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6	OVERSIGHT OF FERC: ENSURING ITS
7	ACTIONS BENEFIT CONSUMERS AND THE
8	ENVIRONMENT
9	WEDNESDAY, JUNE 12, 2019
10	House of Representatives
11	Subcommittee on Energy
12	Committee on Energy and Commerce
13	Washington, D.C.
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17	The subcommittee met, pursuant to call, at 10:32 a.m., in
18	Room 2322 Rayburn House Office Building, Hon. Bobby L. Rush
19	[chairman of the subcommittee] presiding.
20	Members present: Representatives Rush, Peters, Doyle,
21	Sarbanes, McNerney, Tonko, Loebsack, Butterfield, Welch,
22	Schrader, Kennedy, Veasey, Kuster, Barragan, O'Halleran, Blunt
23	Rochester, Pallone (ex officio), Upton, Latta, Rodgers, Olson,
24	McKinley, Kinzinger, Griffith, Johnson, Long, Flores, Walberg,

Duncan, and Walden (ex officio).

Staff present: Jeff Carroll, Staff Director; Adam Fischer,
Policy Analyst; Waverly Gordon, Deputy Chief Counsel; Omar
Guzman-Toro, Policy Analyst; Rick Kessler, Senior Advisor and
Staff Directory, Energy and Environment; Brendan Larkin, Policy
Coordinator; John Marshall, Policy Coordinator; Elysa Montfort,
Press Secretary; Lisa Olson, FERC Detailee; Alivia Roberts, Press
Assistant; Tim Robinson, Chief Counsel; Tuley Wright, Energy and
Environment Policy Advisor; Justin Discigil, Minority Press
Secretary; Theresa Gambo, Minority Human Resources/Office
Administrator; Peter Kielty, Minority General Counsel; Ryan Long,
Minority Deputy Staff Director; Mary Martin, Minority Chief
Counsel, Energy & Environment & Climate Change; Brandon Mooney,
Minority Deputy Chief Counsel, Energy; Brannon Rains, Minority
Staff Assistant; and Peter Spencer, Minority Senior Professional
Staff Member, Environment & Climate Change.

Mr. Rush. I am going to call the subcommittee to order.

And the chair recognizes himself for 5 minutes for the purposes of an opening statement. And I want to begin by thanking all of the FERC commissioners for appearing before the subcommittee this morning for the purposes of discussing critical issues related to the governance of the nation's electric grid.

In the last oversight hearing this subcommittee held last year, I made it clear that I did not support FERC putting its proverbial thumb on the scale to ambiguously prop up coal and nuclear facilities as the 2017 DOE Notice of Proposed Rulemaking proposed. In that same hearing, I also stated that elected officials in the states should have the authority to choose the type of energy sources within their own portfolios and that would mostly benefit their own constituents.

To this point, we are seeing my home state of Illinois as a national leader in enacting legislation to promote renewables and nuclear power as safe and reliable and carbon-free sources of energy. In the bipartisan Future Energy Jobs Act, which was passed in 2016, along with a more recent proposal by Governor Pritzker of Illinois, will move my state towards a cleaner, greener, more sustainable energy future. And, I for one, do not want to see FERC stand in the way of that progress.

Why don't you all come on in, please.

Mr. Upton. Maybe we should take the Judiciary Committee's

room and swap them. What do you think?

Mr. Rush. Well, let's take the Judiciary's jurisdiction and when we take their room? All right.

You all please come on in so they can close the door, all right.

The bipartisan Future Energy Jobs Act that was passed in 2016, along with a more recent proposal by the Governor of Illinois, Pritzker, will move my state forward towards a cleaner, greener, more sustainable energy future. And I do not want to see FERC stand in the way of that progress. However, FERC's ruling on PJM capacity market will undo this historic progress and make it harder to achieve my state's energy goals.

It is extremely important that the Commission wants to unveil a money structure that allows for individual states to make decisions regarding the makeup of their particular portfolios, energy portfolios that helps to address climate change, provides reliable energy, and keeps prices affordable.

One of the biggest challenges facing FERC is how to integrate more renewable energy and distributing energy resources into the grid and putting them on the road -- on the road to help accomplish these goals. Consumers are demanding this type of change and it is important that FERC works as a partner to make this happen, rather than as another obstacle standing in the way.

I applaud the Commission's storage and distributed energy

resources, DER, Notice of Proposed Rulemaking issued back in November 2016, and Order 841 issued in February 2018 directing RTOs and ISOs to upgrade and update market rules so that storage could participate. However, we are now in 2019, and it is past time now for the Commission to issue a final decision on this particular issue.

I look forward today to engaging FERC on these important issues, including allowing states to dictate every energy portfolio that they deem would be beneficial to their constituents, allowing more states to integrate more renewables into the grid through transmission and finding a way for distributed energy resources to participate in capacity markets and making sure that consumers' voices are heard and respected throughout the RTOs.

How the Commission moves forward is utterly important. And I want to now yield 5 minutes to my friend from Michigan, the Ranking Member, for his opening statement.

Mr. Upton. Well, thank you, Mr. Chairman. And this is an important hearing to examine FERC's budget and priorities for fiscal year 2020. I want to extend a warm welcome to all of our commissioners. It has been about a year since FERC testified before the committee and in that time the Commission has dealt with its share of challenges, and certainly the change in leadership due to the passing of former Chairman McIntyre. A

good guy by all accounts.

Chairman Chatterjee has performed admirably. That is for sure. Stepping back into the role of chairman of FERC, the Commission also has received a new member -- Commissioner Bernard McNamee, welcome -- who brings a wealth of experience in state and federal energy policy matters.

You know, as members of the Energy and Commerce Committee, we are closely monitoring the shifts occurring across our energy landscape, so that we are prepared to confront the challenges and take full advantage of the opportunities that lay ahead. Under my chairmanship of the full committee and continuing under Chairman Walden, we have worked on a bipartisan basis to remove unnecessary barriers to growth, streamline the path, the permitting process for energy projects and encourage innovation and technological development, and I know that will continue under Chairman Pallone and Chairman Rush.

FERC has many important responsibilities to help us navigate the changes that we are seeing with our generation resources mix and to ensure the resilience and security of our energy systems including the import-export terminals, natural gas pipelines, and electric transmission facilities. FERC has also had a responsibility to oversee energy markets, ensure just and reasonable rates, advise on state energy policies, and oversee the development of mandatory electric reliability and security

standards for the bulk power system. As we have learned, managing this wide array of issues is no simple task. Building new pipelines and electric transmission facilities has become increasingly challenging. And while FERC as the lead agency has established a process to allow for thorough environmental reviews and meaningful stakeholder input, we have started to see this process strained by states that are not performing their federally delegated responsibilities in perhaps a timely fashion.

We are also seeing big changes on the generation side with the decline of coal and nuclear coinciding with the rise of natural gas and renewables which is placing pressure on state and regional resource planning. Many of the issues we discussed at our hearing last year are still actively under consideration at FERC, including fuel security and grid resiliency, grid storage, pipeline permitting, and market reforms.

I look forward to today's hearing to receive an update on progress in these areas. I also look forward to discussing physical and cybersecurity for our grid and pipeline network which is an issue that all of us care deeply about. While FERC has authority to approve mandatory cybersecurity reliability standards for the bulk power system, the regulatory framework for pipelines may have gaps that should be examined. Given the interdependency of our gas pipelines and the electric systems, we need to make sure that we are doing everything that we can

161	do to remain secure. The last point, I would ask unanimous
162	consent that Mr. Long from Missouri be able to sit in, not a member
163	of the subcommittee but obviously a member of the full committee,
164	be able to sit in on this and be able to submit questions as well.
165	Mr. Rush. Yeah, seeing no objection, so ordered.
166	Mr. Upton. And with that, Mr. Chairman, I yield back.
167	Mr. Rush. I want to thank the gentleman for yielding back.
168	Before I bring the chairman of the full committee on, I want
169	to take a moment to introduce to those who are gathered here,
170	a very resourceful and very dedicated group of young people here
171	from Illinois including from my district, the Illinois
172	Environmental Council is with us this morning and they are here
173	to advocate for 100 percent clean energy. So please
174	recognize them as they stand, the Illinois Environmental Council.
175	[Applause.]
176	Mr. Rush. Okay, thank you very much.
177	The chair now recognizes the chairman of the full committee,
178	Mr. Pallone, for 5 minutes.
179	The Chairman. Thank you, Chairman Rush. I would like to
180	begin by thanking the commissioners for being here today and for
181	their collective work at the Federal Energy Regulatory
182	Commission.
183	FERC's decisions and rulemakings have a large impact on our

nation's energy and environmental future. The Commission's

activities directly affect electric and gas consumers across the United States, both the costs to ratepayers and the reliability of electric grid systems. They also affect the environment, particularly in the form of greenhouse gas emissions. And I am interested in learning how FERC intends to address greenhouse gas emissions in natural gas pipeline permitting approvals. To date, FERC's efforts to account for greenhouse gas emissions in the pipeline review process leaves much to be desired, in my opinion.

In 2017, the D.C. Circuit found in the Sabal Trail decision that FERC cannot ignore the indirect effects of projects it approves, including emissions from downstream use. FERC has great analysts who are up to the task of accounting for greenhouse gas emissions, but they need to be empowered to ensure that these impacts are fully considered. This is particularly concerning, because FERC seems more than willing to approve any pipeline, even though the Natural Gas Act directs the Commission to only approve projects that are in the public convenience and necessity. And I am also concerned that FERC looks at each pipeline project in a vacuum without regard to any other pipeline application. This could result in two pipelines running right next to each other. And I think we can all agree that it is just not a smart or responsible way of planning our system, particularly when people's private property could be taken by

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a pipeline company. The bottom line is that this whole process needs a more thoughtful strategy of planning and broad-ranging analysis.

On the electric side, it has been roughly 20 years since Though I had my doubts the implementation of wholesale markets. in the past, it is now clear that these markets have promoted competition in generation, ensuring lower prices and a reliable bulk power system. And this is good for consumers and it has also been good for the environment. New technologies can deliver, store, manage, and reduce power needs with a near instantaneous response to dispatch signals. And I would particularly like to applaud the Commission's work on Order 841, integrating storage resources into wholesale power markets. I look forward to hearing more about the distributed energy resource aspect of that effort. Innovation and technology are leading the way and FERC can and should be a partner in that effort.

I also think it is important we look at Order 1000, which governs how transmission is planned and developed and how the costs are allocated. Chairman Chatterjee recently said it was not working as intended and I agree, particularly regarding consideration of non-transmission alternatives when looking at new system investments and interregional transmission planning, and I would like to hear about your plans to lead the Commission in addressing the shortcomings.

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I also want to say that I am not happy with the way RTOs are assessing their transmission needs and, in my experience in New Jersey, it is potentially resulting in the construction of unnecessary projects. And, finally, we need greater scrutiny of wholesale capacity markets. Frankly, the current state of affairs is a mess, especially in the PJM market where New Jersey participates. PJM participants are currently left in the lurch of both an old and new capacity market design and the result of this uncertainty is higher electricity bills. It is vital that we figure this out immediately.

So I have some time left and I would like to yield the balance of my time to Mr. Kennedy.

Mr. Kennedy. Mr. Chairman, I want to thank the chairman for yielding and thanks to the subcommittee for hosting this hearing and thank the commissioners, everybody, for being here.

I would like to add one more area of focus to today's conversation and something that is particularly important to me, RTO governance and transparency into the stakeholder process in our wholesale markets. Focus on RTO governance is not only essential to good governance, but also critical to accountability. Too often, parties involved in the energy markets can just simply pass the buck and responsibility to others, but the result is often the same. Consumers end up paying more and no one is held accountable.

257 I am not suggesting FERC is the sole responsible party here, 258 but the Commission is invaluable in upholding the stability and 259 reliability of a system when it works properly, and you are also 260 the enforcers when the system breaks down. So I look forward 261 and to continue to work with all of you on all of this and I yield back the time to the chairman. 262 Thank vou. 263 The Chairman. And I yield back. Unless someone else wants 264 the remaining time, I will yield back, Mr. Chairman. 265 The chair thanks the gentleman for yielding. 266 The chair now recognizes Mr. Walden, the ranking member of the 267 full committee, for 5 minutes for the purposes of his opening 268 statement. 269 Mr. Walden. Good morning, Mr. Chairman. I want to thank 270 our witnesses for being here today, the commissioners. We really 271 appreciate the tough challenges you face. We have a couple of 272 projects in Oregon that are under review at different levels, both state and federal approvals, and I am observing that and 273 274 watching that and we appreciate what you do to allow public input 275 on those projects. I think that is really an important part of 276 this. 277 And so, we thank you and we recognize the tough challenges 278 you face in trying to figure out what is best for the country.

picture. We know that. I am old enough to remember when we

And to that point, you know, a lot has changed in the energy

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thought we were going to run out of natural gas and oil, and we are all on watch for what do we do then? And now through innovation and technology we have discovered we can become a net exporter of energy and really lead the world and we can do it in an environmentally smart way and we can replace more polluting sources around the world if we can get our natural gas into markets.

We can also stick it to Putin, let me be direct and clear here. It is a geopolitical force as well. I have met with leaders of foreign countries who beg us -- beg us -- to get our natural gas into market so they have a competitor to Gazprom. And when natural gas does get into the market, guess what, the prices go down and we quit funding Russia, or they do. So I think there is important international issues here as well that America needs to look at. They may not all be in your statutory process, but they are important for America going forward, and so I think that is an important piece.

We are on the breakthrough of major battery storage. I met with some folks from some of our national labs this morning about research they are doing to capture carbon, perhaps with a film that could capture carbon at thirty dollars a ton, which would be remarkable if they are able to take it from a computer process into a reality in the marketplace, and we think about how transformative that could be to reduce carbon emissions and

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continue to provide baseload energy.

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My region, hydropower. This committee did a lot of work on hydropower licensing for small scale. We believe in it. It is carbon free. It is there. It is an enormous resource, but we also need to make sure we have transmission capacity. And I know you all focus on the grid on its reliability and security and safety and adequacy, we do too. We tried to address those issues. I would love to know more about the choke points in the country, you know, you have the Northeast heating oil issue.

We have situations where we are importing foreign gas into the Northeast, I think maybe even from Gazprom. And we have fights over transmission lines in the Northeast. We have fights over pipelines in the Northeast, and even access to America's great energy reserves there. I would love to know what that means to consumer prices. It is not my part of the world, but it is our country, and so I would love to know what that means for consumers when pipelines are blocked, power lines are blocked, and access to American energy is blocked. Does that make them pay more or less to keep their homes warm in the winter and cool So those are issues I think are important in the summer? as we move forward on renewable energy development. We have a couple projects in my part of the world, Swan Lake, which is a closed loop hydro project. There is another one out of Goldendale where we can use surplus capacity from renewable energy to pump

water uphill and then bring it back down through a hydro system and have a closed loop process. That is a great battery in and of itself. We have solar projects and we see the price of solar and wind coming down and being very competitive in the marketplace. And so, what I would love to hear from you is what does the future look like? What is working, what is not? Where are the choke points in America and what should we do about it? And then how safe and secure is the grid?

And I would tell you at the outset, we also have a surprise medical billing hearing going on with Mr. Pallone and my bill downstairs, so I will be coming and going because that actually matters to consumers a whole bunch and oftentimes is much more expensive than their energy bill, so we are trying to fix that as well. But we thank you for the work that you are doing. We know it is tough but it is very important.

With that, Mr. Chairman, I would yield back the balance of my time.

Mr. Rush. The chair wants to thank the ranking member for yielding back. And the chair would like to remind members that pursuant to committee rules, all members' written opening statements shall be made part of the record.

And now it is my privilege to introduce our panel of witnesses for today's hearing. The honorable Neil Chatterjee is the chairman of the federal, of FERC, and he is a witness, at the

witness table today and I certainly want to welcome the chairman. Next will be the honorable Cheryl A. LaFleur, commissioner for FERC. Then next to her is the honorable Richard Glick who is also a commissioner at FERC. And last but not least, the honorable Bernard L. McNamee, who is also a commissioner. And I want to thank each and every one of you for appearing before us today and we certainly want to congratulate you on your past accomplishments and we look forward to hearing from your testimony at today's hearing.

And at this time, the chair now wants to recognize each member for 5 minutes to provide your opening statement. But as a part of what we do here, I would like to explain the lighting system which you probably don't need any explanation for, but it is written here and I am going to read it. In front of you is a series of lights. The light will initially be green at the start of your opening statement. The light will turn yellow when you have 1 minute remaining. Please begin to wrap up your testimony at the occasion of the yellow light. The light will turn red when your time has expired and please conclude your statement and then the light will turn to red.

Chairman Chatterjee, you are now recognized, after being fully instructed on the lighting system you are finally recognized for 5 minutes for the purposes of an opening statement.

STATEMENTS OF NEIL CHATTERJEE, CHAIRMAN, FEDERAL ENERGY
REGULATORY COMMISSION; CHERYL A. LAFLEUR, COMMISSIONER, FEDERAL
ENERGY REGULATORY COMMISSION; RICHARD GLICK, COMMISSIONER,
FEDERAL ENERGY REGULATORY COMMISSION; AND, BERNARD MCNAMEE,
COMMISSIONER, FEDERAL ENERGY REGULATORY COMMISSION

## STATEMENT OF NEIL CHATTERJEE

Mr. Chatterjee. Thank you, Chairman Rush, Ranking Member Upton, and members of the subcommittee. I really appreciate the opportunity to be here before you today to discuss the importance work that we are doing at the Federal Energy Regulatory Commission. As was mentioned, my name is Neil Chatterjee and I am the chairman of FERC. I appreciate the subcommittee's attention to the major energy issues facing our nation and the role that FERC plays in addressing those issues for the American people.

This is an exciting and transformational period for our nation's energy landscape. I take very seriously the responsibility to work with my colleagues to ensure that all Americans have reliable and affordable energy supplies. Today, I will focus my remarks on two of my priorities, the Commission's efforts to allow for storage resources to better participate in the wholesale electric markets, and our focus on the importance of security measures to protect from cyber and physical threats

to the nation's bulk power system. I will also address FERC's efforts to reform our regulations under the Public Utility Regulatory Policies Act of 1978, or PURPA, an issue I know many of you have been following closely.

Over the last decade or more, our country has seen many changes in the energy industries that FERC regulates. As such, it is essential for FERC to remain vigilant about these changes and respond to them in ways that enhance competition in the electricity markets, support the resilience of the bulk power system, and lower costs to consumers. One of these recent transformations we have seen is the improvement in electric storage technologies. I want to highlight the Commission's work, which I am extremely proud of, regarding the participation of electric storage resources in wholesale electricity markets as an example of how FERC is responding to our ever-evolving energy landscape.

Traditionally, a variety of factors have created challenges to storage resources participation in the wholesale electric markets. Because of this, in 2018, FERC issued Order 841 to remove barriers to the participation of electric storage resources in the capacity, energy, and ancillary services markets operated by the Regional Transmission Organizations and Independent System Operators. FERC is now evaluating the December 2018 filings that RTOs and ISOs made to implement Order

841. As a result of this order, I expect an increase in the deployment of storage resources which should result in greater reliability and lower prices for customers by enhancing competition. This is but one example of how FERC is proactively addressing shifts in the energy industries that we regulate and ensuring the emerging technologies can serve an integral role in wholesale electric markets.

In addition to our work to reduce barriers for storage resources, FERC is evaluating barriers to the participation of distributed energy resource aggregations in markets operated by RTOs and ISOs. Last year, FERC staff held a technical conference to gather more information regarding the participation of distributed energy resource aggregations in wholesale electricity markets as well as to discuss more broadly the potential effects of distributed energy resources on the bulk power system. FERC is currently considering the record as we determine how to move forward.

Another priority I would like to discuss today is cyber and physical security. As you are aware, America's critical infrastructure is increasingly under attack by foreign adversaries. The Department of Homeland Security and FBI have issued multiple public reports describing cyber intrusion campaigns by foreign government actors against our critical infrastructure including the electric grid. Physical and

cyber-attacks on our critical infrastructure systems have the potential to create significant, widespread and potentially devastating effects that threaten the health, safety, and economic prosperity of the American people whom we serve. This evolving threat landscape demonstrates the importance of an unwavering focus on the security of the nation's critical energy infrastructure.

Of course, these issues are of paramount concern to us all including the subcommittee, and I appreciate the subcommittee's attention to this crucial subject including efforts to examine legislative solutions like those that recently moved to the markup process. At FERC we have and continue to address cyber and physical security risks as consistent with section 215 of the Federal Power Act, which grants us the authority to approve and enforce mandatory Reliability Standards developed by the North American Electric Reliability Corporation.

We have also taken up voluntary initiatives with federal, state, and industry partners. In 2018, FERC issued two significant order that improved bulk power system security. First, at our October 2018 Commission Meeting, we approved NERC's proposed reliability standards to address supply chain threats. This action is particularly significant given that these specific threats to the energy sector continue to grow. Second, at our July 2018 Commission Meeting, we approved a final rule

172	directing NERC
173	to expand reporting requirements for critical systems. That
174	final rule directed NERC to develop a standard that requires
175	registered entities to report successful and attempted
176	intrusions into critical systems to NERC's Electricity
177	Information Sharing and Analysis Center as well as to DHS. NERC
178	recently filed a new reliability standard to satisfy the
179	directive, which is currently pending before the Commission.
180	But FERC does not just approve reliability standards. Since
181	2016, FERC has conducted audits of industry's compliance with
182	cybersecurity reliability standards, the goal of which is not
183	only to assess compliance with the reliability standards, but
184	also to learn and share best practices.
185	Seeing that I am about to get the light, I am just going
186	to say that it is time to bring PURPA into the 21st century.
187	Major changes to PURPA should come from Congress, but we have
188	some tools available to us at the Commission and we are currently
189	working to utilize those tools. Thank you.
190	[The prepared statement of Mr. Chatterjee follows:]
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Mr. Rush. I want to thank you, Chairman Chatterjee. You have passed the lighting test for this morning.

Now the chair recognizes Ms. LaFleur for 5 minutes for the purposes of an opening statement.

## STATEMENT OF CHERYL LAFLEUR

Ms. LaFleur. Thank you, Chairman Rush, Ranking Member
Upton, Chairman Pallone, Ranking Member Walden, and members of
the subcommittee. I am Cheryl LaFleur. I have been a
commissioner at FERC for almost 9 years and I have been honored
to appear before you several times.

Today I will comment on three major issues that are shaping our work. The first is resource selection in the nation's competitive markets. In the 20 years since their creation, organized wholesale power markets have grown to serve more than two-thirds of Americans. These markets save customers money by dispatching resources over a large footprint, facilitating innovative technologies, and shifting investment risk from consumers to shareholders.

In recent years, markets have been roiled by low-cost gas generation and renewables. These lower cost resources have significantly decreased wholesale prices to the benefit of customers, but have also threatened the financial viability of

certain existing resources, particularly coal and nuclear plants.

Many states have sought either to retain resources that are not thriving in the market or to support new resources that the market would not select. These efforts have triggered a debate about how wholesale market design should be adapted in response.

FERC is encouraging regional solutions to adapt capacity markets to state initiatives. We approved such a proposal for ISO New England, have an open proceeding to consider changes to the PJM market, and are watching New York ISO consider ways to use carbon pricing to incorporate state climate goals in its market structure.

Second, once we have selected resources, how do we pay for them? Until recently, it was accepted without question that electric power was priced on volume, since a major component of its cost was the fuel you had to burn to make it. With low gas prices, zero marginal cost renewables, and change in load curves, the traditional cost structures that supported resources may no longer work. We have seen this trend most famously with the so-called duck curve in California, where solar resources generate too much energy in the middle of the day and resources needed when the sun goes down are not making enough money to stay in business. Similar trends are appearing in other regions. To help adapt, market operators and others are considering new ways to pay for power, with the focus not just on volume but on

services such as ramping, scarcity pricing, reserves, and essential reliability services. FERC has also taken steps to ensure that new resources like storage can compete to provide these services.

Finally, infrastructure to deliver resources to customers. Electric transmission is needed to support the reliability of a changing grid, particularly for location constrained renewables. The Commission's issuance of Order 1000 in 2011 anticipated the growing need for transmission. I believe the planning and cost allocation tenets of Order 1000 are sound, however, the introduction of competitive transmission that it required has been much more difficult than anticipated. In addition, the growth of domestic natural gas and gas-fired generation has led to considerable build-out of the nation's gas pipeline network. I call for reconsideration of how FERC determines the needs for pipelines looking at a regional look.

I also believe we must do a better job assessing the climate impacts of pipeline and LNG projects. Starting in 2016, FERC began disclosing more information on a project's climate impacts in our orders and environmental documents in response to the growing debate in our dockets. I strongly supported this decision. However, in May 2018, the Commission reversed course and elected to remove much of the greenhouse gas information from orders going forward.

565 Since June 2018, I have tried to reconcile my disagreement 566 with the Commission's revised policy with my obligation to 567 consider pipelines one by one under the Natural Gas Act. Where I otherwise conclude a pipeline is needed, I have done my own 568 569 greenhouse gas calculation and analysis to weigh against the 570 pipeline benefits. I believe the Commission, the public, and 571 the regulated community would be better served if we proactively 572 addressed these issues before the courts require us to do so. It has been a tremendous honor to serve on FERC and to work 573 574 with this committee. Thank you very much, and I yield my time 575 to Commissioner Glick. 576 [The prepared statement of Ms. LaFleur follows:] 577 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* 578

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Mr. Rush. Commissioner Glick, you are recognized for 5
minutes and you have 30 seconds from -
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STATEMENT OF RICHARD GLICK

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Mr. Glick. Commissioner LaFleur.

Thank you, Mr. Chairman, Ranking Member Upton, and members of the subcommittee, and thank you for the opportunity to testify this morning.

FERC has sometimes been referred to as a sleepy little agency, but the fact is that many of the actions we take have a significant impact on the everyday lives of Americans. The Commission is entrusted with protecting the public interest by regulating swaths of the U.S. energy industry. FERC's exercise of this responsibility has significant consequences for the prices of energy, the ability of public utilities to reliably and safely serve consumers and the environment.

The American electric sector is in the midst of a dramatic transformation to a less carbon-intensive, more distributed electric generation fleet. This transformation is good for consumers, the economy, and the environment. As the cost of newer, cleaner technologies continue to decline, consumers are seeing the benefits. The two fastest growing occupations nationwide are solar PV installers and wind turbine service

technicians and more than three million American men and women now are employed in the clean energy industry in the United States.

This clean energy transformation will also have a lasting positive impact on the environment and climate change.

Consumers are increasingly demanding that their energy comes from renewable or zero emission sources, and businesses are delivering consumers what they want. Dozens of corporations, including some of the largest in the country, have announced or already achieved the goal of procuring all of their electricity needs from zero emissions or renewable resources. Although FERC is not a climate regulator, the Commission's actions have substantial consequences for climate change.

As Chairman Chatterjee mentioned a second ago, for example, many wholesale market roils that were designed for a grid composed mostly of conventional generation facilities can pose unintended barriers to newer technologies' full participation in wholesale markets. And by helping to create a level playing field for all resources, the Commission can indirectly facilitate newer technologies' participation in wholesale electric markets. Indeed, the Commission did just that earlier last year when it issued a final rule that requires RTOs and ISOs to eliminate barriers to the participation of electric storage resources in the wholesale electric markets.

The Notice of Proposed Rulemaking that led to the final rule

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on electric storage also proposed reforms to remove barriers to aggregated distributed energy resource participation in wholesale markets. The Commission in April 2018, conducted a 2-day technical conference to gather additional information on this matter. I believe the time has come for the Commission to also eliminate barriers to distributed energy resources.

The Commission's energy future, energy infrastructure permitting responsibilities can also affect emissions. FERC has authority over the licensing of certain hydroelectric facilities as well as the siting of interstate natural gas pipelines and facilities used to import or export liquefied natural gas. Under the Natural Gas Act, FERC must make a public interest determination before issuing a certificate for an interstate natural gas pipeline or an LNG facility. Because environmental effects factor directly into the public interest standard, the Commission must analyze the environmental impacts of a proposed interstate natural gas pipeline.

Unfortunately, the Commission has chosen to treat greenhouse gas emissions differently than all other aspects of its environmental reviews and, in my opinion, effectively ignored its statutory obligation to examine those emissions' impacts on the public interest. Indeed, last year, the majority of commissioners announced a new policy that chose to ignore reasonably foreseeable upstream and downstream greenhouse gas

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emissions in almost all cases. This policy prevents the

Commission from performing the public interest analysis that

Congress required and the D.C. Circuit has told us that we have

to do. Just last week, the D.C. Circuit admonished the Commission

for this approach, and I hope to work with my colleagues to revisit

the Commission's approach in light of the court's guidance.

Chairman Rush and Ranking Member Upton, thank you again for

the opportunity to appear before the subcommittee. I look

forward to answering your questions and the questions of your

colleagues.

[The prepared statement of Mr. Glick follows:]

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Mr. Rush. The chair wants to thank the commissioner.

And now the chair recognizes Commissioner McNamee for 5 minutes. And Commissioner, see if you can beat him, because he had 1 minute, 27 seconds remaining, so.

## STATEMENT OF BERNARD MCNAMEE

Mr. McNamee. I will do my best. Thank you, Chairman Rush and Ranking Member Upton. And I also want to thank Chairman Pallone and Ranking Member Walden, everybody on the committee for having me. As you know, this is my first time appearing before you. My name is Bernie McNamee. I just joined the Commission 6 months ago and it has been a great joy to be able to work with my colleagues here and everybody at the FERC staff.

As you have heard from my fellow commissioners, there are a number of important items that the Commission deals with. You all know this, but it is important to the Commission, the energy industry, consumers, and the nation. First of all, I want to talk a little bit about LNG facilities. In 2017, the United States became a net exporter of natural gas and FERC has played a role in this accomplishment by authorizing the construction of liquefied natural gas facilities pursuant to section 3 of the Natural Gas Act and pursuant to the National Environmental Policy Act. After 2 years in which no new LNG facility was approved,

the Commission now has approved in a 3-month period, four LNG projects with a total estimated export capacity of eight billion bcf a day. I am happy to say that I was able to play a part with my fellow commissioners in finding a compromise in order to move these projects forward. And it also was an example of, if we look at the law and the facts we can usually come to a resolution of the issues for the benefit of the American people. And, currently, the Commission has ten LNG export applications pending before it, and four LNG expert facility proposals are in the pre-filing process. We will address each of these applications that come before us based on the law and the facts.

More generally, since 2009, the United States has been the world's top producer of natural gas. Just think about that, when we used to wish that we could have energy independence and now we are a net exporter. This natural gas is transported across the United States using over 300,000 miles of interstate natural gas pipeline, and in 2018, over 13 billion cubic feet a day, or 689 miles of Commission jurisdictional approved pipeline capacity entered service. Moreover, in 2018, the Commission authorized 44 new projects, representing 9.3 bcf a day, and 676 miles of new pipeline capacity.

And we have heard some issues about how are we approving these. As you know, the Commission issued a notice of inquiry in order to examine whether or not we should be changing our

certificate policy. The Commission has received over 3,000 comments, and my colleagues, our staffs, and the Commission are all working through these comments.

I also want to touch on how the Commission is trying to implement the tax cuts that you implemented under the Tax Cuts and Jobs Act of 2017. The Commission issued its Order 849 to determine whether natural gas pipeline rates should be adjusted to account for those tax cuts. And the Commission is dealing with a review, and so far, there have been 21 rate settlements between pipelines and their shippers and 11 weight reduction filings. The Commission has also initiated six section 5 show cost proceedings to see about reducing rates, trying to ensure that the tax cuts you ordered into the code are flowing through the customers.

Next, I want to talk a little bit about the electric markets. The transformation of the electric grid through the markets and competition has been amazing. Two-thirds of the nation's load is served under an RTO or an ISO and Congress and FERC should be proud of this achievement. Because of competition, new energy sources can participate in the market and customers are seeing the benefits. But there are also legitimate concerns, many of the things that you have dealt with in your time here in Congress. They include debates about the role of the different resources, capacity markets, price formation, environmental, environmental

goals, state energy policy goals, federal policy goals, market manipulation, affordability, and of course the overarching goal, making sure the lights turn on when the switch is flipped.

There are also a number of other issues. We are trying to deal with PURPA, Order 1000, distributed energy resources, hydroelectric power, return on equity, transmission investments, and the specific tariffs that come before us. Each of these is important to each one of us here on the Commission and we take them serious, and we need to deal with them.

I will finally touch on one thing that is brought up by a number of my fellow commissioners and which I find very important as well, and that is energy storage. I was not on the Commission when the energy storage issue was issued, Order 841, but I agree with its portions of it that promote the use of energy storage resources at the grid, at the transmission level, and the bulk power system. But as you may know, I issued a concurrence in dissent focused on the jurisdictional issue. I do not believe that Congress provided the Commission under the Federal Power Act the authority to regulate the distribution facilities that are needed for those certain types of distribution or energy resource batteries to be able to connect behind the meter or at the distribution level.

So this was a position that I looked at seriously, especially after comments filed by the National Association of Regulatory

760	Utility Commissioners and the National Rural Electric Cooperative
761	Association. In the end, I did issue say that I didn't think
762	we have jurisdiction, but also believe that we should've beat
763	least considering opt out. Thank you very much.
764	[The prepared statement of Mr. McNamee follows:]
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Mr. Rush. I want to thank all of the Commissioners for their opening statement, and we have now concluded the time for opening statements. We will move into members' questions. Each member will that 5 minutes to ask questions of these witnesses, and I will start by recognizing myself for 5 minutes for the purposes of an opening, for questioning the commissioners.

commissioner LaFleur, one of my concerns that I have stated earlier is that consumer voices are often overlooked, ignored, or cut out on the RTO process entirely. I understand that the role of the consumer varies between the different RTOs, but how do we ensure that consumers' voices are always heard and their interests are being protected consistently no matter what region they live in?

And I would like for all the commissioners to weigh in this question also.

Ms. LaFleur. Well, thank you, Congressman, Chairman Rush. That is an important question. As you noted, all of the six RTOs and ISOs that are under the Commission's jurisdiction have stakeholder processes that were approved by the Commission some years ago, and they all include a consumer segment. It varies in the different states, whether it is the Attorneys General, the Citizens Utilities board as in your state, or sometimes municipal concerns are in the consumer segment in the various RTOs and they have a vibrant role in an participating in the

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But I also think this Commission has a role. When we see tariff proposals come before us, our obligation is to make sure they are just and reasonable to the end consumer that is going to be paying the bills at the end of the day. But we have heard a lot recently about potential ways to re-look at Order 719 and improve stakeholder processes and I think we should be alert to ways to do that.

If I could weigh in on that as well, Mr. Chatterjee. Chairman Rush. You have identified a very important issue and I think, you know, transparency and ensuring the consumers' voices are heard is critical. That is why we have our rules in place. I think it is so important that stakeholders and consumers have their voices heard on these issues because these issues have implications for consumers. I think the best way for consumers to have their voices heard, you know, go back to our rule. can look at changes we can make, but we also need to make sure that consumers' concerns are met as they arise, with an eye towards ensuring consumers' voices are being heard as they come up through the process. And this is something that my colleagues and I will continue to look at and be vigilant on, because I think that transparency and accountability, these are very, very complex matters and I think it is important that consumers are protected.

Mr. Rush. Commissioner Glick?

Thank you, Mr. Chairman. You know, one of the Mr. Glick. things that has been very enlightening since I have been at the Commission for a little over a year now is just the amount of frustration there has been with RTO governance around the country. And it is not just consumer groups, it is other stakeholders as well we have been very frustrated with. And I think it is worth for the Commission to take a look at how the governance process works and how the various stakeholders get to participate. I would say that Congress in the late 1970s, early 1980s passed legislation creating an Office of Public Participation at FERC that I think would help provide for some consumer input at the Commission. As I understand it, Congress never did fund that Office, but I think it would be helpful if Congress did fund it, and I think that would be one way for consumers to participate in some of the decisionmaking processes we engage in. Mr. Rush. Commissioner --Just briefly. I think that you are talking about the importance of --Commissioner McNamee, I am sorry. Mr. Rush. That is quite all right. I think you touch Mr. McNamee. on what is so very important is that in our entire system of government, people want to be heard. And I know that we all take very seriously our obligation to understand that every person

that files something in the Commission that that case is important

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to them and that they need to be heard. And I think we always need to be vigilant to make sure that we are paying attention to what consumers want, what stakeholders want, every participant wants, in order to make sure that we are at least considering and hear their concerns even though sometimes it won't always be the result any particular individual or group wants. Thank you.

Mr. Rush. I am going to yield back the remainder of my time and now recognize the ranking member of the great state of Michigan, Mr. Upton, for 5 minutes.

Mr. Upton. Thank you, Mr. Chairman. It is the great state of Michigan, so that is good we put that adjective in there.

Mr. Chairman Chatterjee, first, I want to say to all four of you, I appreciate your interaction with all of us. This is something that is so important. We appreciate the relationships that we have.

For me, we know that rogue hackers and state-sponsored adversaries continue to launch cyber-attacks at our nation's energy infrastructure virtually every single day. And as you know, under the EPAct 2005, Congress gave FERC the authority to oversee the reliability of the electric grid including the authority to approve mandatory cybersecurity reliability standards. The current framework for setting cyber standards for the grid seems to be working pretty well, I think, but FERC

does not have the authority over pipelines. And even though we are increasingly relying on natural gas pipelines to keep our power plants running -- and I know in my congressional district we are expecting to break ground on a new Indeck facility in one of my communities back home.

So the question is, should Congress be concerned about the lack of cyber oversight for pipelines, and I would note that TSA in a hearing that we had a couple weeks ago, has less than a handful of folks -- anybody here from TSA? Didn't think so -- less than a handful of folks out of their 50,000 employees that oversee pipelines. They did refuse despite bipartisan efforts to try to get them to testify before the committee, but what is your thoughts about the involvement of cyber and the relationships that you might have with other agencies as well?

Mr. Chatterjee. Thank you, sir, for the question and also for your leadership on this issue and particularly during the time that you chaired the committee. I think this is a very serious issue and I think it is exacerbated by the increasing interdependence between gas and electricity generation in this country. 20 years ago, if a single gas pipeline went out, a generator might not have flinched. Today, you might have eight or nine generators depending on a single gas pipeline and a physical or cyber-attack on such a pipeline could have catastrophic cascading effects. And our adversaries know this.

I think TSA does a remarkable job on things like the safety of our aviation fleet, our highways, our rail, transportation area, but they need to put a greater focus on securing these pipelines because of this increasing interdependence for electricity. Since you, Senator Cornyn, Senator Cantwell, and a number of others have come out on this issue, Commissioner Glick and I have also been very vocal about our concerns in this area.

We have seen some progress from both TSA and industry. I have met multiple times with the TSA administrator Pekoske and he has assured me that TSA is taking this seriously and they are going to commit more resources to it. I have also seen industry react positively and come forward and make the commitment that they will make the requisite investments in this area, but we have to remain vigilant on it. I think both TSA and industry need to follow through on the commitments that they are making. And if they don't, I think it is incumbent upon us at the Commission and you all to keep the pressure on.

Mr. Upton. Well, we want to help you do that. Any other commissioner wish -- Commissioner Glick?

Mr. Glick. Mr. Upton, as the chairman said, we wrote a joint op-ed on this issue and I share the chairman's concerns. I would say that I continue to have serious concerns about the TSA's ability here. And I read the GAO Report recently that I think expressed some serious concerns about their resources and their

efforts in the program. And I am not entirely sure what their plans are, we just need to see what their plans are in terms of responding.

But we had a technical conference on cybersecurity just a few months ago and a TSA witness participated and I asked her about the success rate of their voluntary guidance. And they said, "Well, our hope is to have a success rate of 80 percent." Eighty percent doesn't cut it. We need to have the success rate of a hundred percent. And again, the TSA does a wonderful job on airports and other transportation, but I think the pipeline industry, I think we need to see that moved. I would actually recommend the Department of Energy. Which is, as you know, the lead energy sector agency for cybersecurity.

Mr. Upton. Commissioner LaFleur?

Ms. LaFleur. Thank you, Congressman. I was in the electric industry when the mandatory standards were first handed down after the 2005 act, and we did not exactly welcome them. Our attitude was, we already do this right, why do we need mandatory standards? But I believe they have definitely improved the reliability and security of the grid and I actually think most people in the industry would concede that now too.

I think, although I know the pipeline industry is not calling for mandatory standards, I think the cybersecurity of the pipeline grid is so important that it would be worthwhile for Congress

to require some sort of mandatory authority. It doesn't have to be at FERC. It could be at TSA and give them the resources, it could be at DHS. It could be at DOE. I am not in the business of looking for more responsibilities at FERC, that is up to you all. But I do think a structure with some teeth to it would be very helpful.

Mr. Upton. Thank you, Mr. Chairman. I yield back.

Mr. Rush. I want to thank the gentleman. And now the chair recognizes Mr. Peters for 5 minutes.

Mr. Peters. Thank you. Thank you to the commissioners for your work and for being here today. I want to just mention climate change, which is exacerbating natural disasters. For California that means more intense wildfires each year with a huge impact on personal safety, communities' health, and the economy. The Midwest has seen flooding. The South has seen hurricanes. The Northeast has a cold snap, polar vortex conditions.

So I want to talk a little bit about how we are managing the electric system and planning for that. How is FERC looking at accounting for climate change in the design of wholesale markets and in grid investments? Let's start with the chairman, if I could.

Mr. Chatterjee. Thank you for your question, Congressman.

And, look, similarly, I share your concerns about climate change
and the impacts of climate change. I am a conservative, I grew

959 up in coal country. But I believe that climate change is real, 960 that man has an impact, and that we need to take steps to mitigate I have been very proud of the work that the Commission 961 962 has played in really helping the U.S. become a leader in emissions 963 reductions. And if you look at the statistics, the U.S. has been a leader in emissions reductions. Power sector emissions in the 964 U.S. are at 1990s levels, and I think that is due to a couple 965 966 of things. The markets that FERC oversees, we are allowing 967 breaking down barriers to access so that newer technologies can 968 be --969 Mr. Peters. And how is that happening? I want to be very 970 specific about what actions you are taking with respect to market 971 design. 972 Mr. Chatterjee. Yes, sir. So, I think the market works. 973 Competition works. Consumers are demanding cleaner energy 974 sources, those sources are dropping in price and are able to 975 compete and that --976 Mr. Peters. Is there anything specifically that FERC is 977 doing? Mr. Chatterjee. I could point to Order 841, the order we 978 979 did on battery storage to break down barriers to entry to allow 980 battery storage to be compensated for all of the attributes it 981 provides. That is going to lead to an increased deployment, we 982 think a dramatic increase in the deployment of battery storage

983 technology which will have a direct and, I think, significant 984 impact on mitigating carbon emission. 985 There was a resilience docket that you opened 986 with the coal, nuclear NOPR was denied back in, I think, January 987 You haven't taken any action on the resilience docket yet; 988 is that correct? And when can we expect that? Mr. Chatterjee. That is correct. We don't make 989 990 projections on timing. It is a very complex docket. 991 Secretary Perry proposed the rulemaking in the fall of 2017, the 992 action that he was asking for, compensating plants for having 993 onsite fuel, we all found collectively that our record did not 994 support that action. Now, a year and a half later, we have a 995 far more robust record and we are looking at these very complex 996 challenges. 997 I think the next step ought to be, and I don't want to get 998 in front my colleagues, but to engage the RTOs and the ISOs and 999 the states on fuel security, to look at this very serious issue. 1000 But what I can assure you we will not do is as the chairman said 1001 at the onset, we are not going to put our thumb on the scale for one fuel source or the other. We are going to look very seriously 1002 1003 at these markets and the future of our grid. 1004 Mr. Peters. Ms. LaFleur, do you have any thoughts on this 1005 question? 1006 Ms. LaFleur. Yes, I certainly agree that the Commission

has a responsibility to make sure that the resource rules and the markets are adapted to new resources and not just the traditional resources that existed when the markets were built.

And I think we have done a lot over the last decade on demand response, variable energy, renewables, storage and so forth, but beyond that what we are seeing now is that since there has not been — in other environmental issues that the nation confronts, if Congress passes a law and says you have to reduce sulfur dioxide or whatever, then all the power plants have to conform and the cost of doing that gets priced into the market. Because there is not any national climate legislation as you know, it is being handled on a state by state basis.

And that is the issue that I mentioned earlier that the markets are working to figure out how they can run a regional market with multiple states with all different climate policies, but I think it is essential that they do and the markets have to be adapted. If that is where climate action is going to happen on the state level, we have to adapt the markets to function in that environment.

Mr. Peters. Are you saying that you think that a federal standard, a low carbon fuel standard or something like that would be helpful in getting --

Ms. LaFleur. Absolutely. I think that it is a global issue; it should be addressed at the highest level possible.

And if we had a federal standard, whether we were deciding whether a pipeline was consistent with the standard or whether a tariff in the market was consistent, we would have a benchmark to look at. Do they have enough allowances? Does this work with their standards? And it would be far more compatible because the nation's electric grid is not state by state, it is big, big regions.

Mr. Peters. Okay. Just a quick question for Commissioner Glick, I don't have a lot of time. But I am interested in hydropower as a valuable zero emission energy source. You mentioned it in the testimony. Really quickly, how do you think we increase hydropower facilities with pump storage capabilities?

Mr. Glick. Well, pump storage can play a very important role and I think our storage rule didn't just apply to battery storage, it applied to pump storage and other forms of storage as well. I think what we need to do and what we are doing, I think, is through our licensing process consider proposals for pump storage products and approve them, assuming they are in the public interest.

And I think --

Mr. Peters. Okay, I am out of time. I am sorry. I don't want to take my colleagues' time, but if you want to give me anything in writing on that, that would be helpful too.

Mr. Glick. Will do, sir.

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1055	Mr. Peters. Mr. Chairman, I yield back.
1056	Mr. Rush. The chairman thanks the gentleman. The chair
1057	recognizes now Mrs. McMorris Rodgers for the purposes no, Mr.
1058	Latta. I am sorry. Mr. Latta. Mr. Latta.
1059	Mr. Latta. Thank you, Mr. Chairman, and thanks for holding
1060	today's hearing and thanks to our witnesses for being with us
1061	today. It is very, very important that you are here.
1062	Chairman, if I could ask some questions of you this morning,
1063	you recently mentioned that you would like to see FERC to do more
1064	to consider landowners affected by pipeline projects, saying,
1065	"It is not a landowner's responsibility to be tracking FERC's
1066	filings." Would you tell the committee what you see FERC doing
1067	and tell us if there is anything that you need from Congress at
1068	this time?
1069	Mr. Chatterjee. Yeah, absolutely. And thank you for the
1070	question, Congressman. I think energy infrastructure is
1071	important. We need it for our economy, for our security, for
1072	the reliability of the grid, but we have to be mindful that
1073	landowners, you know, need to understand what their rights are,
1074	need to understand what options there are for mitigation, for
1075	restoration and the like. And I don't think the Commission nor
1076	project sponsors have done a good enough job in communicating
1077	these things to landowners.
1078	And so, as we opened a review of our 1999 certificate policy

statement which is our process for evaluating pipeline applications that was one area that I zeroed in on, is what can we do to ensure that landowners' rights are taken into consideration and they are aware of what options are available And that is something that we are looking to do. to them. are actively meeting with stakeholders to figure out where we can make improvements. I have seen some improvements from project sponsors. Project sponsors, since I have made this clarion call, have come to the Commission and shown me the lengths that they go to and the investment that they make in communicating with the And that is a step in the right direction, but I landowners. am hoping that we at the Commission can do our part to ensure that landowners --Mr. Latta. Do you have any specific examples right now that what FERC has been doing? Mr. Chatterjee. So we are in the process right now, it may not seem that significant but it really is, in just updating our website and ensuring that, you know, information is more easily disseminatable to people who, as I stated, it is not their job.

It is not their responsibility to track these very complex filings. They shouldn't know -- a need to know and track these proceedings, and we need to make this information more readily

available to them and get it out proactively.

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Mr. Latta. Okay, thank you. Let me follow up with another question to you. The reliability and resiliency of the bulk electric system requires support from generation and transmission assets. Given the ever-adapting nature of electricity supplies, would you talk about the importance of the transmission assets to the future reliability and resilience regardless of the type of fuel?

Mr. Chatterjee. Yes, sir. I think there is no question that we are experiencing rapid transition in our energy landscape. And I think as the grid adapts and as we move towards the grid of the future, I fundamentally believe that transmission will be the key and we have to make sure that we get, at the Commission, get transmission policy right to ensure that that grid of the future is in place.

We currently have two open proceedings, two notice of inquiries that we opened a few months ago to look at how we calculate ROEs, return on equities for these investments as well as our incentives policy. What types of transmission should we be incenting? And I think for me, a current approach is to evaluate, put out incentives based on the risks of a particular project. I don't know if that is the smartest approach to ensuring that the grid of the future that we need is built and so we are going to look to see what are the smart investments that need to be made to ensure that that transmission system is

in place so we can maintain the reliability and resilience of the grid.

Mr. Latta. Okay. Well, thank you. One more question. You mentioned in your testimony that in October of last year, FERC approved new mandatory reliability standards to bolster supply chain risk management protections for the nation's bulk electric system. Would you expand on this and other activities that FERC is undertaking especially on the supply chain and critical infrastructure?

Mr. Chatterjee. Yeah. Thank you, sir. I mean the supply chain is something that we all need to, you know, be focused on, because again it is a challenge for FERC because we don't have jurisdiction in some of these areas and so we have to be coordinated and work with NERC and others to stay ahead on this. The reality is cybersecurity and the reliability of the grid, this is the new reality that we must contend with. And while we are the beneficiaries, consumers are the beneficiaries, America is the beneficiaries of this tremendous evolution and technological innovation, that innovation comes with a downside risk and that is increasing vulnerability to threats from bad actors and on the cyber side.

And I think it is incumbent that we are partners with NERC, Congress, the Department of Energy, and across the federal government work together because we do have criss-crossing

jurisdictions in some areas and we need to ensure that those lines of communication are in place so that we cannot just have standards, because I believe standards to be the floor not the ceiling of what we can do, I think if we all work together because our adversaries are continually evolving and we have to evolve to stay one step ahead of them.

Mr. Latta. Well, thank you very much, Mr. Chairman. My time has expired and I yield back.

Mr. Rush. The chair thanks the gentleman. The chair now recognizes Mr. Doyle for 5 minutes. I am sorry. Mr. Pallone is here, the chairman of the full committee. Mr. Pallone for 5 minutes.

The Chairman. Thank you. Thank you, Chairman.

In his opening statement, Mr. Kennedy raised concerns about regional transmission organization, RTO, governance, and I share many of his concerns. FERC Order 719 directs RTO procedures and practices to be inclusive, to fairly balance diverse interests, and to ensure adequate consideration of minority positions. And that Order 719 was issued in 2008 and it provides stakeholders process requirements for RTOs to follow, but to my knowledge there has not been a comprehensive review by FERC of each RTO stakeholder process to ensure compliance with the requirements of Order 719.

So, Chairman Chatterjee, I just would say it is time to review the requirements and to review RTO compliance. And I want to

know if you agree and, if so, would you consider taking action on this matter in the immediate future?

Mr. Chatterjee. Thank you for the question, Mr. Chairman. We were discussing earlier, this is something that we continually hear from people around the country, concerns about ensuring that consumers' voices are heard, that the process is transparent, that people are aware of what is transpiring within the RTOs and the ISOs. And yes, it has been a decade since we looked at Order 719.

I do think, you know, going back to the rule is one option, but, you know, looking with an eye towards ensuring consumers' voices are heard as they come up through the process is another manner in which to do this. I think particularly as new technologies come into play and we look to break down barriers to entry, we need to ensure that these new voices have an opportunity to be heard at the RTOs and the ISOs and certainly it is something I am committed to working towards.

The Chairman. Well, I appreciate that and, you know, want to continue to working with you. I also want to reiterate what I said in my opening statement regarding concerns with the process by which RTOs assess their transmission infrastructure needs. We must provide greater incentives for non-transmission alternatives so that companies are not building unnecessary infrastructure that increases costs to ratepayers.

1199 So let me ask Commissioner Glick, do you believe that in certain cases non-transmission alternatives can be used to 1200 1201 increase reliability while also limiting costs to ratepayers? 1202 Mr. Glick. Thank you, Mr. Chairman. Absolutely, they do. 1203 And as a matter of fact, you know, in the Commission's Order 1204 1000 issued several years ago, it requires transmission planners 1205 and the various RTOs and the ISOs around the country to consider 1206 non-transmission alternatives. What I think is missing is that 1207 I think there is an incentive for utilities many times to build 1208 more transmission because if you build, you invest something that 1209 costs a lot of capital --1210 The Chairman. Exactly. And that is what I hear from my 1211 consumers. 1212 Mr. Glick. So I think what we need to do, and Chairman 1213 Chatterjee earlier mentioned that we have a new incentives process 1214 at FERC looking at our incentives policy, and I think what we need to do is incentivize using newer technologies and 1215 1216 non-transmission alternatives, but also using our existing grid 1217 more efficiently rather than -- sometimes we can do that rather 1218 than build a line. We need to encourage utilities to look into

The Chairman. Oh, this is music to my ears, I want to be honest with you. Now let me see if I can get a climate question in. In May 2018, FERC issued a new policy that eliminated from

those types of investments.

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consideration most upstream and downstream greenhouse gas emissions. Just last week, the D.C. Circuit in the Broad Run case flatly rejected the core legal arguments that form the basis for that policy.

So let me just ask Commissioner Glick and LaFleur, not much time left, but do you think the Court's decision in Sabal Trail and Broad Run require FERC to reform how it considers upstream and downstream greenhouse gas emissions? I guess I will start with Ms. LaFleur since I haven't asked you.

Ms. LaFleur. Yes, the Sierra Club case and the Sabal Trail definitely changed the rules that apply to the Commission or made clear what they were. It specifically related to downstream emissions and I think the Commission has been too stinting in its interpretation. I dissented in our order on remand because I think we have only taken the court's guidance to heart when it is a specific power plant exactly like the situation in the Sabal Trail pipeline. And I think the implications of the decision go much broader. And as Commissioner Glick testified earlier, a couple weeks ago we got another decision from the D.C. Circuit that made clear that FERC is a legally relevant cause of the downstream emissions and we should be looking at them.

The Chairman. Mr. Glick?

Mr. Glick. Mr. Chairman, I would just say that there has been some question recently as to whether the Commission has the

1247 authority to look at reasonably foreseeable greenhouse gas 1248 emissions, and I think the two court cases including the one last 1249 week have, I think, put that question to bed. I think we clearly 1250 have that authority. 1251 The Chairman. Quickly, how does FERC's analysis of a 1252 project's greenhouse gas emissions related to the requirement 1253 of the Natural Gas Act to only approve projects that are in the 1254 public convenience and necessity? 1255 Mr. Glick. Well, when we consider the public interest, we 1256 also look at the environmental impacts of the pipeline, for 1257 instance, wetlands or migratory birds or anything like that. 1258 And if we find that the adverse -- the impacts of the environment 1259 are too adverse, then we won't consider the project to be in the 1260 public interest. Here, we are actually ignoring what impacts 1261 the project might have on climate change. 1262 The Chairman. Thank you. Thank you, Mr. Chairman. 1263 The chair now recognizes Mrs. McMorris Rodgers for 5 minutes. 1264 1265 Mrs. McMorris Rodgers. Thank you, Mr. Chairman. 1266 appreciate everyone being here and for your work at FERC.

from Washington State. And if you are not aware, my district

believe that we should be embracing what hydropower can provide

for us as we continue to move towards a 21st century clean energy

in Washington State is very dependent upon hydropower and I

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future.

You know, in Washington State right now, our carbon emissions are actually up and some of that is -- one of the big drivers is because of the -- from power plants, more dependence on power plants. And I look at this and I think there is so much more capacity for hydroelectricity, even in Washington State as well as across the country. The National Hydropower Association did a report a few years ago highlighting that we could double hydropower in America without building a new dam because only three percent of the dams actually produce electricity.

So there is huge infrastructure investment there and as the largest renewable with lots of potential, I just believe that we should be doing more. It is renewable. It is reliable. It is affordable. We enjoy some of the lowest electricity rates in the country because of hydropower. Last Congress, I had introduced the Hydropower Policy Modernization Ac which would have modernized the hydropower licensing review process. Just to put this in perspective, it takes on average 10 years to relicense a hydropower facility in America today. You can compare that to a natural gas facility at 18 months, I believe that we can do better. This legislation passed the House with bipartisan support, and I would like just to use this opportunity today to ask about the FERC process for licensing, relicensing of hydropower projects. It is my understanding that there are

hundreds of hydropower projects scheduled to come up for relicensing before the Commission in the next 10 years. While Congress has passed some improvements for the licensing of new projects, we haven't yet passed the significant reforms for the existing projects across this country.

This lack of action and its impact on our existing hydroelectric facilities is why I continue to advocate for us addressing the relicensing of hydropower in America. I have concerns that the uncertainty in the cost as currently associated with hydro relicensing, particularly for the smaller projects, may result in fewer relicensing efforts and will lead to a loss of flexible generation, less reliable grid. Hydropower provides the largest natural batteries in the country also. There is lots of benefit.

So I wanted just to ask the chairman and the others, do you agree that this lack of effort to address and improve our relicensing process is of concern and, if so, what are some of the areas you would recommend that we work on to reduce the duplication of effort, unnecessary delays, and undue cost?

Mr. Chatterjee. Thank you for the question and for your support of this. I agree with you on the significance of hydro and the concern about the licensing process. We have been working very hard on it. We issued a final rule establishing an expedited licensing process for original hydropower licenses for certain

facilities at existing non-power dams and for closed loop pump storage projects. We are fully aware that another wave is coming and we have alerted the licensees far in advance to give them time to work on their applications.

I also share your concern that a number of the relicenses are small projects which have the downside of them possibly having limited resources and expertise on relicensing, but the upside of the amount of actual work and paperwork not being as much as for a larger facility with bigger upsides, and so we are taking these things into consideration. I also want to note, existing licensees can continue to operate under 1 year extension if their relicensing isn't done by the time that their license expires, so no one is shut down if they are not relicensed before expiration. But to answer your question, you know, we totally understand and have undertaken a flexible approach to approving requests for license term modifications to facilitate coordinated relicensing of projects that are located in the same sections as river basin, where periodically —

Mrs. McMorris Rodgers. Excuse me. Excuse me, real quick.

I appreciate that. I have very little time left. But would
you also just speak very quickly to how hydropower could benefit
the grid?

Mr. Chatterjee. It is a reliable, clean source of energy and as we look to continue to squeeze carbon emissions out of

the grid, I think hydro can play an incredibly important role.

Mrs. McMorris Rodgers. Thank you. Thank you so much.

Mr. Rush. The chair now recognizes Mr. Doyle for 5 minutes.

Mr. Doyle. Thank you, Mr. Chairman. And welcome to our

FERC commissioners, we appreciate you being here.

Last year, FERC determined that PJM's capacity auction structure was unjust and unreasonable with regards to the state-supported resources such as renewables or nuclear. And in response, PJM submitted a proposal that has been pending for a year. FERC suggested alternatives to this structure but has not yet released any details for an acceptable mechanism. FERC permitted PJM to delay its capacity auction from May of 2019 and hold it this August instead. That decision on a rule was supposed to come in January, but now it is June and we still haven't seen a rule.

So either a rule is going to be published right before August, which won't give auction participants enough time to adjust, or a decision will not be published and participants will have to take part in an auction under rules that FERC has found to be unjust and unreasonable. That raises lots of concerns and uncertainty. I am interested in hearing what the commissioners say. When do you intend to issue this rulemaking and what tools does FERC have to provide some clarity to this situation?

And, Mr. Chairman, I will start with you.

Mr. Chatterjee. Sir, so I have to be, and my colleagues and I all have to be very careful here. This is a pending contested matter and our rules prevent us from discussing internal —

Mr. Doyle. Well, I understand it is a pending case, but the reality is that you are creating a considerable amount of uncertainty here. PJM's capacity auction in May of 2018 procured 160,000 megawatts of capacity at a value of nine billion dollars. That is a lot of risk for companies to take in.

Mr. Chatterjee. Sir, we completely understand. At a very macro level, again not getting into the specifics of the matter before us, this is a vexing challenge. Because you have a situation where, two things that I think we all believe in, states' rights and the markets are colliding. We all want these markets to succeed and to function and work properly and we want to respect states' rights.

But we are coming to a point where actions that states are taking to make decisions about their local energy futures are impacting the markets and trying to figure out how to sort through that while ensuring just and reasonable rates has proven to be very, very challenging. And so, while I can't speak against the specifics or timing, please understand we take this very seriously. We understand the need for clarity and to calm the markets and we are working as diligently as we can.

Mr. Doyle. Well, let me ask Commissioner LaFleur and Glick, are there any things that FERC can do to provide some guidance to PJM and provide some clarity if that is the situation if we are not going to have a rule?

Ms. LaFleur. Well, I also can't comment on the merits of what is before us, but I am deeply, deeply troubled by the delay. And I had dissented in the initial order because I thought it would put PJM in an impossible situation and I am afraid that is exactly what has come to pass. And I have been using my world-class powers of nagging to be a nag about it, but so far we have not gotten an order out. I think we have a lot of tools at our disposal but we have to agree on them and use them.

Mr. Doyle. Commissioner Glick?

Mr. Glick. I have spent a lot of time in the private sector and one thing I learned from working there is that you need regulatory certainty. Companies can't make investments without knowing where the government is going, so I think it is incumbent upon us to make a decision and act. Obviously, I can't talk about timing or the nature of it, but I do want to point out that you mentioned that if the auction is held under the current rule it may be considered unjust and unreasonable. So I am not entirely sure how the auction can go forward until there is some more clarity from FERC.

Mr. Doyle. Well, let's hope that is sooner rather than

1415 later. This is June.

Commissioner Glick, let me ask you. Capacity markets don't consider the impact of carbon on the atmosphere in each generator's bid. Do you think capacity market rules should be rewritten to reflect this and how do we protect states' rights in the process?

Mr. Glick. Well, I think, in general, if capacity markets are run properly, I think that the most competitive resources will succeed. And I think in this case, and lately we have seen lower greenhouse gas emitting technologies will certainly do well in those markets, I will say that I think that -- I am not entirely sure if FERC has the authority to require capacity markets to take into account emissions, greenhouse gas emissions, but --

Mr. Doyle. Do you think they should?

Mr. Glick. Well, I think if Congress gave us the authority we should -- we certainly can consider, and I know that PJM and New York are two ISOs and RTOs right now that are considering imposing some sort of carbon pricing regime. And I think we could consider that and maybe approve that assuming it is just and reasonable. But I am not sure if we can do that on our own authority right now.

Mr. Doyle. Well, I see my time is running out, but I would encourage you to please provide some clarity to what is going on with PJM. I don't know how they can hold an auction in August

without a rule or without some direction from the Commission.

1439	without a rule or without some direction from the Commission.
1440	I would urge that.
1441	Mr. Chairman, thank you. I yield back.
1442	Mr. Rush. The chair now recognizes Mr. Olson for 5 minutes.
1443	Mr. Olson. I thank the chair and welcome to our four FERC
1444	witnesses. A special howdy to a native-born Texan, Commissioner
1445	McNamee. Howdy.
1446	Mr. McNamee. Howdy.
1447	Mr. Olson. I want to start with a question to you, Mr.
1448	Chatterjee, that is very important to the people I work for in
1449	Texas 22 and my entire state. As you know, Houston is the heart
1450	of the American energy economy. We aren't just powering America,
1451	we are now powering the entire world. And as American energy
1452	becomes more dominant, that role keeps increasing for soon-to-be
1453	the third largest city in America. We are going to overtake
1454	Chicago within 2 years.
1455	Sorry, Mr. Chairman, but those are the facts.
1456	Mr. Rush. Don't bet on it.
1457	Mr. Olson. FERC knows that fact and that there is a need
1458	for FERC to adjust to that reality. I think it is high time that
1459	we have Commission staff right there in Houston, Texas, down where
1460	they are needed. You seem to agree. At the annual CERAWeek a
1461	couple months ago in Houston, you told the Houston Chronicle,
1462	"A Houston office makes a lot of sense." Can you talk about why
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a regional office in Houston makes sense, what are you plans to make it happen, and how can I help?

Mr. Chatterjee. Yes, sir. Thank you for the question and for your leadership in this area. How this all came about, there was a period last summer where I became genuinely concerned that we didn't have the staff and the resources in place to consider the number of LNG applications that were before us. And I truly believed there was a chance that we could miss this incredible American moment where U.S. LNG exports could benefit the economy, could benefit the environment by lowering global carbon emissions, and have geopolitical significance for America. But I was worried that FERC would miss our deadlines.

And so, we frantically worked to hire the lawyers and the engineers that were necessary to streamline the bureaucracy.

We had an MOU with PHMSA which enabled us to earlier this year we have now approved four LNG applications. We hadn't in 2 years; we have done four. That is very significant and it is due to this hard work. But I want to make sure that as the next wave of applications comes through that we have the infrastructure in place to continue to consider them, because we are responsible not just for reviewing new applications but for existing approved facilities as well.

The expertise is in and around the Houston area. As you mentioned, you guys are the epicenter of the energy universe.

That is where the schools are training the engineers and the lawyers who will do this work. And so, perhaps, you know, attracting and retaining the kind of talent we need to process this can be very difficult. Maybe having an office in Houston, which is something that we are actively working towards and hope to have an announcement on soon, would give us that venue to get the talent where it is, identify the people on the ground, and make sure that America continues to take advantage of this incredible opportunity.

Mr. Olson. You brought up LNG and that is my next question. Like you, I was worried a few years ago. FERC was being overwhelmed by applications for LNG export projects. You had some problems. Not your fault, but hey, getting somebody through the Senate, confirmed, delays, explosive permits, as you mentioned, manpower. And as you know, speed is the key to approval. We have to have quick approval to make these things viable. Companies need to line up financing. They need to lock in buyers. These delays could have hurt our jobs right here in America. They could have hurt our allies who are craving our liquefied natural gas that are being stuck right now with gas from Mr. Putin.

But you and your colleagues turned that ship around through some challenging seas. We have now seen some key projects approved. You mentioned four. We have American liquefied

natural gas going to India, Japan, South Korea, Poland, Lithuania, China, just to mention a few. We are exporting liquid American freedom. Can you talk about your challenges, how you got those approvals headed out the door and what is next for LNG export rounds?

Mr. Chatterjee. Thank you, sir. So I mentioned some of the procedural things we did, the MOU with PHMSA, hiring people, cutting through bureaucracy, streamlining the process, but the most significant thing that we did because we had a timeline in which we needed to consider these applications and there is four of us at the Commission that have, you know, very strong views and we consider each application on a case-by-case basis, but I think one of the things that I am most proud of is myself, Commissioner LaFleur, and Commissioner McNamee came together to overcome what had been the biggest obstacle to our approving these projects, once we go through our application analysis, which was how to account for greenhouse gas emissions.

And Commissioner LaFleur didn't get everything she wanted but was willing to compromise. Commissioner McNamee gave some things up that he was reluctant to do but was willing to compromise. And the three of us came through and were able to negotiate a bipartisan compromise that enabled these projects to move forward which is so important for America. And I am very proud of it because it is an example of people putting the public

1535 good ahead of partisan interests. And as far as I know, I think 1536 we are the only three people in the federal government to have 1537 successfully negotiated a climate compromise and it is a big deal 1538 for America on LNG and it is something I am proud of. 1539 Mr. Olson. You all have the bottle for America in the 1540 future. My time is expired. I yield back. 1541 Mr. Chatterjee. Thank you, sir. Can I quote you on that? 1542 Mr. Olson. Sure. It is public. 1543 The chair now recognizes Mr. McNerney for 5 1544 minutes. 1545 Mr. McNerney. I thank the chairman and I thank the 1546 commissioners this morning. 1547 Commissioner LaFleur, you mentioned some interesting 1548 comments about how to pay for selected resources in your 1549 statements. Would you expand on your comments and include how 1550 it might affect reducing greenhouse gases? 1551 Ms. LaFleur. Yes. What we are seeing is that right now 1552 many states, including your own, have taken a pledge to do all 1553 they can at the state level to mitigate the impact of climate 1554 change and they are doing it by in many cases selecting, requiring 1555 either carbon targets or percentages of clean resources or 1556 carbon-free resources. And they are also doing it in some cases by subsidizing carbon-free resources that would otherwise be 1557 1558 retiring.

What we are finding is that in regions with multistate markets when different states have different rules it is difficult for the markets to accommodate that. And that is why we have been doing a lot of work in our dockets, as in the ISO New England docket, to put in place new rules where states can -- because other resources are bidding into the markets without any subsidy or in states that don't have any carbon rules, then how do we fairly price all of this. That has been a significant issue.

Mr. McNerney. Thank you.

Commissioner Glick, do you feel that the electric grid can both expand service, say, to the transportation sector and reach 80 percent of penetration with renewable sources and, if so, how soon do you think we can do that?

Mr. Glick. I don't want to make a prediction about what year that might occur, but I am certainly confident that we can do it. I think there has been a number of studies both at NREL and various RTOs around the country that show that much greater penetrations of renewable energy are possible with very limited changes to transmission, for instance, and do it reliably.

I will give you examples. Iowa, Kansas, Oklahoma, all three of them already currently have more than 30 percent of wind power just on their grid. SPP, one of the RTOs in the region has, I think, had a couple times where they were over 60 percent renewables just at one particular time and no reliability problem.

California ISO, I think 76 percent, if I am not mistaken, 1 day earlier this year. So there is enormous possibilities there and I think they can be done relatively quickly but I can't give you an exact actual year.

Mr. McNerney. Thank you. That is pretty exciting if we can reach 80 percent with renewables, you know, in a reasonable time frame.

Chairman Chatterjee, the FERC has approved the natural gas pipelines and LNGs and that sounds good. But if only two percent of the natural gas escapes through to the atmosphere, then we are going to be in worse shape than if we used coal. So are you taking leakage into consideration? Are you putting in high standards for the pipelines that are going in and for LNG? I mean this is a pretty serious issue in my mind.

Mr. Chatterjee. I understand, sir, and we take very seriously our responsibility to evaluate the safety and environmental considerations of the energy infrastructure that we consider and we look at each project on a case-by-case basis. What I can say is, you know, the U.S. is currently at 1990s levels when it comes to carbon emissions in the power sector. I think that it is direct --

Mr. McNerney. But it is not just carbon. I mean natural gas emissions are very much stronger in terms of greenhouse gas effects than carbon.

1607	Mr. Chatterjee. But, sir, I think we are seeing market
1608	forces and the deployment of clean energy
1609	Mr. McNerney. But the question is, are you putting high
1610	standards in for these pipelines?
1611	Mr. Chatterjee. I believe we have the highest environmental
1612	standards and will continue to enforce them.
1613	Mr. McNerney. Thank you. Also, regarding cybersecurity,
1614	Mr. Latta and I introduced H.R. 359, the Enhancing Grid Security
1615	Through Public-Private Partnerships Act. Would you speak about
1616	how this and other cyber legislation would add the better defense
1617	at the grid?
1618	Mr. Chatterjee. So I am not familiar with the specifics
1619	of the legislation. Can you just give me a sort of top line on
1620	what it would achieve?
1621	Mr. McNerney. Well, it uses public and private resources
1622	to give grid, the electricity companies the resources they need
1623	to implement cyber measures.
1624	Mr. Chatterjee. I would like to look at it more closely,
1625	but again based on that description it is certainly something
1626	that I am interested in. As I mentioned earlier, the
1627	cybersecurity, ensuring I believe ensuring the reliability
1628	of the grid is the most important job that my colleagues and I
1629	play. Cybersecurity is a real threat and we all have to remain
1630	vigilant on it. And I applaud you for your legislation.

Mr. McNerney. Briefly, what reliability gaps still exist 1632 that could be addressed by legislation? 1633 Mr. Chatterjee. So, look, we have to constantly remain 1634 vigilant in ensuring the reliability of the grid. I do believe 1635 that the U.S. grid is the most reliable on the planet, but we

1636 are increasingly facing threats from hostile actors and we need 1637 to do what we can. We discussed it earlier, the potential

vulnerabilities to the cybersecurity or physical security of our 1638

> pipeline infrastructure. That is certainly an area where we need

1640 greater focus.

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1641 Mr. McNerney. All right. Thank you, Mr. Chairman.

> The chair now recognizes the ranking member of Mr. Rush. the full committee, Mr. Walden, for 5 minutes.

> Mr. Walden. Thank you, Mr. Chairman. Again, to all of you, thanks for your service to the country and thanks for being here today to help us do our proper oversight. Under my chairmanship of the full committee, we prioritized policies that I think were both good for consumers and the environment. And we said they weren't mutually exclusive, either. You can do both. last Congress, in fact, this committee passed more than a dozen bills signed into law to give FERC new authorities and streamline existing processes to encourage new hydropower development and bring more accountability to the ratemaking process.

So what I would like to know is, what is the status on FERC's

implementation of these bills which were incorporated into the America's Water Infrastructure Act of 2018? And so, I might go to Chairman Chatterjee, if you can, can you give me an update on what you are finding, what you are implementing, what is working, what is not, what do we need to do improve upon? Because I think hydro, to Mr. McNerney's point on some of the other sources of energy, hydro, we know, has no emissions to it. And so, we would like to know how you are doing implementing this.

Mr. Chatterjee. Thank you for the question and for your leadership on this issue as chair of the committee. You know, over the past few Congresses, this committee has pushed an infrastructure legislative reform initiative that included hydropower licensing reform. When it comes to implementation of these where the provisions further details into the regulations that FERC was directed to promulgate pursuant to the America's Water Infrastructure Act of 2018, we are working on it. I think that shared decisionmaking in the regulation of hydropower projects has complicated the Commission's efforts to timely and efficiently process applications.

Mr. Walden. Right.

Mr. Chatterjee. In particular, these large complex relicense applications in certain regions. And therefore, I totally support the efforts that you all have made to streamline the hydropower review process. Having said that, the committee

1679	already attempts to set schedules for agencies, but none of that
1680	overrides these agencies' independent authority for the processes
1681	under their own statutes. Statutory requirements give other
1682	agencies a significant role in the licensing process, thus
1683	limiting our Commission's control of the cost, timing, and
1684	efficiency of licensing, but it is something that we take very
1685	seriously are working towards.
1686	Mr. Walden. But in terms of implementing, the regulations
1687	to implement these laws, what should we look for in terms of timing
1688	on that?
1689	Mr. Chatterjee. We don't like to make predictions on
1690	timing, but please know that we are taking it very seriously.
1691	Mr. Walden. All right, good, because we
1692	Ms. LaFleur. We vote.
1693	Mr. Walden. Yeah.
1694	Mr. Chatterjee. Commissioner LaFleur reminds me that we
1695	did vote this out at our April open meeting.
1696	Mr. Walden. April, okay.
1697	Ms. LaFleur. I believe it was April, yeah.
1698	Mr. Walden. Yeah. I know you are all juggling a lot like
1699	we are, so we appreciate that.
1700	Ms. LaFleur. We made it by days in the statutory deadline
1701	to get the regs out. The staff did a great job.

Mr. Walden. Well, now I am going to give you a gold star.

I think you are the only agency that has met things -- well, anyway.

So I mentioned in my opening about constriction points and bottlenecks and I know the Northeast suffers from it. And I am just curious, you know, we did 11 hearings on electricity issues and grid modernization pricing, electricity markets, because we are concerned on the electricity side especially about this, but we know it is more than that. And I just wonder what kind of barriers you have identified to the development and deployment of new technologies that will harden the grid, reduce emissions, and allow for new transmission infrastructure. What are you seeing on the ground around the country that we need to be aware of that is holding back our ability to get more less-emitting energy sources onto the grid?

Mr. Chatterjee. So what we have seen is just, you know, there are some obstacles in place in the various RTOs and the ISOs to new entrants, to new technologies in that, you know, legacy incumbents have procedural processes in place that they can use to prevent some of these new technologies from being compensated for the attributes that they provide.

And so, I think, I point to Order 841 on battery storage that we were able to pass in 2018 and that we just dealt with on re-hearing, as a major breakthrough to enable battery storage technology to be compensated for all of the attributes and

1727 resources it provides in terms of energy capacity and ancillary 1728 services. We are now currently working on distributed energy 1729 aggregators to see similarly what barriers to entry there could 1730 be for these resources and the attributes that they could provide. 1731 And we will take the same careful, thoughtful, and legal approach 1732 that we did in addressing battery storage in considering that 1733 docket. 1734 Mr. Walden. Good, because I know some of that is starting 1735 to come to fruition. There is a project in my district that is 1736 going to be, I think, 300 megawatts now. I was told of one out 1737 of Texas, I think, where it is 300 megawatt hours, which is 1738 They can deal with the duck curve and maybe 4 hours different. 1739 of storage. So are you seeing more and more of those sorts of 1740 combined projects coming to fruition since that order? 1741 Mr. Chatterjee. I can let my colleague --1742 Mr. Walden. Yeah, anybody that wants to --1743 I think we are seeing more proposals to develop 1744 storage and renewables --1745 Mr. Walden. Good. Ms. LaFleur. -- in tandem, almost like we developed 1746 1747 nuclear and pump storage together in the '60s. And on your other 1748 question on the choke points, I would say one of the biggest issues 1749 we have is the difficulty of building long-line transmission 1750 between regions --

Mr. Walden. Yes.

1752	Ms. LaFleur for the location constrained renewables
1753	like the wind in the Midwest. And there is a number of reasons,
1754	but I think the state control of siting and the difficulty of
1755	going across multiple states is one of them. There was a company
1756	called Clean Line that tried to build HVDC
1757	Mr. Walden. Right.
1758	Ms. LaFleur and almost they hit one state on every
1759	line, now somebody is trying to take a couple of their routes.
1760	But I think that is the thing where Congress could maybe restore
1761	backstop siting would be really helpful.
1762	Mr. Walden. All right. My time has expired. Thank you,
1763	Mr. Chairman. And thanks to all of you.
1764	Mr. Rush. The chair now recognizes Mr. Tonko for 5 minutes.
1765	Mr. Tonko. Thank you, Mr. Chairman.
1766	I welcome all of our commissioners here today. I believe
1767	all of our federal agencies need to do more to consider how to
1768	best address climate change. I believe an approach that is
1769	science-based, evidence-based is essential. Commissioner
1770	LaFleur mentioned earlier that it is difficult with climate
1771	processes that are different in each of the states or regions.
1772	We need a national approach. It is time for us to get into gear.
1773	That being said, Commissioner Glick, I was very happy to
1774	see a recent Law Review article about FERC and climate change.

Commissioner, do you believe FERC can and should be doing more under its existing obligations to consider climate change? I know we heard from a couple of our commissioners. I would like to hear from you.

Mr. Glick. Well, as I mentioned earlier, the Commission is not an emissions regulator. Obviously, that is up to EPA and the states and other branches of the federal government. But I do think there is a lot of things that we do, and that was the purpose of that article that I jointly wrote with one of my advisors is that there is a lot of things that we do that have a significant impact. And the chairman mentioned eliminating barriers to newer technology storage, distributed energy resources, wind, solar; that certainly would be very helpful. Building more transmission to access remotely located renewable resources, certainly another benefit.

And then as we discussed earlier, just our analysis when we consider the public interest, whether it be a hydroelectric license or a natural gas pipeline or LNG facility, we are supposed to consider the environmental impacts and I think we definitely need to take greenhouse gas emissions into account.

Mr. Tonko. Thank you. And I would like to focus on a few areas where barriers for market participation exists, many of which, in my view, are inhibiting our electricity systems transition to one that is cleaner.

Chairman Chatterjee, I would like to thank you for your leadership in ensuring that storage can compete in markets. As RTOs seek to comply with Order 841, how important is it that energy storage resources will actually be able to participate effectively in all markets including capacity markets?

Mr. Chatterjee. Yeah, I can't say enough how bullish I am on the future of energy storage. And I say this frequently and people roll their eyes because they think it is a cliche, but I think energy storage is a gamechanger and I think it has the capacity to fundamentally alter the way that we generate, distribute, and consume power in this country. And I think the point of Order 841 was to ensure that storage technologies could be compensated for energy for capacity and for ancillary services. I am optimistic and hopeful that that will lead to a rapid and exponential increase in the deployment of these resources.

I think increasingly seeing storage coupled with renewable resources like solar could address some of the intermittency and reliability concerns and will really accelerate the deployment of clean energy technologies which is good for America, which is good for the economy, and is good for the environment.

Mr. Tonko. Well, I would encourage our commissioners to make certain the rule is implemented as was intended by all the commissioners and enable the greatest participation possible for these resources. Similarly, I would encourage the Commission

to move forward with finalizing the aggregated DER rule. As I recall, in February 2018, the FERC organization found it needed more information and I believe there was a technical conference, was it in April of 2018? Now we are in June of 2019. There was a need to break down market barriers for DERs 3 years ago and there is now an ample record.

So what can we expect here? When will this be finalized?

Is there other information that you are waiting for? What is the update on the DER rule?

Mr. Chatterjee. Sir, if I could just speak to that. So we had originally, in 2016, under Chairman Bay's leadership, considered both the storage rule and DERs together. As some of the newer members, myself, Commissioner Glick, came to the Commission, we realized that both rulemakings were further behind than we thought they were in the process prior to our confirmation. We were further ahead on storage than we were on DER. And so, we made the decision since storage was ready, to move forward with it despite the fact that we still had more work to do on DER.

I made a commitment to Commissioner Glick at that time that as long as I was serving on the Commission as chair or not, that I would not allow DER to languish. We continue to work on it. There are some legal questions that we need to answer. I don't want to make a prediction on timing. We don't do that. But

please know that we are all working diligently towards addressing

that. 1848 1849 Mr. Tonko. So there is no more information, you are just 1850 going through the --1851 Mr. Chatterjee. We have some complex legal questions that 1852 we are currently wrestling with. I don't like to comment on our 1853 internal deliberations, but there are some complex legal 1854 challenges. I do believe we have sufficient record, it is just 1855 we made some additional things to address some legal questions. 1856 I would just hope that we could complete Mr. Tonko. Okav. 1857 that as soon as possible because it is so important to the future 1858 of the industry. Thank you. 1859 With that I yield back, Mr. Chair. 1860 The chair now recognizes Mr. McKinley for 5 1861 minutes. 1862 Mr. McKinley. Thank you, Mr. Chairman. Earlier this year, Secretary Moniz, former Secretary Moniz 1863 1864 came out with a statement that he was saying that we just don't 1865 have enough battery backup in the long term. He says there is 1866 nowhere near enough to back up the power on the high voltage grids 1867 in the long term. Now building off that, the supply chain for 1868 battery development is becoming more and more dependent on foreign

sources. And 60 Minutes just came out with this report on Sunday

talking about, for example, rare earths and our dependency on

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something where China is dominating 80 percent of the rare earths. But yet for battery storage, we are relying on Chile, Argentina, the blood diamonds of Congo to get our cobalt, and we are also in Asia.

So we are becoming more and more reliant on other -- because we don't want it in our backyard. We don't want to harvest these minerals in our backyard. How is that going to interact our ability to sustain or to develop this battery storage capability if we are depending on other nations? So, Mr. -- Secretary Chatterjee, could you tell us a little bit about that please?

Mr. Chatterjee. Thank you for the question, sir. So as to, you know, critical minerals and their availability, that is outside the purview of the Commission. I do have some familiarity with it during my time in Congress. I recall legislation being introduced in the Senate to address the very questions that you raise. I will say from our standpoint as an economic regulator, I can't speak to the supply chain and what component parts go into battery technology. Our role doesn't fit there.

But what we do is, you know, enable the -- in our oversight of the markets to enable these technologies to be deployed in markets, and so the market demand is going to be there because of some facilitations that we have done through our rulemakings.

But I leave it to others to speak to the dynamics of the component parts --

Mr. McKinley. I hope we can get back and have more of a conversation about this, because I think it is going to be something that we are going to have to address and I would like to understand what Congress can do to help expedite that. But let's continue on that because I have a high regard for former Secretary Moniz when he was with DOE and now in his role speaking out.

He is continuing to say, he said it first in 2013 and he said it again earlier this year that we need to be spending more time and focus on carbon capture and nuclear energy. Now he said that in '13. And so, from '13 to '19, during the 6-year period of time, coal utilization went from 40 percent down to 23 percent and in that same time, nuclear power, they are going to be over 10 percent of their capacity is going to be lost.

So my question in part, given that what we were just talking about, about battery storage, if we don't have the capability of being able to have battery storage now, what is going to happen — what is the challenge to the grid for dependability, reliability, and resilience if we are losing more coal production and we are losing more nuclear and we don't have battery storage? What is the impact?

Mr. Chatterjee. Sir, so thank you for the question, and again, you and have had numerous conversations about this and you are very passionate about it. I, like you, come from coal

country and I have seen firsthand the devastation that occurs in communities when the plants and the mines that feed them shut down. Similarly, because of my concern about carbon mitigation am worried about the retirement of nuclear generation.

What we are doing at the Commission is closely examining whether, in fact, some of the concerns that you raise could come to fruition, whether the premature retirement of some of these units, could they lead potentially to -- depending on the deployment of other technologies and other resources -- to an impact on the reliability and the resilience of the grid. Thus far, as I mentioned earlier, when Secretary Perry submitted his NOPR, our record did not support taking action in that area. We currently have a far more robust record in front of us as we examine the question of resilience. We are going to be very, very careful about it to look to see what the energy transition, its impacts are going to have, but any action we may or may not take has to be based on the record, has to be based on the evidence, and we will very, very thoughtfully and carefully examine that record.

Mr. McKinley. In the closing seconds I have, I would just like -- maybe it is the elephant in the room. We don't have a fifth commissioner. Would having a fifth commissioner, would that expedite some of the rules that have been sitting there for -- we heard earlier, some of the time that they haven't -- no

1943 action has been taken. Would a fifth commissioner move things 1944 along? 1945 Mr. Chatteriee. I think the Commission is always strongest 1946 when it has a full complement of five commissioners. That said 1947 -- and I want to see five full commissioners here. But I point 1948 to the bipartisan agreement that my colleagues and I reached on 1949 LNG as well as on battery storage that were 3-1 votes that had 1950 different combinations of us, and I think that is a great example 1951 of how we are continuing to get our work done despite the fact 1952 that we are in a 2-2 environment. 1953 Mr. McKinley. Thank you. I yield back. 1954 Mr. Chatterjee. Thank you. 1955 The chair now recognizes Mr. Welch for 5 minutes. Mr. Rush. 1956 Mr. Welch. Thank you, Mr. Chairman. I will start with a 1957 man bites dog story. The largest utility in Vermont has a lot 1958 of dams and they are going through relicensing and they tell me 1959 that working with FERC is tremendous. So I don't know how that 1960 happened, but maybe you ought to get the word out to some of your 1961 other agencies. 1962 Second, I want to thank Commissioner LaFleur for coming to 1963 Vermont. We appreciated having you, and someday your colleagues 1964 may show similar good judgment. Third, I want to talk about 1965 battery storage technology. Last week, I visited a company in

South Burlington, Vermont called Dynapower, and it is by most

standards a small company, a couple of hundred people, big by Vermont. But it is doing cutting edge work on battery storage.

And we have talked a little bit about the incredible benefit to reduce peak demand and I want to thank you for your Order 841 which was a great step in integration of storage into the wholesale markets, but we do have some issues. In PJM there is a proposed method to use a 10-hour duration test, as I understand it, to qualify energy storage for capacity market participation. This is what I learned from the Dynapower folks. But most commercial and industrial facilities which could provide really good resources to the grid do not require a 10-hour duration system and the cost would be prohibitive. And MISO transmission service charges are being inappropriately applied to storage. It charges at the instruction of the grid operator.

So there are similar examples, I guess, in NYISO in the Southwest Power Pool. So on one hand, I thank you very much for your work on Order 841, but we really want to ensure that storage can undertake market operations that fully realize the value of their flexibility. So I will start with you, Mr. Chairman. Can you comment on your view on how these efforts and how FERC intends to support full use of the storage resources which, in addition to saving money and reducing carbon emissions, is just a tremendous growing part?

Mr. Chatterjee. Sure. As I have stated repeatedly, I am

1991 very proud of the rule and I think it is a tremendous achievement. 1992 And I think the implementation challenges that you are pointing 1993 to demonstrate the sheer gravity of the rule and its implications 1994 and how really significant it may be. I think we may look back 1995 and say that Order 841 was, you know, a foundational block of 1996 transitioning our energy future. 1997 So as the compliance filings come in, as the various RTOs 1998 and ISOs sort through some of the complexities that you are 1999 referring to, we will consider those compliance filings as they 2000 And I think my colleagues will all do our part to ensure 2001 that the rule is implemented. 2002 Well, you know, I appreciate that because there Mr. Welch. 2003 has got to be practical adjustments made as a result of what is 2004 going on in the field. 2005 Do you want to comment on that, Commissioner LaFleur? 2006 But thank you for that. 2007 Ms. LaFleur. Yes. I can't comment on the specific PJM 2008 dispute that you mentioned because I believe that is pending. 2009 But your questions and what you hear from the battery manufacturer show that the devil is really in the details. 2010 2011 is easy to say we want the market rules to be fair to storage, 2012 but figuring out where all the landmines are where the rules have 2013 been written for other resources requires the various storage

providers to come in and tell us and requires detailed work at

2015 HRTO. A few years ago, when we did Order 755 on frequency 2016 regulation we had a company called Beacon Power in upstate New 2017 York come in and tell us they weren't getting paid right for the 2018 timing following the signal. And we had to get really picky-dicky 2019 2020 Mr. Welch. Right. 2021 Ms. LaFleur. -- in like explaining how to change the rules. 2022 But we later did change the frequency. That is just one small 2023 example. 2024 Well, that is great. I don't have much more Mr. Welch. 2025 time, but, you know, it is very reassuring to hear that because 2026 you do the rule and then it is out in the field and then there 2027 has got to be information back from the field. And when like, 2028 for instance, if Dynapower gets back to you with real-world 2029 information, you will pay attention to that is what you are telling 2030 me, and that is really reassuring. 2031 The one final question, you know, a number of us, we are 2032 interested in distributed energy resources and we wrote a letter. 2033 I had a letter on the topic to FERC and I appreciated your 2034 response. That was some time ago and it appears we share a goal. 2035 But my question is this, for 2-1/2 years since the original

proposed rule and over a year since the technical conference on

DER was held, in recognizing this timeline, what is FERC's plan

to finalize the rule on DER participation and wholesale markets,

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## 2039 Commissioner?

Mr. Chatterjee. Yeah, thank you for the question. I will be very brief. Congressman Tonko asked the same. We originally were doing DERs and battery storage together. When we came -- when Commissioner Glick and I were confirmed to the Commission, we saw that storage was further ahead than DERs, so we severed the two dockets and completed storage because we didn't want to delay it while we sorted through the complexities of DERs.

We are now actively working towards it. I made a commitment to Commissioner Glick that we would not allow DERs to languish and I intend to honor that. And so, there are some complex legal issues that have arisen and we are just sorting through whether that will require more process or not.

Mr. Welch. I yield back.

Mr. Rush. The chair now recognizes Mr. Griffith for 5 minutes.

Mr. Griffith. Thank you very much, Mr. Chairman. They have called the votes and so I will try to rifle through what I have. But first, I have to say congratulations to you, Commissioner McNamee. The commissioner and I have worked together for many years at the state level and I am now glad to be able to work with you at the federal level as we go over a lot of issues. I appreciate the Commission's work on executing the rulemaking process for the Promoting Closed-Loop Pumped Storage Hydropower

Act, which was my bill from last session. I also appreciate the Commission-led workshop on closed-loop pump storage.

That being said, Chairman McIntyre had a review going on about current pipeline approval processes based on the FERC 1999 standing policy. I would hope that you all would continue that. Chairman Pallone of this committee mentioned earlier about having two pipelines, you know, going side by side and the Commission doesn't look at that. That is one of the reasons why I introduced the Pipeline Fairness and Transparency Act. Maybe you need two pipelines going side by side or close together or maybe you don't, but the Commission ought to be able to look at that.

And I will tell you that one of the concerns that comes up there is affecting how landowners' rights are being considered. And I appreciate your comments earlier this year, and speaking with Commissioner McNamee I know he is concerned about some of these issues too, that people at least get heard and know that somebody's listening, because it has seemed that sometimes there is some deafness, or in the past has been some deafness there. And I received this this morning from a constituent and I am just going to rattle it off and then give you whatever time we have got left. "Landowners dealing with the siting of natural gas pipelines are frustrated and we have no property rights in the current FERC process. There are lots of assurances that our

rights are respected and the companies advertise that they will work with landowners. However, our experience has proved all that to be patently untrue. My experience is that they won't consider the needs of my family's existing business, a farm of over 117 years. We have asked repeatedly that they move the pipeline to the edges of our fields so that we can fully respect the pipeline as we go about our business. They insist on bisecting nine fields and will destroy the terraces in one of our fields. They have the opportunity to move the line within our property, thus not affecting anyone else, but they won't."

And the concern that -- and she is getting hit twice. She lives in my district near the Mountain Valley Pipeline and her property is a family farm that she hopes to retire to that is being dissected by the Atlantic Coast Pipeline. And so, these are the concerns that people have out there. I know you can't fix everything, but she wants to know and I do too. What are the FERC commissioners doing to understand landowners' rights, to make landowners believe that they see the documents that we file? I mean you all see -- and to hear the statements that we make in hearings and that those needs are being considered. And I know that you have some thoughts on that. Chairman, if you could very quickly.

Mr. Chatterjee. Yes, sir. So I mentioned earlier, we are trying to make some improvements to our website and our process.

We do have a Landowner Hotline so that the Commission can be made aware of these kinds of considerations. I think we need to do better. We can do better. I think energy infrastructure is critical, it is important, but we have to ensure that we are respectful of landowners and their considerations and their rights.

I also think it is incumbent upon project sponsors to be more responsive. You know, the landowner and the project sponsor are going to have, you know, a long-term relationship, and I think it is important that project sponsors be responsive and be respectful of these landowners' considerations.

Mr. Griffith. Yeah. And I don't know the lay of the land, but when a farmer is telling me a family farm that is over a 100 and some years in the family, you could move it on their property, it may be a little bit more expensive, but it seems to me that would be a reasonable accommodation.

Mr. Chatterjee. And one thing that you have expressed to me in the past that I take very seriously is we need to do a better job at the Commission of hearing out peoples' concerns. And if that means, if landowners are seeking, you know, public comment and opportunity to present their considerations to the Commission, we need to be responsive to that. My understanding is that you have been frustrated because in the past, maybe a few years ago, we weren't as responsive to that. I want you to

2135 know that you have a commitment from me that we are going to take 2136 those kinds of things seriously. 2137 Mr. Griffith. I appreciate that and I yield back. 2138 Mr. Chatterjee. Thank you. 2139 The chair now recognizes Ms. Kuster for 5 minutes. 2140 Ms. Kuster. Thank you very much, Mr. Chair. And we have 2141 been called to vote, so I will make my remarks short. But I want 2142 to join my colleague in a bipartisan concern. We have this very 2143 same issue in my district in New Hampshire with a pipeline and 2144 lots of obvious concerns by homeowners, by towns, by -- one town 2145 where it was on the map to cross a small stream in that community

2146 12 times, I just had the impression that these people hadn't even

come to New Hampshire or at least gotten out of the truck to see

it. It was proposed to go right between two schools that were

2149 a couple of hundred yards apart, so -- and I would invite my

2150 Republican colleague to join us.

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I am joining Congresswoman Jan Schakowsky and Joe Kennedy today, introducing legislation to establish an Office of Public Participation at the FERC to elevate the voices of average Americans and ensure that they have a seat at the table when FERC makes approval decisions. We can only ask so much of you if it is not within your purview to take that into consideration. So that was the main concern I wanted to raise.

The second thing though is about the issue of climate change.

And in New Hampshire, as in districts all across this country, I believe that climate change poses a very real and existential threat to human life and I think we can look no further than the Trump administration's own national climate assessment, outlining that without dramatic reductions in greenhouse gas pollution our economy will lose hundreds of billions of dollars in the coming decades, and not to mention the irreversible impact on human health and environment.

So I just want to ask you, Commissioner LaFleur, my constituents voice concerns repeatedly. This is on a daily basis. We get emails and calls and letters about the dramatic expansion of natural gas infrastructure because of the contribution to greenhouse gas emissions. I understand your tenure on the FERC is coming to a close, but do you believe the damaging effects of climate change should be more strongly considered when FERC approves fossil fuel projects?

Ms. LaFleur. Thank you for the question and yes, I do.

I think that first of all we should make sure that all of the pipelines that we are approving are truly needed by looking at the regional need. I happen to think New England where there is a lot of gas restraints might need more gas, although they are doing well with the import in the winter so far. But in addition to making sure things are truly needed, I think that we should take into account in our balancing the impact of the

2183	downstream combustion of the gas when it is used.
2184	And I have tried to do that on my own by doing some of those
2185	figures and my concurrence isn't saying no, for example, in the
2186	two co-located pipelines that Congressman Griffith talked about.
2187	I had dissented because I thought they were too close together,
2188	but I think it would behoove the Commission to have a process
2189	to more squarely consider it.
2190	Ms. Kuster. Thank you very much.
2191	And, Commissioner McNamee, I understand FERC's
2192	responsibility to approve energy projects that are in the public
2193	interest. Do you believe that mitigating the damaging effects
2194	of climate change are in the public interest and the interest
2195	of future generations of Americans?
2196	Mr. McNamee. I think, I believe that climate change is
2197	something that we all need to be concerned about. I think the
2198	issue about how FERC addresses the issue of climate change and
2199	greenhouse gas emissions really has to originate first in our
2200	organic statute about the authority, and that is the Natural Gas
2201	Act and how that is supposed to be used to interpret public
2202	interest.
2203	Ms. Kuster. Do you interpret that law is giving you any
2204	leeway on taking into account the damaging impacts of
2205	Mr. McNamee. Well, I can tell you that I what I do, is
2206	I also look at our obligations underneath, but to take a look
	NEAL R. GROSS

2207	at all the environmental issues including climate change when
2208	I make a decision. I don't think it would be appropriate because
2209	it is a legal issue that comes before us about what does the statute
2210	specifically mean, but I do I can say that we do take a serious
2211	look. I personally take a serious look at the issues of
2212	greenhouse gas emissions particularly pursuant to our NEPA
2213	responsibilities.
2214	Ms. Kuster. Great, thank you very much. I yield back.
2215	Mr. Rush. The chair thanks the gentlelady.
2216	Votes are occurring on the floor and the subcommittee will
2217	stand in recess until immediately after the votes have concluded.
2218	[Whereupon, at 12:34 p.m., the subcommittee recessed, and
2219	reconvened at 1:10 p.m.]
2220	Mr. Kennedy. [Presiding] The committee will come back
2221	into order, and the chair recognizes Mr. Flores from Texas for
2222	5 minutes.
2223	Mr. Flores. So, thank you. I appreciate all of our FERC
2224	commissioners for joining us today.
2225	I have a question for Commissioner Glick. You have
2226	dissented against approval of some recent energy infrastructure
2227	projects that are integral to our country's energy security,
2228	national security, and economic opportunity including the Port
2229	Arthur LNG export project in my home state of Texas. These

critical energy infrastructure projects create well-paying jobs

at home, they help our allies in Europe diversify their energy security, and they reduce the impact of dirtier fuels that are replaced by clean LNG.

In your dissents and in testimony today, you mentioned the need to explore possible mitigation measures with respect to greenhouse gas emissions, and I would like to know more about what you mean by this. My first question is this. Do you have a mitigation standard by which future energy projects could earn your approval?

Mr. Glick. Well, thank you for the question, Mr. Flores. It is actually a very important issue. And, you know, if you go back and look at all of our approvals, and Port Arthur is a good example, we found other environmental concerns, for instance, wetlands, loss of wetlands associated with the project or migratory birds, for instance, in some cases.

Mr. Flores. Do you have a mitigation standard?

Mr. Glick. And what we did in those cases, we actually mitigated those losses essentially. So I don't know if I have a single standard, but one potential option, certainly, a company could buy renewable energy credits and could certainly use renewable energy or zero emissions like nuclear power to liquefy the natural gas. There is a variety of options for the company.

Mr. Flores. Okay. Well, if you have more, go ahead and supplementally advise that. My next question is this, is what

2255 your mitigation expectations might be and, more importantly, what 2256 are the costs of those mitigation measures including the 2257 What is the impact on project delay costs; what is 2258 the impact on lost jobs; what is the impact on balance of trade 2259 payments; what is the environmental impact while the prospective 2260 consumers using your dirtier fuel that would have been replaced 2261 by the fuel that you are dissenting coming from the project against 2262 which you are dissenting; and then the loss tax revenue to the 2263 federal government as well as impact on the deficit? Those are all relevant points and I think that 2264 Mr. Glick. 2265 we are required to consider what is in the public interest and 2266 all those issues need to be considered as well. But if we find 2267 an environmental impact to be significant, we have to figure out 2268 whether that impact can be mitigated or not, and in this case 2269 in the LNG facilities we specifically said we are not going to 2270 consider that. And that is where I think the Commission erred 2271 and courts have agreed so far. 2272 Mr. Flores. Okay. What I would like to get you to do is 2273 supplementally advise as to what the cost of the mitigation is because of the dissent, if you would. 2274 2275 Mr. Glick. I will try my best. 2276 Mr. Flores. Okay, thank you. 2277 Chairman Chatterjee, I have a question for you.

to do with the power markets. In Texas, ERCOT allows large

2279	consumers to participate in a power market that drives
2280	competition, innovation, and efficiency. It has also brought
2281	more renewable into the Texas grid. It is my understanding that
2282	our neighboring RTO, the Southwest Power Pool, has only one large
2283	consumer and that is Walmart, which joined a while back, and Texas
2284	has about 170 consumer members by comparison. FERC
2285	recently ruled regarding a fee at SPP that some considered to
2286	be a hefty barrier to participating in the market, while the good
2287	news is ERCOT is not subject to FERC jurisdiction and most Texans
2288	want to keep it that way. Texas consumers are benefiting by
2289	having that other 170 large voices as part of the market and I
2290	think the country can learn from the experience of ERCOT.
2291	So what are other RTOs opening up their membership to
2292	more diverse consumer technology interests to help drive up
2293	choice, to improve efficiency, to improve the implementation of
2294	additional renewable energy sources into their grids, and to
2295	additional clean energy supply?
2296	Mr. Chatterjee. So, obviously as you referenced,
2297	Congressman, we don't ERCOT is not jurisdictional to us so
2298	I don't have as much visibility into what goes on in Texas. I
2299	learned my lesson, don't mess with Texas, but
2300	Mr. Flores. That is a good idea.
2301	Mr. Chatterjee each of the different RTOs and ISOs
2302	have various different, you know, governance approaches as well,

2303 these are just different organizations. So what I can speak to is that all of these entities can and should learn from each other 2304 2305 including from ERCOT. 2306 Mr. Flores. Okay. That actually answers my second 2307 question is that should the other RTOs move in the same direction 2308 that ERCOT has and that the SPP has been blocking but now they 2309 are starting to move that direction. 2310 Mr. Chatterjee. There are different challenges and 2311 opportunities in different parts of the country. I am not certain 2312 -- there are no one-size-fits-all approaches but we can all do 2313 better to learn from each other. Mr. Flores. Right, okay. 2314 2315 And, Chairman Glick, we will provide the rest of our 2316 questions supplementally. 2317 Mr. Glick. Thank you. 2318 Mr. Flores. Thank you. I yield back the balance of my time. 2319 Mr. Kennedy. The chair thanks the gentleman from Texas and 2320 recognizes himself for 5 minutes for questions. I want to thank 2321 the chairman, the real chairman, for holding the important hearing 2322 and for all of our commissioners for being here today. 2323 As I mentioned in my opening statement a little bit earlier, 2324 I am increasingly concerned about the regional transmission 2325 organizations or RTOs and their governing structures. My state

benefits from the wholesale market competition at ISO New England

and that means that it is affected by the decisions made by NEPOOL, the sole formal stakeholder advisory group for ISO New England. However, my fellow citizens and I have no idea who makes decisions or how they are made at NEPOOL, because unless you are a member you can't even observe any meeting or proceeding, let alone talk about it publicly.

Other RTOs are benefiting from governance structures that enjoy slightly more transparency, still I believe that more has to be done. Transparent and fair representation in governance is good governance. All parties from generators to ratepayers to regulators deserve this. In addition, regional markets operated by the nation's RTOs continue to grow in size and complexity.

Mr. Glick, you pointed out earlier your experience in the private sector and about the importance of stability. In my region, for example, ISO England has now run 14 different forward capacity auctions under 14 separate sets of rules. Finally, RTO rules are also increasingly, or increasingly, effectively create new public policies. Some regional grid operators are debating whether to adopt new rules to compensate fuel security, yet RTOs are governed by industry stakeholders, many of them who have an incentive to earn revenues through higher prices in these markets.

So beginning with Commissioner LaFleur and Commissioner Glick, are you concerned about certain stakeholder groups that

have an outsized amount of power in some RTOs with the current structures of governance? Ms. LaFleur?

Ms. LaFleur. I do think these are important issues. on the Commission when we did the 719 compliance orders and we looked at the stakeholder processes of each RTO and basically found them acceptable. They had different sets of stakeholder bodies and so forth. But I agree with what I have heard said earlier that it is probably a good time for a re-look. that initially the transmission owners probably batted above their weight because they were the ones that had to decide to go into the RTOs and so the RTOs were so grateful to have them, they seemed to have a louder voice. I would say recently we have been hearing more from the generation sector, because with all of the changes in resources they are on the hot seat and no group should have more power than their role in the stakeholders, so I think we have to be vigilant toward it and it is probably worth a re-look.

Mr. Kennedy. Should the public have more access even just as a passive observer?

Ms. LaFleur. Well, you know, we have a case pending re-hearing on press access to NEPOOL which we, the Commission rule that we didn't have jurisdiction over under the -- from the CAISO case. But I think most members of the public can't afford to take the time off from work to go to all of the stakeholder

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2375	meetings of their RTOs, so bodies that represent them, be they
2376	consumer groups to the
2377	Mr. Kennedy. Madam Chair, or excuse me, Commissioner, that
2378	the press that is also the
2379	Ms. LaFleur. I can't comment on that because that is still
2380	pending.
2381	Mr. Kennedy. Right, understood.
2382	Ms. LaFleur. But I think Mr. Glick wrote separately, so
2383	I will let him talk.
2384	Mr. Glick. Yeah. I certainly can't comment on the existing
2385	proceeding which is on re-hearing
2386	Mr. Kennedy. Of course.
2387	Mr. Glick but I will say what we did previously, which
2388	is that Commissioner LaFleur is exactly correct. We actually
2389	said we didn't have the jurisdiction and that is because the courts
2390	have told us that we only have jurisdiction over practices
2391	affecting jurisdictional rates. Having said that, I wrote
2392	separately because I agree with you, Congressman Kennedy, that
2393	transparency is a very important element of appropriate RTO
2394	functioning. And to the extent that we are keeping the press
2395	out or keeping people out from knowing what is actually happening
2396	behind the closed doors, we aren't actually having the type of
2397	transparency and we are not engaging in the independence that
2398	RTOs and ISOs are supposed to represent.

Mr. Kennedy. Thank you. And only a minute left here, so a little bit quickly. But, Chairman Chatterjee, has the Commission considered reforms to RTO governance to ensure that the public interest is better represented in these organizations? Mr. Chatterjee. Absolutely. Congressman, I agree with the concerns that you are raising and want to associate myself with the comments of my colleagues. I believe in consumer protections in transparency. The one thing that I would caution is, as I mentioned in speaking with Congressman Flores, each of these different RTOs and ISOs is a completely different entity with different structures. And so, I am not certain a one-size-fits-all approach could work here.

What we currently do to address these matters is as -- again, we can't speak to it because it is on re-hearing at NEPOOL, but when these matters come up, we take them up on a case by case basis. And I think we all have to be vigilant in ensuring that this transparency and consumer protection are in place. I just have to caution that a one-size-fits-all approach might not work.

Mr. Kennedy. Understood. I will close with my last 2 seconds by commending my colleague, Jan Schakowsky, who has been a champion for consumers throughout her career. And she is introducing a Public Engagement at FERC Act which would ensure that FERC establishes the Office of Public Participation and Consumer Advocacy, which I think a few of you have mentioned

2423	already.
2424	I am over time. I will recognize the gentleman from Michigan
2425	for 5 minutes.
2426	Mr. Walberg. I thank the chairman. We hang around long
2427	enough we move up, don't we? But thanks to the
2428	Mr. Kennedy. Give me 35 years and we will get there. Thank
2429	you.
2430	Mr. Walberg. Thanks to the panel as well. You have hung
2431	around longer than any of us, I think, so I appreciate you being
2432	here.
2433	Chairman Chatterjee no, you have been here long enough.
2434	I am going to give you all a question and see if you can answer
2435	it. If anybody can tell me what was playing on the radio at the
2436	top of the charts at this point in 1978; do you remember?
2437	Mr. Chatterjee. Well, Star Wars was in theaters.
2438	Mr. Walberg. Talking about the charts.
2439	Mr. Chatterjee. I know people were probably listening to
2440	it on their Walkman or record player.
2441	Mr. Walberg. Paul McCartney and Wings, With a Little Luck.
2442	And I remember that because I was hoping to graduate from graduate
2443	school about that time, with a little luck, and it did take place.
2444	Just using that a bit here, because with a little luck and a
2445	little push from both Congress as well as FERC, we could shake
2446	it up and bring our energy laws into the 21st century and lower

costs for consumers. And that is, I think, at least for most of us up here that is what it is about with the quality.

3 years ago, FERC held a technical conference to discuss what needed to be done to modernize the rules implementing PURPA, a law passed in 1978, with a little luck. This issue is incredibly important in many areas of the country, especially mine, because customers are paying billions of dollars in, I believe, unnecessary costs right now for PURPA contracts. It started with a great idea, did what it was supposed to do, but it is time for some improvement.

FERC's current rules encourage the uneven, unplanned, and uneconomic development of QFs and provide subsidies that promote QFs at the expense of customers, of system reliability, and more competitive cost-effective generation resources. For example, Consumers Energy in my district currently has over 2,000 megawatts worth of PURPA contracts for 20-year terms pending in the queue. These would lock in prices around \$54 per megawatt hour compared to the 5-year average of \$34 per megawatt hour that could be purchased from the MISO market. If Consumers is forced to buy all of this power at these above-market rates, it equates to Michigan customers paying more than one and a half billion dollars over the life of the 20-year contracts, significant dollars.

I have introduced H.R. 1502, as you know, the PURPA Modernization Act, to help address these issues. But there are

2471 several issues that don't need to be addressed, I believe, through 2472 statutory change. The Commission could simply act and amend the 2473 rules, I believe. FERC's one-mile rule, for instance, which 2474 developers game to force legally enforceable obligations onto 2475 utilities is written into FERC's regulations. 2476 Mr. Chairman, yes or no, is this something that FERC could 2477 address on its own? 2478 Mr. Chatterjee. Yes. 2479 Mr. Walberg. Often developers will split projects into 2480 smaller megawatt projects in order to come in under the 2481 20-megawatt threshold for organized markets. FERC has already 2482 reinterpreted the threshold for noncompetitive entry into these 2483 markets from 80 megawatts to 20. In light of developers gaming 2484 this rule, could FERC lower this threshold on its own? 2485 Mr. Chatterjee. Yes, we could. 2486 Mr. Walberg. That is good to know. Does it make sense to 2487 allow utilities to competitively bid renewables to set PURPA 2488 avoided cost, and is there any help or guidance FERC could give 2489 to states to help come up with more accurate avoided cost 2490 calculations to better follow the spirit and the intent of PURPA? 2491 Mr. Chatterjee. I don't want to get into any internal 2492 deliberations or conversations I am having with my colleagues, 2493 but it is something that we could do within our ranks.

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Mr. Walberg. So it is capable of doing that.

Mr. Chatterjee. Yes, sir.

Mr. Walberg. It comes down to the willingness to do these things. Well, these are important. I mean these are -- they are key components of my legislation, but relief is needed before I think Congress will be capable in its processes of acting on it. So I would truly encourage FERC to push as far as you can into bringing PURPA into the 21st century into something that truly does do what it was intended to do and has done well, but now is doing well at an expense that is unnecessary, and so I appreciate that. To quote Paul McCartney and the Wings again, "There is no end to what we can do together." I won't sing it for you. But I look forward to working with you to modernize our current state of affairs. Thank you. I yield back.

Mr. Sarbanes. [Presiding.] The gentleman yields back.

I am going to yield myself 5 minutes for a few questions.

Commissioner Glick -- and first of all, thank you all for staying as long as you did, and you saw from the earlier attendance here at the hearing there is a lot of interest.

Commissioner Glick, in your testimony you talk about how the environmental effects factor directly in the public interest standard at the Commission and is supposed to meet under the Natural Gas Act, and I certainly agree with that. There are public interest and environmental interest considerations under the Federal Power Act as well. Unfortunately, my view is

the Commission doesn't always give those interests the sufficient weight that they deserve in the decision making that happens, and I am aware of several examples, actually, in the case of the relicensing of the Conowingo Dam. States have a very important role to play in the licensing of projects that FERC considers, but too often it seems that FERC is siding with project applicants at the expense of state concerns for broader public and environmental interests.

So could you just speak quickly to what you think the Commission can do to ensure that these broader public interests like climate change, environmental quality, and so forth get the appropriate consideration?

Mr. Glick. Well, as you mentioned, we have a very broad public interest standard in terms of our hydroelectric licensing responsibilities as well, so I think certainly on climate change, we certainly need to take that into account, the zero emissions qualities of hydropower, for instance. But on those other environmental issues that you mentioned, it is my understanding the way the process works, whether it be the state agencies pursuant to section 401 of the Clean Water Act or various, the resources agencies, the Fish and Wildlife Service, for instance, they actually have the ability and the authority to impose conditions on those licensing processes and we have to include those conditions in our licenses.

Well, I hope those continue to get the Mr. Sarbanes. attention as I say that is warranted in terms of making sure the process lands in the right place. As you are aware, I am sure, Exelon Corporation applied for a new 50-year hydropower license to operate the Conowingo facility in August of 2012. extensive discussions between the state and Exelon and several iterations of applications to the Maryland Department of the Environment, the State of Maryland issued a water quality certificate to Exelon in April of last year. Unfortunately, as you probably also know, the situation is still not resolved. Exelon has opposed the conditions that Maryland attached the water quality certificate. But early on in this project, FERC denied several study requests that Maryland made, denials that actually created delays and additional haggling between the State and Exelon. The Federal Power Act requires applicants to submit,

The Federal Power Act requires applicants to submit,

"satisfactory evidence" to demonstrate that an applicant has

complied with state laws. And my concern is that the

administration's proposed policy changes on state oversight of

water quality certification could weaken our efforts to achieve

clean water in the Chesapeake Bay. How would you describe the

appropriate role of state participation in FERC licensing in light

of what I have just described?

Mr. Glick. Well, I don't want to speak specifically about

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the Conowingo Dam because that is a pending matter, I think, before the Commission. But I think we have the responsibility to actually defer to the states under section 401 of the Clean Water Act.

Mr. Sarbanes. Well, thank you for that. I think overall the Commission could probably be doing more to cooperate with states, really view it as a collaborative effort and ensure that licensees provide sufficient information early in the licensing process to support state decisions and ensure projects are operated in compliance with state law. The Commission's mandate to give equal consideration -- I will repeat that -- equal consideration to natural resources and environmental quality should translate into greater support for ensuring that older hydropower projects are held to modern environmental standards. And I know that can be tricky, but it is really critical that that happen.

And so, let me just close by saying that the state of Maryland also has been working with neighboring states and the states within the Susquehanna River Basin to improve water quality conditions in the Chesapeake Bay. We really take that as our signature charge in a sense on the environmental front because we are aware the watershed meets the Bay and we take that very seriously. All of the states continue to work on programs to reduce sediment and nutrient inputs into the watershed. The

Conowingo facility has to be part of that solution as well.

And this relicensing provides that once-in-a-generation opportunity to get it right, to address the sediment issues associated with the dam and the facility's operation. So we have to address that issue and if we don't address it, we are going to be putting the health in the entire Chesapeake Bay in jeopardy. It is impossible to overstate how critical this project is to the Bay. So as a member of the Maryland delegation as somebody who takes that charge extremely seriously, I ask you to give that real consideration. I yield back the balance of my time.

The chair recognizes Mr. Veasey from Texas.

Mr. Veasey. Thank you, Mr. Chair. I want to thank you and the witnesses for appearing before the subcommittee today to discuss the critical role FERC has in ensuring our energy markets are operating fairly. I would like to discuss the Department of Energy coal and nuclear bailout proposal that would have resulted in higher energy bills for consumers. And in late 2017, the Trump administration revised a plan to force consumers to buy power from coal and nuclear plants on the decline, claiming that the costly and legally dubious plan was necessary due to fuel threats faced by our power grid.

While FERC unanimously opposed the plan, when asked yesterday in an event hosted by Edison Electric about providing incentives to failing plants, the Secretary suggested asking the

question of FERC instead. And so, given the nature of today's hearing and the witnesses we have before us today, I would like to follow Secretary Perry's suggestion and ask you to respond to these questions.

Is providing incentives to failing coal and nuclear plants a priority for FERC at this time?

Mr. Chatterjee. Thank you for the question, Congressman. So as you mentioned, in the fall of 2017, Secretary Perry submitted a Notice of Proposed Rulemaking asking that certain plants, baseload plants be compensated for having the attribute of having onsite fuel. At FERC we are a record-based, evidence-based agency and we examined the record and we determined that we did not -- the record did not support taking the action that Secretary Perry had suggested. In the process of voting down the Notice of Proposed Rulemaking from DOE, we opened a new docket to do a thorough examination of grid resilience, and now about 18 months later we have a far more robust understanding and record of what the potential challenges that may arise from the premature retirements of these baseload plants.

My colleagues and I need to sort through what, if any, actions need to be taken. I think from my vantage point, the next step ought to be engagement with the RTOs and the ISOs and the states to see what they are seeing in terms of fuel security and what is working, what potential, you know, risks are on the horizon.

But I will assure you, should the Commission take any action, and I am not saying it is certain we will take any action, should the Commission take any action, it would be fuel-neutral, technology-neutral based on the evidence in the record before us without any political influence.

Mr. Veasey. I know also in an earlier interview, Secretary Perry was quoted as saying that the Department of Energy was pretty much done with the idea of providing funding for resilience as it awaits its input from stakeholders. And in January of last year, FERC initiated a new proceeding to examine the resilience of the bulk power system. Can you share any of your findings pursuant to this proceeding?

Mr. Chatterjee. So that is the proceeding that I was referring to, sir. All I will say is Secretary Perry raised a very serious question. And I do think over the past year and a half, the concept of resilience and this question about what the energy transition means for the security and stability of the grid is one that we are having in energy circles. And I think that is productive and I think that we will continue to engage in this kind of productive dialogue. But at this time, I am not going to speak to any potential actions the Commission may or may not take because my colleagues and I need to still further determine what the next steps should be in reviewing the record that is before us in this new proceeding.

2663 Mr. Veasey. When do you estimate there will be further reviews or actions? 2664 2665 Mr. Chatterjee. So again, I think I, myself, and my team 2666 have worked our way through the record. I have come to the 2667 conclusion that I would like to see some further engagement with 2668 the RTOs and the ISOs in the states, but I need to -- I don't 2669 want to get ahead of my colleagues or Commission staff. I need 2670 to confer with my colleagues to see if they agree if further 2671 examination in this area is necessary. 2672 Mr. Veasey. Thank you. I yield back. 2673 The gentleman yields back. I don't think Mr. Sarbanes. 2674 we have any additional members, so that concludes our panel. 2675 I want to thank you all. I request unanimous consent to enter 2676 the following items into the record: a letter from associations 2677 representing commercial, industrial, and residential ratepayers 2678 and public interest groups; a letter from the 198 Methods; a letter 2679 from the National Rural Electric Cooperative Association. 2680 And again, let me thank our witnesses. I know you have been 2681 here for quite a while. We thank you for participating in today's 2682 hearing. 2683 I want to remind members that pursuant to committee rules, they have 10 business days to submit additional questions for 2684 2685 the record to be answered by the witnesses who have appeared.

And I ask each witness to respond promptly to any such questions

2687	that you may receive. We appreciate that. At this time, the
2688	subcommittee is adjourned.
2689	[Whereupon, at 1:36 p.m., the subcommittee was adjourned.]