelists. I would also just add one point to the ESEC tiger team approach. One of those teams we've established across the industry is a supply chain team to keep their finger on the pulse, if you will, of what the supply chain issues are.

Jim Robb talked about some hot spots, if you

will, needs for PPE. The intent is for those tiger teams to raise those issues to the ESEC and to our fellow government partners to help resolve those matters quickly.

Doing pulse surveys of utilities who are in turn surveying their own vendors. Currently we're not hearing of any major supply chain concerns, so that's good, but I think as one of my panelists noted, over time the pressure on that could rise. I'll end with I think at some point, this may be another example of where we need to lean in on some industry partnerships that were established prior to this pandemic that we're a part of making some large transformer sharing arrangements across the industry.

We're also a part of some sharing arrangements on some nuclear plant parts. And I think those arrangements and I'm not aware that we called on them thus far during this pandemic, but those are examples, I think, of you know, federally sponsored, FERC sponsored partnerships that we all need to consider enhancing going forward to be sure in times like this that the major equipment that we need to keep reliability where it needs to be is there when we need it.

So I think that's an area that we can continue to focus on going forward.

MS. RODER: Thank you Mr. Connally. Commissioner Glick, there are no other hands raised, so we're ready for your next question, thank you.

COMMISSIONER GLICK: Okay. I have one final question for Mr. Bryson and it really relates to long-term forecasting and planning. I know Robb's struggling trying to figure out what the short-term and medium-term impacts have been and will be from the pandemic. But also, it's a little unclear at this point what the long-term impact is going to be.

And I wonder, how PJM's navigating this in terms of long-term forecasting and what the load patterns and levels are going to be over the next five year horizon.

MR. BRYSON: Sure thanks. And one of the things that we've been tracking very closely is kind of the back half as we experience these load drops. I think the good news is its' kind of weened down and close to normal. It's decreasing less, I should say, than it has been.

But we did use a lot of that data to try to forecast into the future, so two or three years out. In fact, recently filed with FERC and the order was approved to adjust the load forecast for our capacity procurement we have.

So we need to continue to take a look at this. There's a lot of moving parts already at the load forecast with some of the behind the meter generations, solar, energy efficiency, the economic states and things and just a layering on top of that some of the COVID things we saw.

And then a lot of the things that the panelists talk about today. So we'll continue to need to pay attention to that in the future and make those adjustments in our forecast, because it affects our capacity procurement, it takes a lot of different things out into the future.

MS. RODER: Thank you Commissioner Glick. I don't see any raised hands.

COMMISSIONER GLICK: Thanks a lot, I don't have any further questions.

MS. RODER: And I see that we are now going to start our 15 minute break. We will come back on at about 11:10 and Commissioners and panelists, please stay signed into the system over the break, but mute your phone if you have not done so yet. Please also turn off the camera during break.

Remember that the public will continue to see the video and hear any conversations. We will be back at 11:10 thank you.

(Break.)

MS. RODER: Thank you everyone. Again, it's Aileen Roder with FERC staff. We're happy to review Panel 1 and I'd like to start off by asking if Commissioner McNamee is here and ready to begin his questions, thank you.

COMMISSIONER MCNAMEE: Yes, I am here and thank

you. And thank you everybody for being part of the panel. It's very interesting. What I'm interested in hearing about now is the challenges of having access to workers. Now we're in the situation where -- you know, we're either locked down and we're having limited access, social distancing all those. I'd like to hear from each of the industry's, you know, are there challenges to recruiting and training workers, particularly skilled workers like pipefitters, welders, lineman, and what are the plans to deal with this issue especially if unfortunately, the lockdown and kind of the social distancing continues for a while.

MS. RODER: Thank you Commissioner. I see that Mike Bryson has his hand up. Please go ahead Mr. Bryson.

MR. BRYSON: Good, thank you Commissioner. So one of the things that we had happen is right about a week before pandemic is we went ahead and had made two offers to operators and had to have that put on hold.

And as we kind of hit the May timeframe realized that we're not going to be able to put off training, put off onboarding new operators and new employees in general. So we started to look at some different approaches because, you know, the operator and it's probably true for some of the crews out there -- the onboarding and training process is pretty significant.

So one of the things we did in May is we actually

had our ninth sequestered operator was a new operator who volunteered to come in and be trained. It turned out good because we had a very focused -- eight operators who were very focused on his training during that. So that's kind of the way we tackled it to kind of sustain that training and onboarding.

Since then we're making another offer. Next week another operator again looking at ways that we're going to be able to sustain that. We've got a couple pending retirements that were deferred for a little bit, I think which helped us a lot, but and I mentioned in my opening remarks, we're getting our simulator back up and going because we used our original simulator for a third control room.

Once we get that simulator up, we need to figure out how we're going to be able to conduct beneficial training going forward for existing operators and new operators as well.

MS. RODER: Thank you very much Mr. Bryson. The next hand that I saw raised was Mr. Lyon. Please go ahead Mr. Lyons.

MR. LYON: Thank you Aileen. I would just -- I would say it this way. There's a couple things and as Mr. Bryson mentioned, we had some training classes ongoing for our controllers in our control centers, and those usually

last 8 to 9 months, so we had to become creative. How do we keep that training going because there -- as we talked earlier, that was a core mission critical activity that we had to keep going for pipelines.

And so we learned how to use some of our backup operations to sequester the training class and still give them valuable insights and keep them on track so they're ready to go at the end of their training in 8 to 9 months. So that continued on.

The other thing that is really kind of neat through this COVID-19 pandemic has been the evolution and enabling of technology really in the training world. What we do -- some of our, what's called our operator qualification, we used to do those in person, so we've got workers all over the country and we have had to have people go out there and witness what they're doing as part of a PHMSA regulation that requires us to do that.

You know, in working with PHMSA and others, we are now able to do that virtually, and be able to do it over a video screen. And I see that continuing in some form or fashion, you know, hopefully past this pandemic period, even now.

So I think training is going to evolve, probably not just for the short-term, long-term, where we'll do more through video, you know. We're more used to talking to

strangers as we're doing today. And I think it's important that we continue doing that as our industry evolves, because having training and skilled workers on a front line is critical to our 24/7 365 safety and reliability mission.

MS. RODER: Thank you Mr. Lyon. The next hand that I saw raised was Mr. Chapman. Please go ahead Mr. Chapman.

MR. CHAPMAN: Maybe just to echo some of those comments. I would first note that as I looked across TC Energy's 13 pipeline network in the United States, demand across our pipeline system since March 1, which we'll call the beginning of the COVID period, demand is actually flat to up, all things equal, which basically tells me that there's still this need for what we do.

And now going back to the beginning of this crisis, we asked our field employees for volunteers as to who's willing to go out and get this work done. And not to my surprise, virtually 100 percent of our employees raised their hand. So in terms of having a robust and experienced workforce out to the field today, I feel very, very comfortable without that.

We have been hiring during this pandemic period. And like you heard from others, we have been onboarding virtually and undertaking training activities virtually to the extent that is practical. And I think you know, one of

the keys things that just jumped out at me is we're not just offering individuals jobs, we're offering them career paths.

And career paths that pay a real living wage, for example, when you look at a welder for example. So being able to attract qualified talent and provide them with the tools and the resources and training that's needed to make sure that they are working productively but yet safely and following all the health protocols so far has not been an issue from our perspective.

MS. RODER: Thank you very much Mr. Chapman. The next hand that I saw raised was Mr. Connally. Mr. Connally, please go ahead.

MR. CONNALLY: Great, thank you. Commissioner McNamee thank you for that question. Certainly I would agree with my colleagues here that with the availability of some of the skilled workers that we use in Southern Company, the electrical workers, the gas technicians, we continue to do some hiring for those particular jobs during the pandemic and we're not aware of any obstacles or barriers to finding the talent we need.

I'll also shift and talk some about our contractor partners and our construction partners. You know we're building one of the largest -- we're going to have one of the largest construction programs going on in the country at our Augusta plant, some 7,000 workers, many of them

represented across all the different states.

We're hiring even today. Focused on the areas like electrical workers, pipefitters in partnership with the unions that have supported us, we're finding the workers we need. So while there may be some slowdown across the nation on some projects like that, maybe in some sense that has made the availability of those workers more readily available for us for our work at Southern Company. So so far, so good.

MS. RODER: Thank you Mr. Connally. The next hand that I saw raised was Mr. Tim Cawley. Please go ahead sir.

MR. CAWLEY: Sure. Thanks Commissioner. My colleagues have covered it well. I would only add that in terms of access to the employees in the immediacy where we are, we're really focused on the health and safety of our incumbent employees, so that's social distancing, hygiene and some rigorous self-checks to ensure that if one of our employees is feeling ill, they're encouraged to stay home for the good of the order.

Our hiring has slowed a bit, but we're keeping copious track of what we need to bring in and we'll resume that as soon as the state continues to move through its phase of re-entry. And that acts as a really good economic driver for the region. So we look forward to keeping our

incumbents safe and bringing on new folks as soon as the coast is clear, thanks.

MS. RODER: Thank you Mr. Cawley. And the last hand that I see raised is Mr. Haynes. Please go ahead Mr. Haynes.

MR. HAYNES: Yeah. Thanks a lot and I want to build on the great comments that have already been mentioned and just highlight. It's an excellent question and our Seattle recruitment's been pretty much continuous through this. I think the onboarding challenges are significant and bringing especially electrical workers in from a remote perspective, but we're finding a way to navigate that space.

We have open recruitments in pretty much all of our skilled trades. I think not surprisingly on the west coast, at least I think we find ourselves competing with all the other utilities in the industry for the same skilled trades, and as construction continues to ramp up in the Seattle area in particular, that limitation on skilled trades is going to get a little bit tighter.

So we'll pay real close attention to that. Leaning into our apprenticeship as much as we can, but again that's another difficult one because the requirement for schooling and things like that. So lots of challenges, we're trying to be strategic and trying to make sure we got the right people in the right place. That is definitely

something to pay attention to.

MS. RODER: Thank you Mr. Haynes. Commissioner McNamee, that's the last raised hand. We're ready for your next question, thank you.

COMMISSIONER MCNAMEE: Great. Well, first of all thank you for those answers. I'm actually heartened to hear that access to trained workers and the ability to continue training them continues, because that's going to be very important for the industry to keep operating, but obviously to the economy, so that's very heartening.

I want to touch on something that Mr. Chapman brought up before the break and that is about, you know, wanting to think through whether this is going to be temporary or permanent. And you know, the way I've been looking at this is you know, is this going to be "short-term" and it seems to be getting long-term or long-term every day, but really a short-term longer-term, meaning you know, it's not over by the end of the year and it goes to the next year.

And you know, the different pathways that each of the industries are thinking about you know, is the working from home scenarios that we're seeing right now, the way to organize, is it something that is sustainable beyond the short-term, is it something that can go on for the long-term if we need to, and because of those insights, how is that

going to change you know, once this is over.

Are the things that are going to be different in how you operate and is the follow-up to that. If so, are there things that you would like us as a Commission to start considering as you're looking to the future about how things are going to operate, whether we continue this in the short-term, long-term, or when we get back to "normal".

MR. DEBONIS: I believe it's going to be a part of what we do going forward. We're going to have more options to work from home and I think what that's going to do is also put us in a better position going forward. If you think about it, if we are able to operate as we are today and we can do that with folks working from home, down the road if we decide to bring some of our folks back and they might be working two or three days from home, what a strong business continuity approach that is.

If we have folks that are working home some of the time, if things change, if there's adjustments that need to be made for any type of business continuity item, it's easy to transition back to more folks working from home. So I think one of the things that prompts me to say at this point is that you know, I look at it from Southwest Gas position. The fact that we've been able to go through these challenges with COVID, adjust policies and procedures, be able to work -- have folks work from home, try these

different approaches.

I believe we're a much stronger company today than we were even three or four months ago. And I think that's the case for industry as well. So I just think this work from home will be more permanent and will be decided by individual areas, individual companies, but I think it's going to be a great tool in our tool kit going forward.

MS. RODER: Thank you very much. The next hand I saw raised was Mr. Chapman, please go ahead.

MR. CHAPMAN: Commissioner, just to directly respond to your question. I would say that the current work environment is definitely sustainable, but I don't believe that it is necessarily the new normal. And what I mean by that is there may be certain elements of what we do, analysis scheduling for example, that may be more conducive to allowing to a work from home environment, at least a certain number of days per week.

But I don't necessarily see this being a shift industry-wide that says we're going to focus the majority of all of our employees to a work from home environment longer term. I've been presently pleased overall with respect to the fact that we've really maintained a lot of our productivity over the past 15 or 16 months, but also can't help to believe that perhaps we could have been even more productive if we had more social interacted, more face to

face meetings back in the office and the like.

So I think again, my perspective is it's more of a temporary shift, although to your point, short-term is becoming longer and longer. We'll be able to get through this and then we'll return back to more of a historical normal. But again, I do want to make sure that we think about this in a very thoughtful approach and look at are there specific jobs or tasks that can be done from home at least on a partly basis, and I think I would speak for a majority of our employees, I don't know that they want to work from home full-time, but maybe more flexibility around one or two days a week being able to work remotely is something that they would prefer.

And to the extent that we can do something like that without sacrificing productivity is something that we would consider I think.

MS. RODER: Thank you very much Mr. Chapman. The next hand that I saw raised was Mr. Connally. Please go ahead Mr. Connally.

MR. CONNALLY: Thank you, thank you Commissioner. To your question what could FERC do, as we think about maybe this new normal, it's interesting. Just this very morning I saw an example of what FERC can do to support some form of the new normal, whether it's teleworking.

We just used this gift of technology that we've

been given through this pandemic. This has been tragic in so many ways, that we have learned new ways, new business processes. And I got a note this morning one of our subsidiaries of Southern Company is scheduled for their self-audit this year and the team from FERC has indicated they're going to do virtual onsite sessions with this subsidiary.

Those may not be entirely consistent with what a new normal could look like, some face to face interaction I think is incredibly valuable. I think they were missing some things when we can't be face to face. But really taking advantage of the technology we have got in front of us here and the example I gave you.

I think that's something we can all just work better together on. I mentioned earlier in a question about just making sure we take advantage of this technology that we have learned more about it to be more efficient, more effective, for all of us to be more efficient as we move forward here.

And I think that's one example of what FERC's already doing. I'm sure there's others we can continue to look at.

MS. RODER: Thank you Mr. Connally. I believe the next hand I saw waved was Mr. Haynes, please go ahead.

MR. HAYNES: Yeah, thank you. I'll just pick up

on that a little bit. Stan mentioned FERC and I want to just pivot on that a little bit and highlight a couple things. You know we've got partial inspections coming up in the dam safety world and so I think you have to get really creative on how that happens.

It's a heavily field activity traditionally and I think we're partnering with Portland Regional Office to figure out the best way to accomplish that. And also just to fair off of the technology business, you know, there's two things that we've had very successful expansions in, the first of which was back in April we did a completely remote go live for our energy and balance market participation. And that was something that we hadn't planned on leading into this, but obviously things changed really hard in March.

And so the team was very successful in that energy and balance market and go live, and we're really happy with the way that's worked out. I think we might have set a new standard there, between us and Arizona and how that came on.

So the second one is we just completed an audit remotely and very successful, very collaborative, and I think very productive at the end of the day. So we see upsides to that. I think long-term for us it's really a lot of focus right now on the office environment and what that's

going to look like. We're not going to make any sweeping adjustments to the office environment until probably September.

We're giving ourselves time to be very thoughtful in what that looks like. My most important field activity concern is just really making sure we keep our field workers safe in this environment and the uncertainty going forward continues to build on PPE like we've talked about.

Same with our control centers, just being very diligent as we move forward into deeper into the year and in taking on the disciplines that we developed through this pandemic as I believe it's going to be -- this discipline is going to be required for a number of months, so thank you.

MS. RODER: Thank you Mr. Haynes. Next up is Jim Robb, go ahead Jim.

MR. ROBB: Hey, thank you. I'm just going to make a couple observations. First of all I echo the comments that Stan Connally made around the kind of being able to do work which we traditionally did onsite remotely. Again, we probably can't move all of it to that structure, but certainly our regional entities feel that there's a real opportunity to innovate some of our practices. Many of them were put in place 15 years ago and obviously in a very different world.

The other thing I wanted to -- and of course I'm

talking from a slightly different perspective, because I don't have people who have hands on controls in the trades that my colleagues on the panel do. But we got through an extraordinary windfall of time liberated over the last three to four months.

I mentioned the commuting. We operate in two highly congested cities. So we think that the company has probably gotten half of the commute time back as productivity and half of that went to employee's families and home lives. Not having to travel to every meeting as opposed to being able to do it virtually has also unlocked a tremendous amount of time.

So we've seen you know, at least a sustaining level of productivity and maybe even an expansion. In fact, the industry has told us several times that we're throwing snow balls faster than they can catch right now.

So we've had to slow down some of our work because our engagement and interaction with industry is so important to the quality of the work that we do. I do agree that looking forward, you know, that there's going to be some balance of remote work, which could be work from home and in-person connection because an organization only achieves impact through influence.

It's important that we have engagement and relationships with people. We can do some of that

virtually, but it's not a full substitute for the in-person interaction. The one opportunity that I wanted to raise though that we're getting our heads around is in many ways this expands our labor pool because we can now -- if we get comfortable with remote work, which we are getting much more comfortable with as time moves on, we now have the opportunity to recruit nationally without having to demand someone relocate to Washington, D.C. or Atlanta.

And given that we have a tendency to want to go after experienced labor, workers, you know, engineers who have subject matter expertise, the need not to uproot a family and like I said relocate, I think becomes a very strong recruiting draw for certain people.

So I see some upside in this from our perspective, and I think we can use the technology that we're being more and more familiar with and which I believe will get better and better as time goes on to continue to innovate the way we do our oversight work.

MS. RODER: Thank you Mr. Robb. Mr. Lyon I see that your hand is raised as well, please go ahead.

MR. LYON: Commissioner, thanks for that question. I think it's a really interesting question and wow, the telecommuting technology really has been a true blessing and enabler for you know, maintaining months of our operations, really I think in some ways have exceeded all of

our expectations when you look at how reliable I think our energy sources and transportation has been.

I do think -- I think there's a couple things we should as we think about the new world, I'm talking next year and others, is that one concern I have is you know, a lot of times our innovation and creativity comes by being in person with someone, and whether it's as you're walking down a sidewalk or as you're talking at the coffee bar or just being in the moment.

And I think that's going to be important to have some aspect of that, because otherwise you will lose that over time. And the other aspect I will just say, a concern I have is what does that do to your company culture or your safety culture? I think you know, we're all now used to again talking to our computer screen, but you know, again there's the personal side of that.

And I think Mr. Robb touched on that that it's important to have those relationships in person too. So that's one aspect, I think longer-term. I have a little more skepticism on this newfound, you know, technology and telecommuting.

The other piece I want to answer is more to the later part of your question was around the long-term planning or affect in how can FERC help. I think there's a piece in there and I mentioned in my opening comments the

business planning is going to be really, I think, our challenge.

You know, short-term, I think we're going to be able to navigate, but business plan, when is demand going to come back to our products or pipelines? What's that look like? And then you apply that, and I think this is where FERC really comes into play how pipelines are managed on the business side is through index being in, you know, PPIs.

And I would say those systems necessarily aren't conducive for a pandemic in unprecedented times. So we are needing to keep and maintain our pipeline not only for the short-term, but for the long-term, while the demand is way off track and way different than what I think any of us could have ever planned for or imagined.

So I think if FERC looks at that system, I hope they take in consideration not just what they've always done, but what's fit for purpose during this time and unprecedent times based on the disconnect from our demand and really to stress maintaining safe and reliable operations. A really important question and I think FERC definitely has a place in it.

And I go back to you know at the beginning. Chairman Chatterjee said you know, we're all in this together, and I think that's really important. We're all in new times for all of us, so thanks for the question.

MS. RODER: Thank you Mr. Lyon. Commissioner McNamee I'll hand it back to you, no other raised hands, thank you. Commissioner McNamee I noted your mic is muted.

COMMISSIONER MCNAMEE: All right, can you hear me now? I hope you can hear me now.

MS. RODER: Yes we can sir, thank you.

COMMISSIONER MCNAMEE: Okay. Well I gave this great speech and I'm sorry you all missed it. But my only point is that -- multiple points is that one, I appreciate the comments and it confirms some of the things that I thought were true but also gave me some insights into things that I was not thinking about. So, I really appreciate having you all take your time to inform us and that it's been helpful to have this insight.

Likewise, IT even at FERC sees some of the things that you all mention about productivity has been you know, excellent, and anecdotally hearing about people happy that they're not having to struggle with you know, traffic, and having more time both to work and to be with families, and so I think that is one of the silver linings that have come out of all of this. And that completes my questions for this panel, thank you.

MS. RODER: Thank you Commissioner McNamee. I wanted to hand it over to Commissioner Danly to see if he has any additional questions, or any questions he'd like to

ask.

COMMISSIONER DANLY: No. I don't have any particular questions, but I appreciate the discussion and I'm very heartened to see how adaptable industry has been dealing with all of the unforeseen events of the last few months. Thank you for everybody's time. I appreciate it.

MS. RODER: Thank you Commissioner Danly. Chairman Chatterjee, we are handing it back to you in case you have additional questions you'd like to ask of these panelists, thank you.

CHAIRMAN CHATTERJEE: Thank you Aileen. I do not have additional questions. My colleagues covered much of the ground that I had hoped to cover, but should staff -- I believe we do have some more time before the next break, so at this point I would like to turn it over to staff for any staff questions.

MS. RODER: Thank you very much Chairman and I would invite staff, Amelia Lewis and David O'Connor if you would like to ask any questions, thank you.

MS. LEWIS: Hi, thank you Aileen and thank you for all the panelists for being here today. We touched upon impacts and maintenance activities this morning and I'd like to hear a little bit more about that. So how has COVID-19 impacted your maintenance activities and to what extent has there been deferred maintenance? And are there concerns

about impacts due to deferred maintenance activities or delayed completion of projects during the COVID-19 response?

And if there are concerns, how will these concerns be addressed?

MS. RODER: Thank you Amelia. I see that Mike Bryson has his hand raised. Please go ahead Mr. Bryson.

MR. BRYSON: Sure. Thanks Amelia. So one of the things that we were pretty concerned about that early on because our asset owners had those concerns themselves. They're worried about what the impact is going to be on crews, contract crews, staff coming in. And so we put processes in place to help our stakeholder's kind of manage that -- an ongoing survey to look at impacts to crews.

And as we have kind of looked at -- and some of this is hindsight now, we didn't see as much impact on rescheduling as we thought we would. We thought we would see a tremendous amount. We saw a little bit. In my submitted remarks I talk about some of the outages that were either scaled back or delayed to the fall.

I think they're still manageable. We did have some early concerns that they may be. It looks like the asset owners really kind of tackled a lot of maintenance, they may have triaged or prioritized some of it, but they were able to really figure out how to protect the crews and

get the maintenance done in a pretty good way. So I think we're going to be pretty set in the fall. We obviously have some concerns about potential resurgences of COVID in the fall and we'll have to manage through that, but the rescheduled outages turned out to be very manageable.

MS. RODER: Thank you very much Mr. Bryson. I will now call on Mr. Haynes, please go ahead Mr. Haynes.

MR. HAYNES: Yeah, thank you Amelia, great question and I think across the board I agree with what Mike Bryson just said. And also from the standpoint of project delays, we did have to put some large capital programs on the shelve. Part of that was because of international workforce challenges in getting people into the country and getting people into the state in particular.

We're just in the process now of remobilizing a major overhaul at one of our large hydro stations, so that's been on hold since early March. So that's underway. There will be a cost to that, there will be and we've got extended outages on the heels of that, so it's going to be sort of a cascading effect going forward and delaying an overhaul program at one of our large projects.

Listening, I guess a highlight on the T&D side customer outages were pretty much stopped taking all planned outages and a lot of outages even on the commercial sector, importantly, because of home schooling, homework, everything

else people were really not happy about the notion of losing power during the day or even on the weekends.

And so what that has done over the course of the last three months is created a huge backlog in you know, service connections, wire transfers, things like that that are more of the routine nature in the T&D world. So that's a big thing, a lot of catching up to do there, and then the generation side, similarly you know, we started with about a 50 percent workforce in our original operations planning staffing levels, and so there's only so much maintenance you can get done with 50 percent of your workforce on any given day.

And so catch up to be done there. We've been focused on mainly on high priority work, on seasonal work that is necessary for getting through the seasonal demands of the hydro system, like run-off and things like that and making sure our fleet was ready for all that and that's definitely a challenge. And I would say deferred maintenance is the reality to your point and something that we are tackling real time, so thanks for that question.

MS. RODER: Thank you very much Mr. Haynes. I'm going to call on FERC staff member David O'Connor to ask a question.

MR. O'CONNOR: Yes, good morning everyone. I want to thank everyone for participating and I found it to

be very useful. One question that I kind of want to follow-up on that's been touched a little bit, but maybe if we can get one or two specifics is that sorry, is basically some states have been putting down travel restrictions or quarantine restrictions upon people coming in from other states, particularly where there's been hot spots.

So I'm just kind of curious as to is there anything that the company's been doing on an outreach with the state and local jurisdictions with regards to possibly the potential for mutual assistance crews, or bringing in specialized contractors to help work on projects, you know, where they have to get across state borders?

Has there been any sort of outreach that companies or organization have done with those jurisdictions? Thank you.

MS. RODER: Thank you very much David. The first hand I see raised is Mr. Haynes, please go ahead Mr. Haynes.

MR. HAYNES. Yeah, great question. Washington State, like a lot of other states I'm sure did early on put down a lot of the restrictions you're talking about and some of that involved things like 14-day quarantines if you're coming from a non-contiguous state or from out of country and in those situations.

And as I mentioned just a minute ago, as we start-up overall, that does require a workforce from Canada

and other places way outside of Washington State. We had to -- we did do outreach to the state because of that very notion of not really wanting to have to quarantine a significant construction workforce near a hydro plant for 14 days before we could let them on to the project.

So actually the state was very helpful in working through prescriptions and guidelines that they were comfortable with that we could implement onsite, including testing and obviously all the onsite provisions that I'm sure everybody's doing. But I think that was a successful one, and I think the state's been very I guess flexible, in helping the construction industry stand up and utility industry in particular has been very, I would say engaged at the state level because of the need for private sector contractors as well as public sector construction activities in the public right-of-way.

And so I think it's gone really well. I think the state has been very effective and helpful in working with us to get through that. Obviously, there's always challenges to the implementation and things like that, but it's always good to have a partner that can work with you and be very responsive in some cases at the state level.

We get responses back, you know, within 24 hours which is incredibly helpful when you're in the construction of oil. So great question.

MS. RODER: Thank you very much Mr. Haynes. I think we have time for one last question. I will ask Amelia Lewis from FERC staff to ask it, thank you Amelia.

MS. LEWIS: Hi, thank you. I actually have a question from Joe McCall in the Office of Energy Infrastructure Security. The question is based on lessons learned from this pandemic, what type of investments or measures might be necessary to prepare for the next pandemic? For example, should PPE, sanitizers or other spare equipment be stockpiled and rotated as necessary to ensure employee's protection and continuity of operations?

MS. RODER: Thank you very much. I see that Mr. Bryson has his hand raised. Please go ahead Mr. Bryson.

MR. BRYSON: Yeah, this is Mike Bryson. So I think that's a good question and I know a number of the panelists have kind of touched on it in different ways. And you know, one of the things about if we're thinking about a resurgence, then some of those stockpile issues and PPE and testing supplies are something we at least know what to put our finger on and yes I think we should be looking at ways to do that.

I think as we kind of discussed, the ESEC is very focused on that right now and so whatever level the federal agencies can kind of support, the ESEC efforts in that area. But it really has longer term implications because we don't

know what the next pandemic is going to look like.

And so in that case, PPE and testing can become a whole new starting point. And so we may need some assistance from the Health and Human Services about how we look at broader protective equipment that goes beyond COVID. So I think that may be an area we can focus on maybe next up at the ESEC, thanks.

MS. RODER: Thank you very much Mr. Bryson. The last hand I see raised is Mr. Lyon. Mr. Lyon go ahead.

MR. LYON: Yeah, thanks for the question. I think, you know, after any emergency response we always have with the hot washer, you look back at what could we do better for the next one. And I think overall the system utilized incident command structure was very effective.

And the beauty of that is you don't know all the details and we won't know all the details for the future pandemic, but having a structure or a mechanism to navigate it is critical, so to continuing those drills would be important.

You know as far as supplies and other things I would say our business continuity planning served us well. I'm sure that we wished we had more N95 masks, or you know, sanitizers, and we'll look at those type of things, but those are really -- I'll call them tweaks to what we did in the past -- what we're doing in the past few months.

You know I think the biggest takeaway for the next pandemic, I think we've all learned how quickly this economy and this business can be put on its head, and I don't think anyone starting at the beginning of 2020 would have ever imagined how it would, you know, bring our economy to a halt.

And you know, we say it 50 percent demand destruction. And I don't think anyone in the pipeline industry would have ever imaged or planned for that. So understanding how fluid on the business front and how you have to be prepared for that as an organization to have not only a safe, reliable business but a viable business.

And you know, as we've mentioned, how long this is going to last is really going to be even a harder test for all of us, how we navigate that. So I think it's important for us to look back to that, but I would say the biggest piece is how do you help navigate demand destruction that can happen overnight for a long, extended periods of time.

MS. RODER: Thank you very much Mr. Lyon. Chairman Chatterjee, we are ready to call for the lunch break if that works okay for you.

CHAIRMAN CHATTERJEE: Yes, that's great. I just want to again thank all of our panelists. I thought that was a fascinating and thoughtful discussion thanks to Aileen

and staff and to my colleagues, and everyone is doing great.

MS. RODER: Thank you very much Mr. Chairman. So I will say thank you to all the panelists. We appreciate your participation today. We'll now have an hour and 30 minute lunch. We will begin Panel 2 at 1:30. Panel 1 panelists please sign out of Webex.

To the extent you want to continue viewing the Technical Conference, please view it through the livestream link on the Commission's event calendar. We ask that the Chairman, Commissioners and telecommute panelists be online around 1:00 p.m. so we can run through any technical logistics and have time to make sure that everyone can connect properly. Thank you very much everyone viewing, and we will see you again at 1:30.

(Lunch Break)

Panel 2: Electricity Demand and Transmission Planning

MS. RODER: Okay, we're going to get started with Panel 2. Panel 2 is entitled "Electricity Demand and Transmission Planning." I want to thank so much all the panelists for joining us today. And they joined us early so we could ensure there weren't any technical issues. Thank you to the Commissioners and the Chairman and everyone out there viewing this virtually.

Repeating a couple reminders from this morning. We're going to have each panelist can do an up to four

minute opening statement. At that time we'll begin a question answer session. We'll take a break, 15 minutes, part-way through this panel and just a quick reminder as we begin this panel, to all participants please refrain from any discussion of pending contested proceeding.

Unfortunately, if anybody engages in that kind of discussion, we'll have to interrupt and ask the speaker to avoid the topic. Okay, we'll call each panelist in terms to give his or her opening statement. I will now turn it over to Mr. Stefan Bird. He is the President and Chief Executive Officer of Pacific Power, speaking on behalf of PacifiCorp. And I will say please go ahead Mr. Bird, thank you.

MR. BIRD: Thank you very much. And thank you Chairman Chatterjee and Commissioners for the opportunity to speak with you on the importance of transmission planning in a COVIC-19 environment.

As noted, I represent PacifiCorp which serves approximately 2 million customers across six western states. As part of my role, I oversee PacifiCorp's transmission system operations which is the largest privately held, owned grid in the Western United States which spans 16,500 miles across 10 states and nearly 200 interconnection points with 11 adjacent balancing authority areas.

First and foremost I want to share that PacifiCorp has answered the call during these challenging

times and will continue to be there for our customers. We've been challenged by a wave of natural disasters including not only the pandemic, but just before the pandemic began, we had a historic 5.792 earthquake in Salt Lake City.

None of these challenges have impacted our ability to deliver our core mission for safe, affordable or reliable service to our customers. Even that earthquake that occurred in mid-March and at it's peak impacted 75,000 customers demonstrates the resilience of our network and we exercised our practice procedure to immediately dispatch control operation from Salt Lake City to Portland, and were able to serve 70 percent of our customers within six hours and 100 percent within about 15 hours.

I'm very proud of our employees, particularly our front line workers and I'm proud of the resilience of our communities. In particular, as wildfire season is now in full swing across the west, and is notably unabated by COVID-19, I'm proud to say our operational teams are well positioned.

We continue to coordinate with states and community officials during the wildfire season, we're forging new partnerships with industry and federal agency while pursuing advanced technology and hardening of our network to mitigate wildfire risk.

While COVID-19 has had dramatic impacts in many respects, transmission remains more central than ever, now and into the future to enable the achievement of a primary unchanged mission, which is delivered safe, reliable and affordable energy to meet customer demands across the west.

Our energy across customer segments has changed, however the overall total load on the system has remained relatively unchanged and we anticipate small year over year increases over our 10-year planning horizon.

Because forecasted economic activity remains strong and infrastructure returns are long, even with COVID-19, we are focused on maintaining and developing a robust transmission network and efficient market. These measures will ensure that we're able to integrate an extraordinary volume of renewable resources both reliably and cost effectively and lend us the inherent diversity of Western resources for a clean energy future that is foundational to that transmission grid.

We continue to execute our 6 billion dollar energy gateway transmission expansion plan advanced more than 10 years ago, which will advance both grid reliability and resilience and accelerate the region integration at more low-cost renewable resources.

Our transformative 2019 integrated resource plan for FERC portfolio, continues to reflect the least cost,

least risk for customers under a wide range of future scenarios. And that plan includes over 6 gigawatts of new renewable storage and transmission by 2023.

With this Commission's leadership and support, we continue to partner with the California ISO and our neighbors across the West to grow the Western energy and balanced market. We're also engaged in positive processes to evaluate the potential for the day ahead market as well as potential new resource adequacy market that's being developed by the Northwest Power Pool.

PacifiCorp is taking an active leadership role in both of these efforts and promise to optimize the less abundant, the most recent was to bring greater value to our customers. Commission led policy, such as transmission incentives, along with siting reforms, and tax incentives, will collectively help transmission get wealth and overcome economic challenges to enable new additions to the grid.

Transmission is inherently dynamic, long-term and multi-value in nature and will further bolter reliability and resilience of the existing system as well as both energy that's need for future generation technologies. We support all of these measures.

In closing, I am firmly optimistic about the path forward and thank you for this opportunity and I look forward to answering any questions you may have.

MS. RODER: Thank you so much Mr. Bird. We really appreciate it. We're going to pause for one minute. There's apparently a bit of a technical problem with the livestream, so if everyone can just hold on, and we appreciate your patience.

Thank you for your patience. Sometimes these things happen in the virtual world. Thank you very much and we will now go on to Travis Fisher. He is the President and Chief Executive Officer of ELCON. Please go ahead Mr. Fisher.

MR. FISHER: Hey thanks. I'm grateful for the opportunity to join this group to discuss the impacts of COVID-19 on industrial consumers, in particular and the broader implications of COVID-19 for the electricity sector.

ELCON is short for the Electricity Consumer's Resource Council and for over 40 years, ELCON has represented large industrial consumers of electricity. Our member companies produce a wide range of products and services from virtually every segment of the industrial community. ELCON members are consumers of electricity and in the footprints of all organized markets and other regions throughout the United States.

Reliable electricity supply at just and reasonable rates is essential to our member's operation. The COVID-19 pandemic has impacted everyone from the

smallest mom and pop businesses to the largest international corporations, some of which ELCON represents. For example, according to industry reports, more than 100,000 workers have been forced out of the oil and gas industry since the end of February.

And those who remain on the job are facing pay cuts and the industry in general will likely recover more slowly than the rest of the national economy. So clearly, these are challenging times as we can all see from the fact that many of us are still working from home.

I just want to take a moment to congratulate the Commission on working so effectively during this trying time. I recall months ago when I was still on staff at FERC and we got a visit from Anton Porter and Mark Radlinski and they first let us know how bad the situation was and that we would be working from home, et cetera and I think FERC has handled it incredibly well. So the Chairman and FERC staff should be commended.

In the interest of time, I'd just like to highlight a couple of concerns that ELCON members have as you navigate this pandemic. And I'll also give an example for what our members are doing to help.

First, as large industrial consumers of electricity, ELCON members place a particularly high value on electric reliability. Even a small glitch can shut down

a manufacturing facility for days and cost millions of dollars.

As NERC points out, elevated risks are likely to continue throughout the summer, and risks may -- new risks may emerge. So we thank NERC for its efforts to ensure that power quality remains high, it's very important to us.

Second, industrial consumers are very sensitive to the cost of electricity. Just and reasonable rates are critical for our members to keep costs low and compete in international markets. ELCON members are concerned about the impacts to rates that may result from some utilities attempting to recover costs connected to COVID-19.

Such rate treatment maybe styled as a recovery of fixed costs, but in fact could be something of a true up for lost revenues stemming from demand slumps due to COVID-19. We have seen filings along those lines at the state level in states like Indiana, Wisconsin, Louisiana and elsewhere and ELCON members find this trend very concerning.

At the federal level, ELCON encourages the Commission to take a close look at any filing that may include COVID-19 related costs to ensure that they are in fact just and reasonable. We see it as a fairness that certain segments of American business should not be singled out to be made whole at the expense of consumers.

Along those lines there's a great piece in the

utility bag by Travis Covullo that we site in our final statement. I encourage everyone to read that piece. I want to close on a high note and discuss how ELCON members are helping. Some of our members produce the isopropyl alcohol used in disinfectants and has increased their production.

Other members manufacture industrial gasses, oxygen is used in a steel-making process, but it's also used in the medical field, they prioritize the supply of oxygen used in the medical field to help hospitalized COVID-19 patients.

Others like the auto manufacturers have shifted their manufacturing efforts to focus on things like ventilation systems, personal protective equipment like face shields and masks.

In closing, ELCON is proud of the work that our members do, and we are especially proud of the way they continue to put the safety and health of their employees, customers and communities first, thank you.

MS RODER: Thank you very much Mr. Fisher. We appreciate it. And next is Robert "Mac" McLennan, President and Chief Operating Officer for the Minnkota Power Cooperative. Please go ahead Mr. McLennan.

MR. MCLENNAN: Thank you. I appreciate the opportunity to be a part of today's discussion on COVID-19's impact on our nation's electric demand and subsequent

infrastructure planning. I thank the Commission for holding this Technical Conference to try to get a better sense of what's happening within that space.

The electric grid is facing considerable transformation that will only increase in magnitude and importance in the future. Impacts of COVID are just added to those of others that are impacting transmission and generation decisions around the country today.

Minnkota is a relatively small, not for profit generation and transmission cooperative headquarters in Grand Forks, North Dakota, we serve primarily the east half of North Dakota and the west side of Minnesota. Our members primarily rural communities, pretty large, 34,000 miles square area which translates into us having about 33,000 miles of transmission lines and 249,000 sub-stations with limited or smaller numbers, obviously with consumers paying for that.

Many of the -- I head earlier Stefan Bird's comments about what our mission statements are. We believe, you know, many of the mission statements for electric utilities look fairly similar, you know, deliver safe, reliable, affordable and environmentally responsible energy to the members that we all serve. However, we all do that slightly differently and we all view what that means slightly differently as well.

And those differences are becoming more pronounced as rapid change continues to transform this industry. It highlights the need for discussions like this as we talk about the reliability of our grid and the development of assets and resources both on transmission and distribution side.

We're all trying to find ways forward to balance our needs individually. We also, like most of the utilities across the country, continuing to try to figure out what the impact of COVID-19 is on our system and in our region. Minnkota, fortunately, unlike some of the other utilities around the country, hasn't seen some of the demand destruction, or the substantial shifting that some utilities are experiencing with respect to loads or needs.

We are, however, negatively impacted by those shifts from the perspective of low energy market conditions that may be driven by COVID and many other things that are going on in the country and I'll talk some more as we go through just concern surrounding the ability to what I would describe as keep the lights on, in the upper Midwest as we talk about 100 degree weather on the horizon and clearly for us, 30 degrees below zero and more from a winter perspective.

Our own system from Minnkota perspective, is prepared for both of those extremes, but a part of that is

because we rely on to my knowledge, based on coal which historically has performed whenever we ask it to do so, whether it's 100 degrees outside or 30 degrees below zero.

Now so with difficult market conditions before the pandemic, and economic losses in all systems sales, the pandemic itself and COVID has really added to that I think, to make it a much more serious challenge. So it's also, I would say, difficult for us to segregate today what are the impacts of COVID-19 against what might have been slightly warmer winter, slightly warmer spring, and so as we continue to look forward, it's really trying to get a better grip on how long the impacts of COVID-19 will be in place.

Arguably, where we live there aren't a lot of skyscrapers you know, with lots of people in them. Most of the businesses that we have have been must run businesses and so we have continued to try to figure out how to manage around that.

I'll also add just as in closing here kind of from a broader political perspective, we could have taken what I think is a long-term view, which may or may not be the path forward as you look at the changing infrastructure in the world. But we've taken a long-term view, we've tried to innovate. We have arguably one of the most demand response, or most aggressive demand response programs in the country and our latest effort is to try to figure out how to

do the largest carbon capture project in the world on our assets.

And so I look forward to the rest of the discussion and some discussions about the market and transmission as we move forward.

MS. RODER: Thank you so much Mr. McLennan. We're going to take a five minute break everyone. Unfortunately, there's a technical issue and we need to take care of something. Those who are on the livestream, you will probably have to sign back on. We truly apologize for this issue, but these days they can be these kinds of problems when we have a lot of people on a virtual stream. So thank you very much, thank you for your patience, we genuinely appreciate it and we'll see you in five minutes.

(Break)

MS. RODER: Hi everybody. We thank everybody very, very much for your patience. Many of the folks out there have seen the earlier speakers but the audio was a little broken up, so we've been trying to alleviate that so that everyone can hear very clearly.

So now, moving on we're going to have Clair Moeller, President and Chief Operating Officer from Midcontinent Independent System Operation, on behalf of the ISO/RTO Council, and Mr. Moeller I give the floor over to you, thank you very much.

MR. MOELLER: Thank you and good afternoon Chairman and Commissioners. I look forward to the opportunity to discuss the impacts of COVID-19 on our system and involve system operations and planning. The MISO as you perhaps recall, has about 72,000 miles of high-voltage transmission and 175,000 megawatts of generation that we have added on behalf of our members.

We are very large and skilled geographically, not unlike Matthew's part of our footprint. We sometimes joke that we're a coast to coast RTO, but it's from Hudson Bay to the Gulf of Mexico. Manitoba is an important partner in the market and their hydro system at this point in time is behaving very well and helping things.

MISO is a member of the ISO-RTO Council and while my prepared remarks reflect predominantly our MISO experience, I did coordinate with the IRC members for feedback on their experiences. I believe you've heard from some of them earlier today.

The RTO community has been working together and coordinating our efforts throughout this epidemic to show relevant information and best practices to mitigate the impacts of COVID-19 on the power system. Regardless of where you live, there's been a real and terrible impact of COVID-19, even if our individual employees have not felt the worst of what COVID-19 can bring, it's surely impacted how

we all live and work.

Our priorities through this period of time have been first to protect the integrity of the electric grid, and second to protect the health and safety of our employees. MISO has leveraged its regional model to help ensure continuous operations. We benefit from having four geographically separate control rooms that act as a buffer against the spread of the virus within our facilities and employee base.

While COVID-19 does not -- has not adversely impacted the reliability of the system, we have observed impact operations and are adapting to those changes as they occur. First, turning to load impacts -- we have observed a system-wide demand was down during the spring as a result of COVID-19 related closures.

We estimate demand dropped about 11 percent in May, but we are seeing a gradual recovery of load since then. The load in June measured about 5 percent lower than normal as the stay at home restrictions began to ease. There is some anecdotal information across the last four or five days that in hot weather we are actually seeing more demand than we had anticipated and now some of our colleagues are seeing that too.

So whether that is actually COVID related it's hard to tell -- the data isn't exactly a trend. We have

observed changes in the load profile. Mostly it's a flattening of the profile and has reduced the requirement to ramp the system to meet demand. That contrasts significantly, with Polar Vortex kind of problems where the ramp problem is exacerbated by those cold weather events.

We are observing higher than usual load forecasting errors. One of the tools that we all use in machine-based learning are all network, but if you don't have history it can't help you with the future. As to the conditions on transmission and generation outage scheduling, we have seen some deferrals, some of our tight conditions across the last two days where some of those deferred generators having trouble getting back into service.

We only have four months of experience with this event. We expect the situation to continue to be fluid through the future. We have asked and received some minor waivers from the FERC which we are grateful for to execute things like our generation interconnection to working.

Practically speaking, we don't see this as having a long-term transmission planning impact. Essentially the load in the MISO footprint has been flat since about 2007. And the dominant transmission we are building is to accommodate the change in generation suite.

We do have CR members changing those plans, so at this point in time we don't see a need to adjust any of our

planning practices, but of course we'll keep that front and center because that's one of the more important parts of what we do.

With that I'll close my prepared remarks and look forward to your questions, thank you.

MS. RODER: Thank you so much Mr. Moeller. Up next is Curt Morgan, President and Chief Executive Officer of Vistra Energy. Mr. Morgan, please go ahead.

MR. MORGAN: Okay. Good afternoon Mr. Chairman and Commissioners and thanks for the opportunity to be on this panel and address the impacts of COVID-19 on the electricity sector. Also, I want to send a thanks out to the staff in putting this program on and so I know how difficult it can be to kind of do these livestreams, we do one once a week and that's no easy task.

Just a little bit of background on Vistra. Some of you may know us but we're an integrated competitive electric generation as well as electric and natural gas retail company. We've gout about 39,000 megawatts, diverse generation, you know, mainly natural gas, nuclear, renewables and batteries, but we also do have coal and we have had a fair amount of return to some coal and expect that to continue over the next few years.

We have roughly 5 million customers operating, and we also operate in six of the seven competitive markets

in the U.S. as well as in 20 states and the District of Columbia. We have over 250 competitive retail electricity offerings and over 40 green offerings.

The cornerstone of our strategy is integrated operations, strong balance sheet, low cost, sophisticated commercial skills. You know we cannot execute our strategy without a fair and even playing field for all generation technologies and FERC has historically done a great job of ensuring just that.

Likewise, a competitive power market cannot function in a reliable and affordable manner with the current technologies without a diverse set of resources, including dispatchable generation. Market forces are working in ultimately the most equitable way to incentivize new technologies with low to no carbon emissions, a history of market-based carbon pricing mechanism which we believe can be implemented on a regional basis.

I'd like to highlight the extraordinary efforts by the industry personnel who have continued to work at the generation plant and in the dispatch to keep operations in market, and markets working smoothly. At Vistra, we have over 3,000 team members that have continued to report to their worksite, along with 2,500 contractors that worked on 86 maintenance outages this spring to be ready for the summer, and all of that with no COVID positive test

contracted at work, and we're very proud of that fact.

We believe very early implementation of temperature testing most notably, but also travel restrictions, work from home, and also the questionnaires that we ask all employees as they enter the site, were very helpful in combating that in the early stage.

You know COVID-19 you know, and associated reduction in economic activity have led to substantial uncertainty into the economic and further uncertainty as to you know, when and how we're going to recover. Uncertainty in financial markets is sort of the kiss of death really at the end of the day. It impacts capital availability resulting in potential financial weakness for companies in their long-term sustainability.

The multitude of market rule changes in FERC jurisdictional markets over the last several years, many driven by out of market activities and the unpredictable and uneven pace with which these changes are implemented, have created sector-specific risks for integrated competitive energy companies like Vistra, and created questions in the minds of investors about our sector.

With this uncertainty in mind, for written statements, I offered a few points that may be of some note, but I will touch on a couple of them very briefly. You know in our view, first of all we think the Commission and the

staff have done a tremendous job during the COVID-19 situation, and we believe that's the single most important thing the Commission can do right now is to continue to work expeditiously on pending matters affects the applicable ISOs to implement FERC orders as quickly as possible to ensure regulatory certainty.

Certainty is important for financial markets. It's also important for our customers and so we think that certainty is important, so we appreciate what the Commission has been able to do. It's not yet clear whether the COVID-19 will materially add to the financial sectors some resources that they are experience, you know, it's just hard to tell, you know.

But I sure know that our company is feeling some of the pressures and I outlined that in some of the written comments that I had. You know, at Vistra we took actions, not because of COVID-19, but we took actions almost four years ago to put our company in a position to withstand a crisis by significantly reducing our debt and reducing our costs and enhancing margins.

We did that to the tune of almost a billion dollars per year and we reduced debt by over 3 billion. We simply found ways to compete without any helping hand. Now more than ever, the Commission needs to remain supportive of competitive markets to ensure all resources compete on a

level playing field.

I know it's hard to envision when we're going to come out of this, the timing of which is very difficult to know. And we expect that frankly, until we get a vaccine and/or a therapeutic, effective therapeutics -- it's going to be an uneven economy with fits and scarfs, but our advice in this is not to take the early effects of COVID and extrapolate those too far into the future.

We don't know enough about what's going to happen and we certainly don't want to contribute to long-term ripple effects. In closing, we commend FERC, ISOs and market participants for performing their critical services in an exemplary fashion, but you know, as Yogi Berra said, "It ain't over until it's over," we have the summer staring us straight in the face and we all must continue to perform regardless of the virus, and people need to go to work and we need to keep them safe as companies.

And people are counting on us every day. It is vitally important for the Commission to continue its normal business practices as much as possible, albeit in a safe and healthy manner and pressed for timely implementation of Commission orders to ensure fairness and stability in comparative markets.

Thank you again Commissioners, I look forward to questions and the discussion, so thanks.

MS. RODER: Thank you so much Mr. Morgan. We'll now have Gil Quiniones, President and Chief Executive Officer of the New York Power Authority. Please go ahead Mr. Quiniones.

MR. QUINIONES: Thank you. Chairman Chatterjee and Commissioners, thank you for allowing me to participate in today's FERC Technical Conference. Representing the public power industry and the New York Power Authority, I will address the impact of COVID-19 on electric demand, operations, planning and infrastructure development .

I would like to observe a t the outset that the electric industry is doing an exemplary job of maintaining reliable service while managing through the many challenges presented by the pandemic. Trade groups like the American Public Power Association, Large Public Power Council and collaborative bodies, such as the Electricity Subsector Coordinating Council, in coordination with government partners, are supporting collective industry response efforts. They include the sharing of planning considerations and mutual aid for utilities particularly impacted by COVID-19.

I am hopeful that the collective industry response to the emergency so far bodes well for addressing the longer-term impacts of COVID-19, and I commend the Commission for convening this conference to explore some of

these multi-year challenges.

As you may know, NYPA generates approximately 25 percent of New York State's power and owns and operates one-third of the bulk electric transmission system in the state. The Governor of New York, Andrew M. Cuomo has set a bold goal of supplying 70 percent of the state's electricity with renewable sources by 2030 and a 100 percent carbon-free electric system by 2040. Regrettably, the ongoing global pandemic has made this vision of a sustainable future more challenging.

New York, one of the original epicenters of the COVID-19 Pandemic, experienced a nearly 10 percent reduction in electric load statewide at the height of the pandemic. In addition, New York State's strong economy -- a prime driver of the state's electric load, has seen a decline, and might not return to 2019 levels for quite some time.

This is consistent with projections that the national economy might take a while to bounce back. This reduction in load and the uncertain pace of recovery will have a direct effect on planning the much needed expansion and upgrades to major power infrastructure.

While transmission planning might be difficult, now is the time to invest in the power grid to meet clean energy goals and to help restart the economy. In addition, it is also critical that we help address the

disproportionate impact of pandemics such as COVID 19 and severe weather events on low income communities, especially communities of color.

Specifically, the negative effects of high-emitting and polluting power plants in urban centers, and the corresponding health impacts, need to be avoided or minimized as soon as possible. This objective can be achieved by efficiently building out the transmission system to carry clean energy supply from more rural areas to urban load centers along with clean distributed energy resources.

Public power, moreover, has a strong interest in improving grid system efficiency, reliability and resiliency to serve its residents, communities and businesses. It stands ready to collaborate with the FERC as it looks to update its transmission planning processes, especially Order 1000, to support transmission investment. This approach will bring more renewable energy and the innovation and jobs that come with it, to environmentally and historically overburdened communities.

Thank you for this opportunity and I look forward to answering your questions today.

MS. RODER: Thank you so much, we really appreciate it. Our next panelist is Sam Randazzo, Chairman of the Public Utilities Commission of Ohio. Please go ahead Chairman Randazzo.

CHAIRMAN RANDAZZO: Thank you. Can you hear me all right?

MS. RODER: Yes we can, thank you very much sir.

CHAIRMAN RANDAZZO: Great. Mr. Chairman, Commissioners and Commission staff, colleagues and stakeholders, my name is San Randazzo as you already know. I serve the citizens of the State of Ohio in the capacity of Chairman of the Public Utilities Commission of Ohio as well as Chairman of the Ohio Power Siting Board.

I need to begin by first saying that the views that I offer here today are not necessarily the views of either of these multi-member Ohio agencies, and I appreciate the opportunity to participate in this panel and hope to learn much from the experience.

In my oral remarks today I will summarize my prepared statement which I ask to be included as filed. In my prepared statement I provide some references to a considerable amount of work that has been done by the North American Electric Reliability Corporation and others with regard to planning, both operational and reliability planning, as they may be affected by a pandemic.

I suggest that this existing work be used by the Commission and others to focus on risk presented by a pandemic and identify ways to improve upon the already significant efforts that have been undertaken to mitigate

these risks.

I then describe a two-market approach that I use when addressing network infrastructure and operating or planning reliability issues across a range of network industries. I also observed that when attempting to resolve these issues, I've worked to try and seek outcomes that mimic the outcomes that would be produced by an effective competition.

I conclude and I'll say this diplomatically, I conclude that the current approach to transmission planning leaves a lot of room for improvement, whether we are measuring things from a point in time perspective, or from a continuous improvement perspective.

In my attachment A, I illustrate the supplemental and baseline transmission investment in Ohio and a very significant increase in the amount of investment in the supplemental category that is taking place and looks to continue.

In my attachment B, I illustrate the sharp and significant escalation in network service prices that has taken place of a consequence of both significant amounts of investment and in a context where there is low load growth. In the last few pages of my prepared statement I offer four suggestions and provide my underlying reasons, so that you can look at my suggestions if you like.

The suggestions are as follows: Direct that regional planners must thoroughly evaluate all projects and investment that involve transmission functions that are subject to FERC's ratemaking jurisdiction and ensure that the regional planners have the requisite authority and expertise to do so.

Number two. Seek a better balance between solution provider's compensation and the business and financial risk taken on by the solution provider. Recognize the principle of gradualism as you apply the just and reasonable standard and consider other rate design and rate structure options t o give customers more control over their bill and provide better bill predictability. Consider the introduction of zonal non-firm network service.

I thank you again for the opportunity and I will conclude now. I look forward to the questions. I last testified at the Federal Energy Regulatory Commission in 1976 as the nation was dealing with natural gas supply shortages. I hope my contributions today do not lengthen the interval of time between time and when I might visit with you again. Thanks very much. I look forward to the other presentations.

MS. RODER: Thank you Chairman. We appreciate you being here today. Up next we will have Paul Segal, President and Chief Executive Officer of LS Power. Please

go ahead Mr. Segal.

MR. SEGAL: Thank you. It's good to be with you this afternoon. Chairman Chatterjee, Commissioners Glick, McNamee and Danley and Commission staff, thank you for the opportunity to participate today.

Just a quick minute on LS Power. We undertake a broad range of activities including the development, ownership and operation of a wide-range of power generation assets here in the United States. We own one of the largest demand response providers in the U.S. and one of the leading companies providing electric vehicle charging.

We have also been a very active owner, operator and developer of competitively sourced transmission projects also in the United States. Because of the range of things that we do my comments are fairly general and I will go through them quickly.

I would really like to start by acknowledging the heroic efforts of the plant and grid operators who continued to show up to work risking their lives and well-being to keep power flowing throughout the United States over the last few months. We are forever grateful for their efforts.

We have also seen tremendous efforts by people working on our construction jobs. With their help we have delivered critical infrastructure on schedule across three competitively awarded Order 1000 high voltage transmission

projects and one of the largest battery storage system projects in the world that we are in the process of commissioning today in California.

Our panel will be discussing the electric demand and transmission planning and my key takeaway for you is that COVID-19 must not be viewed by our industry as a rationale to hat progress and defer planning and reform. I worry that the easy takeaway from our very recent experience will lead the industry to extrapolate forward to an environment with lower demand.

I believe that our future is more complex and not necessarily understandable through linear thinking. We should expect and plan for a wide range of scenarios. These scenarios must be viewed as bi-directional, pointing to the possibility of greater energy demands and lower energy demand, higher energy pricing and lower energy pricing.

Let me explain. I believe that the most difficult economic parts of COVID-19 are hopefully behind us. The Federal Reserve's aggressive action and fiscal stimulus helped to take some of the most extreme downside scenarios off of the table. Markets quickly halted their freefall and returned to function.

A testament to this fact is that credit markets are open to even some of the most impacted sectors of our economy like aviation and cruise lines. Even the pipeline

companies like Kinder Morgan and Williams, the former MLPs, can raise money. Their 10 year duration corporate unsecured bonds are now trading at a yield to worst of between 2.5 and 3 percent.

Some of the most capable clinical and research hospitals were the hardest hit by the early phases of COVID-19. Over the course of just a few months, our country's healthcare system has learned a great deal about this disease and how to best treat it.

The ingenuity of our people and companies has been released to tackle the disease. I expect that within a year our perception of COVID-19 will be very different because we will learn how to live with it. Our actions will change the trajectory of the disease, we will learn how to treat the symptoms to reduce severity and/or immunize against it. But these changes in actions have an impact on energy and electric demands.

From the perspective of electric demand and forecasting I is easy to imagine and manage the downside case -- we have been living it. Demand is certain regions declined by close to 25 percent before beginning a gradual recovery.

But it would be dangerous to extrapolate from this recent experience and that's why COVID-19 tends to trigger paradigm shifts. Today there are many paradigm

shifts happening all at once. That leaves us needing to consider a number of questions about how these changes will impact demand and usage patterns for electricity.

One key paradigm shift underway is the way that we work. More working from home and less densification in the office. Fundamentally, I expect that this will lead to the less efficient use of space and as a result, the less efficient use of energy, at least and including electricity.

The office electrical systems will need to run, perhaps at a modestly lower capacity level than might have been required otherwise, but more people will be at home and this will lead to the use of electricity to heat, cool and light the home when previously it might have been unoccupied. In the aggregate, this may well result in a meaningful increase in electric demand over the intermediate term.

Work from home is also likely to drive demand for natural gas. This could well be problematic in places like New England where energy into the market is constrained by infrastructure limitations in the winter.

These changes are non-linear and multifactorial. They can often be derivative of one another. For example, the recent collapse in oil prices has crushed drilling for oil in many shale plays. The indirect consequence of this will be a significant reduction in the availability of

essentially free associated natural gas.

Natural gas prices will need to incentive more drilling for natural gas as we move forward. It is conceivable that in this new paradigm, we will have natural gas prices move into a range that's persistently 50 percent higher than what we would have expected them to be before COVID-19.

For example, $3.00 - $3.50 mmbtu may be the new $2.00 to $2.50 mmbtu, the environment that we had experienced recently. This would result in higher wholesale prices for the first time in many years. It may allow many coal and nuclear plants that have struggled economically for years to prosper as they used to. It may make the need for subsidies for these energy resources unnecessary. This may also lead to a political response that pushes toward more green energy investment.

The impacts of COVID-19 have been economically devastating. As we focus on the road back we should keep in mind that affordable electricity to a large extent, a function of transmission -- is a function to a large extent of transmission grid optimization.

Competitive procurement and regional planning of transmission must remain a priority as we tackle affordability going forward. The regional planning process must be robust enough to enable the RTOs to plan for and

facilitate the construction of the power grid of the future -- one that anticipates and supports the states' evolving energy investment policies and goals, rather than sitting idly by while every element of yesterday's aging grid is simply rebuilt and replaced with the same thing as facilities that have reached the end of their useful lives.

Also, irrespective of the ultimate direction of electric demand, we must not lose sight of the critical importance of reliability. We must continue to work --

MS. RODER: Mr. Segal?

MR. SEGAL: Yes.

MS. RODER: If you could finish up in the next few minutes that would be helpful.

MR. SEGAL: Yes. We continue to work to ensure the durability of competitive market constructs that promote planning for a reliable electric grid. So as you can see, the complexity in planning for the future in these unprecedented times is why it's more important than ever to understand that there is much that we do not know and as a result we must plan for a broader range of outcomes. Critically, we must continue to plan, innovate and execute, and we must continue to focus on affordability and reliability for the customer. Thank you.

MS. RODER: Thank you so much. We really appreciate it. We're now going to begin our question answer

session for this panel. And we ask panelists if you would like to respond to a question, please use the raise your hand function and remember to take your hand down after we've called on you.

We're thankful that all panelists are being respectful of rule and ask them to do that during the question answer portion and we also ask due to the technical problem, we're not going to take a 15 minute break on this panel. We appreciate everyone's attention and patience and I will now turn it over to Chairman Chatterjee for his questions.

CHAIRMAN CHATTERJEE: Thank you Aileen and thank you to all the panelists. I'm going to jump right in. I think my first question I'll direct to Mr. Moeller. You touched in your remarks on the challenges arising from the COVID-19 emergency and the impact it's had on load forecasting. I just wondered if you could elaborate a little bit more on the impact on load forecasting and resource adequacy with respect to capacity markets and if you could maybe get into a little bit on how RTOs and ISOs have adjusted load forecasting in the short-term and the long-term.

MR. MOELLER: Sure. In the short-term which is the problem because the neural network that almost everybody uses for forecast did not have a history to rely on. The

forecast that we initially provided physically was for too much capacity to be on, rather than not enough.

So while the stakes were important in terms of efficiency, they didn't have a negative impact on reliability at all because technically we would start, you know, one unit too many rather than one unit too few. Over time those networks learned -- the forecasting tools learned what the new load pattern looks like across the last few weeks, our forecast and the forecast of the neighboring RTOs have been pretty good.

It's the change from shut-down to reopening is more gradual, so we're not seeing the kinds of errors as the economy reopens if it were to shut down suddenly. So from a liability standpoint it's been turbulent. It hasn't had a negative effect.

In the long-term, at this point we haven't made any adjustments in load forecasting. We follow the scenario-based planning that the gentlemen from LS Power talked about. We continue to think that the challenges to the electric system have to do with the change in the resource mostly, and then the question of electrification of transportation is an important one that's in the you know, 5 to 10 year kind of time horizon, so one of our scenarios is focused on that.

We tend not to try to make an actual prediction

of the future because that's full-term. We instead try to bound what we think the future is across the various scenarios. In terms of resource adequacy, what you'll be seeing from MISO across the next month are a series of adjustments to our resource adequacy protocols to manage the uncertainty and reduce the risk of not understanding how much capacity we actually have available on any given time.

One of the difficulties in reserve margin calculations is it's a snapshot, but it doesn't actually translate well into what we call operating reserves or emergency reserves in the actual operating day. So you'll see how it's adjusting how we count capacity. You'll see us judging whether or not the capacity that does come to the market actually is capable of the capacity that they've credited inside our capacity program.

Just like every other RTO, we've got a clever name for this, we call it RAM, which is resource availability and mean. So refine, or tighten up all of the calculations around that so that they operating day has a very clear picture of what is available. Historically, when we have margins in the 30 percent range, it actually didn't matter. But now that we are at the minimum reserve margins to keep it reliable, we feel the need to tighten up all of that map to make sure we've got a very good plan going into each operating day. I hope that was responsive to your

questions.

MS. RODER: I think we're ready for your next question Mr. Chairman. I believe the Chairman might be having technical issues, Chairman you are still muted. We're ready for your next question. I think the Chairman may be having technical difficulties.

So what we're going to do at this moment is Commissioner Glick are you ready to go?

COMMISSIONER GLICK: Yes I am.

MS. RODER: Commissioner, can we ask you to go next and we'll have the Chairman follow you, thank you.

COMMISSIONER GLICK: Absolutely, and if he needs to get back in earlier that's fine too. Maybe I can pick-up where the Chairman left off, because I was going to ask about the forecast being slow. Maybe for Mr. Morgan and Mr. Segal, in terms of you know, obviously it's very difficult to forecast in general, certainly been more difficult as of late in terms of the RTOs and ISOs who adjusted their forecast as a result.

And I'm here and I'm supposed to be interested in what's going on in the markets, whether you think the process, the forecasting and the process and the chain that the RTOs and ISOs have engaged in with regard to these changes in the forecast have been transparent enough.

MR. MORGAN: Oh, you want me to go first?

COMMISSIONER GLICK: Yeah why don't you start.

MR. MORGAN: Look, you know, I think we have pretty good access, you know, the team that we have with what's involved and you know, with the RTOs and ISOs. The access and transparency -- what I would say is there's -- (Internet audio disruption) and I think everybody you know, isn't probably on this call is really kind of extrapolate anything meaningful going forward from the effects of a virus where, you know, human behavior is impacting, such as not wearing a mask or going into a large crowd can change, you know what's happening in a given state within a couple of weeks.

And -- when we hedge, when we don't hedge these types of things, we are looking for every bit and every kernel of information so, you know, we're close to the state governments, the governors, the elected officials, the PUCs and we're trying to get as much information we can as early as we can about what they're going to do in terms of whether they're going to shut down, stay at home -- put in stay at home measures again.

Because this thing is so fluid right now that you really can't extrapolate off of it all. I don't know that anybody saw what was happening now in the southern states and in the West and in California again, basically. You know, where all of a sudden, you know, this thing has taken

us by storm again, which is going to have a ripple effect.

So as I said in my opening remarks, I really believe that until we get a vaccine or an effective therapeutic, we're going to see these fits and starts and I don't know how an ISO or FERC, or anybody -- clearly not our company, can really extrapolate meaningful information.

We are basically grabbing information as it happens. We're charting it on a daily basis, but then again it's a whole different ballgame when you're trying to extrapolate. Paul?

MR SEGAL: Thanks for the question Commissioner Glick. I understand that --

MS. RODER: Mr. Segal, could I ask you to just pause for a moment. The Chairman's computer has crashed, and he was hoping to get back on to be able to hear your response. Thank you very much. We will be back online in just three minutes I think, thank you.

MS. RODER: Thank you Mr. Chairman. We were partly through a response to a Commissioner Glick question. I would propose we -- Mr. Segal was about to finish his response. I would propose that we do that and then if Commissioner Glick is okay with it, we can finish up your questions and then ask Commissioner Glick.

CHAIRMAN CHATTERJEE: That's perfect. Sorry for the inconvenience.

MS. RODER: And the Chairman was not aware of what the question was. Commissioner Glick, can I please ask you to just quickly mention what you had asked please, thank you.

COMMISSIONER GLICK: Sure. I was just following up Mr. Chairman, on your question regarding forecasting. I was asking a couple of the panelists whether the ISO or RTO processes that they've deployed in terms of updating these forecasts, have had an impact or whether they're basically transparent enough to market participants and Mr. Segal was about to respond to that.

MR. SEGAL: Thank you. So I think the processes are reasonably transparent as I mentioned in my opening remarks. What I'm wondering about is that there is a level of different RTOs obviously tackle this in different ways, but there is -- there can be a tendency to fall back on tools used in the past. And I do think that we're in an environment that needs to consider again a much broader range of possibilities.

We're going to be okay if we have too much generation and too much transmission capacity. We're going to have big problems if we're surprised and have less generation available than we need as an example.

One pretty interesting dynamic is right here not far from where I am in New York City, in New York City

they've had a massive decline in load and our office has not reopened as the majority of the city has not. But we've seen an increase in the load on Long Island. And we're still very early in this changeover and new dynamics, new ways that people will be living their lives during the pendency of this event.

So I think more planning and planning for broader ranges of scenarios is going to be very important and I think it's a little bit too early to say whether we're seeing that kind of thought process probably speaking.

MS. RODER: And thank you Chairman Chatterjee for going next please.

CHAIRMAN CHATTERJEE: Thanks everyone for their patience. Apologies for the technical difficulties and thank you Commissioner Glick for yielding back the time. Sorry about that.

I want to follow-up. I heard the tail end of the response of Mr. Moeller before my computer froze up. I want to shift a little bit, build on that and talk a little bit about, and this is kind of -- it can go to Mr. Moeller, or anyone else. I'm wondering what uncertainties surrounding demand you guys are most concerned about or what you think will most affect transmission planning.

MR. MOELLER: I have to find all the buttons so I can be responsive. So the uncertainty for the entire

footprint is shifting it's fleet state by state the shifts are quite different. The cost to achieve these shifts is actually the biggest part of the puzzle. The most expensive way to accommodate the shift are the new resources where they are best geographically and build transmission. The second most expensive one is to build all of the renewable energy right at the load centers.

And so it will help to understand what people's appetites are because of the diversity of the state policies inside that, it's that state policy diversity that is the most complicated factor in transmission planning. The energy policy in North Dakota is certainly different than the energy policy in Minnesota, for example.

And yes, to build effective transmission we have to get to a spot where both those states see it in their interest. So that's the puzzle that we're working on the most. The large numbers of removals that our members have an appetite for are unlikely to be accommodated by the meter. The volumes are just so large that distribution level would almost not be sufficient to meet their goals.

CHAIRMAN CHATTERJEE: Thank you for that. Building on the question -- sorry.

MS. RODER: Chairman, I note that Mr. McLennan has his hand raised as well, so would you let him respond as well?

CHAIRMAN CHATTERJEE: Yes please, that'd be great.

MS. RODER: Mr. McLennan, please go ahead.

MR. MCLENNAN: I was just going to make one comment in our neck of the wood's transmission planning. One of the issues will be what happens with the development of oil and gas, I referred to it earlier on the west side of the state. So if you think about how if we were being in, people not traveling, people staying home, that demand coming back on the electric side, or we just don't use transportation fuels, what happens?

And you know, they did a really good job of the facility in -- , they are not necessarily moving in the same direction as it relates to their vision of what the future of electricity looks like. They're trying to protect the resources within its borders. Minnesota is trying to figure out how do we have resources that have different characteristics.

So I think I mentioned planning as Clair described very well, is going to be one of the challenges of creating what these states do and more locally for us is going to be what happens to oil and gas development in our region.

CHAIRMAN CHATTERJEE: Thank you for that Mac, good to see you. Building on some of the differences across

state lines, Chairman Randazzo, you've been highly involved with these issues both as a state regulator and through NERUC, and I really appreciate you being here to give the state perspective. What have your experiences been regarding changes on the system due to COVID-19?

As a state regulator, what are the things that you and your colleagues have been thinking about most during these times?

CHAIRMAN RANDAZZO: Chairman Chatterjee, thank you for the question and also the opportunity to visit with you today. The global observation that I would make is that we're not dealing with an energy infrastructure problem. We're dealing with a public health problem.

And there are implications that public health problem that we're dealing with emergency that we're dealing with has implications across every sector, including network industries that we regulate here in Ohio, and you all regulate at the federal level.

So the challenges are at the moment, what can we do to contribute to solving the public health emergency and trying to provide enough flexibility to the -- I'll call them first responders in this case, to contribute positively to that goal? As I indicated in my prepared statement from a planning perspective, the pandemic scenario is really a people problem.

You've got to have enough people. You've got to take care of your people, human resources that you need, because the virus affects human resources. So if you could tell me the scenario -- the public health scenario that we'll be dealing with tomorrow, we could probably then plan from an infrastructure perspective and resource perspective, what we can do to contribute to a positive resolution to a public health emergency.

So that's the context I think that we've all been struggling with and the priority that we've been thinking about as we try to think through our more typical regulatory responsibilities and I just want to say that across the range of natural gas, electric, water, sewer, communication industries, we've had great cooperation, both with regard to those sectors that we do regulate.

And in Ohio we don't regulate the co-ops or the municipal utilities, but we've had I think an open conversation and cooperation across all of those various types of business models and also just on what we can do to help provide a positive resolution to the public health emergency. I hope that's responsive.

CHAIRMAN CHATTERJEE: That's great. Thank you. For my next question I think I'm going to turn to Curt Morgan and then have Mac weigh in as well. Which types of resources are being affected by the COVID-19 emergency and

how? And what are you -- what are the expected impacts from the situation on the different types of resources including coal, natural gas, nuclear, renewables, storage, and the like?

MR. MORGAN: Yeah, so I think Mr. Chairman, thanks for the question by the way. I'm glad you're back on. So I think the biggest effect right now is probably the near-term gas price affect, which is really odd right now, gas is below $2.00 and that was happening frankly before COVID.

But and that affect, that over-supply of natural gas, has continued to linger in 2020. Now Paul mentioned -- Paul Segal mentioned that we -- and I agree with him, that we probably are going to see gas go up into the $2.50 to $3.00 range with potential to go up to $3.00 to $3.50 you know, depending on what kind of winter and weather we get. But that's you know, that's more later in '21 into '22, there's a potential for that.

But that, you know, that directly affects coal power plants and gas plants that have largely replaced coal, we have several of our coal plants that were essentially off on economics and so I think they've been most directly affected by where we are right now.

Of course demand affects all. Lower demand affects all resources and the market unit is a lower cost to

unit right now, so that means that prices are lower. You'll see forward prices come down, you know, and it really varies, frankly, by market. Because you know, for example in ERCOT, where we have a big business, you know we haven't seen quite a precipitous reduction in demand and it's come back quite a bit and then it's very uneven in the other markets, but that also is a factor.

We've also seen, and I don't think this is necessarily heavily COVID related, but we have seen a little bit of a drawback on renewables development, some of which is you know, tax incentive related. I think it's mainly demand related and forward curve related. So you know, I think there's a variety of reasons why that's the case, but capital market's driven.

You know the capital markets have pulled back some in terms of supporting renewables and also I think sponsors, sponsor-supported renewables, you know, big companies that are building out their renewables are tending to now wanting to do a little bit closer to their active facilities rather as a process and you're doing something in West Texas that offsets something in Virginia.

So I think it goes to the main impact we see but all resources have been impacted and you can just see it in where all the curves are, prices are lower. And this is why, you know, I said in my opening remarks as a company you

have to drive to a low-cost position, and you have to continually put yourself in a position with low debt. You have to be willing to -- or you have to be able to survive this type of a downturn and actually put yourself in a position to thrive.

CHAIRMAN CHATTERJEE: Mr. Morgan thank you, Mac?

MR. MCLENNAN: I would add to that. I think all resources right now are being impacted. Part of it is from the demand portion of it. I think it's not necessarily COVID related. I think a little bit as well is that you have what I call kind of going into COVID you have what I'll refer to as market distortion and whether that's gas prices, or the continued addition of intermittent resources and it's a mix, it doesn't necessarily reflect, particularly if you're in the upper Midwest, you think about very difficult 30 degree below weather days and so I think we have a little bit of what I refer to market distortion.

I think COVID just adds to that. It just adds, the demand for it goes down, resources change, puts more pressure on your lessor performing assets which creates a bit of a down spiral as it relates to them and yet you can't really take them offline. When we get back to 100 degrees, so if you look outside today here, the wind isn't really blowing and for a company like us who has 35 or 40 percent of our portfolio in intermittent resources, the other ones

have to work when those don't.

And so it gets fundamentally -- COVID I think is just adding to a very relatively confusing marketplace as it relates to how do those assets perform. Certainly in our neck of the woods in North Dakota, coal is the dominant resource. We have some very small gas assets in the state, but that's it and so coal at least where we live, is probably the most impacted right now by not necessarily COVID, but market panic that I think COVID is adding to.

MR. MORGAN: Mr. Chairman, can I mention one other thing please?

CHAIRMAN CHATTERJEE: Yes sir.

MR. MORGAN: If you don't mind. You know I will say that from a gas transportation standpoint, you know, a gas infrastructure standpoint, you know, they've done a phenomenal job. The rails have done a phenomenal job. You know, we're building a very large battery installation in California. We have some trouble with COVID on the front end.

Our contractor was, you know, just having trouble putting in the right procedures to get enough people on the site. You know, that slowed us down a little bit, but you know, we have seen some. This is more specific issues to your question. We've seen some specific issues. We had one instance where you know, we had a COVID related affect on

one of our outages at the Kincaid Plant, it's a coal plant in Illinois.

You know that pushed us into June. That outage should have been done you know, end of May. We're now back up and running at that power plant, but you know, so we've seen some affects from COVID specifically at sites, but generally speaking, the infrastructure -- the energy infrastructure has performed pretty well, you know, throughout all this.

So the effects on these resources really haven't been due to any infrastructure issues, they've been more economically driven by demand and capital markets.

CHAIRMAN CHATTERJEE: Thank you for that Curt and Mac as well. To build on that a little bit for my next question, I think I'll direct it to Clair, but anyone else feel free to jump in. And Curt may have answered this to some extent, but I guess Clair, do you believe the previous forecast about changes to the resource mix changed as a result of COVID?

And if so, over what time period and what could some of those changes be? And how rapidly are they expected to occur? And how could they potentially impact reserve margins and transmission planning?

MR. MOELLER: So I'll try to unpack that. That's an important series of questions that we spent a lot of time

thinking about. Dominant members in the MISO market have not indicated that there are any changes to their goals with fleet transitions. We had a conference call with Edison Electric Institute's CEO a couple of weeks ago.

And they're all still pursuing their plans as they have laid them out. Most of those plans included significant amounts of conservation to keep demand openly flat and transitions from coal to gas and renewables predominantly. We have seen no indications that appetite for change is diminished, so at this point we're about to launch a long-term planning initiative to try to assimilate all those different plans and look for the lower depths transmission that allows us to meet those.

Importantly, resource adequacy and reserve margins is significantly complicated by the change in the fleet to a fleet that is no longer homogeneous. When reserve margins were invented so that they could discern how much capacity you needed, virtually every utility in the country had the same kind of characteristics in their generation fleet.

And if you could cover your demand on what you anticipated as your peak day the rest of the year was kind of easy. That has not been the case in the MISO marketplace across the last four years. Across the last four years capacity shortfalls have occurred in winter and shoulder

months, driven largely by first outages on top of maintenance outages on proper unseasonable weather.

So the notion of reserve margins is being the dominant indicator of whether or not there is sufficiency. We believe it needs to be questioned and we need to find a way to take care of every day of the year, not just the peak day of the year. You will see us approaching the FERC across the next 12 to 24 months with ideas on how to adjust that so that we can maintain a safe reserve margin, so we can ensure that the lights stay on every day, not just in three days in the summertime.

But the increase in intermittent resources have the effect of making us need to look at all 87 60 hours, not just at peak season, but it is a very difficult problem -- the statistical analysis around peak is actually kind of easy compared to the work we're going to need to be able to do to cover the rest of the year.

CHAIRMAN CHATTERJEE: Thank you for that. I want to pivot a little bit to my next question to Paul. Paul, how could the COVID-19 emergency potentially impact competitive transmission development under the Order-1000 transmission planning process?

MR. SEGAL: That's a great question. There's again, a lot that we don't know yet about how people will plan for the -- how we will be planning for the future as we

move forward. Sorry, there we go can you see me? Okay. Sorry about that. So I think that when we look at this event and how it might impact the future, I think we need to think in a pretty big picture way. This is an industry often-times when we're building the assets, the expectation is that they will survive for 40 plus years and then provide valuable, hopefully services, for an extended period of time.

It's more important now than ever that we think about planning the grid of the future, that we think about making the investments where they need to be made so that we can incorporate the resources that we'll have 5, 10, 20 years in the future rather than you know, purely solving for the resources that we have today.

And I think about COVID and in my mind early on in this event, when we were as a collective stay at home, making massive sacrifices of our economy and our happiness for the collective good, and frankly from the biggest health impacts were a relatively small portion of our population.

That kind of effort -- aggregate and joint effort, I think may prove to be a demonstration of the ability of a community of a country and ultimately the world to step forward and solve big problems like climate change. So we may well see that this event needs people to focus even more than they have been around solving the big

potentially disruptive changes that are coming at us in the future and it shows that we are capable of having a collective impact.

But we need to double our effort to really think about planning for the future in the immediate term. We clearly have a damaged economy. We need to be very focused on costs. Ultimately, you know, we are in the business as an independent company looking to create opportunities and we can only create opportunities if we're offering a value proposition. We need to be able to save customers money.

We need to be able to transfer risk from those customers to private companies like ours. I'm hopeful that with ongoing guidance from policymakers, that the RTOs and the utilities will move in that direction. But again, I think it's very early in terms of understanding what the responsibility fact is.

CHAIRMAN CHATTERJEE: On that Paul, do you think the Commission's transmission planning regulations incorporate sufficient flexibility for a utility to adapt to these unanticipated changes in electricity demand potentially caused by COVID?

MR. SEGAL: I would imagine that they do. I think that in many ways this is a question of desire and it's a question of incentives. There is a nobel volume incentive for many investor owned utilities that receive a

rate of return on equity to invest capital and I think that there needs to be a counter party or a counter measure, countable to that position whether it's the FERC or the state Commissions thinking about the ultimate customer and making sure that the right investments get made.

CHAIRMAN CHATTERJEE: Thank you. For my next question I'm going to turn to Mr. Fisher, Travis, I really appreciate you being here to represent large industrial consumers. From a consumer perspective, what lessons should energy industry and regulators take away from this COVID-19 experience thus far?

MR. FISHER: Thank you. I think probably the biggest thing to takeaway is at least for ELCON members, how resilient we've been both on, so we are industrial consumers of electricity, but we're manufacturers of a wide variety of producers. It's very important that we take these kinds of thing in stride and I think our companies have done a good job of doing that.

I think some of the other points we made earlier, I think an interesting thing -- a dynamic that I'm seeing unfold is our companies are taking cuts and taking rate downs where needed and I think there's a pretty stark contrast between all of the companies that work outside of the utility space and are having to economize and change what they're doing as opposed to -- it was just noted

the EI company sent the -- they're basically taking their plans and the same.

I'm a little bit concerned about that because the costs of the transition that folks are undertaking, they're ultimately going to fall on consumers like ELCON members. I think that's an important thing to note is that you know, as the pace of condition keeps pushing forward, let's keep costs in mind.

CHAIRMAN CHATTERJEE: Thank you for that Travis. I don't know if it's the first time you'd worn a -- since you got your new job, but you still have your FERC pin on there.

MR. FISHER: Indeed it is. I don't wear a jacket unless I have to. I've still got the FERC pin that you gave me, so thank you for that.

CHAIRMAN CHATTERJEE: Thanks for participating today. Next I want to pivot to Gil. As a public power entity operating in a state that was really hit hard, can you just give us a sense of what your key takeaways were and what advice you might have for others?

MR. QUINIONES: Thank you Mr. Chairman. You know, we were, and we are you know, the first area that got hit by COVID. The one thing that I would advise other areas is that in New York we really collaborated right from the beginning. So, the New York ISO, the state, NIFA, our

Department of Public Service, the generators, the utilities, we had calls every week to make sure that we have common situational awareness, we can share resources, whether it's spare parts, or -- we could share operators.

We were afraid at the beginning of this event that there would be a very high infection rate and that can impact power plant control room operators and control center -- transmission control center operators. So a quick collaboration, having the agreements in place -- the agreements are amongst the key stakeholders is very, very important.

And then it's always about protecting the health and safety of your employees, that's number one. And keeping the lights on no matter what. And we were focused on that in New York in a collaborative way. We were lucky and fortunate that our state ramped up testing and we have the most amount of testing per capita anywhere, and that helped a lot because if we can isolate positives, we can have that tracing and we can quarantine people that needed to be quarantined.

So those are the elements for us. We were able to get through that mountain and back on the other end, and we're doing our very best collectively to keep the infection rate low and to minimize the impacts of our operations.

CHAIRMAN CHATTERJEE: Thank you. For a

difference perspective, Mr. Bird, are there any key points that you want to emphasize about how COVID has impacted the West?

MR. BIRD: Yes. Thank you Chairman Chatterjee. I appreciate the opportunity to respond. You know, COVID, as I mentioned earlier for us have not had a material impact on our ability to deliver our core mission as reliability, affordability and safe service and electricity while we continue to radically change our portfolio.

And maybe just responding to a couple of comments I've heard, you know, positively absolutely imperative for us as a provider to 2 million customers across the west and I'm very proud that we've kept our customer at the forefront. For us, we've kept rates lower than they were many years ago by virtue of how we approach our investments and operator system.

One of those opportunities, frankly, is then to take advantage of the system we operate that covers 10 states, referring back to kind of the rule here about what's the most expensive route to serve customers. I would argue the most expensive route would be to isolate yourself on an island and limit your options.

And thankfully, in the West we've got this tremendous abundance of low-cost resources, but they are very diverse across the West, you actually think about the

hydro up in the Northwest as well as great wind resources. You think of Wyoming and literally everything under the sun there from the best wind resources in the West to the low-cost coal and natural gas, to the Southwest where we have dramatic solar.

If you tried to serve each one of those regions with just not one resource, you'd end up with the most expensive system. If you put them all together, we can realize dramatic savings as well as improve reliability, you know, think of the EIM, you know, 920 million dollars in savings over the last 5 years since we put that in place.

Literally just because we're better using systems to more efficient markets and we didn't have to invest a dime into that infrastructure, but none of those savings would be possible without the network of that physical asset. You know, I think of things like the rupture of a pipeline in Canada that occurred last year and how we had to swing resources again from a very large region across the West to keep the lights on, did that successfully, but all that really hinged on this tremendous advantage we have in the West of that great robust transmission network.

And so opportunities to expand on that has really never been greater. We're able to now invest not only new renewable resources, but new transmission that all in is lower cost than buying energy off the market. I mean it's

unprecedented. So our buildup we're putting in place this year with our Gateway Loss Project and about 1,500 megawatts of new renewables at lower cost than any that we can procure off the market.

You know, we're looking to double that -- more than double it with our next situation. You know I could go on, but I mentioned to demand response since we used the technology we can isolate -- not isolate, but automate air conditioning systems with almost invisible impact to our customers, but we monetize that by providing frequent response across our entire balancing authority area across 10 states, which again leverages that transmission grid.

So I couldn't be more optimistic about the future and our opportunity to really lead the world by investing in infrastructure that I think in transmission is close to no regrets situation, but requires a -- you know, careful knowledge and reasonable planning effort to bring multiple companies together to leverage it.

There's a lot that that PacificCorp can do uniquely because we have such a large system, but in the same way that we've inducted in the EIM and partnered with others, we can even lower our costs by expanding that even further, thank you.

CHAIRMAN CHATTERJEE: Thank you. I will ask just one final question and I'll turn it over to my colleagues

and staff. My last question is going to be for Mac McLennan. Mac, as a co-op, how have changes in demand impacted your resources in your planning efforts? And at the conclusion of your answer, Commissioner Glick, please take over.

MR. MCLENNAN: Thank you Chairman. So for us individually, changes in demand really haven't been dramatic. I said that in our opening comment. If you look at where we're located generically, most of the business has been continuing to run, must run business for the most part.

You know the difference though, I'll just say collectively across the cooperative model as we see demand goes down, as you're aware there's only one bucket that's collected from it, the consumer side of it. So there is some concern across the cooperative sector that relates to whether or not we're going to see rates go up as a result of demand.

And so I think everyone in the cooperative sector is trying to look at what's the length of run that we're talking about with respect to COVID? So are we talking about a six month event, or are each of us beginning to prepare for demand that's impacted for months beyond that or for years beyond that.

So if you look back to 2007, obviously during the Great Recession you saw a significant drop of demand. We're

all still, I think, even a decade later trying to fundamentally manage that. So one of the really I think, big questions for us, as it relates to COVID and demand, is are we going to see demand come back in the next 6 to 12 months, or are we going to have a permanent destruction of demand in some of these areas.

I refer to my nice neighbors to the West earlier, as a much better example is they were serving little gas fields they had you know, 500 to 2800 megawatts in the queue for development and that has significantly fallen off as oil and gas now tries to regain its brass.

And so across the spectrum I think for cooperatives is fundamentally different based on where you're located. For us, generically, we've seen our demand shift. Our bigger concern individually because we are heavily winter peakers, is whether or not profile changes for individuals -- we're also heavily residential.

So right now we see our load profile changing and does that substantially change and will that then impact? How do we utilize our resources? How do we go back into winter? So for us right now, demand as a result of COVID specifically, has really been relatively unaffected. We are primarily much more affected by what happens to weather.

It's the duration of the impact to COVID that I think we are concerned about and what that will hopefully

translate into consumers for consumers.

CHAIRMAN CHATTERJEE: Thanks Mac.

COMMISSIONER GLICK: So I'll start off now and maybe just ask a question first of Mr. Bird. You had mentioned Mr. Bird, that you know, in your opening statement you were talking about how PacifiCorp has been the last to get ready for fire season which is obviously becoming an increasing threat to the West.

I'm just curious how the pandemic has impacted your ability. What have you done given that the pandemic is here now in terms of making sure that you are still ready for the fire season?

MR. BIRD: Yeah, thank you Commissioner Glick. It's Stefan Bird, PacifiCorp. There's really no impacts or efforts to really dramatically increase our resilience and heartening efforts, seeing anything from increased vegetation management, and you know creating bigger -- , particularly in fire high-risk areas where a lot of work has been done in the last many years to identify those areas and address those areas specifically.

You know, it's a multi-state effort for us and particularly California, Oregon and Utah where most of that exposure exists in our system and a lot of cooperatives and collaborative efforts with the agencies, both our Commissions as well as with the fire response, first

responders, as well as the county emergency managers, everything is stepped up across all of those fronts and I couldn't be more pleased with the cooperative efforts.

Also at the federal level, with the industry as a whole, we're partnered with a new ESEC electricity subsector coordinating council on the success of that collaboration with the federal agencies on cyber security. A very similar effort has been undertaken starting in January, working with the Department of Energy and other federal agencies, particularly the BOM, DOI and USDA Forest Service to both streamline our access to you know, getting on those public lands and address issues as well as with the DOE and working with the National Labs, a good modernization laboratory consortium which has tremendous capabilities both in AI and other, even military grade capabilities they've developed how we can leverage some of that capability to further our situational awareness and this mitigation on wildfire.

So a number of fronts really moving forward full steam ahead and in front line standpoint we've insured that our folks are working in safe conditions and able to respond across the board. COVID has certainly impacted the current situation in terms of the stress that already exists and those local, particularly rural communities.

So making sure that we've got care centers available to go if there is, you know, God forbid a

wildfire, we're able to support that effort and again coordinate very closely with them. Thank you for the question.

COMMISSIONER GLICK: Thank you. So Mr. Fisher, a question for you. you had mentioned in your statement and we just referred to it again, a concern that some utilities may seek to recover the costs associated with reduced load. As you pointed out your members, and I'm mean its' less people are buying cars, Ford isn't going to be able to sell, we're just going to charge everybody else a lot more to recover our losses.

So I was curious whether you thought -- maybe you can elaborate on this point a little bit more, but also whether you thought there was anything that FERC and the state regulators could do to ensure that utilities don't essentially try to subsidize their losses related to reduced load from their captive customers.

MR. FISHER: So that's a very good question and thank you. I think the key thing is you know, when we talk about just and reasonable rates -- an issue that ELCON has taken up over the years and first I guess if there are differences among customer classes, so we're seeing some uptick in residential consumption with a downtick on the industrial side.

So first, to be sure that there's no cross

subsidization or sort of cost-shifting among customer classes, I think that's very important. Where that might come in is to the extent that utilities seek to recover their fixed costs volumetrically and there are some programs that you know, you look very carefully at waivers that ask to either change the filed rate, or seek a waiver of a portion of it.

You know it's unfortunate there's a downturn in demand, right, I think it would be even more unfortunate for some customer classes to essentially bear more responsibility in order to make the utility whole. So there's a balancing act there and I think, you know, a large part of it can be controlled just by sticking to the filed rates. And I think that's probably the case at the state level as well.

I'll note that I included the State of Indiana in my remarks. As I understand that the Indiana Commission, actually rejected a filing for a utility to seek some recovery of some portion of fixed costs that it felt weren't going to be able to be recovered given the COVID as well.

So that's a great example of a state stepping up and doing the right thing on the part of the consumer. I'm not entirely sure where that 6 percent is from a FERC filing payment. I haven't seen a bunch that sort of fit that bill. But I expect to see them coming, so that's just the kind of

thing that, you know, I'd like to be -- I'd like for that to be on FERC's radar.

MS. RODER: Commissioner Glick. I note that Chairman Randazzo has his hand raised. Should we go to him next please? Go ahead Chairman.

CHAIRMAN RANDAZZO: Thank you. With regard to the question, for states like Ohio where we have retail access, FERC has assumed exclusive jurisdiction over transmission functionality. And at least in our case, and I think this is true in quite a bit of cases that the compensation for the transmission owners occurs through a formula rate. So if there is a formal offering demand, all of the things being equal, you get an increase in prices to that formula rate, and if there are extra costs that get loaded in that get passed along, plus whatever return is included in that formula.

So the focus on COVID-19 related costs, I think is part of the focus of this panel, but generally speaking, whatever the costs are they're going to get picked-up by customers through the formula rate process. So if FERC has some concerns about the scope of costs, and how they get recovered, I offered some suggestions in my prepared statement dealing with giving customers more options so that they can better serve their predictability and price objectives.

But right now as this thing stands, there's very little with the state regulator, at least in our case, can do with regard to what happens as a consequence of transmission service. And in our case, the generation's buy price is dictated by market forces.

MS. RODER: Thank you Chairman Randazzo. Commissioner Glick, back to you. I don't see any other raised hands.

COMMISSIONER GLICK: Okay, thank you. And just one last question. Mr. Segal earlier mentioned that because more people are working from home, that energy efficiency -- we're having lots of energy efficiency and the customer is being impacted adversely.

And we had this discussion a little bit with the first panel this morning. But I just want to know for the rest of the folks here on the panel if you could talk about how you see energy efficiency being impacted due to again, more people working from home, less people going into the office, at least currently and what you think the Commission or state regulators should do to the extent there is anything that can be done?

MS. RODER: And we encourage folks to raise their hands. I will first call on Curt Morgan. Please go ahead Mr. Morgan.

MR. MORGAN: Okay. Commissioner Glick, so in

number one I will say though that the overall demand is down and so you know, just thinking about admissions in efficiency, this is not the way to get there. But you know, there is a certain efficiency in the fact that we're usually, you know, less electricity than we were previously.

Now the reason for it is not good at all. All I can give you is that we're a big retail provider and it's a big issue for us because we're trying to obviously help our customers get through this and you know, it's good business in my opinion, but it's the right thing to do to help people through this.

And so what we've been trying to do is give them tools and also we have a number of different rate structures and time of use products that we can help them with to try to get them through a tough period of time. We also have something that the company itself put in place in the competitive retail markets from TXU Energy Aid, which is funded by the employees of the company and the company and other donations.

That's really United Way network, but that gets money into the hands of people that need to be able to pay. But the bottom line is I think there's a responsibility in my opinion for retail workers, especially providers in competitive markets and utilities and others to help find

ways for residences to save during this period of time and define products that might suit their needs.

And then if they can't make it through this period of time, to try to help them financially through it and so they can get back on their feet because we all know this is a short-term, or at least we hope is a short-term phenomenon and it's incredibly important that we bridge that gap.

You know, I do think that it's not difficult in some instances for people to invest in energy efficiency where there's a front end cost and you know, we can also do things on that where, you know, we can -- companies can fund the upfront costs and then pay it over -- you know, in a bill, for such as you know, solar, or other types of energy efficiency, retrofits.

But we have a responsibility in my opinion during something like this to try to help people at their home find a way to save and get them to the other side.

MS. RODER: Thank you very much Mr. Morgan. We'll now call on Gil Quiniones. Mr. Quiniones, just go ahead.

MR. QUINIONES: Yes. Thank you very much. Commissioner, I think energy efficiency is extremely, extremely important in many aspects. First, as Curt said, it saves money in the utility bills of our consumers and

businesses and makes our businesses a little more competitive.

Our energy efficiency also is the biggest job creator in all of the clean energy sectors. So it's been hit very hard because of this COVID pandemic and if done right, it can also help our buildings and homes being more flexible and really take advantage of that demand flexibility in transforming our grid from the current system to a smart integrated and cleaner grid.

And as we do more and more electrification, we must do energy efficiency. Otherwise, the investment and reinforcements of the grid will be too expensive. It will also help overall in increasing system efficiency and optimizing the capacity utilization of our grid if you do energy efficiency.

If I can just comment on a couple of issues that were mentioned and questions asked before, in terms of transmission planning and what are the changes in demand and COVID, and how it was impacted.

I think the short-term preservations, because of COVID is not really the primary driver that will impact transmission planning. One issue that is scaring all of us right now and really it started even back in 2012, that if you look at the zip codes of the people impacted by COVID, and if I extrapolate back to 2012 in our case, Super Storm

Sandy, extreme weather event. It's people who are already overburdened environmentally, and mostly communities of color.

And I think that FERC, state regulators, all of us must take into account those facts when we start doing transmission planning going forward. I think it's something that you know, we just cannot ignore any longer and not take into account in the buildout of our transmission system. Thank you very much.

MS. RODER: Thank you very much. I also see that Chairman Randazzo's hand is raised. Please go ahead.

CHAIRMAN RANDAZZO: Thank you. I just wanted to mention with regard to the differential impact of the pandemic, I'll relate an anecdotally experience we're having. We have a lot of folks working from home. Some of them have indicated to us in surveys that we've been doing to try and evaluate that which has been working very well and good productivity and all that stuff.

But one of the things we've learned a lot of ways, people are willing to make investments in home office equipment. For example, if they had a better understanding of how long you're going to be working from home. So I think that the question about energy efficiency again comes back to some practical observations if you tell people what the expectations are in terms of how long they may be

working at home, they may have a different valuation on energy efficiency because of the impact on their energy utilization.

And until we can solve those kinds of questions I think it's hard to answer in the abstract what we should do to encourage energy efficiency around a pandemic scenario. I think all of us are doing what we can to try and make room in the marketplace for energy efficiency where it makes sense.

But broadly speaking, I don't see a differential impact at this point as a consequence of a pandemic.

MS. RODER: Thank you very much. Commissioner Glick, I don't see any other raised hands, but I will remind folks who have already spoken to put their hand down. Thank you. Over to you Commissioner Glick.

COMMISSIONER GLICK: Thank Aileen, I actually don't have any more questions. I'll turn it over to Commissioner McNamee.

COMMISSIONER MCNAMEE: Thank you Commissioner Glick, and thank you to the panelists. I really appreciate it. It's been a very informative panel and that's one of the things I've enjoyed being a Commissioner is getting to participate in activities like this because it is so educational.

I want to focus on something that's really not

directly a FERC jurisdictional issue, but it's something that touches on us but also on a number of you and the services you're providing -- that you're also providing distribution service. And its' really kind of a short-term question and that is, you know, when COVID hit, you know, it was really kind of in what's traditionally being considered the shoulder months.

And now we're getting into the summer. Many of the utilities have summer peak units as some of you have mentioned. And I'm wondering with so many people being at home, air-conditioners are going to start going on. You've got, you know, two parents working in the house and they're both running their computers or their printers.

You've got you know, may have children who are playing on the X-Box or actually you really have a lot of loads going on. And is the distribution system capable -- and I know it's a broad question, but I'm just asking are people thinking about this, is the distribution system ready to be able to handle all of this load and is the transmission to get there in the sub-stations the right place to be able to get the energy that's out there and get it to the suburbs, the places where the people are so that then they can continue to operator?

Or is this something that we should -- that we really don't need to worry about and the system's just fine,

and it's really not an issue?

MS. RODER: Thank you very much. At this point I see that Mr. Quiniones has his hand raised. Please go ahead. And Mr. Quiniones, I'll just remind you to unmute your microphone, thank you.

MR. QUINIONES: I've got it. Sorry about that. Thank you Commissioner for that question. The New York Power Authority, you know, we do not own distribution, but we work very closely with the investor-owned utilities and the Long Island Power Authority here in New York.

Your observation is very interesting because what's happening is that the peak during the day is actually moving -- moving forward. So that's one function that is happening. And you're correct to say that if people are working from home, that there is an increase in residential load and a decrease on the commercial.

This is districts of New York. So it's something that we need to watch out for. My -- at least my conversations with my partners and colleagues here in New York City and other parts of New York State, they have been investing at a distribution level, both as a distribution feeder and the substation in the transmission that supply those feeders, but it is going to be interesting if we have a sustained heatwave and what will be the performance of those feeders in residential neighborhoods going forward,

that's something to see.

So it's a very, very astute observation on your part. Thank you.

MS. RODER: Thank you very much. Next up we have Mr. McLennan. Please go ahead sir.

MR. MCLENNAN: Thank you. I was just going to make one anecdotal observation that so in our juris territory, the lakes region of Minnesota, we did see actually during the holiday some challenges to parts of our member's distribution system from primarily around the idea that historically you would see people spreading out for vacation over the Fourth, but they were so concentrated at the lakes that we saw abnormally high demand or usage, and frankly in a few sports and some concerns over whether the system would remain intact.

And so that really not so much given our daily load patterns, as much as how we change the human kind of relationship as it relates to where they're going. So, you know, historically we have a lot of people going to the lake over the Fourth, but because no one travelled, that number was substantially higher.

So you know, I think I said this in some of my other statements. One of the things that we're trying to get our arms around is -- is COVID going to change not only daily patterns, but industry patterns with respect to the

ability for business for example, who are delivering to industries which are shut down. So we've seen some cyclical industries as well that historically wouldn't have happened.

We've also seen some others who picked up dramatically. And so I think your point is valid -- is the pandemic going to change behavioral patterns in a way that the system was originally designed around and just anecdotally in the last few days, we didn't, you know, I don't want to give individuals going to the lakes or whatever the number was, certainly put pressure on.

MS. RODER: Thank you Mr. McLennan. And I will call on Chairman Randazzo, please go ahead sir.

CHAIRMAN RANDAZZO: Yes, thank you. I think the thing that has been occurring for some time is there's a rather large investment in distribution systems, upgrading the systems, building in newer technology that's unrelated to of course the pandemic. We will gain knowledge from the pandemic, typically with distribution systems.

As you get closer to customers, systems are designed to serve the non-coincident peak of a localized area. So some load shifting, both with in terms of magnitude of peaks and the load duration curve can affect the ability of systems to sustain supply. But generally speaking, we've had very good experience with the system's ability to keep the lights on, and we're talking about

distribution serving residential areas or non-residential areas.

And part of that is into the significant efforts that are being made by the operators to pay attention to what is going on and make adjustments as needed.

MS. RODER: Thank you very much. I see that Stefan Bird has his hand raised. Please go ahead Mr. Bird.

MR. BIRD: Yeah, thank you Commissioner McNamee. I would comment from PacifiCorp in regard to COVID impacts we've seen, you know, like a lot of utilities, increases in residential through reduction of the C and I side, commercial and industrial, but I would comment the most dramatic impact that I would foresee over the next 10 years through our distribution network, we've got about 63,000 miles of distribution lines, is the demand by certain cities and some of the commercial customers within those cities who are demanding 100 percent renewable energy.

And that stands anywhere from a city like Portland to Salt Lake City, Salt Lake County, Summit County, which includes Park City, Moab, so you know, anywhere from coastal cities to you know, the interior we're seeing certain communities as well as certain buckets, typical option large tech companies demanding that supply.

And to create that -- again, as others have noted, it's really not possible to do it entirely locally,

and it's certainly not the least cost as I've commented earlier, we've got tremendous access across the west and very low cost renewables, but that does require transmissible substations and the you know, other tools in order to arrange that.

So that is part of what's driving our whole overall system changes over the next 10 years.

MS. RODER: Thank you very much Mr. Bird. I give it back to you Commissioner. I do not see any other raised hands, thank you.

COMMISSIONER MCNAMEE: Great. Well those answers are helpful and at least gives me some comfort that overall things are okay, but clearly, it's something that needs to be continually monitored. And this will be my last question. And it's open-ended, but you know, when we do these sorts of conferences, especially when we're dealing with a crisis, the issues tend to be you know, what are the problems? What are the challenges? How are we handling it?

And the good news is it sounds like everybody's been doing a pretty good job and I applaud everybody for what they've been able to do. But sometimes there's good news that comes out of these challenges. We discover things that we didn't know.

I know that I think everybody's lucky that technology has been one of the great saviors of this whole

process with so many people being able to work from home, work efficiently. We're finding that we have the ability to do things we didn't know. But in terms of you know, the electric grid, generation, transmission, energy efficiency, any of those things and just the operation or forecasting, what's the good news out of it?

What happened during this period that you all said, "Wow, I wish this hasn't happened, but I'm glad I learned this because it's something that we should be doing in the future even when we get out of this crisis." I know that's open-ended, but hopefully there's some of those new stories.

MS. RODER: Thank you very much Commissioner. I see that Mr. Moeller has his hand raised. Please go ahead.

MR. MOELLER: Thank you. For us the thing that we found the most interesting was the resilience of our employees. So for you know, 15 years we would have all employee meetings once a quarter, and they never worked very well because everybody is in the room and nobody has asked a question.

A week into this crisis we had an all employees meeting, and we had all 900 of our employees participate. The ability to interact -- it's the same technology we're using today, the ability to interact between employees and management was substantially better using the Webex

technology than it was when we were trying to have actual, in-person meetings.

So I think the actual learnings have mostly to do with the ability of the employees to participate from these remote locations and frankly, it's having us rethink our strategies of just how much building space do we need and do we need to occupy that building every day.

MS. RODER: Thank you very much Mr. Moeller. I will call on Curt Morgan. Please go ahead Mr. Morgan.

MR. MORGAN: Okay. I think Clair hit it probably most importantly in the resilience of the people. You know, but I think some other things that maybe are a little bit more operational in nature that I'll share. You know, one, our ability on the supply chain side to get you know, I think I said in my opening remarks, there were 86 maintenance outages and I was concerned about, you know, the parts, and equipment and also getting the PPE.

But our supply chain, you know, folks had done a tremendous job of getting it. In fact, we've been able to help out some hospitals and provide them with N95 masks and other things that we have. So that, you know, we're very proud of our, you know, ability to get what we needed, to do the obvious, just to keep our people safe and then to be able to execute on those outages and just the you know, the willingness of people to come in to the work environment

with the unknown was tremendous.

And you know this temperature testing thing was not easy in terms of whether people might or might not be willing to do it and whether it was an infringement on people's rights. So we had to have legal assessment of that, and we did that very quickly, but everybody worked together in harmony.

I do agree with Clair too, that you know, we did -- I did weekly livestreams and we were terrible about it at the beginning and then getting the technology to work, but I really believe that at the end of the day our company is closer today than we were prior.

I get emails from people all the time about they hope that we continue to do our weekly livestream. And this was just borne out of the fact that we were trying to make sure that we touched our people, and in the middle of obviously a major crisis. But turned into something that you know, people, I learned very quickly, people just want to be communicated with. They want to know what's going on inside the company.

And that helped them actually be more effective than the job and to be happier in what they're doing. So those are a few little observations Commissioner McNamee that I would share. Thank you.

MS. RODER: Thank you very much Mr. Morgan. I

will call on Mr. Quiniones. Please go ahead sir.

MR. QUINIONES: Thank you very much. In our case back in 2014 we decided to embark on an enterprise-wide digital transformation and really invest end to end digital technology, both on the IT and the OT side. And we found that it was invaluable for us to be able to stream.

Right now we're streaming 40,000 sensor points and know the exact health and condition of our assets. We are also monitoring our retail customers we have mostly government buildings here in New York, over 22,000 of them we have created digital twins of their energy system. So why most of them are not open, or are now in the process of reopening here in New York, that we are able to really see what's going on with their energy system.

So we have decided to double-down and we're going to accelerate our digital transformation. We plan to stream about 150,000 sensor points real-time by next year. We're building a fiberoptic backbone to connect all of our assets and we're going to be investing in private wireless network, so that we could really enable digital workers at the power source. Thank you.

MS. RODER: Thank you very much. I'll call on Mr. Segal. Please go ahead sir.

MR. SEGAL: Thank you. I would say that when we went into this event, certainly no one had anticipated

something like this happening. It hadn't happened for well over 100 years. And I think what it does is it demonstrates the resilience and the ability of the industry to band together and respond to unexpected situations. I think for us -- and I can tell you I've been during the pendency of this event, on the phone with a number of the other participants thinking about situations that thank goodness didn't come to pass -- and for even worse than what we've experienced here.

I think that that in part is part of the lesson here. We need to continue to think about being prepared for a wide-range of alternatives, being prepared for the future and again, the kind of leadership that we saw from folks like Gil who stepped forward very early in this event and helped to create the basis for greater mutual cooperation among, for example, New York owners of generation and transmission -- that kind of leadership and the sense that we are a community trying to deliver a critical service in incredibly difficult times was comforting to those of us working in the industry.

And certainly leading companies and we're grateful to have gotten through those darkest times not having experienced the worst case, but also grateful that we had the opportunity at least to think about what they could be and so we can begin to plan for it. Thank you.

MS. RODER: Thank you very much. I will call on Chairman Randazzo. Please go ahead sir.

CHAIRMAN RANDAZZO: Thank you. I will echo the comments that the others made and just my only experience with our staff -- we have used the streaming capabilities on a weekly basis to have all staff meetings. We've been trying to help people deal with the stress associated with the pandemic and a number of other issues, the efforts to try and promote racial justice have all been stressful experiences for a lot of people, but I think the experiences have helped to make our interconnectedness more visible, thereby highlighting the importance of coordination and communication of the proactive type.

You know we say a lot these days, we're in this together, but it's more visible I think, in a lot of ways. And whether we can maintain that kind of attitude going forward to accomplish some of the things that you talked about today, remains to be seen. It's largely on us as individuals and as a society.

But we benefit -- it tends to bring the problem solving characteristics of humans to the surface and we certainly need it in times like this, but we also need it after we get through this. So my hope is that the experience will elevate our problem solving nature and allow it to dominate more fully as we get through these

challenges and the others that are on the table.

MS. RODER: Thank you very much. I'll call on Mr. Bird. You're up next, please go ahead sir.

MR. BIRD: Yeah thank you, Commissioner, for the question. And similar to my colleagues, I couldn't be prouder of our folks, 5,000 plus employees across PacificCorp to really answer the call. As I mentioned, there was quite a task and we drill all the time across not only our company, but with our colleagues across energy and even nationally.

I think those exercises that the FERC has helped sponsor have shown to be highly valuable and we hope to never exercise them, but we've seen tremendous results here as you know, none of these disasters today have impacted our ability to serve. And some of my colleagues, I compliment the Electric Institute and the cooperation across the industry as well as on the utilities.

I've not experienced anything quite like it in any other industry where there's so much cooperation and collaboration, particularly in these times of crisis, whether it's a storm, a response or an event like a pandemic, there's tremendous sharing so that all of us can be a little further ahead and I think that's gone to serve our communities.

One note -- anecdotal highlight and I think there

was a bit of a surprise as we had a lot of folks working from home, our IT folks, similar to we've had a digital transformation of our company in the last few years that continues. But it was interesting on the customer service side we had not traded that capability to work from home, but that was very rapidly built within a few days, implemented, so that a number of our customers working from home, and as we experienced an outage -- I think it was in Utah or Idaho, we had almost instantaneous response from folks who didn't have to drive 45 minutes to get to the office.

They were immediately providing that service. So some silver-lining to the impacts of COVID and to be able to actually improve customer service. Thanks for the question.

MS. RODER: Thank you Mr. Bird. Commissioner McNamee, there are no other hands raised. If either of you can hand it back to the Chairman.

COMMISSIONER MCNAMEE: Okay. Well I want to thank everybody for those comments and for your time today and I think what's most interesting is all of you focused on the silver-lining with the people and the relationships, and I think that's a great testament to all of you, to your workers, but also to the American spirit, so thank you all.

CHAIRMAN CHATTERJEE: Well thank you Commissioner McNamee, Commissioner Glick, all of our panelists. I want

to again thank everyone for taking the time to join us today for this discussion and of course, a huge, huge thanks to FERC staff team for expertly shepherding us through our agenda. I hope today's conversation is just the beginning of our efforts to examine and tackle the potential long-term effects of the Corona Virus Pandemic on the energy industry.

I know I personally learned a lot and look forward to doing the hard work with my colleagues to ensure that we stay engaged in these critical ideas as we move forward through this national emergency. I look forward to seeing everyone tomorrow for Day 2 of the COVID-19 Technical Conference beginning at 9:00 a.m. And with that I will turn it back over to Aileen.

MS. RODER: Thank you very much Mr. Chairman. I appreciate everybody's participation today. Thank you very much to all of the panelists and we will see you tomorrow morning. We'll be beginning at 9:00 a.m. asking panelists for the morning to go on between 8:30 and 8:45. Thank you very much and good night to everyone.

(Whereupon the Conference concluded at 4:00 p.m.)

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This is to certify that the attached proceeding before the FEDERAL ENERGY REGULATORY COMMISSION in the Matter of:

Name of Proceeding:

Impacts of the COVID-19 on the Energy Industry

Docket No.: AD20-17-000

Place: Washington, DC

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were held as herein appears, and that this is the original transcript thereof for the file of the Federal Energy Regulatory Commission, and is a full correct transcription of the proceedings.

Gaynell Catherine

Official Reporter