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KEEPING THE LIGHTS ON: ENHANCING RELIABILITY AND EFFICIENCY TO POWER AMERICAN HOMES

WEDNESDAY, SEPTEMBER 13, 2023

House of Representatives,

Subcommittee on Energy, Climate, and Grid Security,

Committee on Energy and Commerce,

Washington, D.C.

The subcommittee met, pursuant to call, at 10:01 a.m., in Room 2123, Rayburn House Office Building, Hon. Jeff Duncan [chairman of the subcommittee] presiding.

Present: Representatives Duncan, Curtis, Burgess, Latta, Guthrie, Griffith, Johnson, Bucshon, Walberg, Palmer, Lesko, Pence, Armstrong, Weber, Balderson, Pfluger, Rodgers (ex officio), DeGette, Peters, Fletcher, Matsui, Tonko, Veasey, Kuster, Schrier, Castor, Sarbanes, Cardenas, and Pallone (ex officio).

Also Present: Representatives Carter, and Hudson.

Staff Present: Kate Arey, Content Manager and Digital Assistant; Sarah Burke, Deputy Staff Director; Sydney Greene, Director of Operations; Rebecca Hagigh, Executive

Assistant; Nate Hodson, Staff Director; Tara Hupman, Chief Counsel; Sean Kelly, Press Secretary; Peter Kielty, General Counsel; Emily King, Member Services Director; Elise Krekorian, Professional Staff Member, Energy; Mary Martin, Chief Counsel, Energy and Environment; Brandon Mooney, Deputy Chief Counsel for Energy; Kaitlyn Peterson, Clerk, Energy and Environment; Karli Plucker, Director of Operations; Carla Rafael, Staff Assistant; Emma Schultheis, Staff Asistant; Olivia Shields, Communications Director; Peter Spencer, Senior Professional Staff Member; Michael Taggart, Policy Director; Dray Thorne, Director of Information Technology; Waverly Gordon, Minority Deputy Staff Director and General Counsel; Tiffany Guarascio, Minority Staff Director; Kris Pittard, Minority Professional Staff Member; Emma Roehrig, Minority Staff Member; Kylea Rogers, Minority Policy Analyst; Andrew Souvall, Minority Director of Communications, Outreach and Member Services; Medha Surampudy, Minority Professional Staff Member; Tuley Wright, Minority Staff Director, Energy, Climate, and Grid Security; and Geneva Wolfe, Minority Intern.

Mr. Duncan. I am going to ask everyone to take their seat.

The Subcommittee on Energy, Climate, and Grid Security will now come to order.

Chair will recognize himself for 5 minutes for an opening statement.

First off, thank you all for being here today. We are going to pause just a minute and remember the folks in Hawaii and California, Florida, Vermont, everywhere that has been affected, and ask that you keep them in your prayers. And so subcommittee today is on keeping the lights on, enhancing reliability and efficiency to power American homes.

Our goal in the Energy and Commerce Committee is to enact policy that delivers affordable, reliable, and clean energy to all Americans. Unfortunately, energy policy coming out of the Biden administration prioritizes the green transition over security and reliability.

This July, the North American Electric Reliability Corporation, or NERC, released a report that identified energy policy as one of the biggest threats to the reliability of the grid. The report specifically cites actions by policymakers to pursue renewable energy as a threat to grid security.

There is a looming resource adequacy crisis. We all need to take this warning seriously and do more than to ensure reliability and affordability of the energy system. FERC has allowed the distortion of market incentives such as State and Federal subsidies aimed at promoting the deployment of renewables to interfere with electricity price formation. This has contributed to early retirement of reliable generation assets like nuclear and natural gas.

Other factors contributing to these early retirements are realistic environmental policies like EPA's unlawful Clean Power Plan 2.0 and the agency's overarching power

plant electricity generating unit strategy.

NERC predicts power plants will have to comply with standards by limiting their hours of operation, taking more reliable generation off the grid. According to NERC, the vast majority of this country faces potential blackouts. These vulnerabilities are not a result of severe weather or lack of transmission capacity, but it is because of reliable dispatchable firm generation units are being retired at an alarming rate. Prices have skyrocketed, and reliability has been compromised. Americans are paying more for less. We must focus on preserving resource adequacy.

My bill which we are reviewing today, the Guaranteeing Reliable Infrastructure Development, or GRID Act, would amend the Federal Power Act to require coordination between FERC and any Federal agency promulgating a regulation that could threaten the reliability of the bulk power system. I hope all my colleagues on this committee will join me in this important effort.

As we heard in our field hearing in Moore County, North Carolina back in June, the Biden administration is also pursuing energy efficiency standards that put reliability at risk; in particular, their proposed distribution transformer standards.

DOE already mandates distribution transformers be manufactured at an incredibly high efficiency standard. They are already at 99.53 percent efficient. This new rulemaking will increase the efficiency by only a fraction of a percentage point, but significantly disrupt the production of transformers, which utilities already have difficulty producing.

I know many of us on this committee have heard from our utility providers and developers about the shortage of transformers that allow manufacturing and residential development production to happen.

To address this supply chain crisis, we are reviewing Congressman Hudson's bill today, which will prohibit the DOE from proposing new efficiency standards for distribution transformers until 5 years after the enactment of this Act. It is also clear this administration is using appliance and efficiency standards as part of their agenda to electrify everything and pursue climate objectives over consumer choice.

These new standards will increase the cost of appliances for Americans and limit the availability of consumer options. Congresswoman Lesko's bill would address this issue by amending the Energy Policy and Conservation Act to prohibit the DOE from proscribing any new or amended efficiency standards that are not technologically feasible or economically justified.

The Biden administration has used efficiency standards to target gas appliances disproportionately despite the latest DOE numbers that indicate electricity costs 3.3 times higher than natural gas.

The whole-of-government approach to the green energy transition has driven up the cost of energy and household necessities for Americans and jeopardized our energy security. I look forward to hearing from our witnesses today on how we can reverse course and their perspectives on the bills we are reviewing today.

So I will now recognize Ranking Member DeGette for 5 minutes to give her opening statement.

[The prepared statement of Mr. Duncan follows:]

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Ms. DeGette. Thank you very much, Mr. Chairman, as well as the thoughts you have given to some of the areas affected by extreme weather.

We just learned a few minutes ago that our dear colleague, Mary Peltola's husband, Gene, was killed in a plane crash last night. So let's please keep her and all of her family in our thoughts.

Mr. Duncan. Thank you for telling me that. You reminded me or told me about it when we first started.

Ms. DeGette. You bet.

Mr. Duncan. And I failed, and I apologize. I'm sorry.

Ms. DeGette. Don't apologize. It is great. Thanks.

So, Mr. Chairman, reliable electricity is one of the most important facets of our lives, and I think that you would, frankly, be hard pressed to find anybody in this room that disagrees with that. It is critical that the Federal Government work with stakeholders to ensure that Americans have access to the energy they need when they need it.

When Americans flip a switch, they expect the lights to turn on, as they should. And that is why it is so critically important. And, frankly, as we face down the worsening climate crisis, reliability is even more important than ever.

This summer, as you know, we saw record-breaking heat gripping large parts of the United States. If electricity reliability were impacted in a serious way, this summer would not have just been deadly; it would have been catastrophic.

In fact, a study published earlier this summer found that, in a city like Phoenix, Arizona, a prolonged power outage during the summer could kill thousands and severely

harm half of the city's population. It is clear a reliable source of electricity is paramount to our Nation's health and well-being.

I think that one of the ways to ensure we have reliable electricity is through energy efficiency. If we increase energy efficiency, we cut down on the energy we consume, and this allows us to get more out of our current energy supply and, in turn, promoting reliability.

I also want to note that not only do energy efficiency measures and standards stretch our energy supply, but they also save consumers money in the long run. In fact, the congressionally mandated standards proposed by the Biden administration would collectively save Americans $570 billion over the next 30 years.

So, when I look at the bills that we are discussing today, I, frankly, don't see bills that are focused on reliability. Instead, what I see is bills that, in the name of reliability, would gut energy efficiency standards that are saving Americans money and that are cutting down on our energy use. I see bills that not only seek to uphold the status quo, but, in some cases, sadly, to roll back progress we have made in slashing emissions, cleaning our air, and saving consumers money.

H.R. 4167 would prohibit the Department of Energy from issuing a final rule for energy efficiency standards in distribution transformers for 5 years, somehow in the name of addressing a supply chain issue. DOE has just proposed a rule. It has a process for incorporating feedback, and it will make changes to the final rule if they are necessary to ensure reliability.

I agree, the supply chain must be addressed, but I struggle with the idea of delaying a rule before the DOE has finished its process and without addressing the root of the issue.

The DOE Appliance and Equipment Standards Reform and Consumer Protection Act would create duplicative, burdensome requirements for energy efficiency standards, as well as set a disastrous precedent for rolling back standards that are already making a difference. This bill continues the disturbing trend against commonsense standards to save money and protect consumers' health and well-being.

Finally, the GRID Act would give FERC veto power over any regulation it claims would affect reliability. This bill would strip Federal agencies of their ability to do their jobs. So I fear, while some of the bills may be well-intentioned, they just simply don't address the root of reliability.

Instead, if we truly want to address reliability issues, let's find solutions that address the root causes, and let's start talking about one of the best ways to ensure reliability, and that is transmission. We want to talk about reliability, but there is no discussion of how to get more transmission online expeditiously.

Increased transmission means more generating projects can get connected to the grid. Increased transmission will mean it can ensure energy gets to where it is needed when it is needed, and, in an emergency, it can come from elsewhere to ensure reliability.

So, Mr. Chairman, I am looking forward to the hearing that I know you are planning on transmission. I think it will be a great hearing, but I do look forward to the conversation today.

And I yield back.

[The prepared statement of Ms. DeGette follows:]

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Mr. Duncan. Gentlelady yields back.

I now recognize the chair of the full committee, Chairman Rodgers, for 5 minutes for an opening statement.

The Chair. Thank you, Mr. Chairman.

America's electrical grid is critical in every part of our lives. It keeps our hospitals, military bases, homes, and businesses powered. An unreliable grid threatens our safety, our health, and our economy.

In addition, common household appliances are essential for feeding our families, washing our clothes and dishes, and heating our homes. We must ensure American families have the freedom of reliable, affordable, and efficient energy sources and home appliances.

Right now, however, these vital American resources are being undermined. Regulatory restrictions by the Biden administration are forcing a rush-to-green agenda on people that is dangerous, expensive, and jeopardizing reliability, from shutting down baseload power sources that keep our electric grid reliable to banning appliances like gas stoves.

I am deeply concerned by the motivation behind these policies and the direction that they are taking our country, especially as people suffer paying more for everything. Nationwide residential electric bills have increased 27 percent since President Biden took office. In California, the average residential electricity prices are nearly double the nationwide average, and they are continuing to skyrocket.

It is making life harder for families and adding to their stress and anxiety, yet the administration pushes on with their war on American energy by taking steps to mandate

only 100 percent intermittent, weather-dependent power sources like wind and solar. While there is certainly a place for these resources in our energy mix, relying on 100 percent electric will increase cost and risk life- threatening blackouts.

According to the North American Electric Reliability Corporation, the United States is currently at an elevated risk of blackouts. Furthermore, people should be able to choose and afford the home appliances and vehicles that best meet their needs. It should not be dictated by the President or his radical allies.

This forced transition jeopardizes our energy security and affordability. It is sending our jobs overseas. It is making us dangerously beholden to China and ultimately will not slow down or impact climate change.

Since day one of this Congress, we have offered a clear vision that ensures American energy independence will secure our grid, lower emissions, and improve people's lives. The three bills before us today are the next phase of that vision. The GRID Act, led by Chairman Duncan, will enhance interagency coordination and rein in EPA's abuse of the Federal regulatory process to shut down our most reliable power plants. This bill ensures agencies like FERC can rely and comment on EPA policies that will weaken the reliability of our bulk power system.

To help address the current transformer shortage equipment that is vital to grid infrastructure, Representative Hudson is leading on H.R. 4167. This bill will ensure a steady supply of transformers for new homes and businesses, replace those damaged in fires and floods, and minimize the risk of blackouts and other service interruptions.

Representative Lesko is leading on the DOE Appliance and Equipment Standards Reform and Consumer Protection Act to ensure Americans, not the Federal Government, are able to decide for themselves what home appliances best meet their needs. This

builds on her bipartisan work with H.R. 1640, the Save Our Gas Stoves Act, which passed out of the House earlier this year with a vote of 249 to 181.

The list of life-changing appliances and products under attack by this administration includes furnaces, hot water heaters, dishwashers, ceiling fans, washing machines, light bulbs, and air conditioners. All of these have helped raise our standard of living more than any other country in the world.

This bill will prohibit DOE from imposing new efficiency mandates on appliances unless they are proven to save money and improve performance and end these backroom deals that have allowed radical environmental activists to dictate the types of appliances that Americans are allowed to have in their homes.

A reliable, affordable, and efficient energy grid is necessary for an economy that is strong. With it, we can better safeguard people's food and medical supplies and keep transportation and communication systems running. And I look forward to discussing how we can work together to secure our grid, reduce supply chain risk and equipment shortages, and make sure that people continue using home appliances that are both energy efficient and affordable.

I thank our witnesses for being here today and the bill sponsors.

And I yield back.

[The prepared statement of The Chair follows:]

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Mr. Duncan. I thank the chairwoman, and now go to the ranking member of the full committee, Mr. Pallone from New Jersey, for 5 minutes.

Mr. Pallone. Thank you, Mr. Chairman.

Energy efficiency is an important tool that lowers energy costs for American families, increases reliability, and it helps us achieve our climate goals. It is because of these benefits that bolstering and strengthening energy efficiency has long been a bipartisan priority of this committee. That past bipartisan work helped produce the Department of Energy's long and successful history of making our homes and businesses more energy efficient, saving consumers money, and helping reduce energy consumption across the country.

But it is unfortunate that energy efficiency is no longer a bipartisan issue and that we are here today to discuss three Republican bills that gut DOE's ability to push for commonsense energy efficiency standards. The three bills target DOE's energy efficiency efforts and limit other Federal agencies from doing their jobs. Taken together, they are a radical departure from bipartisan productive work on energy efficiency and are designed to prop up industry and harm consumers.

The DOE Appliance and Equipment Standards Reform and Consumer Protection Act is an industry wish list masquerading as consumer protection. This bill adds duplicative and cumbersome standards and tests to DOE's already rigorous efficiency rulemaking process. If this bill becomes law, it puts all existing and future attempts at energy conservation into jeopardy.

H.R. 4167 is another dangerous bill that prohibits DOE from finalizing efficiency standards for electric distribution transformers. These standards promise significant

energy savings, estimated to save consumers about $15 billion. It ignores the very process that Congress created in the Energy Policy and Conservation Act, and prevents DOE from doing its job by borrowing DOE from finalizing standards, even if the Department of Energy finds that these standards will save Americans money and decrease energy usage.

And then the Guaranteeing Reliable Infrastructure Development Act gives the Federal Energy Regulatory Commission an effective veto over any other Federal agency's rules and regulations. This is an unprecedented power grab designed to thwart any progress in the energy sector in addressing emissions and efficiency. It would also state that utility commissions would have to -- would be badgering the FERC and other Federal agencies with potentially false claims about any proposed agency rule throughout the entire government.

Now, with these three bills, committee Republicans are deliberately trying to delay and weaken popular energy efficiency programs to do the bidding of their polluter friends. Once again, Republicans are putting polluters over people, and the American people are paying the price with higher energy bills.

It is clear Republicans want to return to the policies of the Trump years on energy efficiency. For 4 years, the Trump administration sat on its hands and ignored the law, missing 26 different deadlines for efficiency standard determinations, including for distribution transformers.

In order to play catchup, the Biden administration has aggressively moved forward on past and planned energy efficiency actions that will save Americans $570 billion. That is a lot of money. And, unfortunately, these Republican bills would simply return us to the world where efficiency standards suffer from extreme delays. These actions

will only increase energy costs for middle-class Americans and stifle our efforts to address the climate crisis.

At a time when House Democrats are focused on lowering costs for American families, House Republicans want to gut agencies that are trying to put dollars back in middle-class Americans' pockets. And it is not just limited to these bills. They are supporting drastic funding cuts across the government. They want to cut DOE's energy efficiency and renewable energy account by $466 million.

They want to repeal major energy saving and emissions-reducing programs from the Inflation Reduction Act. These proposals are so extreme and severe that even their industry friends are pushing back. Earlier this month, industry groups and energy efficiency advocates came together to circulate a letter expressing serious concern with the drastic proposed cuts to vital Department of Energy efficiency programs.

It is time that Republicans recognize that their misguided efforts to undermine energy efficiency standards only increase costs for American consumers and further hinder our ability to aggressively combat the worsening climate crisis. I wish we were able to come together and, once again, build on our past bipartisan work in this space. But it is clear that Republicans want to move in the opposite direction.

And, with that, I yield back the remainder of my time,

Mr. Speaker -- Mr. Chairman.

[The prepared statement of Mr. Pallone follows:]

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Mr. Duncan. I thank the ranking member, and will now conclude the member opening statements.

Chair would like to remind members that, pursuant to committee rules, all members' opening statements will be made part of the record.

I would like to thank our witnesses today for being here and taking time to testify before the subcommittee.

Each witness will have an opportunity to give an opening statement. There are lights in front of you, 5 minutes for that. As it is approaching, it will change to yellow and then red. Red, if you can just wrap up. So please try to follow that throughout the day.

Witnesses on the first panel, the Honorable Gene Rodrigues, Assistant Secretary of Electricity at the Office of Electricity for the U.S. Department of Energy; and Dr. David Ortiz, director of Office of Electric Reliability at the Federal Energy Regulatory Commission.

Appreciate you guys being here. I will now recognize Mr. Rodrigues for 5 minutes to give an opening statement.

STATEMENTS OF GENE RODRIGUES, ASSISTANT SECRETARY FOR ELECTRICITY, OFFICE OF ELECTRICITY, U.S. DEPARTMENT OF ENERGY; AND DAVID ORTIZ, DIRECTOR, OFFICE OF ELECTRIC RELIABILITY, FEDERAL ENERGY REGULATORY COMMISSION

STATEMENT OF GENE RODRIGUES

Mr. Rodrigues. Thank you.

Good morning, Chairman Duncan, Ranking Member DeGette, and members of the subcommittee. I thank you for the opportunity to testify before you today.

My name is Gene Rodrigues, and I am the Assistant Secretary for the Office of Electricity at the Department of Energy.

Reliability, resilience, security, affordability, and efficiency are all important elements of the core tenets of the Department of Energy. In my capacity as the Assistant Secretary, I oversee the vital work of my office and coordinate with other offices and partner with industry to support our shared mission of ensuring a reliable power grid for all the American people.

There is nothing more important than keeping the lights on. Energy reliability is the backbone of our economy, and it is the foundation of our national security.

Now, I recognize that concerns have been raised that recent proposals around efficiency standards could adversely affect those goals. Well, I am here today to assure you that DOE views reliability as a critical part of our mission, and it informs decisions made throughout the Department, including for efficiency standards.

By way of example, if I may, I would like to provide you with an overview on some

of our work on distribution transformers. Now, as you are all aware, DOE proposed amended efficiency standards for distribution transformers in January of this year. No later than 6 years after issuance of any final rule establishing or amending a standard, Congress requires DOE to either publish a proposed rule with new standards, or a determination that standards do not need to be amended. DOE last published a final rule on distribution transformers back in 2013. We are currently under a consent decree requiring the rulemaking to be completed by June 2024.

Now, throughout this ongoing rulemaking proceeding, it has been absolutely clear that the Department's focus has not been limited solely on the technical parameters of their proposed efficiency standard, but also on ensuring a robust, secure supply of components for the grid. This is enabled by a strong domestic manufacturing industry, which reduces dependence on foreign supply. And that is why DOE expressly asks stakeholders for comment on timelines required for compliance with the proposed standard, as well as comments on the availability of key components.

But that proposed efficiency standard is only one element of the Department's overall efforts on distribution transformers. As we speak, the Department of Energy, in collaboration with our industry partners and in coordination with the whole of government, is actively engaged in many initiatives to bolster and secure the resiliency of America's supply chain for distribution transformers for decades to come.

We have shepherded industry and U.S. Government working groups to identify issues and propose practical solutions. These voluntary collaborations between industry and DOE help to reduce one-off, inflexible design specifications that slow production down and hamper the sharing of transformers between utilities when needed.

We have provided national projections of the long-term demand growth for

distribution transformers to provide America's manufacturers with investment certainty that will help them to expand capacity.

We have connected manufacturers with suppliers of difficult-to-source grid components. We have utilized legislation passed by this Congress to provide funds for distribution transformers, such as the 10 million in transformer rebates and 10 billion in 48(c) tax credits. These will play a critical role in increasing domestic production for energy products.

President Biden included support for using the Defense Production Act to ensure robust supply chains for transformers, which would allow us to move forward if and when DPA appropriations are made to increase production capacity, support workforce training, among other efforts.

And my own Office of Electricity is stewarding the research and development necessary to foster the next generation of American-made transformers that are flexible, adaptable, and rely less on insecure materials and supply chains.

So thank you again for this opportunity to speak with you. I know that each and every one of us in this room -- every one of us share the same goal of ensuring the reliability of the power grid for the American people.

With that in mind, I am pleased to answer any questions that you may have that would assist you in your deliberations on the legislation at hand.

Thank you.

[The prepared statement of Mr. Rodrigues follows:]

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Mr. Duncan. Assistant Secretary, thank you for that.

And we will now recognize Dr. Ortiz for 5 minutes.

STATEMENT OF DR. DAVID ORTIZ

Dr. Ortiz. Chairman Duncan, Ranking Member DeGette, Chair Rodgers, Ranking Member Pallone, and members of the subcommittee, thank you for the opportunity to testify today.

My name is David Ortiz, and I am the Director of the Office of Electrical Reliability of the Federal Energy Regulatory Commission.

I am here today as a commission staff witness, and my remarks do not necessarily reflect the views of the Commission or any individual commissioner. My testimony summarizes the Commission's oversight of the reliability of the bulk power system and recent Commission activity implementing that authority. I then address draft legislation, referred to as the Guaranteeing Reliable Infrastructure Development Act, or GRID Act.

In the Energy Policy Act of 2005, Congress amended the Federal Power Act to add section 215, pertaining to bulk power system reliability. Section 215 requires the Commission to select an electrical reliability organization that is responsible for proposing, for Commission review and approval, reliability standards to help protect and improve the reliability of the Nation's bulk power system.

The chairman's reliability priorities are protecting the grid from cyber and physical attacks, preparing for extreme weather, and ensuring reliability as the resource mix

changes. I would like to highlight a number of FERC's recent activities in this area. Since 2008, FERC established and then improved upon the set of critical infrastructure protection, or CIP standards, which include a comprehensive baseline set requirements for cyber and physical security.

In January, we finalized a rule requiring NERC to develop enhanced cybersecurity standards regarding internal network security monitoring. There has been a mandatory physical security reliability standard since 2014.

In December, FERC directed NERC to conduct a study evaluating the efficacy of that standard. NERC submitted the required study in April. FERC and NERC hosted a joint technical conference on physical security in August. And, after receiving and reviewing post-conference comments, FERC will determine appropriate next steps.

Since 2011, seven major heat and cold weather events put stress on the bulk power system and resulted in some degree of load shedding. In August 2021, FERC approved modified reliability standards pertaining to cold weather preparedness for electric generators and requiring that system operators exchange information related to the generator's capability to operate under such conditions.

In June, the Commission issued a final rule directing NERC to submit proposed new or modified reliability standards that require transmission providers to prepare for extreme heat and cold weather events.

The changing resource mix has also presented a number of reliability challenges. In particular, the growth of inverter-based resources requires a rethinking of the way the interconnected electric grid has been planned and operated for more than a century.

In a November notice of proposed rulemaking, FERC proposed to direct NERC that NERC develop new or modified reliability standards that address reliability gaps related to

inverter-based resources, including data sharing, model validation, planning and operational studies, and performance requirements.

Turning to the GRID Act, the GRID Act would establish a process that triggers mandatory FERC review and comment on certain covered agency actions. The proposal could pertain to a wide variety of proposed Federal agency actions that potentially impact bulk power system operations. Therefore, it is difficult to anticipate the range of covered agency actions that could trigger FERC review and comment.

As a general matter, FERC and the ERO, NERC, have the necessary expertise to understand and comment on the potential effect of proposed regulatory actions on the reliability of the bulk power system.

However, fulfilling the goal of the GRID Act would require detailed interconnection wide modeling analysis beyond FERC's capabilities. Further, FERC may not have the underlying data or authority to obtain such data necessary to conduct a meaningful assessment of the proposed action's impact on the grid.

Other organizations have these capabilities, resources, and data. The Department of Energy's national laboratories have deep expertise in the electric transmission system and its underlying technologies, computing power, policy expertise, and related sciences, and are well-positioned to engage with agencies to evaluate the reliability impact of proposed actions.

In conclusion, FERC will continue to work with the utility industry to execute its responsibilities under section 215 of the Federal Power Act to protect and enhance the reliability and security of the electric grid. Further, with regard to proposed GRID Act, FERC stands ready to serve and assist to the best of its ability in this manner.

Thank you for allowing me to testify today. I would be glad to address any

questions you may have.

[The prepared statement of Dr. Ortiz follows:]

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Mr. Duncan. I want to thank both of our witnesses or panelists for their opening statements.

We will now move into the question and answer portion, and I will recognize myself first for 5 minutes.

We continue to be warned of the risk of a looming reliability crisis here in the United States. Earlier this year, during a Senate Energy and Natural Resources hearing, the head of the North American Electric Reliability Corporation stated he agreed that United States is headed for a reliability crisis. During the same hearing, the CEO of PJM stated he agrees there is an increasing risk of reliability crisis.

This summer, the FERC commissioners testified in front of this subcommittee where the same concern was raised. Commissioner Danly went so far as to say there will be, in time, a catastrophic reliability event.

Dr. Ortiz, NERC's "Reliability Risk Report," released in July this year, reflected these concerns. It specifically identified energy policy as one of the biggest threats to reliability. NERC has clearly stated there is a problem.

Do you concur with their findings, and is FERC obligated to take action on this looming threat?

Dr. Ortiz. Thank you for the -- thank you for the question, Chair Duncan.

The Reliability Issues Steering Committee issues a periodic report, biennial report, that delineates key risks that the ERO -- that NERC then establishes a plan by which it will address. The Reliability Issues Steering Committee report issued included, as you noted, the risk of energy policy as a factor potentially affecting electrical reliability.

By energy policy, they meant that the changing resource mix could have impacts

primarily on resource adequacy throughout the country. This is a matter of fact that has been established by several of the independent system operators that have also addressed this -- that have also made -- have expressed their concerns regarding resource adequacy as well.

So I would agree that, from the perspective of NERC's report, that energy policy, in so much as it affects resource adequacy, is a potential reliability concern.

Mr. Duncan. The NERC report cites several factors contributing to this looming resource adequacy crisis. Price distortion in the wholesale markets caused by subsidies and unrealistic environmental regulations contribute premature retirement of reliable generation assets.

My bill, the GRID Act, would require coordination between FERC and the Federal agency that proposes regulation that would threaten the grid reliability.

Do you think that there are Federal regulations that threaten grid reliability?

Dr. Ortiz. Based on your opening comment, Congressman, I presume you are talking about the section 111(d) proposed rulemaking from the Environmental Protection Agency. Is that an example of the kind of rulemaking that you are --

Mr. Duncan. Yes.

Dr. Ortiz. -- concerned about?

So, for proposed rulemakings like that, the -- you know, there is -- you know, it is -- for -- whenever there is a proposed rulemaking, the actual outcome is fundamentally uncertain.

The EPA, in its own reliability impact or its own technical analysis, acknowledges that the rule is likely to result in increased retirements of resources. And then it also projects that certain replacement resources will also be made available. Each of those

outcomes is uncertain. The degree to which that there are retirements of resources on its face raises a reliability concern that merits some consideration.

Mr. Duncan. Shift gears here.

The consequence of these policies and premature retirements are even more concerning considering the constraints on our natural gas supply due to lack of infrastructure. Lack of pipeline capacity significantly hurts States like South Carolina.

Do you agree, Dr. Ortiz, that expanding interstate natural gas infrastructure is critical for reliability?

Dr. Ortiz. I will provide a brief answer, and then, if it would -- if it would please the chair, I would be happy to take it -- take that question back, because the interactions between the gas system and electric system are incredibly complex.

The Commission had -- has hosted two New England Gas-Electric Forums. In New England, there is an acute interaction independence on the gas system. Obviously there is a dependence on the gas system for electrical reliability throughout the country, but New England is particularly acute.

And what we have found is that the interactions between those systems are incredibly tight. And so increased gas capacity is something that is likely going to be needed for the additional gas capacity that is likely to be online.

Mr. Duncan. Essence of time -- in the essence of time, I will just stop you right there, because I ask you to stay for the second panel. We are going to delve into events like the December 24th event that happened in South Carolina all the way through the Ohio River Valley. We will talk about Texas. We will talk about the need for dispatchable energy and where some of the shortfalls were with the generation mix you have mentioned earlier.

So I will conclude saying that there is no substitute for reliable dispatchable generation. I hope we all can recognize that and work together.

And, with that, I recognize the -- Ranking Member DeGette for 5 minutes.

Ms. DeGette. Thank you very much, Mr. Chairman.

Dr. Ortiz, you were just talking to the chairman about the 111(d) rule. That is a draft rule that has not been finalized. Is that correct?

Dr. Ortiz. That is correct.

Ms. DeGette. And is the comment period still open for that?

Dr. Ortiz. I believe the comment period is closed.

Ms. DeGette. Okay. But -- so what will happen now is the agency will take all of the comments and then come up with a final rule, which has not yet been released. Is that right?

Dr. Ortiz. It has not yet been released.

Ms. DeGette. Yeah. But H.R. 4167 would stop all of that, because it would just simply delay everything for 5 years. Is that right?

Dr. Ortiz. Which -- I am -- I am not familiar with the numbers.

Ms. DeGette. It is the 111(d) rule.

Dr. Ortiz. Oh, it is the GRID Act?

Ms. DeGette. Uh-huh.

Dr. Ortiz. The GRID Act --

Ms. DeGette. I don't need you to describe --

Dr. Ortiz. Oh, okay. All right.

Ms. DeGette. What I just need to say, it has a 5-year delay, right?

Dr. Ortiz. No, I don't believe it does.

Ms. DeGette. That is not the one that has the 5-year delay?

Dr. Ortiz. No.

Ms. DeGette. Okay. Mr. Rodrigues, President Biden invoked the Defense Production Act to increase the domestic production of distribution transformers. Is that right?

Mr. Rodrigues. That is correct.

Ms. DeGette. And that is because we are all concerned about the transformer supply chain issues. Is that right?

Mr. Rodrigues. That is correct.

Ms. DeGette. And we have -- in the Bipartisan Infrastructure Law and Inflation Reduction Act, there are rebates and tax credits available that would aid investments in the electric grid components. Is that right?

Mr. Rodrigues. That is absolutely correct.

Ms. DeGette. Now, in your testimony, you mentioned that DOE is working with Federal partners to find actions and resources to alleviate the problem.

Can you talk very briefly about what actions and resources that DOE has identified?

Mr. Rodrigues. Yes. We are actually working on two paths, one using the authorities and granted to us now. We are trying to see what creative and aggressive approaches we can take to do anything and everything that will assist in the manufacturing and delivery of distribution transformers. That includes -- gosh, there is a whole host of things. Let me give you two quick examples.

One is a convening of industry, which is the manufacturing sector, and the utilities to work together to find ways to take some of the chokepoints away. And the other are

direct action by my sister office, MESC, which is doing stuff like helping to connect manufacturers with hard-to-source products, helping them to apply for the 48(c) grants, $10 billion of tax credits available, and $10 million of direct rebates for efficient transformers.

So much more, but those are good examples.

Ms. DeGette. So do some of these efforts take additional money than the money that was -- that came out through the infrastructure law and Inflation Reduction Act?

Mr. Rodrigues. To be perfectly frank, the answer to that is yes.

Ms. DeGette. And so, if Congress gave you additional funds that you needed to improve this situation, what additional steps or actions could you take?

Mr. Rodrigues. We have been working behind the scenes to be prepared. If and to the extent Congress sees fit to give us additional appropriations under the Defense Appropriation Act, what we will be doing is working directly with American manufacturing industry and American labor to help them to increase their production capacity.

That goes to three elements. Number one, helping them to get -- secure and retain the labor necessary work; number two, upgrading American manufacturing facilities to help them produce more product efficiently; number three, the Defense Production Act appropriation would allow us to find ways to work to get not just the supply side, but the demand side -- utilities working together to find ways to, quite frankly, streamline the design process for transformers, which will increase throughput.

Ms. DeGette. So, if we are able to fix these supply chain issues, then that is going to help increase reliability dramatically. Is that right?

Mr. Rodrigues. Absolutely. Dramatically might even be an understatement.

Ms. DeGette. Thank you. I yield back.

Mr. Duncan. Gentlelady yields back.

And I will now go to Dr. Burgess for 5 minutes.

Mr. Burgess. Thank you. And thanks to our witnesses for being here.

Dr. Ortiz, thank you for referencing the Energy Policy Act of 2005, one of the first pieces of legislation on which I was able to work on this committee back in the day.

It has been -- it has been an enduring piece of legislation. You referenced the reliability part. Of course we were just coming off of the 2003 power outage in the northeast, so it was on a lot of people's minds that that would be important. So we do need to keep in mind a lot of the policies that we make are enduring, and they do persist over time.

So, Dr. Ortiz, back home in Texas, it was in all the papers, but we have had a real hot summer. Not really a surprise, because Texas is supposed to be hot during the summertime, so the -- part of the blessing there is it generated a lot of solar power with the intense rays of the sun coming down. So that was a good thing.

The same time, every afternoon, like clockwork, the sun would go down. And, when the sun set, the power component from the solar panels dropped. And, I mean, this is just physics. It is not a surprise. It shouldn't have alarmed anyone. But that is also the point at which people are getting home from work and realizing this house is hot as Hades, and I am going to crank the AC down, which then put additional strain upon the grid.

So there were several -- probably ten or eleven warnings that ERCOT, the Electric Reliability Council of Texas, issued because of getting dangerously close to that supply-demand part of the curve where -- where I guess some bad things happen if the

lines cross.

So we saw that in one State, but are there concerns on the national level, more and more dependence upon renewables, wind and solar, sometimes not the highest degree of reliability, or sometimes predictable that there is going to be a drop-off after sunset?

Is there anyplace where that has affected Federal policy, and do we need to be concerned about the Federal policy that has incentivized the industry to invest in renewables at the expense of more reliable generation?

Dr. Ortiz. I only have 2 minutes and 28 seconds, sir, but I will be as brief as I can.

So what you are -- I think you correctly noted that, you know, solar and wind and other resources that have come online are predictable in many ways. But, you know, as you said, the sun does go down. You are not going to dispatch any -- a solar facility at nighttime.

And the impact that those resources have with respect to reliability has to do with the requirement, then, to ramp in the evening. There has always been an evening ramp. People would always come home and then turn on their appliances and do things. So that is nothing new. But the scope and scale of that ramp has become much more significant.

And this is most profound in California where -- you know, where it is known affectionately as the duck curve. But PJM has noted that they are going to have a 70-gigawatt ramp sometime in the next -- I think in 2035 is their projection. As a point of reference, the total load in PJM last week on a couple of the hot days was about 140 gigawatts, so that is half of the load on a hot day coming up on -- in the course of several hours.

That puts an incredible strain on primarily the flexible resources that are able to meet that, and that is natural gas capacity. That kind of ramping -- and that is why I kind of hesitated on my response to the chairman's question -- puts a different kind of strain on the pipeline and gas system than just having, you know, baseload plants. It is a much more comparable --

Mr. Burgess. I am going to run out of time, so I do need -- I hate to interrupt you --

Dr. Ortiz. Yeah.

Mr. Burgess. -- because I like where you are going with this, but we have done a lot as far as tax credits for wind and solar when they were in their infancy. But is it not now time -- those industries have matured. Is it not now time to withdraw or to dial back some of those subsidies in the Tax Code to allow for the production of more reliable forms of energy?

Dr. Ortiz. So I can't speak to, you know, subsidies and items like that. I will say, though, that wherever you have a significant amount of this happening at the distribution level with consumer choice, you are going to see this. So it isn't just a Federal set of issues. It very much goes down to State-level policies as well.

Mr. Burgess. So you propose eliminating consumer choice. Is that your answer?

Dr. Ortiz. I didn't say that. Actually, I said that, wherever you have consumers making these choices, then you have these -- this magnitude of items -- you know, you have the potential for this occurring.

Mr. Burgess. I will submit some other questions in writing.

Thank you --

Dr. Ortiz. Okay.

Mr. Burgess. -- Mr. Chairman. I will yield back.

Mr. Duncan. I thank the gentleman from Texas.

I will now go to the gentleman from California, Mr. Peters, for 5 minutes.

Mr. Peters. Thank you, Mr. Chairman, for hosting this hearing on electric reliability.

Just to Mr. Burgess' point on subsidies, I actually do philosophically agree on subsidizing industries in their infancy. We should also look at the oil and gas industry and the subsidies that we give them, and I am happy to start up a conversation that includes all the mature energy industries if we want to go down that road.

I do say, in terms of electrical reliability, that we still aren't talking about, in terms of keeping the lights on and reliability, the important topic of electric transmission and building a modern, interconnected electric grid.

A few months ago, we had the opportunity to improve the reliability of our electric grid by including transmission reforms -- specifically, our BIG WIRES Act -- in the debt ceiling agreement. And I think, in good faith, some of my colleagues said they weren't familiar enough with that issue and wanted to study it more, and that we would study it in this term in the Congress in the committee.

Even though there have been six recent studies showing that -- the need and benefits of interregional transmission, that is fine. Unfortunately, we don't seem to have that on the hearing schedule yet, and we are not considering legislation on expanding transmission, even as the risks continue to increase.

Just last week, the Electric Reliability Council of Texas entered emergency operations due to a record-breaking heatwave. A study in July found that the heatwave

combined with the grid failure in Phoenix -- I think Ms. DeGette mentioned this -- could kill thousands of people and send half the people in the city to the emergency room. In early 2023, Winter Storm Elliott caused blackouts across North Carolina and Tennessee, which could have been avoided if available power in the Midwest was able to be diverted to the region.

Since 2014, North America has built or is near building just seven gigawatts of high-capacity interregional transmission lines, less than half of that in the United States. This comes as top reliability experts warn of insufficient transmission for large power transfers. By comparison -- so North America had seven. We are -- United States, about three.

South America has built or is nearing building 22 gigawatts; Europe, 44 gigawatts; and China, 260 gigawatts worth of high-capacity interregional lines, compared to our three or four in the United States.

Between 2016 and 2018, China has started and completed a single line over 2,000 miles long capable of carrying 12 gigawatts, nearly twice the build of the entire North American continent over a period several times as long. We gotta get our act together here.

Our lack of interregional transmission infrastructure is a threat to our economic and national security, and it is imperative that this committee take it seriously.

Mr. Ortiz, I want to ask you how -- what your feelings are and how important a robust transmission network is to enhancing reliability and keeping the lights on for the American people?

Dr. Ortiz. Thank you for the question, Congressman.

Transmission is, quite literally, the backbone of the grid, and the recently

published DOE Transmission Needs Study concluded that there is tremendous needs for transmission for a number of reasons -- replacing capacity -- I mean, replacing aging equipment, as well as interconnecting resources, among other benefits. I would turn it to the DOE for more --

Mr. Peters. Right. Not just about expanding capacity, but more reliability, more security on a better grid.

Can you tell us: In terms of equipment, what about distribution transformers? How could we best address this shortage we are seeing in that? Mr. Ortiz, or whichever you think? Mr. Rodriguez?

Mr. Rodrigues. The end state that we need is more investment in American manufacturing of the materials, components, systems, and the transformers themselves. And we are working along that timeline.

But, in the near term, what we need to be doing is focusing on practical solutions that will reduce the strain on the supply chain. So that includes working with industry, as we are doing now, to have the power sector find ways to better share the supplies they have and to reduce the number of one-off type of signs, but also working with the manufacturing sector to help them to, quite frankly, make investments for a 21st century manufacturing process in this country.

Mr. Peters. Can we expect -- and I hope we can -- that the work you are doing will result in recommendations for Congress to take whatever action we need to support that effort?

Mr. Rodrigues. I cannot foresee whether it will wind up with recommendations to Congress specifically, but they are focused on practical solutions. My intent is to make sure that, if Congress should be involved, it will be involved.

Mr. Peters. Thanks. I hope you will let us know if there is something we could do.

And, Mr. Chairman, my time has expired. I yield back.

Mr. Burgess. [Presiding.] Gentleman yields back. The chair thanks the gentleman.

Chair now recognizes the chairwoman of the full committee, Ms. McMorris Rodgers, for questions.

The Chair. Thank you, Mr. Rodrigues and Dr. Ortiz.

You know, I am very concerned about the state of our Nation's electric grid. And we see electricity prices continuing to skyrocket since the beginning of 2021, almost 30 percent higher today. Our electric grid is becoming increasingly unstable. NERC has issued warnings that two-thirds of the Nation is at an elevated risk for a blackout as our most reliable and affordable power plants are being retired and replaced with weather-dependent wind and solar.

In 2023, EIA projects that 15.6 gigawatts of baseload generation will be shut down, which is enough electricity to power more than 10 million homes.

So, first, Mr. Rodrigues, do you agree that baseload power plants' retirements pose a threat to grid reliability?

Mr. Rodrigues. I apologize for the way I need to answer this, but, in and of itself, retirement of power plants does not pose a threat. I believe the point of agreement between us is that, if things aren't done in a thoughtful, deliberative fashion, you can cause reliability concerns around the ability to have power delivered at the time we need it.

The Chair. Right. Well, it suggests that it is not being done in a thoughtful

manner, then, because it seems that we are shutting down baseload, and reliability is absolutely being jeopardized.

Mr. Ortiz, has FERC been allowed -- has FERC been asked to model the impact of baseload power plant closures on the electric grid?

Dr. Ortiz. Not to my knowledge, no.

The Chair. Okay. And another question, Dr. Ortiz: Are intermittent wind and solar generation reliability sources of electricity during extreme weather scenarios when demand -- oh -- are there -- is there reliable sources of electricity during extreme weather scenarios when demand for power is spiking?

Dr. Ortiz. I am sorry. Could you repeat the question, Congresswoman?

The Chair. Are intermittent wind and solar generation reliable sources of electricity during extreme weather scenarios?

Dr. Ortiz. If I may, I would prefer to take that back to be able to look more closely at the data.

The Chair. Okay. Mr. Rodrigues, I look forward to hearing back just what your analysis is as far as being dependent upon wind and solar when we have these extreme weather events.

Okay. Mr. Rodrigues, under President Biden, DOE has been moving aggressively to regulate dozens of home appliances that we all rely on to cook for our families, wash dishes, heat our homes. And, yet, these regulations are really like a hidden tax. It is raising the cost of appliances. Unfortunately, we are seeing some weakened performance, eliminating choices like natural gas stoves, for example.

So yes or no: Would you support an amendment to the law to prohibit energy standards that increase costs for consumers?

Mr. Rodrigues. The phrase increase costs to consumers is, quite frankly, a difficulty for me, because, like any investment that you make that has a return year after year after year after year, if we look at a truncated, what is the first cost, then there would -- probably no purchase that any American would make. I think the better view is to take a look at the lifecycle costs, but the lifecycle benefits as well.

The Chair. Okay.

Mr. Rodrigues. Because that is what really helps Americans to reduce their energy bills.

The Chair. Okay. Do you believe American consumers should pay more for a dishwasher, for example, to offset the social costs of carbon emissions or the global effects of climate change?

Mr. Rodrigues. I believe the American people should and actually enjoy the fact that there are products available that, while they might cost a little more at the outset than old, dated technology, they save them money every year, every time -- every time the lights go on, every time you wash your clothes.

That is --

The Chair. Thank you. --

Mr. Rodrigues. -- a financial reservation.

The Chair. Thank you. As a follow up to that, then, does DOE plan to look back on any of the prior standards to see if they have actually saved consumers energy and money?

Mr. Rodrigues. We actually have done that. And, as a matter of fact, it is one of the great American success stories. The amount of money saved by consumers is only half the story, though.

The fact that we are reducing the amount of energy consumed means that it makes available resources that we have today more able to meet the needs of the American people.

The Chair. Thank you.

Mr. Rodrigues. So it is a reliability --

The Chair. Thank you. I would like to look at that.

Mr. Rodrigues. -- aspect as well.

The Chair. I would like to look at that. Thank you.

Do you have any idea how many of name-brand American appliance manufacturers have actually been bought by China in the last nearly 20 years since this requirement put into place?

Mr. Rodrigues. I know there are people in our Department who look at that. I do not have that information with me today. I could look that up.

The Chair. Thank you. I was a little surprised that my GE microwave is actually Chinese owned.

I yield back, Mr. Chair.

Mr. Duncan. [Presiding.] Gentlelady yields back.

I now go to, I guess, Ms. Matsui, 5 minutes.

Ms. Matsui. Thank you very much, Mr. Chairman. And thank you very much for this hearing today.

Make no mistake, we are facing a serious shortage of transformers in this country. This shortage is threatening the reliability of our grid and delaying the clean energy transition.

However, H.R. 4167, the Protecting America's Distribution Transformer Supply

Chain Act, is not a serious solution to this problem.

Mr. Rodrigues, the Department of Energy has been working with industry stakeholders for over 2 years to address the transformer shortage. Yes or no: Would H.R. 4167 increase the supply of transformers in this country?

RPTR SCHOETTLE

EDTR ROSEN

[10:59 a.m.]

Mr. Rodrigues. My assessment is no, it would not increase the supply.

Ms. Matsui. Okay. That is right. This bill would prevent DOE from finalizing new efficiency standards for transformers. It does nothing to address the current shortage of transformers. To address the transformer shortage, we need to incentivize new domestic manufacturers of transformers here in the United States. And you wrote about this in your testimony, but you didn't mention the Protecting America Distribution Transformers Supply Chain Act.

Yes or no, does this bill do anything to incentivize American manufacturing?

Mr. Rodrigues. It does not.

Ms. Matsui. Okay. Would the bill create American jobs or train the skilled workers necessary to produce transformers in this country?

Mr. Rodrigues. As currently drafted, it does not.

Ms. Matsui. Energy efficiency is also an invaluable tool for preserving grid reliability. LEDs, for example, use 90 percent less energy than incandescent bulbs. This reduces peak energy demand and helps utilities to keep the lights on when electricity is most needed.

Dr. Ortiz, yes or no, over the last 15 years, U.S. demand for electricity has been relatively flat, has it not?

Dr. Ortiz. According to the Annual Energy Review published by the Energy of Information Administration, electricity demand has been relatively flat.

Ms. Matsui. Okay. Over that same period, though, real U.S. GDP has grown by more than 130 percent. How did U.S. demand for electricity stay flat, and what role did efficiency play in that?

Dr. Ortiz. I'm not -- Congresswoman, I'm not an expert in this area, but among the factors reported by EIA for this growth in -- I don't know exactly the term -- but for that effect, efficiency is one component.

Ms. Matsui. Okay. Thank you. Mr. Rodrigues, yes or no, have DOE efficiency standards reduced electricity demand?

Dr. Ortiz. Yes, it has.

Ms. Matsui. Okay. Mr. Rodrigues, yes or no, have DOE efficiency standards contributed to reducing peak electricity demand?

Mr. Rodrigues. Yes, it has.

Ms. Matsui. Mr. Rodrigues, in reducing peak demand, have DOE efficiency standards continued to making the grid more reliable?

Mr. Rodrigues. Yes, it does.

Ms. Matsui. Okay. Thank you. Energy efficiency standards have a long track record of success in saving Americans money, and resistance to these standards is nothing new. When Congress enacted new standards for light bulbs in 2007, there was an industry-led outcry, but how would inflate costs for consumers. Fifteen years later, the cost of energy efficiency bulbs has plummeted, and the average household can save over $200 per year by switching the LED lighting.

Mr. Rodrigues, can you talk briefly about the switch to LED lighting, and how the post-2007 efficiency standards helped save consumers money?

Mr. Rodrigues. I absolutely can and would be proud to. The switch from old

incandescent lighting to LED lighting has benefited Americans in many ways. These bulbs use 90 percent less energy than old technology and last up to 25 times longer and have other features that make them, quite frankly, a better fit in anyone's home or business.

The DOE, according to our analysis, expects consumers to have saved about $3 billion -- $3 billion in annual electricity bills over old technology. That breaks down to about $225 in energy cost reduction per year for every American home by using LED.

Ms. Matsui. Okay. Thank you. The bills we are considering today are premised on the misguided idea that DOE efficiency standards are unfeasible and unjustified. The Appliance and Equipment Standards Reform and Consumer Protections Act specifically prohibits DOE from issuing efficiency standards that are not technologically feasible and economically justified. It seems reasonable.

However, Mr. Rodrigues, you point out in your testimony that DOE is already prohibited by law from prescribing standards that are not technologically feasible and economically justified. Is that correct?

Mr. Rodrigues. That is absolutely correct.

Ms. Matsui. Okay. Thank you very much. And my time has expired. I yield back.

Mr. Duncan. [Presiding.] The gentlelady's time has expired. I will now go to Mr. Latta from Ohio for 5 minutes.

Mr. Latta. Thanks, Mr. Chairman. And thanks to our witnesses for being with us today.

As I have traveled across my district and met with electric utilities and cooperatives, a prime issue that has been raised is the supply chain crunch over the

distribution of transformers. Since the COVID-19 pandemic, the lead time for procuring new transformers has only gotten worse. This means that in the event of an emergency, utilities will have a harder time maintaining or restoring continuous power to their customers. They don't have an adequate supply of replacement transformers.

Additionally, many utilities are second-guessing the agreements they have made with other localities that are in need of transformers due to their own fears of being impacted by this crunch. That is why it is baffling to me to see the Biden administration put out new efficiency standards that would make the supply chain crisis worse.

This new standard would leave us with no domestic producer electrical steel for EVs, no producer of electrical steel for power transformers, and a distribution transformer market reliant on one producer that doesn't have enough capacity to meet the current demand. You know, thankfully we are considering legislation that would restore common sense to this process and delay the implementation of this new standard. I'm proud to be a cosponsor of the H.R.4167.

In listening to the testimony, before I get into my other questions, I would like to just ask a question I have asked before: With the administration looking at the year 2035, saying that the United States should be totally reliant on EVs in this country, by 2035, we are going to need more power or less power in this country? If I could just get a yes or no answer from both of you.

Mr. Rodrigues. All projections that I have seen and read state that as we continue to move forward and advance in America, we are going to need more power.

Mr. Latta. Thank you.

Dr. Ortiz. I concur.

Mr. Latta. Thank you. So you both agree we are going to need more power.

Assistant Secretary Rodrigues, your office is tasked with ensuring the reliability of the Nation's security grid. Given the challenges facing our country's electric grid, including the age of most of the grid's infrastructure, the ever-increasing demands and supply chain challenges, and distribution transformer lead times, why would DOE propose a new energy efficiency rule that put domestic steel manufacturers who are critical to ensuring an adequate supply of transformers out of business?

Mr. Rodrigues. There is a two-part response to that. Part one is, we are mandated through legislation and a consent decry ordered by the court to take up the rule. The second part, which really gets to the heart of what you are asking is this: What the DOE is doing is not just complying with these mandates, but actually putting signals in the market that give certainty to manufacturers so that they can make the investments necessary to develop the products and services right here at home using American labor to supply and meet America's needs.

Mr. Latta. You know, it is by coincidence, in the last several hours, I had some meetings with some power generators and distributors in the State of Ohio. And just by coincidence, one of them mentioned this, and it is a very interesting fact, this is what they are looking at, of a 12 MVA substation transformer. In 2019, the county that they needed to put it in was $395,000. That same transformer today that they need to put in another county is $863,000, so in a 4-year inflation rate of 21.6 percent.

So you know, again, when we are looking at these things -- in Washington, these things come out and it is pretty easy when they write a regulation or rule, but these are facts that actually affect people back home. Because the next thing, who is going to pay for this? It is going to end up, it is going to be the consumer out there, and it is going to make it harder for people to heat their homes, cool their homes in the summertime. So

I really worry about that.

Dr. Ortiz, in my last about minute here, ever since the recent high profile physical attacks on power substations across the country, I am very concerned about the security and reliability of these assets as bad actors at home and abroad seek to take advantage of the United States vulnerable energy infrastructure, we must ensure that our grid is protected, and we keep the lights on for Americans.

What is FERC doing to specifically address direct threats to distribution substations?

Dr. Ortiz. Thanks for the question, Congressman. I will be quick. With respect to attacks on distribution substations, the Commission has an office of Energy infrastructure Security that engages directly with States regarding best practices for security. I do not direct that office, but would be happy to take questions back and work with my colleagues to provide a full response.

Mr. Latta. I would appreciate that, because this is something that the chairman of our subcommittee led down to North Carolina that we were at and had a very good hearing down there. But this is a real threat to your infrastructure, but in also making sure that electricity gets out to the public. So thank you very much to our witnesses, and Mr. Chairman, I yield back.

Mr. Duncan. Gentleman yields back. I will now go to Mr. Tonko for 5 minutes.

Mr. Tonko. Thank you, Mr. Chair, and thank you to the ranking member for hosting this hearing. And I thank both of our witnesses for their testimony.

Secretary Rodrigues, I want to make certain I understand this connection between grid reliability and energy efficiency. As you indicated in your testimony, the proposed efficiency improvements for transformers may seem small, but when you consider nearly

all of the electricity generated in the country passing through transformers over the course of the long lives of this equipment, we are talking about a lot of lost energy; is that correct?

Mr. Rodrigues. That is absolutely correct.

Mr. Tonko. And as we have seen this summer, certain regions have struggled to maintain reliability for several reasons, including, perhaps, extreme heat and weather events. So we know these types of events coupled with increasing electrification if not properly planned for will create greater stresses on the grid in the years ahead. Is that correct?

Mr. Rodrigues. That is absolutely correct.

Mr. Tonko. So Secretary Rodrigues, how can reducing inefficiencies in the electricity system, whether that is line losses or transmission lines, or losses from transformers help improve overall reliability?

Mr. Rodrigues. Your question actually is perfect because it shows a system understanding of the grid. Number one, it is how much power you need to produce, but how much power you need to produce at any point in time is driven by two things: Number one, how much is being consumed? And that is where efficiency standards help Americans with their pocketbook, but also help to support the reliability of the grid because it helps to ensure we have adequate resources.

Number two, along the way, the grid itself transports energy over long distances. Advancements in technology that we are working around in my office will help to reduce line losses, meaning less wasted energy in the transport from where it is generated to where it is delivered. All of these things -- all of these things support resource adequacy.

Mr. Tonko. Thank you. And ultimately, if we only have one tool by which to manage the grid and it is cranking up supply, of course it will be more difficult to balance a dynamic and complex system, but when we start addressing energy demand through end-use efficiency and demand response programs, writing more tools to our reliability toolbox as you indicated. And similarly improving the grid's performance is another important tool to alleviate pressure on the grid. So I believe it is very shortsighted to prevent the Department from finalizing any transformer rule in the next 5 years.

Personally, I believe we should embrace this as an opportunity to begin to plan for, and build the grid of the future with equipment that will enhance -- enhance reliability, and because DOE's proposed rule would not go into effect for several years, there is time to build the investments necessary to build the domestic manufacturing supply chain. And we have already given DOE some tools to help. For example, the Inflation Reduction Act includes the 48(c) tax credit, which could be used to improve and expand transformer and electrical steel manufacturing.

Secretary Rodrigues, can these incentives help ensure domestically reduced, high-performing grid equipment is ready and available by the time any proposed standards goes into effect?

Mr. Rodrigues. Yes, they can, and they are doing that.

Mr. Tonko. Well, I thank you for your responses. And you know, I believe that we need to do this in a very science-based and evidence-driven manner, and I appreciate all the work done by the Department for implementing what is a huge transformational opportunity for this country.

With that, Mr. Chair, I yield back.

Mr. Duncan. Gentleman yields back.

I will now go to Mr. Guthrie from Kentucky for 5 minutes.

Mr. Guthrie. Thank you, Mr. Chair. I thank the witnesses for being here. And I can assure you that everybody on this committee, if not everybody in Congress, knows how the grid works. We are fully understanding of that. And like Mr. Latta -- so he took some of my questions. I spent a lot of time back home. So we have two big taxpayer payer subsidized battery plants coming into my district. So I know companies got their battery plant subsidized, but a lot of people around them didn't.

And so, our frustration is this, I have said it before, I said to your -- to Secretary Granholm, is every time we seem to bring up issues with going to all-electric vehicles that are real issues, that we just get dismissed away. Oh, you are just naysayers.

One matter a fact, one of our colleagues said that if dismiss this, you are just pro-Chinese. Said it at the last meeting, and I didn't think about it until I was leaving, and I wish I would have thought of it then because I would have said it when she was in the room, is if you are telling businesses what they have to build, and you are telling consumers what they have to buy, that is far more Chinese-like than what we are proposing on our side.

And so it is the concerns that we just dismiss everything away. The biggest part of it in my area in Bowling Green, Kentucky, there is a big battery plant -- we are glad that it is going to be built there -- but for it to even expand, it is going to have to increase our grid. TVA has already said that we are concerned about economic development in the area, and it just seems like so we subsidized the battery plant. And even if you have the smartest people in the room, they just think they are smartest, they are the smartest, you can't think of everything that has to be subsidized to make that work.

And so I can tell you some of the automotive companies, their suppliers need to

switch from internal combustion into -- matter a fact, they are telling them they need to do both: You have the electric and internal combustion because they are not sure -- obviously, the consumer doesn't dismiss all these issues and we have seen the Secretary, we have seen the chairman of Ford Motor Company try to drive electric cars, and they can't charge them. And so consumers look at that and go, why would I buy a car like that if the Secretary of Energy can't charge her car? And so, that was pretty negative, actually, to the electric car, what had just happened recently.

And so, the problem is, do you just as a country are we just going to subsidize everything? That is what we get to is -- to move forward. It is just really frustrating as we look forward. And then you see these rules that the hearing is about today coming down, and every one of my electric suppliers says their biggest issue is getting transformers. And then we have new rules. I know you are saying you think these aren't going to impact the distribution of those, but I can tell you people on the ground feel that way. They may not be in the room here in Washington D.C., but people who are trying to buy these and move these forward, who I think would be very valuable for you to listen to, really have concerns about where this is going. If you like to comment on that, I appreciate it.

Mr. Rodrigues. I apologize. My head was bobbing up and down. I absolutely agree with you. Talking to people on the ground is absolutely important, and that is why I personally and other members of the Department have been with, so far, the majority of the American distribution transformer manufacturers in their offices talking to them about what they are facing, speaking with every and every one of the power associations, EPRI, APPA, NRECA. We are working this in a way that has very practical implications. You all have the very difficult job of trying to figure out big policy

decisions.

What I am trying to do, and what the Department of Energy is trying to do, and what our sister agencies at the Department of Labor, Department of Commerce are trying to do is to work with people on the ground to find near-term solutions to lesson and alleviate this crunch that we are feeling, but also, build in long-term solutions so that we are not continually fixing the same problem over and over. That comes from grid modernization, and that also comes from the modernization on the components on the grid. Transformers being one of them.

Mr. Guthrie. You get to the point, though, if -- because this is kind of some of the problems with government subsidies. People chase subsidies. So they move to subsidies. And I appreciate what you said, that you are sending a signal that this is where we are going so people can long-term invest, but if you get to a point -- and I know people have told you that because you are testifying to that. And I absolutely believe you.

But I have heard differently from different groups and we are probably not talking to the same level of people, just people out moving forward. And what you fear, you get to the point a couple years down the road or a year down the road and you say, Well, this is really going to delay transformers. So we are going to suspend. We are going to waive -- that happens all the time here. And industry just doesn't know where to go when that moves forward. And I can tell you move from two thirds of all cars being EV in 9 years, which is -- everybody other than people in Washington think that is impossible, but people have to invest to that because that is the rule. And you get 2 or 3 years down the road, and you say that is not going to happen, we got to waive the rule or change the rule whatever.

It is just chaos. It is chaos in the investing community, and it costs money. It costs money and it costs people the ability to live productive lives because they are always chasing their -- so it is a real concern. And I know that you are concerned about it as well. And I just wanted to share that. He asked my questions. So I just wanted to share my concerns.

Mr. Rodrigues. Thank you. I will take that back. But please rest assured that the work of the Department of Energy is not about trying to take choices away from consumers. It is trying to give them more options, more choices for technologies, for products, for services that will actually save them money and help the reliability of the grid at the same time. We will do our darndest on that, and you have my commitment to that and to work with you all on that.

Mr. Guthrie. Appreciate it Secretary. I yield.

Mr. Duncan. Gentleman's time has expired. I will now go to Ms. Schrier for 5 minutes.

Ms. Schrier. Thank you, Mr. Chairman, and thank you witnesses. I would love to discuss the transformer shortage that every single utility in my district has experienced and is frustrated with. The transformer supply chain issues in consideration here today are having very real consequences for my constituents, power companies, businesses all over my 10,000 square-mile district.

As we have heard from my colleagues on both sides of this room, lacking access to transformers has forced utilities to delay projects, cancel projects. Really it is hampering security and opportunities for economic growth. This includes residential and commercial pursuits, like new affordable housing, or clean energy projects. It also makes existing infrastructure vulnerable in the case of storms and other emergency

events like wildfires, which have become more prevalent and will continue to be even more prevalent given the change in climate.

It even is impacting our ability to establish the network of EV charging stations as Mr. Guthrie was just referring to, that we are going to need in order to support so many more electric vehicles on the road. And these utilities, they are hard at work. They are repairing and reusing what they can. They are refurbishing old transformers. They are just scraping to get by.

And I want to give just a real-life example of the supply/demand mismatch. One public utility in my district described their current backlog of 50 kiloamp distribution in transformers. And while they have 28 transformers on hand, they have 208 transformer requests in the next 90 days alone. And they still have 490 units on backorder with very unpredictable delivery times. And that is scary.

In addition, transformers that the substations use to power whole blocks of the grid, the large-power transformers, are and have been in critically low supply. These take years to build, cost I believe hundreds of thousands to millions of dollars to build, require custom designs, and are produced by only a handful of manufacturers. A one utility in my district, it is 5 years of lead time for one of these.

Assistant Secretary Rodrigues, I know that your office is very familiar with the supply-chain issues surrounding large power transformers. Utilities take it upon themselves to develop these solutions in the industry like sharing spare equipment and lending crews in the midst of unexpected outages. At this time, I would really call this a crisis.

What is DOE doing to help facilitate initiatives like industry sharing, and what plans have you implemented to help us going forward?

Mr. Rodrigues. Thank you for that question. And as someone who has spent nearly a quarter of a century inside the utility, I share that ethic and that concern that keeping the lights on is the most important mission in the utility industry around this country. So as we work on this, I am going to expand my answer a little bit, because it is not just my office. It is not just the Department of Energy working on this. We have the National Economic Council, Department of Labor, Department of Commerce, including the National Institute for Standards and Technology.

All of the power associations working with us and DT manufacturers and also the manufacturer of -- the one U.S. manufacturer, grain oriented electrical steel. We are meeting. We are working together. And we are collaborating. Not just coordinating, but collaborating on solution sets. And I say solution sets because there is no one-size-fits-all answer for this issue. We are going to have to work through it. It is a roll-up-your-sleeves type effort.

So one thing we are doing is trying to inform better manufacturer design specification. So right now, as we sit here in this room, one of the things that we uncovered as we were working with utilities around this, because utilities don't all talk to each other at the same time, there are some 80,000 -- 80,000 different sets of design specs for distribution transformers. That doesn't make sense. And so the utilities are working with us as we speak. Their engineers are all working together to figure out what things we can bucket to try to allow more interoperability, interchangeability. Those are kind of near-term solutions. We are also designing more flexible large power transformers, and we are also working to help the utilities in their sharing processes. We are attacking it hammer and tongs every way we can.

Ms. Schrier. Thank you. I have like one second left. I thank you for that.

And just mention the Defense Production Act, which may be something to call upon, especially once you get this all streamlined in terms of design and flexibility.

Thank you. I yield back.

Mr. Duncan. Gentlelady yields back. I will now go to the chair on the Environmental Subcommittee, Mr. Johnson, for 5 minutes.

Mr. Johnson. Thank you, Mr. Chairman. And gentlemen, thank you for joining us on our panel today, lots of important things to talk about.

You know, by now it is obvious that we are headed for a grid reliability crisis in our country. The RTOs are telling us this. The power generating companies are telling us this. I don't have time here today to go through it all, but I am cochair of the House Coal Caucus, and we published this 18-page report. And Mr. Chairman, if it is okay, I would like to ask unanimous consent to enter this into the record.

Mr. Duncan. Without objection. So ordered.

[The information follows:]

******** COMMITTEE INSERT ********

Mr. Johnson. But it lays out warning after warning from the experts, and lists the onslaught of Federal regulation taking us to this point of a reliability crisis. It is a simple math problem. We are retiring baseload dispatchable generation too fast with no adequate replacement. It is unfortunate, actually, that instead of preserving our coal fleet and expanding our gas and nuclear assets, where instead we hear terms like efficiency standards and demand response.

Now, my friends, these are code words for telling Americans they need to use less energy. And usually, this means also decreasing their standard of living in order to do so. This just is not going to work. We are the greatest economy on the planet and our economy demands energy security. We simply can't address the myriad of environmental challenges by burdening the American people by telling them to use less electricity.

So Mr. Rodrigues, would you agree that with EV's data centers and widespread electrification on multiple fronts, that electricity demand is going to go up significantly in the next two decades?

Mr. Rodrigues. I believe electricity demand is going to go up.

Mr. Johnson. Okay. Great. So would it be accurate to say that even if we squeeze as much electricity efficiency as we can out of our country and economy, we would still have to build out new baseload-power-generating capacity to meet that increasing demand into the 2030s and well beyond?

Mr. Rodrigues. You and I are on exactly the same page. There is no one single bullet answer that fixes it. It can't just be efficiency. And that is why at the Department, we are working on things like carbon capture --

Mr. Johnson. Okay. So we are going to have to build out new capacity.

Next, Mr. Ortiz, you are the director of the FERC, Electric Reliability Office. And you have got your job cut out for you, ensuring our Nation's grid reliability is on your watch. I know you take that seriously, so I will be entering into the record a letter that one of your commissioners at FERC, James Danly, wrote to the EPA saying that when EPA proposed its new source performance standards rule, I quote, the EPA did not consult the commission. This was in regards to electric reliability impacts from their proposed rule.

Does it concern you, Mr. Ortiz, at all? Because you run the reliability office. Does it concern you that the EPA did not consult you and your commission on this proposed ruling?

Dr. Ortiz. Congressman, as you know -- oh, I don't know if you know, but there is an interagency review process.

Mr. Johnson. Well, I know. But are you concerned that one of your commissioners said that they did not consult FERC?

Dr. Ortiz. No, I am not concerned that --

Mr. Johnson. You are not concerned that FERC didn't weigh in? You have the reliability office so I would think that you would be concerned.

Dr. Ortiz. The question you asked was, are you concerned?

Mr. Johnson. Is it true that FERC wasn't able to adequately weigh in before the rule was proposed?

Mr. Ortiz. Agencies do not typically get into the business of developing rules in collaboration with other agencies.

Mr. Johnson. Well, that is a -- that is earth shattering because when a FERC commissioner says here that he wasn't consulted, nor his fellow commissioners, that

seems to me to be a breakdown. I mean, how are you supposed to ensure grid reliability, which is your job, how are you supposed to do that if you are not consulted about rules that are going to affect grid reliability? Are you willing to let the EPA claim they have your seal of approval amidst all this confusion?

Dr. Ortiz. I don't believe that the EPA has made that claim, sir.

Mr. Johnson. You don't think they have made that claim? They said they consulted with you, and your commissioners say that they haven't.

Mr. Ortiz. I would have to look more closely at their --

Mr. Johnson. All right. Well, please do that and get back to us because I think we need an answer from you, because you are responsible for grid reliability. I would like to hear back from you.

Mr. Chairman, I yield back.

Mr. Duncan. Gentleman yields back. I will now go to the ranking member, Mr. Pallone, for 5 minutes.

Mr. Pallone. Thank you, Mr. Chairman.

Director Ortiz, I want to ask some questions about how FERC could implement the GRID Act. This bill allows for FERC to review proposed Federal actions that are likely to have a significant impact on the bulk power system. It also allows for a State public utility commission to initiate a process that would require agencies to turn over detailed information on decisions to FERC, and for FERC to issue detailed comments to an agency on their proposed action.

You know there are 50 different State public utility commissions, and it is easy to imagine that one of them finds something it doesn't like in nearly any Federal rule of regulation, from basically any agency. So does FERC currently have the staffing

capability to make judgements on the impact of every Federal regulation or determination of the bulk power system, and if a State POC were to object to every Federal rule, does FERC have the capacity to provide detailed comments on each rule back to these agencies?

Dr. Ortiz. Thank you for the question, Congressman. Let me take up your -- a response through a couple of ways, and I think a more detailed response regarding how the commission may implement such legislation best for technical assistance. But, you know, there is a couple pieces. One is that determination piece. And, you know, the law is written as I think extreme electric reliability impacts, or no negative electric reliability impacts on the bulk power system. We would have to come up with a standard for that extreme reliability impacts in order to be able to implement effectively the rule.

And then reliability goes far beyond a resource adequacy analysis. It goes to broader interconnection-wide effects having to do with just the behavior of the system on a second-by-second basis. I have a very, very capable team of engineers, but I, you know, currently do not have the interconnection-wide models, nor some of the data that I think, at least personally, would be necessary to truly implement that. It is not to say that we couldn't build that capacity or engage with others to get it. So I mean, I think there is a number of technical implementation details. But you know, I think from the standpoint of the commission, if we were to be able to work those out, it would be feasible to implement the rule.

Mr. Pallone. Thank you. And then building on that, Assistant Secretary Rodrigues, it sounds like GRID Act could really stand in the way of DOE's work. How will this bill affect DOE's ability to meet statutory obligations and timelines for updating and

finalizing new standards?

Mr. Rodrigues. Thank you for that question. First, let me state that at the Department of Energy, we are absolutely -- we absolutely believe that interagency coordination is a good thing. However, as your question foretells, what the GRID Act does is by creating, quite frankly, a vague standard around a significant negative effect, we believe that the practical real-world impact will be State commissioned -- some State commission somewhere will take every single rule, every single proposal that comes before us and put it into this process. That will slow down and probably make it impossible for us to meet our legislative and court-ordered mandates, a timing for standards that we have on the list now. But more importantly, I think what it does is it delays improvements that actually help the American people by making the grid more reliable.

Mr. Pallone. I appreciate that. Now, let me ask you again, can you detail DOE's process for efficiency standards rulemaking? How does DOE engage with stakeholders in what is already factored into proposed rules? Isn't DOE already required to ensure rules are technologically feasible and economically justified?

Mr. Rodrigues. Absolutely that is the case. Though technologically feasible and economically justified are, in fact, we are legislatively mandated to go through that. But I think the most important part for every member here to understand is that we have not just a rigorous process, but a very deliberative process in which at every step of the way, DOE reveals its assumptions, its modeling, everything that goes into our consideration. And that is revealed to all participants, all stakeholders in the process, so that they can inform us their perspectives, their contrary analysis, et cetera.

The process grinds slow, but it ensures that every voice is heard, every perspective

the weighed, and in a deliberative fashion, so that the end result of a rule, whether a rule is propounded, amended, or decided that we don't have to make a change. It is done on the basis of not just DOE analysis, but everyone else's stakeholder analysis as well.

Mr. Pallone. Thank you. Thank you, Mr. Chairman.

Mr. Duncan. Thank the ranking member. I will now go to Indiana's Dr. Bucshon for 5 minutes.

Mr. Bucshon. Thank you, Mr. Chairman. And thanks to the witnesses. I just want to say the administration's energy policies are not practical, and, frankly, not doable, and everybody knows it. Secretary Granholm kind of proved that herself by trying to take an electric car across America, and you saw the result of that without any infrastructure in place, even after months of planning. Imagine a citizen in Sullivan County, Indiana without the benefit of a whole cadre of staffers planning their trip to try to travel to grandma's house in a nearby State with the current infrastructure in place. So it is ridiculous.

I have to say this hearing is timely for my constituents. Increasing electrical bills are starting to create some concerns within communities across the Hoosier State, and in drawing attention to the media. Just in the last week, I read several articles and State publications discussing rising cost, real-world concerns. While the cost of electricity has risen 19 percent nationwide since 2012, it has risen 35 percent in Indiana.

And part of that is we depend on coal in Indiana. The short-term answer is that producers have been forced to move away from that, an affordable and locally available source of energy to alternative sources when there isn't yet the proper infrastructure in place to do so. I am not going to argue merits of coal versus other sources of energy. Every energy source as we know has pros and cons, which I am very familiar. And I

believe in an all-of-the-above approach.

In fact, last week I spent touring and learning about some of the energy production sites across my district from a coal mine to a hydro-powered dam on the Ohio River. We discussed wind, solar, natural gas.

I heard firsthand from the industry that a rush to green agenda is coming with an unsustainable price tag, which means higher bills for my constituents. I support diversification of energy supplies, but we cannot put policy before practicality. Affordable energy and reliable energy is the key.

What I can't seem to figure out is the disconnect between the administration's Department of Energy's priorities and the actual real-world experiences of everyday Americans, particularly in my district. Over and over again, you put out rules that fail to consider practical realities. For example, implementing standards on coal fire power plants with unrealistic deadlines that force closures within a few short years.

I understand the people want to get rid of coal, but we have to have other infrastructure in place to replace it. We don't. For all these reasons I am pleased to see that the GRID Act would ensure that Federal agencies cannot finalize regulations that are likely to have a significant negative impact on the reliability of our bulk power system without considering and responding to input from FERC and the relevant electrical reliability organization on such reliability impacts.

Mr. Rodrigues, I am going to change subjects here. But I am a little bit -- I was recently in North Carolina where they had the -- for a field hearing where they had to shut down because transformers were attacked by what is considered, I think, domestic terrorism. So can you give me real specific -- and then -- let me say this -- I was at Center Point Energy in Houston, and we were talking with them about their large

transformers and what would happen if something went down to one of their ones -- roughly 2 million people would lose power, and they said it would take 2 years to replace it with the current supply-chain situation we are in.

Are there any real specific examples of what DOE is doing to strengthen and diversify the supply chain for distribution transformers, since we only have one company left producing electrical steel in the United States? Are there things we are doing actively to support this?

Mr. Rodrigues. Yes, sir. Let me start with the pocketbook issues first. There is $10 million in rebates for more efficient transformers on market right now. $10 billion in 48(c) tax credits. So that is foundational. The things that we are doing out of my office, as we speak, are again, I talked about this collaboration -- it has probably been done before, but I do not know of a collaboration that has been more congenial and more focused than the one we have right now with the power sector to try to find ways to ensure that we can improve the ability of the manufacturers' existing capacity to meet the needs of the utilities today, and some of that means changing standards, et cetera.

Mr. Bucshon. Sure.

Mr. Rodrigues. The other part of that is the longer-term view, as I referenced earlier. We can't keep treading water and fixing this problem over and over again.

Mr. Bucshon. Right.

Mr. Rodrigues. So we are working on design solutions that use more readily available products and materials that can be sourced right here in America to build transformers in the future.

Mr. Bucshon. Thank you.

Mr. Rodrigues. Sure. May I say one last word? Flexibility.

Mr. Bucshon. Yeah, I am out of time. But --

Mr. Rodrigues. Oh, I am sorry.

Mr. Bucshon. I just wanted to get this in. For example, the city of Washington, Indiana have shared how the supply-chain issues have delayed, or even prohibited, new housing developments, infrastructure upgrades, and the community's overall growth because of this issue of transformers and the supply-chain issues. So I am happy to hear that you are working collaboratively with the industry to solve this problem.

And I yield back, Mr. Chairman.

Mr. Duncan. The gentleman's time has expired.

I will now go to Texas, Mr. Veasey, for 5 minutes.

Mr. Veasey. Thank you, Mr. Chairman. You all know that Texas has a very rapidly growing population, and what that accompanied in a load growth coupled with extreme weather events and driving increased utility demand, it comes along with all that growth we have. We like the growth, but we have a lot of things we have to manage because of it.

The constituents I represent know too well that Texas has a major electric reliability challenge, especially during the summer when we were warned repeatedly that ERCOT and our grid could not meet all of the demand. Just last week, ERCOT filed a request for emergency order under section 202(c) of the Federal Power Act to ensure reliability of the bulk power system due to the extreme heat that we were experiencing.

In its request, ERCOT noted that it is concerned that a post-contingency overload could occur on a transmission line. And so what that means is that is ERCOT worried that a transmission line that runs power from south Texas to the rest of the State could overload with electricity, and that would put the transmission line itself at risk of

essentially frying.

Rather than risk the line tripping or breaking down, ERCOT cut the flow of power running over the system right when people needed it most. And worst yet, ERCOT has known about this congestion for a while now. And I want to be clear, transmission is reliability. And I am disappointed that none of the bills before us today do anything to enhance grid reliability. It is time that we fix the grid. And I am proud cosponsor of the FASTER Act that would align incentives to improve the sitting, planning, and permitting process for interregional transmission lines.

I have a question for Dr. Ortiz. I understand that ERCOT is a bit of a unique situation, but how would creating a minimum transfer requirement between regional transmission organizations increase reliability in the United States grid?

Dr. Ortiz. Thanks for the question, Congressman. Indeed, interregional transfer capacity through a number of extreme events has been shown to be particularly effective. For example, during winter storm Uri, the PGE minor (ph) connection was able to transfer significant amounts of energy to MISO, and then to SPP, which helped to maintain the stability of their systems. This was less so the case during winter storm Elliott because of the nature of that event.

Texas, as you know, suffered significantly during winter storm Uri in part because of -- because of lack of connections. But I think that that was a minor concern given some of the other factors.

So there is demonstration of the need and opportunity for this on a very real level. And so, the commission last December held a technical conference that delved into detail on this, and is continuing to work through that record. And further, Congress has directed NERC to perform a study of interregional transfer capacity and the benefits to

submit that study within 18 months, and then for the commission to review that, and then to make recommendations in a report to Congress. We are looking forward to working through both the NERC study as well as our own proceeding to come to a -- to resolve and answer some of these questions.

Mr. Veasey. Let me also ask you, because you mentioned in your testimony that you don't believe FERC has the capacity to successfully implement the GRID Act being discussed today. Do you believe that the current processes at FERC allow for adequate input in the regulatory process, or does Congress need to give this more attention?

Dr. Ortiz. The Commission operates through a robust notice-and-comment process for all of its proceedings, including the ones that my office helps the Commission to implement regarding reliability standards. We have a team that is built to do that. What the GRID Act could require us to do, if Congress were to choose, would be to perform somewhat more in depth and detail electric reliability analyses that we currently don't perform that other aspects of the government as I know, to my testimony, do. It is not to say that it would be an impossibility to build that capacity, but it is, you know, not necessarily a part of the regulatory process at this stage.

Mr. Veasey. Yeah. Thank you very much. Mr. Chairman, I yield back.

Mr. Duncan. Gentleman yields back. I will now go to Mr. Walberg from Michigan for 5 minutes.

Mr. Walberg. Thank you, Mr. Chairman, and thanks to the panel for being here.

Energy reliability has become a major concern in the last few years. We no longer worry about just losing electricity when an ice storm hits Michigan and knocks down power lines and a windstorm takes place. We also have to consider the possibility on hot days in the summer when our grid might not be able to handle everyone running

their air conditioner, or charging up their EVs. This is a serious problem. I believe it is self-inflicted to many degrees.

Worsening by the ongoing supply-chain issues, problems with coordination and regulations coming out of the Biden administration that our decreasing electricity generation with impunity while increasing demand. I am glad to see that some are awakening, some of my friends in the utility industry as well as auto manufacturers are now at least talking behind closed doors about the problems of going as rapidly in the direction that we are being asked to go, and the government is pushing and mandating.

I am glad to read a report just last week from 1,600 scientists talking about the fact that there is no climate emergency. They weren't saying there was no climate change. But the emergency that is causing us to do things so rapidly that is diminishing our quotient for success in this country and moving forward, and having things that we never experienced before, while the rest of the world goes around doing the same stuff. I am glad to see some finally standing up and speaking out against what we are doing.

Secretary Rodrigues and Dr, Ortiz, I am concerned by what appears to be a lack of coordination within DOE and across government when it comes to grid reliability. The transformers supply chain, as we talked about, that crisis is the perfect example. Over the last 2 years, average lead times were procuring distribution, have transformers increased from an average of 12 weeks to 16 months or longer, which is having a significant impact on grid reliability and the overall health of the Michigan economy that I am definitely concerned with.

Secretary Rodrigues, as the Assistant Secretary for the Office of Electricity, did you consult with your colleague, the Director of the Office of Energy Efficiency and Renewable Energy prior to that office proposing stringent new efficiency standards that would limit

the supply of transformers?

Mr. Rodrigues. Within the Department of Energy, I consult on a frequent and regular basis with my colleagues at the leadership level at EERE. More importantly, my staff of experts share our learning, our tools, our analysis not just with EERE, but across the organization as well.

Mr. Walberg. But you did consult with EERE?

Mr. Rodrigues. No. I just said we do consult on a frequent and regular basis.

Mr. Walberg. But prior to proposing stringent new efficiency standards that would limit the supply of transformers, that was the crux of my question.

Mr. Rodrigues. Yeah. The efficiency standard, first, doesn't limit the supply of transformers. It is a proposal for in the future increasing the efficiency of distribution transformers. But the answer to your question is, my staff, my team of experts with our tools and our resources, in fact, do consult with EERE on a regular basis.

Mr. Walberg. Well, let me move on from there because the result seems to be actual limiting. But nonetheless, did you consult with FERC on the impact of the transformer shortage?

Mr. Rodrigues. There is ongoing coordination between -- and communication between every Federal agency on these issues. I personally --

Mr. Walberg. Dr. Ortiz, let me jump here. Dr. Ortiz, were you consulted by anyone at DOE on the impact of the transformer supply shortage or the imposition of new efficiency standards?

Dr. Ortiz. Personally, regarding the new efficiency standards for distribution transformers, the answer is no.

Mr. Walberg. I wish I -- I guess we will have to save this question. Let me

move. Secretary Rodrigues, the DOE and EPA entered into an MOU last spring that provides a framework for interagency cooperation and consultation on electric sector resource adequacy and operational reliability. It includes FERC consultation. How is this MOU being implemented, and what have you learned so far?

Mr. Rodrigues. Yes. Thank you for that question. I think that was an important move on the part of both agencies. There has always been ongoing collaboration and communication between EPA and DOE. But what this did is to formalize that process. So thus far, there have been not one, but so far, two formal meetings between our agencies, and quite frankly, three of the experts from my own organization working with EPA. What we do is we provide them with the insight from our research and development, our tools, our analysis, et cetera. So that they may use that to make better informed decisions.

Mr. Walberg. Thank you. I look forward to the outcome, and I yield back.

Mr. Duncan. The gentlemen's time has expired. In the essence of time, we have a second panel. I just ask Members and panelists to try to finish up in 5 minutes. Ms. Castor is recognized from Florida.

Ms. Castor of Florida. Thank you, Mr. Chairman, very much, and gentlemen for appearing before the committee. Reliability and affordability in how we power our lives is very important to my constituents back home in Florida. And we are reminded recently with the powerful category 3 hurricane. We, in Florida, lost about -- 250,000 Floridians lost power. And I want to thank all the line workers and everyone who worked to get the power back on quickly as possible.

But, you know, I do not believe that reliability is incompatible with moving to cleaner cheaper energy. It is not like we are going to do it like this. This is -- it is going

to take all of us working together to get there. But I have just seen too much evidence that heavily polluting fossil fuel plants and outdated dirty appliances are -- they really are a -- a lag. They are really complicating our ability to move forward with cleaner, cheaper energy and to get more innovative technologies and lower cost, clean energy onto the grid.

I think hearing it over and over again really ignores the reality of what is happening because natural gas power plants, for example, have proven to be particularly vulnerable during extreme weather events, whether we are talking about hurricanes or winter storms. And moreover, the high cost of gas is really wearing on my neighbors back home. It is very apparent in Florida because we are touted as the sunshine State, yet the utilities have kept us really hooked on gas. 75 percent of our electricity generation in the sunshine State is gas.

What has that meant? Massive electric bill increases over the past year, especially since Putin invaded Ukraine. So we are looking for these innovative techniques and expansion of transmission to get cleaner resources onto the grid. Just 2 weeks ago, DOE rolled out its first tranche of funding for the transmission siting, and economic grant initiative. It is about $760 million through the Inflation Reduction Act, designed to help overcome the permitting challenges that slow the deployment of transmission infrastructure. I am really proud that the Select Committee on the Climate Crisis helped put this initiative together that was included in this Inflation Reduction Act.

Assistant Secretary Rodrigues, can you discuss why the rapid buildout of new transmission lines is essential for grid reliability, and how is that preplanning initiative, this new transmission siting and economic development grant initiative, how is that going, and what do you need from stakeholders moving forward to make it work?

Mr. Rodrigues. Thank you very much, and I want to jump on the one word you used in there that is the most essential thing that I want every Member to think about. Preplanning. The idea here that we are trying to do for the Department of Energy is to help them modernize American's grid by working with industry, by working with folks like yourself, so that we can take the steps today that will ensure that as we move into the future where there is going to be more demand and more innovation, that the grid remains as reliable, as resilient, as secure, and affordable as it is today.

Two things around transmission, if I may. Number one, yes, it is absolutely necessary that we start working on and thinking about today everything from the permitting process, et cetera, for new transmission for more interconnectivity. America needs a grid where we all can share in the work of reliability. But may I add one thing that I hope as you all work together on reliability, that you consider as well? There are advanced grid technologies available today -- available today, that can and should be used to enhance the throughput and the reliability and the safety of existing transmission corridors. We are working on both of those in the Department of Energy. We are working with industry to help prove those out, and quite frankly, we are working with utilities and grid planners to help them get the confidence they need to make these investments today. I hope that you all look at that as well.

Ms. Castor of Florida. So how is the preplanning effort going, this new transmission siting and economic development initiative? And then I hear you on the grid enhancing technologies. Are you able to work with stakeholders to bring in the GETs, the grid enhancing technologies, as part of this preplanning initiative?

Mr. Rodrigues. Yes. We are working on it as a roll-up-your-sleeves initiative. Every person in my office knows that I only talk about reliability and resilience with the

word affordability, and that is part of the answer. So far, it is going pretty darn well. I am so proud of the sister agency -- not agency, sister office in the Grid Deployment Office and the work they are doing. They are rolling out solutions as we speak, but probably more importantly, helping that -- helping industry to make the investments needed through that. Also, my friends in MESK are helping on that as well. This is a whole Department-of-Energy approach. We are trying --

Ms. Castor of Florida. Can you give us an example one part of the country or a certain State where you think where you think there is great promise or -- I am sorry. Am I over?

Mr. Duncan. Yeah.

Ms. Castor of Florida. Sorry. I yield back. Thank you.

Mr. Duncan. Thank you. The gentlelady's time has expired. Now, Mrs. Lesko from Arizona is recognized.

Mrs. Lesko. Thank you, Mr. Chair, and thank you to both of you for being here to testify. Both Congress Members DeGette and Peters both mentioned a study highlighted in a Washington Post article titled, Phoenix Power Outage Amid a Heat Wave Could Possibly Kill Thousands.

Well, that is exactly why we need Chairman Duncan's grid reliability bill in my estimation. And in fact, that article also said Phoenix, which I represent part of Phoenix, Arizona, has a reliable grid. Well, part of the reason that Phoenix has a reliable grid is we have a diversity in energy sources. In fact, in Arizona, in 2022, natural gas powered 42 percent of our electricity. Nuclear, 29 percent; Coal 12 percent; solar, 10 percent; hydro, 5 percent; and wind, 1 percent. And I do think the combination of diverse energy sources and new technology will help secure our grid reliability.

I look forward to supporting your bill, Mr. Chairman. The GRID Act, as it addresses a very crucial issue. It is an important step to address the reliability, abuse, and overreach of the Biden administration, in my estimation.

Another area I think this committee must fix is the broken market system in the ISOs and RTOs, have developed which does not prioritize or incentivize grid reliability at times. James Robb, CEO of NERC, the North American Electric Reliability Corporation, stated in Senate testimony, quote, "Unless reliability and resilience are appropriately prioritized, current trends indicate the potential for more frequent and more serious long duration reliability disruptions, including the possibility of national consequence events," unquote.

RPTR GIORDANO

EDTR HUMKE

[11:59 a.m.]

Mrs. Lesko. To me, this is the clearest warning imaginable, and this must be addressed.

These blackouts that have occurred, in my estimation, are caused by a lack of the right kind of generation to power the grid. This is primarily a result of poor policy choices.

Mr. Ortiz, these reliability issues are well documented, dating back as far as 2014, when DOE issued a warning concerning the bomb cyclone, which nearly crashed the entire national electricity grid.

What additional authorities does FERC need to guarantee that we build additional baseload-generating resources?

Dr. Ortiz. Thanks for the question, Congressman.

The FERC's -- FERC has jurisdiction over the electric transmission system as well as the reliability of the electric transmission system.

We also, through our regulated markets -- the regulated markets have the responsibility for implementing reliability standards within their footprint as well as managing on behalf of the States that they are -- that are members, resource adequacy. And of course that differs in quite a bit.

FERC's role there is to ensure just and reasonable rates. It isn't to make choices regarding either resource adequacy or the kinds of resources that are constructed. FERC is a fuel-neutral, all-of-the-above agency that is -- and that has been stated on the record

by the chairman and the commissioners. And, therefore, you know, I don't have -- I don't have a response regarding additional FERC authorities.

Mrs. Lesko. Do you have any specific actions that FERC could take with your authorities that would address grid reliability?

Dr. Ortiz. I can highlight actions that we have taken, in particular, to address reliability associated -- reliability concerns associated with the changing resource mix. We first direct -- we directed NERC to identify and register inverter-based resources, which are largely solar and wind resources, could also be batteries as well, so that they are required to comply with reliability rules.

And then we also -- we also are in the process of completing a proceeding to direct NERC to update its reliability rules to take into account the behavior of those resources to ensure that the planning is adequate, to ensure reliability as they are being integrated.

Furthermore, in our recent final rule regarding interconnection, we -- two components of that rule place a requirement for interconnecting nonsynchronous resources -- inverter-based resources, in particular -- to provide accurate validated models as a condition of interconnection, as well as to be able to have certain ride-through capabilities during disturbances, which NERC has identified as a key reliability risk.

So we have very much taken up the mantle of making sure that we improve reliability right now.

Mrs. Lesko. Thank you.

And my time has expired. I yield back.

Mr. Duncan. Gentlelady yields back.

I will now go to Mr. Sarbanes for 5 minutes.

Mr. Sarbanes. Thanks, Mr. Chairman.

Thank you all for being here today. We really appreciate it.

Since 1975, as you know, the Department of Energy's energy conservation standards program has put out very reasonable, feasible, energy-saving standards for a whole variety of household appliances -- dishwashers, stoves, light bulbs, washing machines, dryers, refrigerators, et cetera. Even though the energy savings for any one of these appliances might be small, as we have already heard today, the sum of these energy savings can have a very significant impact on energy costs and save the average family hundreds of dollars annually.

So, Mr. Rodrigues, I am trying to get some sense of it, like quantify what that looks like. If you take those individual appliance energy savings cumulatively across all the appliances that have these standards across the country, can you give me a sense of how much energy we are saving because of those standards and because of the standards program?

Mr. Rodrigues. I can, actually. And it is a startling statistic that I think everyone should know. On a lookback basis, by 2020, the efficiency standards have saved Americans more than $1 trillion from energy that otherwise would be wastefully used. By 2030, we expect that number to be $2 trillion.

Mr. Sarbanes. So, aside from all of the other important reasons to do this -- reducing our carbon footprint, cleaning the air, addressing pollution, et cetera -- just the bottom line economic savings that it represents to families across the country is really gargantuan if you put it into terms that you just did. And this matters not only to the consumers, but, when we consume less energy, as I indicated, we are

relieving stress on the grid.

I mean, you have talked a lot today. You have had a lot of questions about grid reliability, how to kind of manage the portfolio in ways that creates stability across the system.

I am concerned, though. One of the bills we have talked about already, but that we are considering here today would hamper DOE's ability to finalize energy efficiency standards for appliances by adding what I view as very cumbersome and unnecessary standards and tests to DOE's already robust rulemaking process.

I mean, as you have described quite effectively today, you have got a good system for looking at these standards and a track record of incorporating all of the various considerations that need to be made so this is being deployed in a sensible and rational way that benefits Americans. And I want to commend you on that.

But tell me if -- by legislation we are talking about today or in other ways, if the Department of Energy's ability to finalize appliance energy efficiency standards is hobbled or compromised, how would the resulting loss of energy savings impact the demand on the electricity grid and its reliability? I assume it would put more pressure that we don't need to have there, correct?

Mr. Rodrigues. Absolutely the case. It puts more pressure on the grid, because what will happen is it delays efficiency in the consumption of energy.

The second thing it does is it creates uncertainty in the marketplace for those manufacturers and distributors who produce and distribute efficient products for the American people so that we can save money in their homes.

And, lastly, but not least, while the savings that have accrued so far will endure because efficient appliances are there, we rob the next generation of Americans of their

ability to save energy in their homes and businesses to make them more productive, make them more comfortable, make them more safe.

Mr. Sarbanes. Well, I appreciate your administering these standards in a way that makes sense, and we want to continue to support that. And, as I say, I have concerns that some of the proposals being put forward here today undermine or would undermine your ability to do that. That is why I am hesitant to support them.

And, with that, Mr. Chairman, I yield back.

Mr. Duncan. Gentleman yields back.

Now recognize the gentleman from Texas, Mr. Weber, for his 5 minutes of questioning.

Mr. Weber. Thank you, Chairman.

Mr. Rodrigues, I will start with you. Is there a danger -- of course you are aware of the transformers amorphous steel regulation now. Is there a danger that putting that into place, that requirement, will outpace the development of us trying to get our supply chains back and really working well?

Mr. Rodrigues. I think not. And let me tell you why. I can understand why you would ask that question.

But one of the explicit questions asked of all the stakeholders in the process was whether or not the timing of the adoption of any such rule -- and, again, recall that rule might not be adopted. But the timing was something that was explicitly asked so that every stakeholder, everyone who had an interest and an idea and insight in this process could provide their information to the Department's folks working on the standard about what the timing should be.

So I trust that this process works. It is the most transparent process I have ever

seen in my life. And I come from California, so I know regulation.

I will tell you that I believe that, because of the considerations that are already legislatively mandated and the participation of every stakeholder who brought his or her analysis to the table, I think there is almost no chance.

Mr. Weber. When was that rule first -- when was the idea first promulgated?

Mr. Rodrigues. I am sorry. Say that one more --

Mr. Weber. When was that idea first promulgated?

Mr. Rodrigues. I apologize. What idea?

Mr. Weber. To make transformers out of amorphous steel.

Mr. Rodrigues. Oh, the idea is not to make transformers that use amorphous steel as their core. It was propagated by the requirement, both legislative and court-ordered requirement, that we review the existing standards, which hadn't been reviewed since earlier --

Mr. Weber. What was the timeline on that? When did that happen?

Mr. Rodrigues. The existing -- the last time this was looked at was --

Mr. Weber. I am talking about the first time.

Mr. Rodrigues. The first time for this current standard?

Mr. Weber. Uh-huh.

Mr. Rodrigues. Oh, I don't have the exact date, but whenever the rule was promulgated --

Mr. Weber. Would you say 1 year, 2 years, 3 years previous?

Mr. Rodrigues. It -- it has probably been -- and I apologize, because I didn't work specifically on that phase of this process, so I don't know for sure. But I would tell you that the process is such that folks in the office of Department of Energy are continually

looking at what the advancements are in technology.

Mr. Weber. But what -- I get that, but what I am concerned about the timeframe is: Are we going to have a requirement that our supply chains, quite frankly, aren't going to catch up with?

Let me move on, because I am getting ready to run out of time here.

What about permit processes? When you have got somebody who is going to -- hopefully will be getting some more transmission plants -- some energy transmission plants built -- energy production, electric transmission, what if they are not -- what if their permits take so long -- do you worry about our baseload requirements might be jeopardized because the permit process is so long?

Mr. Rodrigues. That -- yeah. I am going to share with you -- I think you and I are on the same page about this. If you look out the window today, you would see that the permitting process for new transmission, it takes so long. Now, I understand it is a deliberative process, but it takes --

Mr. Weber. Well, I am talking about generation and, of course, resulting transmission.

Mr. Rodrigues. Yeah. And so what we are dealing with right now is, within the Department of Energy, we are doing work to speed up -- speed up the transmission permitting processes in all the various jurisdictions we get.

Mr. Weber. Do you think that investors are hesitant to commit because they never know how long the permitting process is going to take?

Mr. Rodrigues. I --

Mr. Weber. Is it too cumbersome in your opinion even in some instances?

Mr. Rodrigues. I can't speak for the mind of the investors, but I will say it is in

the Secretary of Energy's not just wish list, her demand list of all of us that the permitting process must move in a more expedient fashion so that the folks who would invest in it have more certainty about the timelines.

Mr. Weber. Okay. Golly, I have got so many questions. Should American choices -- let me go back to gas stoves and appliances and some of the other regulations.

Should American consumers' buying patterns and/or choices be considered, or is it all just about the consumption of energy?

Mr. Rodrigues. The consumer benefit is a core part of that --

Mr. Weber. I am not asking about the benefit. I asked about their choices.

Mr. Rodrigues. Yep. And, absolutely, consumer choice is something supported by the Department of Energy. All efficiency standards do is pave the way for more efficient products that benefit Americans by, number one, helping them use --

Mr. Weber. Well --

Mr. Rodrigues. -- waste less energy --

Mr. Weber. -- let me break in very quickly. I was an air conditioning contractor for 35 years, and the SEER ratings that first came out really in Texas, people were really griping about them.

I will yield back, Mr. Chairman.

Mr. Duncan. Gentleman's time has expired.

Now I will go to Mr. Cardenas, California, for 5 minutes.

Mr. Cardenas. Thank you very much, Chairman Duncan, and also Ranking Member DeGette for holding this hearing.

And thank you to our witnesses for being here. I appreciate your answers and your expertise.

To begin, I want to acknowledge that, as a Member of Congress, we are here to protect the health, well-being, and quality of life of our constituents, the American people. That includes examining, protecting, and strengthening the tools that we already have in place that do just that.

One example of the tool that has proven effective for the American people is the national appliance standards program. Standards within this program are popular and good for the American people. Energy efficiency standards drive innovation and reduce electricity waste, enhancing reliability, reducing greenhouse gas emissions, and lowering utility costs for the American households.

Unfortunately Republicans have turned a blind eye to these irrefutable benefits and have chosen to put forward three anticonsumer bills that stifle energy efficiency programs.

Assistant Secretary Rodrigues, in your testimony, you explained the process for issuing energy conservation standards. Could you please explain how the DOE Appliance and Equipment Standards Reform and Consumer Protection Act would impact the DOE's process for issuing energy conservation standards?

Mr. Rodrigues. Thank you.

At the heart of my assessment of the impact of these bills on the Energy Policy and Conservation Act is this: We have a process right now that is the most transparent; the most deliberative; and, quite frankly, the most analytically sound process to ensure that any standard that is adopted is technologically feasible, economically justified, and results in a significant conservation of energy. Every one of those things are important to the American consumer.

And we bring in, as I have said many times, in an inclusive and transparent

process -- every step of the way, all stakeholders are invited to provide their perspectives. It is the old adage. If it ain't broke, don't fix it. My belief is that anything in these bills that would slow down or hinder or hamper our ability to move forward with standards under the existing EPCA approach is harmful to the American people.

Mr. Cardenas. Thank you.

One of the proposed bills states that, in determining whether imposition of an energy conservation standard is economically justified, the Secretary may not consider estimates of the social costs or social benefits associated with incremental greenhouse gas emissions.

What would be lost if DOE can no longer evaluate greenhouse gas reduction in its rulemaking?

Mr. Rodrigues. I see it like this. The American people deserve deliberative processes that look at all the costs and all the benefits. I think it is, quite frankly, arbitrary to say, We will not consider some of the benefits, or, We will not consider some of the costs.

I believe the process that we have today considers each and every element that should be considered in terms of cost-benefit analysis, and the American people deserve to have that kind of rigorous analysis in place.

Mr. Cardenas. I think it makes sense that, in anything that we do, looking at the short-term and long-term cause and effects and benefits definitely should be done, especially in a transparent process as we have today. Thank you.

You have been in the industry for years. What happens when we ignore GHG emissions and their climate impacts? For those who are listening, that is greenhouse gas.

Mr. Rodrigues. I have been -- as you point out, I have been in the industry and around the industry for over three decades now. Every utility CEO I know is cognizant of the fact that utility emissions are part of the pollution problem, part of the greenhouse gas solution.

We want to have a DOE that helps the utility industry to move along and find its way to, quite frankly, that next level of service to the American people.

Mr. Cardenas. Thank you.

I also have concerns about the Guaranteeing Reliable Infrastructure Development Act, which would effectively give FERC veto power over agency action.

In your testimony, you explained that there are opportunities for stakeholder and public comment during the standards rulemaking process, which is tremendously transparent. As it stands, can FERC participate in the comment period during the rulemaking process as it is today?

Mr. Rodrigues. I will defer to you for that answer since it is a question about your jurisdictional authority.

Dr. Ortiz. Yeah. I suppose, Congressman, that you are directing that to me.

Mr. Cardenas. Sure. Yeah.

Dr. Ortiz. Okay. FERC has the capability to comment on rulemakings. Nothing, I don't believe, bars that. It is general practice not to. And often, if there is a reliability concern in our rulemaking, we will hear that from our industry stakeholders.

Mr. Cardenas. But FERC can communicate --

Dr. Ortiz. It could --

Mr. Cardenas. -- in one way or another?

Dr. Ortiz. -- yes.

Mr. Cardenas. They are not limited?

Dr. Ortiz. No.

Mr. Cardenas. Okay.

Dr. Ortiz. And Commissioner Danly did it himself.

Mr. Cardenas. Okay. If this were enacted and veto power was fully deferred, how would that disrupt the balance of fairly considering other stakeholders' comment?

Dr. Ortiz. I don't -- I don't know if I have a good answer for that question other than to acknowledge that, you know, the Administrative Procedures Act requires agencies to fully consider actions if the Commission provides comments that are more particularly robust than perhaps other comments on electrical reliability. Any other agency, any covered agency would have to respond per the legislation.

Mr. Cardenas. Thank you.

My time having expired, I yield back.

Mr. Duncan. Gentleman now yields back.

I now go to the chair of the Oversight and Investigations Subcommittee, Mr. Griffith, for 5 minutes.

Mr. Griffith. Thank you very much. And I apologize for that I have been upstairs doing an Oversight and Investigations hearing, but that has now concluded.

And I know that you all have talked some about grid reliability, but I want to ask a couple of questions in that direction. I don't think these have been asked.

So Director Ortiz, according to the Energy Information Administration, more than 220 coal-powered plants have closed since 2014. While a good bit of this capacity was replaced with natural gas plants, some was replaced with nondispatchable generation, like wind and solar.

Does FERC take the rate of retirement and wait for dispatchable generation into account when they promulgate new reliability standards?

Dr. Ortiz. The reliability standards are developed through a process that occurs primarily -- first at NERC, and industry, and they are developed by industry, and then submitted to Commission for approval.

Within the deliberations at NERC that our team monitors, they consider -- these are utility representatives that take into account a wide range of both technical, as well as kind of environmental -- environmental meaning the state of the utility industry, when working through options for what those standards look like.

So, you know, not to point to any specific standard, I can attest that the development of those standards is a very robust process that takes into account many, many factors.

Mr. Griffith. All right. And I appreciate that.

What can you tell us about the EPA's interaction with FERC when the EPA is promulgating regulations that could affect the bulk power system?

Specifically, what happens if EPA tells you what they are doing and then you make a recommendation or a comment and then they reject that? Is there any recourse to the administration to resolve that difference of opinion?

Dr. Ortiz. That is a legal question. I am an electrical engineer, sir, so I would probably --

Mr. Griffith. Okay.

Dr. Ortiz. -- have to take that back and have -- ask our general counsel's office to provide a more fulsome response.

Mr. Griffith. Well, could you do that for me, because obviously, you know, we

are concerned about grid reliability, and we want to make sure that, as we move forward, if there is a conflict in the administration, there is some way to resolve it, particularly if you all are saying that it may be affecting the reliability of our electrical system, okay?

Dr. Ortiz. Certainly.

Mr. Griffith. Thank you. I appreciate that.

So I am a proud sponsor or cosponsor of Representative Hudson's bill where we are talking -- that we are talking about here today on banning the increase in transformer standards.

Assistant Secretary Rodrigues, you talk in your testimony about how you all are administering a tax credit program for companies to replace their transformers. What has the uptake on that been?

Mr. Rodrigues. I apologize for not knowing that information as I sit here today. I would have to go back and ask the MESC office, who is administering that program, but I will absolutely do that for you, sir.

Mr. Griffith. Be good to know if the program is being taken up.

And, as a part of that -- and you may not have this information either, which is fine. I mean, folks back home may not understand. We ask all kinds of wild questions, and you can't be prepared for everything, and I understand that and appreciate that.

But are the companies who are looking for transformers able to find them that meet the current or the proposed standard? And are those transformers made in the United States of America or elsewhere?

Mr. Rodrigues. The good news on distribution transformers is that the majority of the transformers manufactured in use -- for use here in the United States are produced by domestic manufacturers. And we are doing everything we can to assist them to

increase their capacity, because what we don't want to do is, as with the demand for transformers increases, quite frankly, to have people look overseas for them.

So the good news is that the MESC office is not just working on getting those incentives out there, but we are providing concrete, you know, face-to-face support on everything from labor, getting -- it is hard -- I don't know if you have been to a distribution transformer manufacturing facility.

Mr. Griffith. I have. I have got several of them in the district.

Mr. Rodrigues. Excellent. As have I. You know it is hard work being done by good American folks who are doing really good work out there.

Mr. Griffith. Yeah.

Mr. Rodrigues. But it is also work that takes training. It is about a 6-month timeframe before you get really good at it. And retaining those folks is not easy. And there are other jobs out there that, quite frankly, aren't as hard.

So what we are trying to do around that is to ensure that we help the distribution manufacturers, which are local in nature, to try to expand -- expand their scope. And may I say this last thing, because it is important to me, as --

Mr. Griffith. All right. You get it out, and I want to get something out quick --

Mr. Rodrigues. Okay.

Mr. Griffith. -- before my time is out.

Mr. Rodrigues. But also to find veterans to work in these facilities.

Mr. Griffith. And so what I would say back is my companies tell me they are having a hard time finding the electric steel, the steel that is used in those transformers --

Mr. Rodrigues. Yes, sir.

Mr. Griffith. -- from an electric source. There is only one left. And, if we keep

raising the standards, we will have none.

I yield back.

Mr. Duncan. Gentleman yields back.

I now will go to the acting ranking member, Ms. Fletcher from Texas, for 5 minutes.

Mrs. Fletcher. Well, thank you so much, Mr. Chairman.

And thank you to our witnesses for being here. This is an incredibly important hearing today. It is important to my constituents in Texas. We have had a lot of Texans on our committee already talk today about the challenges that we have seen over the summer in particular, but obviously, as you know, and referenced earlier, Winter Storm Uri and some of the challenges that we have seen in recent years.

You know, throughout the last month when I was at home, I lost count of the number of times that I got a notice from my electricity provider or from ERCOT or from another source asking me to conserve energy at home because of concerns about the grid and because we really couldn't -- weren't sure that we would be able to have the ability to meet demand at those peak hours.

And, you know, as we discussed and you all have already said, losing power isn't something that is theoretical for us. This isn't a concern that we imagine, but this is something that we are very much still living with from Winter Storm Uri. People in my hometown in Houston and across the State of Texas are carrying with them the memories of that storm and are deeply concerned about reliability and resiliency of our grid.

And I think it is important just to remember that that storm led to the death of more than 200 Texans, and it threatened the health and safety of more than 4.3 million people who lost power, many for several days, including me at home. And then of

course we had to boil our water and deal with all the other concerns that come from a long power outage.

And unfortunately, several years later, we have seen very little action from ERCOT, which is the State's power grid operator, as you all know. And, just last week, after, you know, this extreme heat in Texas all summer, ERCOT issued its second highest alert for the first time since Winter Storm Uri. And we narrowly averted rolling blackouts in Texas last week.

So, you know, we were able to do this by asking people to conserve, and, you know, to reduce our energy consumption, everything from, you know, turning up the thermostat to not running your appliances. And I think it is really important in this hearing today, where we are talking about energy efficiency, that that is part of the solution that we are asked to do as individuals and collectively. So I am a little bit disappointed that the legislation that we are taking up today undermines the ability of DOE and EPA to finalize regulations that are related to energy efficiency.

And I want to spend the time that we have first touching on something you mentioned in your testimony, Dr. Ortiz, just about the work that FERC has done to improve the ability of the grid to withstand these extreme weather events. And could you just talk a little bit about the role that efficiency plays in shaving off peak demand and avoiding grid stress in these kinds of moments?

Dr. Ortiz. So thanks for the question, Congressman.

So, you know, energy efficiency at the consumer level is, you know, not part of the jurisdiction of the agency. To the degree that efficiency measures reduce peak demand, you know, they obviously put a downward pressure on resource adequacy in the planning context, and then also on required reserves in the operating context.

Mrs. Fletcher. Okay. Thank you.

And I want to take the minute and a half I have left to touch on one other topic. It is something that, you know, we have talked around a little bit today, but I do think it is really important that one of the things we have talked about for years and that we are talking about in this hearing is kind of the nexus of gas and electric reliability.

And could you just talk a little bit, again, Dr. Ortiz, about the importance of natural gas reliability to the reliability of the bulk power sector, and a little bit about some of the gaps and the laws and regulations around gas reliability?

Dr. Ortiz. Oh, great. It looks like I have 50 minutes to go on, so I am happy.

So natural gas system reliability is fundamentally crucial to electric reliability, and it has only grown more so, and to the degree that I think we are coming to a situation where the interactions between those systems are so tight and so linked that there is a real rethinking that needs to occur. And the Commission has explored this in its New England Gas-Electric Forums.

And then, in addition, as a result of a lot of the gas failures that occurred during Winter Storm Uri, at the request of the Commission, the North American Electric Standards Board issued a recent report recommending a number of changes to gas system planning and operations to help better support reliability.

Those are very complex. I am not a gas expert, so I don't -- I can't quite go too far, but just to say that -- to reiterate your point that the reliability of the natural gas system is fundamentally critical to the reliability of the electric system.

Mrs. Fletcher. Well, thank you so much for that.

And I know I have gone over my time, so I appreciate it, Mr. Chairman.

I appreciate both of you and your testimony today. Thank you so much.

Mr. Duncan. You are the ranking member. I give some lenience.

I will now go to Mr. Balderson, I believe, for 5 minutes.

Mr. Balderson. Thank you, Mr. Chairman.

And thank you both for being here today.

My first question is for Dr. Ortiz. Dr. Ortiz, I would like to follow up on a point that Chairman Johnson raised earlier.

In the EPA's proposed rule, new source performance standards for greenhouse gas emissions, the EPA states that it elevated the reliability implications of the proposal and consulted with the Department of Energy and FERC in the development of these proposals.

As we have discussed, Chairman Danly stated, I was not asked what I thought of the proposed rule's effect on electric reliability, and I am not aware of my fellow commissioners having had their feedback solicited.

Commissioner Danly also points out that the opinion of the Commission's staff does not and cannot constitute the opinion of the Commission.

Dr. Ortiz, in a yes or no answer, do you believe the EPA properly engaged with FERC on this proposed rule, specifically on its potential reliability implications?

Dr. Ortiz. The EPA executed its responsibilities under -- through the Office of Management and Budget to seek FERC input on a rule. FERC provided comments on a rule that the EPA largely implemented.

Mr. Balderson. To the best of your knowledge, how many times has the EPA officially consulted with FERC on the effects of their regulations on the grid reliability, and does this include requesting feedback from the actual commissioners?

Dr. Ortiz. By official, Congressman, what exactly do you mean?

Mr. Balderson. By official, I would speak somebody from the hierarchy of the EPA. So -- and, if I need to go to another route as far as who would know, I can further that later.

Dr. Ortiz. And so, speaking on behalf of myself, I interact periodically with staff members at the EPA. With respect to any interactions among EPA hierarchy, I would probably request that you ask the commissioners themselves.

Mr. Balderson. Thank you.

I think this underscores the need for greater coordination between FERC and Federal agencies to ensure long-term reliability of our electric grid and the bulk power system. So I appreciate Chairman Duncan and his work on the GRID Act.

My next question is for the Assistant Secretary. Thank you, sir, for being here today. And, Mr. Chairman Griffith brought this point up just a little bit also in his last question. As you know, Cleveland-Cliffs is the only domestic producer of grain-oriented electric steel, or GOES, and nonoriented electric steel, or NGOES. The steel is produced in Butler, Pennsylvania, and in my hometown and in my district of Zanesville, Ohio.

If your Department's rule on efficiency standards for distribution transformers were to go into effect, Cleveland-Cliffs will be forced to stop investing in NGOES and GOES production and wind down those two facilities until the rule is implemented.

This means there will be no domestic producer of electric steel for electric vehicles, no domestic producer for power transformers, and a distribution transformer market reliance on one producer that imports from Asia and is nowhere close to having the capacity to meet the demand.

Did the Department of Energy consider any of these downstream impacts on this -- this rule will have?

Mr. Rodrigues. The answer to that is yes under what is technologically feasible that -- the supply and materials there. Might I point out I visited Butler, Pennsylvania and sat down -- not just toured the plant, but actually sat down and had a face-to-face conversation with the leadership there, really excellent gentlemen, all.

And --

Mr. Balderson. I will vouch for that. Yes, he is.

Mr. Rodrigues. Yeah. One of the things I did, you know, face to face, eye to eye, asked is about their commitment to continuing to produce GOES for the American manufacturing industry. They are committed to doing that, and we are committed to helping them in any way we can to continue to produce that, because even if this transformer rule goes into effect as it was originally proposed, which we all know there has been a robust process around it, that may either change or amend what is out there, or even come to the conclusion that there should be a disposition that it shouldn't be changed at this point, but even if it were to go into effect as proposed, there will still be a market for good American GOES steel for large power transformers, which we are also very concerned about.

Mr. Balderson. Do you know where those would come from? I mean, what -- are you telling me that Cleveland-Cliffs has made that commitment to you, the leadership team, that they would continue even if this rule is implemented?

Mr. Rodrigues. I would ask that you speak to them, but my takeaway from the conversation is that they are committed to doing everything they can to continue to be America's producer of grain-oriented electric steel.

Mr. Balderson. Okay. And this -- thank you, Mr. Chairman. I will yield back my remaining time -- my time --

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

The chair now recognizes the gentleman from Texas, Mr. Pfluger, for 5 minutes.

Mr. Pfluger. Thank you, Mr. Chairman.

Nothing more important than keeping the lights on. I think that is what you said, Assistant Secretary Rodrigues. Couldn't agree with you more.

I want to focus on the GRID Act. I am very, very concerned about the policies that this administration has done, especially to the two tenets -- two of the four tenets that you mentioned in your testimony -- in your personal testimony here, which are reliability and affordability. And I kind of want to focus on that.

Assistant Secretary Rodrigues, are you the subject matter expert for the administration, for the President on electricity?

Mr. Rodrigues. I would say that no single person is the subject matter expert --

Mr. Pfluger. You are the Assistant Secretary for Electricity?

Mr. Rodrigues. I am.

Mr. Pfluger. Are you the top-ranking electricity expert in Department of Energy that reports to the President?

Mr. Rodrigues. I am the top-ranking person --

Mr. Pfluger. Thank you.

Mr. Rodrigues. -- and I report through DOE. I don't report --

Mr. Pfluger. Yeah. I got it. The Secretary was not quite sure she was the subject matter expert on energy when she sat here a little bit ago, so I just wanted to start with that.

Give the administration a grade on affordability.

By the way, what do you pay in your electricity bills this month?

Mr. Rodrigues. Oh, gosh, I don't know the exact amount, because I use auto pay. It actually --

Mr. Pfluger. Okay.

Mr. Rodrigues. -- streamlines my process for each utility --

Mr. Pfluger. Every constituent of mine knows exactly what they are paying for their electricity bill. It is double what it was last year.

Give yourself a grade for your affordability tenet.

Mr. Rodrigues. Oh, thank you for that -- asking that question.

I would say the grade should be more work needed.

Mr. Pfluger. More work needed. I agree with that. I think it is an F- myself, because we are not in a place where we have affordability, which is a major tenet. And I agree with your testimony.

Do you know how much electricity we use in this country annually?

Mr. Rodrigues. I don't have that figure at my fingertips.

Mr. Pfluger. Well, you are the subject matter expert on electricity for the Department of Energy?

Mr. Rodrigues. Yeah, I am chosen not for my memorization skills, but for my connection to industry and the ability to find practical solutions that help the American people.

Mr. Pfluger. We are in desperate need of practical solutions, which we don't have. It is very disappointing to know that the Assistant Secretary for Electricity doesn't know how much -- I have asked that question to every single official that comes in here. Not a single Biden administration official knows that.

I want to show this chart right here. My colleague from Texas was mentioning

the crisis we had last week. I was actually in -- on a trading floor of a private company that distributes electricity on the day this was happening. Let's talk about reliability here.

We have been told this myth that, if we only put more unreliables -- renewables on the grid, that they will perform, but where were they last week? You know, we had less than 10 percent by wind.

I am not against wind. We have a ton of wind in my district, but the point of this chart is that 70 percent of the grid last week was serviced by fossil fuels, and the policies that are coming out of either Department of Energy, FERC -- we are not dealing with the EPA right now -- they have to address affordability, which is, in my opinion, an F- for the past 30-something months of the administration -- 28 months. And they have to address reliability.

We can take the chart down.

Dr. Ortiz, during the June 13th appearance before the committee, Commissioner Danly referenced what he believed was a looming resource inadequacy. In your testimony -- for the grid. In your testimony, you highlight the concern that renewable energy may cease to inject energy into the grid during normal disturbances.

So my question is: When we flip on the lights, how will FERC work to -- work with other agencies to ensure that we solve this looming resource inadequacy crises by prioritizing reliable sources?

Dr. Ortiz. So your question is how we prioritize to ensure that the grid is reliable.

My job is to help the Commission implement section 215 of the Federal Power Act, which makes, you know, me responsible for advising the Commission on reliability. We have seen -- with respect to your reference to my testimony, that refers to a

particular characteristic of inverter-based resources, and NERC has written a number of reports on this. There was two significant events in west Texas.

Mr. Pfluger. I have some more questions, so let's --

Dr. Ortiz. Yeah. Well, okay. And so we work very hard to ensure this.

In addition, we have seen tremendous failures of fossil resources during cold weather, and then we have -- we have --

Mr. Pfluger. I am going to keep going.

Dr. Ortiz. We have implemented standards --

Mr. Pfluger. I want to enter a letter into the record, Mr. Chairman.

Mr. Johnson. Without objection, so ordered.

Mr. Pfluger. And this gets to the point of the proposed rulemaking.

And, by the way, Mr. -- Dr. Ortiz, can you supply the interagency comments that FERC sent to the EPA that my colleague, Mr. Walberg, asked for.

Dr. Ortiz. Oh, we can work with -- you mean the comments that we submitted, then, through the OMB pass back process?

Mr. Pfluger. The one that was just referenced in the last package.

Dr. Ortiz. Yeah. We will work with the General Counsel's Office --

Mr. Pfluger. Okay.

Dr. Ortiz. -- to make sure that the committee has those.

Mr. Johnson. Gentleman --

Mr. Pfluger. It is important.

Mr. Johnson. Will the gentleman suspend?

Mr. Pfluger. Yes.

Mr. Johnson. We need to see a copy of the letter that you are referring to. We

have been --

Ms. DeGette. Could I see it before you put it in the record?

Mr. Pfluger. You bet.

Ms. DeGette. Thank you.

Mr. Pfluger. Let me get it on -- I have got a remarkable -- in the digital age here, so let me show you a copy real quick here. Letter for the record. I'll show it to the camera right here.

Ms. DeGette. You could just show it to me.

Mr. Johnson. Can you send it to --

Mr. Pfluger. There we go.

Mr. Johnson. Yeah.

Mr. Pfluger. See that?

Mr. Johnson. Can you send it to staff, please?

Mr. Pfluger. I actually have the fax here.

Mr. Johnson. Thank you.

Mr. Pfluger. It is imperative that the Department of Energy and FERC know how much electricity we use in this country when making --

Mr. Johnson. Gentleman may continue.

Mr. Pfluger. -- reliability decisions that are good for our affordability and good for our national security.

I yield back.

Mr. Johnson. Gentleman yields.

Now the chair recognizes the gentleman from North Dakota, Mr. Armstrong, for 5 minutes.

Mr. Armstrong. Before I get into my questioning, I just want to address a couple things that were mentioned earlier, and regardless of the different debates, I think it is important to recognize that products that use marginally less energy are never going to be a substitute for generation.

And, earlier, there were talks about PJM exporting power to MISO and SPP during significant weather events. That only works if the donor RTO has the sufficient generation. You can have all the interconnection in the world, but if the generation isn't there, transmission is a second thought.

And I know this because, during the Texas winter storm, it was 27 degrees below zero in North Dakota. That event happened from the Canadian border all the way to the Gulf of Mexico.

So Director Ortiz, one of the goals of the Office of Electric Reliability is to coordinate with ISOs and RTOs, among other entities, to facilitate electric reliability and security. Can you briefly explain what that coordination looks like?

Dr. Ortiz. So the Office of Electric Reliability's responsibilities have to do with implementing section 215, which, as I stated in my testimony, has to do with certifying and overseeing the electrical reliability organization, which is NERC. My office and my staff work closely with NERC and its stakeholders, which are heavily represented by the RTO -- which the RTOs participate significantly in across their various committees. And, through those processes, we are able to identify the technical issues and work through solutions to reliability issues.

Mr. Armstrong. So you are aware of FERC evaluating RTO load forecasting, and can you briefly explain how this forecast has an impact on generating units?

Dr. Ortiz. I didn't actually say that, but -- but the -- but the Commission also

engages closely with the RTOs regarding their planning processes as part of its work on ensuring just and reasonable rates.

And so, on that matter, regarding their -- where they are -- the degree their load forecaster requiring them to take actions with their stakeholders, that is a question for the director of the Office of Energy Market Regulation.

Mr. Armstrong. And I bring that up because I don't think we talk about the economics of power generation nearly enough when we have this conversation. We talk about reliability, resiliency, transmission, all of that. And, during a hearing earlier with the commissioners earlier this year, I mentioned that I have serious concerns about purposeful skewing of load forecasting to benefit weather- dependent generation over baseload or dispatchable sources.

Generators in North Dakota have raised concerns that MISO has been underforecasting load, which incentivizes distributed generation at the expense of baseload generation.

Load forecasts that are based on preferred political outcomes rather than reliability jeopardize the overall well-being of the grid. And we know that the Sierra Club and the NRDC have evaluated influencing PJM forecasting, because these organizations claim that PJM is a muting -- is muting price signals that are essential to attracting -- their words -- the right kind of resources, also known as renewables.

Meanwhile, the North American Electric Reliability Corporation, has noted that RTOs, like MISO, can face challenges in meeting above-normal peak demand if wind generator energy output is lower than expected. So the Sierra Club and the NRDC want RTOs to have a lower load forecast to support the development of wind, but at the same time, the Nation's chief reliability evaluator says that this can make the grid more

unreliable.

In its after-action report of the 2022 winter storm, SPP explicitly mentioned that the importance of fuel assurance and resource adequacy are essential parts of responding to future reliability events.

So shouldn't resource adequacy be a foundational to this conversation?

Dr. Ortiz. NERC has made it clear throughout its history that resource adequacy and operating reliability are two tenets of reliable operations.

Mr. Armstrong. Mr. Rodrigues?

Mr. Rodrigues. Yeah, absolutely. Resource adequacy is one critical component in reliability overall.

Mr. Armstrong. Do you think their oversight or do you think there should be more oversight or more independent auditing over the auction process?

Mr. Rodrigues. I honestly don't have an opinion about that. The -- my expertise and the focus of my office and my work is really on ensuring reliability through making an American grid that is up to 21st century standards. The market mechanisms is not something I work on.

Mr. Armstrong. The problem with the market mechanisms is, if they are underselling it, we are still going to need to get power. And, if we are underforecasting it, we are still going to end up needing the power. And they have to figure out how to keep the lights on for the other 360 days a year. So the 5 days a year when it is 35 below in North Dakota, when we really need it, that they can actually supply the power we need when the sun is not shining and the wind is not blowing.

And, with that, I yield back.

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

I will now go to Mr. Carter from Georgia for 5 minutes.

Mr. Carter. Thank you, Mr. Chairman.

And thank both of you for being here today.

You know, I wanted to -- I am waiving on to this committee. And I serve on Energy and Commerce Committee, but I am not on this subcommittee. But I wanted to be here, because I find it astonishing that, in 2023, we are facing a reliable energy crisis in this country. I just find that to be astonishing.

But we have heard about it. We have heard about blackouts. We have heard about brownouts. We have heard about the rolling brownouts. It is -- and, again, I just find it to be unbelievable.

But it seems that the current administration has pushed for policies that exasperate the situation. Department of Energy and EPA signed a joint MOU, and you have talked about that. And I have got some questions about it.

But, yet, you signed that MOU, and then the EPA immediately issues rules to take generation off of the grid. You know, I think we have -- you have heard it from the committee members that we are in favor of wind and solar. We want to see it. But, before you start subtracting reliable forms of energy, we have got to make sure that we can replace it there.

In fact, in May, FERC Commissioner Mark Christie talked about electrical -- electricity reliability, and he said, The problem generally is not the addition of intermittent resources, primarily wind and solar, but the far too rapid subtraction of dispatchable resources, especially gas and coal.

We had Commissioner James Danly, who testified before this committee, and he said he believes it is a looming resource adequacy crisis that we are going to be facing

here. And we want our country to grow. We want it to thrive. But we have got to have the lights on in order to do it.

Mr. Ortiz, I want to ask you: Earlier, my colleague was talking about the MOU, the interagency comments that FERC sent to EPA dealing on the EPA rule that affected power plants. You said that the EPA largely implemented the terms of this. What did they ignore? Can you define what largely --

Dr. Ortiz. Yes, I can. So the -- with respect to -- we had a number of -- it wasn't a long list of comments, but a number of comments. And, regarding reliability, we noted that EPA had made -- had claimed to have made a reliability analysis based upon a forward-looking resource adequacy assessment. And we -- we -- you know, I don't have any -- you know, it is their modeling regarding resource adequacy. But the point that we made to them was that resource adequacy is only one piece of the puzzle, and looking at this at the kind of level that they did could -- might have not revealed certain reliability issues.

Mr. Carter. You know, I have got to be -- and sorry to interrupt, but I have got to be quite honest with you. I am not getting a warm, fuzzy feeling that you all are communicating well. Should I?

Dr. Ortiz. We communicate through the official channels through the OMB pass back process.

Mr. Carter. Is that a yes or a no? Are you all communicating well?

Dr. Ortiz. And I am not here to make a judgment. I am here to execute the laws and the requirements through many things that we --

Mr. Carter. Okay. All right. Throughout this hearing here today, a number of my colleagues have commented about the lack of coordination between EPA and

Department of Energy and FERC. And I echo those concerns.

FERC's mission is to assist consumers in obtaining reliable, safe, secure, and economically efficient energy services at a reasonable cost. Let's talk about a reasonable cost. With the cost of energy continually rising for almost every American -- and I have certainly seen it in south Georgia. It has been a hot summer. It has been almost unbearable. And my constituents have been calling. They need help with their electric bills. I mean -- and, look, we have got good, reliable energy in Georgia. We have got great providers. But the price is just -- it is just unaffordable for a lot of people.

Can you tell me what input FERC has to provide to ensure these rules result in economically efficient energy at a reasonable cost?

Dr. Ortiz. As you noted by citing FERC's charge, we are here to ensure just and reasonable rates for electricity. Regarding those impacts on other rules, unfortunately, I would have to take that back. As I mentioned before, I am an electrical engineer, not an economist, nor expert in markets. So, with your permission, I would be happy to work with my colleagues to provide a robust answer to your question.

Mr. Carter. And I appreciate that very much, and I will look forward to getting that.

Mr. Chairman, thank you again for allowing me to waive on, and I yield back.

Mr. Duncan. I thank the gentleman for waiving on.

And that concludes the first panel. I want to thank the witnesses for being here. There will be some follow-up questions, you heard some members who had run out of time and wanted to send. We ask that you will submit answers to those within 10 business days.

And so we are going to adjourn the first panel.

And we will now take a brief moment while we seat the second panel. So bear with us.

As they said in the military, smoke 'em if you got 'em.

[Recess.]

Mr. Duncan. All right. I am going to call the next panel into order.

We want to thank our witnesses for being here today and taking time to testify before the subcommittee.

Again, you will have an opportunity for opening statement. Try to stay within 5 minutes. We are going to try to stay on time. We do have votes about 1:30, so we are going to try to get as far as we can.

So, having said that, our second panel is in place.

I introduce them: Mr. Kevin Messner, executive vice president, Chief Policy Office at the Association of Home Appliance Manufacturers.

And I am going to skip the next one. I will come back to it.

Mr. Andrew deLaski is executive director at the Appliance Standards Awareness Project.

Mr. Ben Lieberman, senior fellow for the Center of Energy and Environment at Competitive Enterprise Institute.

And then a friend of mine, Bob Paulling, he is president and CEO of Mid-Carolina Electric Cooperative, and he is here on behalf of the National Rural Electric Cooperative Association. Just a side note. He is also a fellow Clemson football player, held some records for PATs as a kicker there, was on the national championship team in 1981, and go Tigers.

So, having said that, I recognize Mr. Messner for 5 minutes.

STATEMENTS OF KEVIN MESSNER, EXECUTIVE VICE PRESIDENT AND CHIEF POLICY OFFICER, ASSOCIATION OF HOME APPLIANCE MANUFACTURERS; B. ROBERT "BOB" PAULLING, PRESIDENT AND CEO, MID-CAROLINA ELECTRIC COOPERATIVE, ON BEHALF OF THE NATIONAL RURAL ELECTRIC COOPERATIVES ASSOCIATION; BEN LIEBERMAN, SENIOR FELLOW, COMPETITIVE ENTERPRISE INSTITUTE; AND ANDREW DELASKI, EXECUTIVE DIRECTOR, APPLIANCE STANDARDS AWARENESS PROJECT

STATEMENT OF KEVIN MESSNER

Mr. Messner. All right. Thanks.

Man, I am not a football kicker, so thank you.

Good afternoon, Chairman Duncan, Ranking Member DeGette, and members of the subcommittee.

I am Kevin Messner. I am the executive vice president and chief policy officer of the Association of Home Appliance Manufacturers.

Just wanted to start off by saying we appreciate the subcommittee's attention to the Energy Policy and Conservation Act. EPCA is not a law that people generally sit around the dining room table and discuss around the country. But it does impact people's lives every single day.

From the time we wake up in the morning and put on clean clothes, pull orange juice out of the refrigerator, cook breakfast, and then when we come home at night and prepare dinner and then load the dishwasher, we are impacted by home appliances. Home appliances make our lives easier, safer, and healthier.

The essence of EPCA has not been changed since the end of the Cold War. Since EPCA was signed into law by President Reagan, the Berlin Wall has fallen. We have got internet, email, and we have smartphones.

Just imagine. This law was written when we were still using typewriters and when people were using corded phones. Today, appliances are connected to your smartphone.

In 1987, when EPCA's appliance program was written, microwave ovens were surging in popularity. Today, we have all kinds of new connected features.

AHAM and our members have supported a system of Federal standards that improve energy and water conservation, a national program that benefits consumers by preventing inefficient and costly conflicting State requirements.

Home appliances have undergone continual and significant improvements in energy efficiency over the last three decades, and the energy and water efficiency gains across all the core major appliances have been dramatic.

Refrigerators are being produced with more room inside and use half the energy they did 20 years ago. In fact, the most commonly purchased refrigerator today uses about the same energy as a 50-watt light bulb.

Clothes washers' capacity today is 50 percent larger than it was in 2000, while energy consumption has dropped a staggering 70 percent. Clothes washers of an average efficiency can save a household more than 5,000 gallons of water and more than $150 in utility costs compared to a 10-year-old washer.

In the last example, dishwashers, they only use just 3.5 gallons of water. The flow rate of a faucet is about 2 gallons per minute. So that means, if you wanted to hand wash a full load of dishes and use less water, you would have to do that in one

minute.

Because home appliances have undergone so many standard changes over the years, further tightening of standards is producing diminishing returns. Plus, the reality of the laws of physics that require some amount of energy and water for home appliances to keep food cold and to clean and dry clothes and dishes has to be recognized.

Despite the significant progress to date on appliance efficiency, EPCA requires DOE to continue to review standards every 6 years with no end in sight. AHAM believes the law should not require DOE to create regulations just based on the passage of time.

Instead, regulations should be developed when there are opportunities to conserve energy in a cost-effective way that preserves consumer choice and appliance features.

AHAM and its members strive to work together to improve the implementation of the Federal energy and water conservation program, ensuring that consumers will continue to have access to safe, reliable, affordable, high-performing, and fully featured appliances.

I want to thank this subcommittee for its interest in modernizing EPCA so that DOE can appropriately prioritize work on the appliance standards program, maximize energy and water savings, and improve transparency and stakeholder engagement. EPCA modernization is the best way to assure the continued success of the program while still recognizing the realities of limited opportunities for further energy and water savings that are economically justified, technologically feasible, and preserve product features and performance.

I look forward to answering any questions you may have.

[The prepared statement of Mr. Messner follows:]

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Mr. Duncan. I thank you for that.

And I will now recognize Mr. Paulling for 5 minutes.

STATEMENT OF B. ROBERT "BOB" PAULLING

Mr. Paulling. Thank you, Mr. Chairman, Ranking Member DeGette, and members of the subcommittee for holding today's legislative hearing and inviting me to attend.

My name is Bob Paulling. I am CEO of Mid-Carolina Electric Cooperative, a distribution electric cooperative providing power to nearly 60,000 consumer members in the central region of South Carolina, including a portion of Chairman Duncan's district.

I have over 38 years of experience in the utility industry. I graduated with a bachelor of science in electrical engineering from Clemson University in 1985. Go Tigers.

Like all co-ops, we are invested in the communities we serve. We are deeply committed to delivering safe, reliable, and affordable electricity to our members. I am here on behalf of the community and the members that we serve to talk about Federal policies affecting the reliability of the electric grid and the challenges we face to keep the lights on.

Unfortunately the ability for our co-op to provide reliable and affordable electricity is under greater strain than ever before. There are five core challenges to reliability that I would like to highlight for the subcommittee today.

Primary messages I hope you will take away is that, if we fail to act on these

challenges as a Nation, we will struggle to keep up. Blackouts may become a routine part of our lives. Jobs and industry will flee not only South Carolina, but the country. That is a future we cannot accept.

The first challenge is electrifying the economy. As a Nation, we are headed toward a future that depends significantly more on electricity to power our economy. South Carolina has been a leader of electrification, recruiting a parade of economic development projects in recent years tied to the production of electric vehicles and the components that power them, their batteries.

We must prepare for this rapid rise in demand for electricity. We must act soon to expand the power generation, preserve existing resources, reduce the red ape and regulations that stand between us and our prosperous future.

The second and third challenges I would like to bring forth is the disorderly retirement of existing generation and the availability of natural gas. Last December's power supply crisis on Christmas weekend is a perfect example of these combined threats to reliability. Unseasonably low temperatures dried up the supply of natural gas available for power generation while also driving the demand for electricity to record highs. The grid could not rely on other baseload power sources for generation, resulting in rolling blackouts.

Fortunately for our members, we did not have to shut off their power with temperatures outside hovering in the low teens, but we cannot be content on having weathered this near miss, nor can we choose to be complacent. We have to build new generation and add capacity without prematurely shutting down existing power plants, which is not the direction EPA is headed with their recent power plant rules.

The fourth challenge I see is project permitting and environmental review.

Current Federal permitting costs and timelines are unreasonable and unacceptable. They present significant obstacles to building new electric-generating assets and other energy infrastructure, including transmission lines that will be required to accommodate additional generation and natural gas pipelines necessary for reliable and affordable natural gas power generation.

Please understand that the intermittent renewables must have online distributor -- dispatchable generation backing them up.

Further compounding our dilemma remains the ability for nearly anyone to bring a lawsuit challenging permitting and construction. This too must be addressed.

And, finally, we are facing with reliability -- issues with reliability as a result of supply chain delays and new proposed efficiency regulations for distribution transformers. As a pedal is pushed on electrifying the economy, we are in need of installing new transformers, increasing substation capacities, and upgrading wire and other equipment.

The problem is electric cooperatives are waiting a year or longer on average to receive these critical grid components, which is basically double the time it used to be. We have been constructing a substation for over 2 years, and we are still waiting on key components to energize that substation. And the situation that has already been bad has been made far worse uncertain with Department of Energy's proposed rule shifting majority of the transformer market to amorphous core in only a few short years.

There are ways to do this that increase efficiencies, allow us to keep up with benefits of electrification initiatives and lessen strain on the grid. But Department of Energy's proposal just isn't it.

I want to thank the committee for a chance to appear before you all today, and I

am looking forward to answering your questions.

[The prepared statement of Mr. Paulling follows:]

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RPTR SCHOETTLE

EDTR ROSEN

[1:08 p.m.]

Mr. Duncan. Thank you for that. I will now recognize Mr. DeLaski.

STATEMENT OF ANDREW DELASKI

Mr. deLaski. Thank you, Chairman Duncan, Ranking Member DeGette, and Members of the subcommittee for the opportunity to testify before you here today. My name Andrew deLaski, and I am the executive director of the Appliance Standards Awareness Project. ASAP advocates for appliance equipment and lighting standards that save energy and water, reduce economic and environmental burdens for low- and moderate-income households, and cut planet warming emissions and other air pollution.

ASAP's steering committee includes representatives from environmental and efficiency nonprofits, consumer groups, utility sector, and State government. ASAP is housed within the American Council for an Energy Efficient Economy, a nonprofit 501(c)(3) organization, focused on leading and advancing energy efficiency policies, programs, and technologies across the Nation.

The hearing in here today focuses on the critical issues of reliability and efficiency of our power system is very timely. Appliance standards have done more to cut energy waste in U.S. buildings than any other Federal effort. Reduced electricity waste translates into lower peak demand levels, enhancing the reliability of our power grids. It means lower household utility bills delivering pocketbook benefits for families.

We estimate that peak demand was 130,000 megawatts lower in the year 2020 than it would have been if we didn't have existing appliance efficiency standards that improves reliability, it reduces the chance of blackouts, and makes our grids more reliable. Annual household utility bills are about $500 lower because of existing standards. That is real money, especially for households on tight budgets.

We can do much more. Updated standards due in the months and years ahead could add significant additional peak demand reductions of a 90,000 megawatts of peak demand reduction benefits by our estimates, and add hundreds of dollars in annual bill savings for consumers, further enhancing reliability and reducing costs for consumers.

As of 2021, the UE had missed 28 legal deadlines for reviewing and potentially updating standards. Since then, the UE has been catching up, and the process is working well. Unfortunately, the three bills before you today would harm good reliability and efficiency rather than help. They would introduce needless new delays and hurdles for completing improved efficiency standards.

First, Representative Hudson's bill, H.R. 4167, would delay the Department of Energy's consideration of new standard of distribution transformers by 5 years. This is unnecessary because pandemic-related supply chain problems are starting to abate. They aren't abated, but they are starting to abate. We are starting to see some significant investments by manufacturers in new capacity for manufacturing.

Regardless, new standards would not take effect for several years. Meanwhile, the Department of Commerce reports that U.S. dependence on imports from Asia from high-quality electrical steel have been risings -- this is the steel used in transformer cores, that underscores the need to create a clear market incentive for U.S. production for the supply chain of transformers.

Kicking the can down the road on the efficiency standard decision would be worse than counterproductive. It would force manufacturers of both electrical steel and transformers to either defer investments to upgrade their manufacturing or hedge their investment bets because they don't know where the rules are headed. So ongoing regulatory uncertainty is the enemy of innovation. DOE has built a strong and thorough record in the current rulemaking process. As we see robust input from a range of effective industries, including transformer manufacturers, electrical steel producers and utilities, it has got a lot of input. Now is time for decisionmaking.

Second, the so-called EPCA reform bill is a wolf in sheep's clothing. While some language in this bill may seem reasonable at first glance, it would gut the National Efficiency Standards Program. It would mean that every new standard could not likely increase upfront product costs, have any effect on product characteristics, like cycle or charging time, or make any one manufacturer or distributor -- make it harder for them to compete, among the many other requirements, regardless of the utility bill savings or the grid benefits achieved by improved standards.

Any existing standard on the books today could now be revoked. Again, creating regulatory -- on-again, off-again regulations isn't helping anybody.

Taking a belt-and-suspenders approach to stop new standards, the bill would set unreasonably high minimum savings and low maximum payback periods. If this bill had been the law since the late 1970s, none of the benefits that consumers have gotten from efficiency standards today, none of the benefits we have for the grid would have ever been achieved. We would have no efficiency standards.

Finally, the GRID Act would grant extraordinary and unheard-of power to the FERC, and to some degree, each of the State regulatory commissions to override Federal

regulatory decisions made by DOE, the EPA, the Department of the Interior, the Department of Commerce, the Department of Defense, you name it, and every other Federal agency. This would not only delay the agency rulemaking process, it would make FERC the final decisionmaker on a range of topics that are outside its expertise. These bills would take us backwards. We urge the committee to reject them.

So in summary, I want to say that appliance efficiency standards have been an effective policy for cutting costly energy waste, for enhancing grid reliability, and saving consumers money. DOE's process for catching up on what has been a very big backlog of legal reviews for considering updates is working well, and the three bills before you -- before the Committee today would undermine that process.

Mr. Duncan. I am going to need you to wrap up.

Mr. deLaski. -- larger revocation of existing standards. We urge the committee to reject these bills. Thank you.

[The prepared statement of Mr. deLaski follows:]

******** COMMITTEE INSERT ********

Mr. Duncan. Thank you. Mr. Lieberman, you are recognized for 5 minutes.

STATEMENT OF BEN LIEBERMAN

Mr. Lieberman. Chair Duncan, Ranking Member DeGette, and Members of this subcommittee, thank you for the opportunity to testify today. My name is Ben Lieberman, and I am a senior fellow at the Competitive Enterprise Institute, a nonpartisan public policy organization that concentrates on regulatory issues from a free-market perspective.

I work in CEI's energy and environment department where I cover a number of regulatory programs, including Department of Energy's appliance efficiency standards. Prior to joining CEI in 2018, I was a staff member on this committee, where I also worked on DOE's appliance regulations, as well as other issues. When I was here, the problem of appliance overregulation was already serious enough that we held hearings like this and considered some measures to reform it.

However, over the last two years, and especially thus far in 2023, things have really gone too far. As we all recall, the year began with the commissioner on the Consumer Product Safety Commission telling the media that a ban on gas stoves was a real possibility followed up by strenuous denials from the Biden administration that any such ban was in the works. But within weeks of those denials, the administration launched a second regulatory attack on stoves, this time from DOE.

The pending stove efficiency standards joined other DOE proposals affecting furnaces, dishwashers, clothes washers, refrigerators, ceiling fans, and most recently,

water heaters. CEI has filed comments critical to several of these proposed rules and are party to litigation regarding another. Each of these regulations is a bad deal for consumers in its own way. I would like to highlight a few of the worst ones now.

For example, the proposal for dishwashers is especially counterproductive because dishwashers have already been badly overregulated. The past four, that is four rounds of successively tighter standards for energy and water use have increased the time it takes to do a normal cycle of dishes from about 1 hour to 2 or more. Cleaning performance has also been compromised, but now the agency is proposing a fifth round of even tougher limits.

The best interest of consumers would be better served if the agency were working to fix the problems with existing dishwasher regulations, which one of the bills would help facilitate, do that rather than doubling down with new ones.

I would also like to mention quickly air conditioners. They suffer at the hands of one but two agencies, DOE and EPA. DOE efficiency standards for central air conditioners took effect this year, and led to a noticeable jump in equipment costs. At the same time, EPA refrigerants target the refrigerant that are used in these systems. If I were to guess what the next consumer backlash to appliance regulations would be, like stoves were in 2023, my guess would be air conditioners in maybe as soon as next summer.

And lastly, I am sure this subcommittee has heard enough about the relative merits of gas versus electric stoves, and I will spare you the details, except to reiterate again that I always think the choice should lie with the consumer. But I would like to note that stoves have gotten caught up in the larger war on natural gas. Stoves, as well as furnaces and water heaters, which are also subject to pending rulemaking, come in

both natural gas and electric versions.

And the Biden administration has, as part of the climate agenda targeted the residential use of natural gas in favor of electrifying everything. And it is using DOE efficiency standards to give electric alliances an advantage over gas versions, despite gas being the preference of many homeowners. The use of appliance standards to skew the market away from gas versions and towards full electrification is not just bad news for consumer choice, but also has implications for the grid. Consider that currently nearly half of homes are heated with natural gas. That is a lot of BTUs being supplied by gas. But if the electrification agenda is successful and many of these gas heaters are replaced by electric, that would add significantly to electric demand, especially on the coldest winter days.

At the same time, there is documented and growing risk to electric reliability across the Nation, especially as baseload generation sources by coal and natural gas are being retired and replaced by wind and other intermittent renewable sources. In other words, the same Biden administration climate agenda that favors electric stoves and furnaces and water heaters over gas is also making dependence on them increasingly risky. We are putting more of our eggs in one basket, and at the same time, we are making that basket flimsier.

In conclusion, it makes sense at this point to sunset the appliance efficiency standards program altogether. Ending it has no downside for consumers. Keep in mind, those who want extra efficient appliances, or have bought into the idea that electric appliances are environmentally superior to natural gas are free to do so any time, without or without government interference. Federal regulations only serve to force the politically correct option on every consumer, whether they like it or not.

Now, if Congress chooses to keep the current program in place, it should make several important changes to it. That includes raising the bar on new standards to prevent the ones most likely to be more trouble than they are worth, and simplifying the process for revisiting and changing existing standards that have proven harmful to consumers. I would note that a recent National Academy of Sciences report recommended DOE make more of an effort to scrutinize past efficiency regulations in order to learn --

Mr. Duncan. I need you to wrap up.

Mr. Lieberman. From past mistakes, and to require the agency to show that existing standards are inadequate before starting the process of starting now ones. Perhaps most importantly, Congress should clarify that appliance standards programs not be used as a climate policy tool and that any environmental agenda cannot take precedence over the best interest of consumers. I believe many of these --

Mr. Duncan. I am going to ask you wrap up.

Mr. Lieberman. -- reform bill, and I look forward to talking about that bill.

[The prepared statement of Mr. Lieberman follows:]

******** COMMITTEE INSERT ********

Mr. Duncan. Thank you. All right. That concludes the opening statements, and we will delve into some more of this through the questions. We now are moving into the question portion. I will recognize myself for 5 minutes.

Mr. Paulling, your testimony expressed concerns related to South Carolina's current power supply situation. I talk about these same concerns all the time here in Washington with my colleagues. I am glad you are here to give sort of a boots-on-the-ground perspective. South Carolina is the third fastest growing State in the country. We have seen an influx of business and industry come to South Carolina in the past decade. And this is great, but our power generation resources have simply not kept up with demand. I am concerned for what that means for the future of new businesses, residential coming into the South Carolina. It is clear we need a lot more power supply.

Can you give us a perspective on this? What Federal policies are contributing to this situation?

Mr. Paulling. Absolutely, Chairman. Unfortunately, we have not built any new generation in South Carolina in nearly two decades. We had the VC summer plant that failed for various reasons, and we had not brought in new generational line. And we have grown by leaps and bounds. Again, for population growth, everybody wants to move to South Carolina and we welcome it. We had robust economic development, and all these loads have been bigger and bigger and bigger as far from an electrical standpoint.

Most of them have been electrical vehicles, those type things. We are just in a shortage right now of baseload generation. We have built solar. We are going to

continue to build solar. Everybody needs to understand when you build solar, you have got to have a spinning generator backing it up. People don't understand, it is much like most of you all flew an airliner coming in. You are coming in, and the pilot has to continually get on the throttle and back off the throttle, keep the speed of the plane constant. Power systems are the same way. It happens a lot faster. So as the cloud cover goes over those solar panels, you have got to have a spinning generator to push forward, pull back, push forward. It is a continuous balance. All that is good. All of that needs to be maintained.

But our issue in South Carolina is the adequate capacity of natural gas. Every pipeline is fully subscribed. We have got to figure out how to build more pipelines within the State of South Carolina and build some significant natural gas generation to solve our needs. That is the bridge fuel. A decade from now, technology will take place. There will be nuclear reactors and those type of things. But we can't afford to wait that long, Mr. Chairman. We have got to act now and get natural gas. Not just for electric generation, but just for general industry, it needs natural gas.

Mr. Duncan. Volkswagen came in, 4,000 jobs, needed natural gas in South Carolina.

Mr. Paulling. Right.

Mr. Duncan. Just about a deal breaker. I haven't talked to a single-power generator utility that doesn't like wind and solar as part of the energy matrix. But in South Carolina, it is mainly solar. It starts at zero every day.

Mr. Paulling. Right.

Mr. Duncan. And it ends at zero every day. And as we saw on Christmas Eve, and we see throughout the day, if you look at the whole year, you will see solar peaks and

valleys during the way.

Mr. Paulling. Correct.

Mr. Duncan. Where it doesn't reach that bell-shaped curve peak on an optimal day, and you have to have that dispatchable energy. Last Christmas, South Carolina faced a power supply crisis, many utilities in South Carolina -- and you mentioned in your opening testimony -- across the southeast all the way up to Ohio were forced to implement rolling blackouts. How did utilities in our State respond to this, and how can we prevent that from happening in the future?

Mr. Paulling. Chairman, we were lucky. We were fortunate it happened on Christmas Eve, because if you think about what was going on in our State and throughout the southeast, a lot of industry was shut down for Christmas break. On our system alone, we had probably 30 to 35 megawatts of schools, on a normal school day would have been online. So had this happened on a Tuesday in January, we would have had blackouts all over the southeast. So we were lucky and we were fortunate. So we need to realize that, recognize that, and keep that from happening again.

As far as our system is concerned, when I went to bed Friday night, we had a cold wave come through, we had a few storms. I got notification from our balancing authority, which is Santee Cooper and Duke Energy, Hey, we are good, transmissions, is good, all the generators are up and running. Something happened during the night. A transmission line tripped off a generating station, had to be shut down because of some steam leak or something.

So when I get up at 5:45 on Christmas Eve, I get a notification from our power suppliers says, Hey, we are going to have rolling blackouts, and by the way mid-Carolina, your block is going to be probably lunch time, and the substations that we are going to

turn off is really the northern west part of our system, which is the outskirts of Columbia, South Carolina, where all the Christmas shopping takes place. So we would have been shut down on Christmas Eve during lunchtime.

And you say, Well that is cool. It is 15 minutes off, 15 minutes on. It doesn't work that way. When the lights go off, one quick example is -- we had one subdivision that actually tripped out on load. Normally runs a 65-amp fuse. We replaced it with a 100-amp fuse. It blew. We had to cut the subdivision in half, and it took almost 2-1/2 hours to get that one subdivision back up and running. Had we had our half system shut down, it would have been 8 or 9 o'clock that night before we got everybody back up and running. You are looking at frozen pipes. Folks in the south, we don't know how to insulate our homes for cold weather. Thank goodness. It would have been a catastrophe.

Mr. Duncan. I had flown from Montana back home the day before Christmas Eve. It was minus 34 in Montana. Flew through Denver, got stuck there. It was minus 20. It was cold all over the country. And South Carolina wasn't alone. Thanks for your comments.

I will now recognize Ranking Member DeGette for 5 minutes.

Ms. DeGette. Yeah. It is cold out there in the west. So energy efficiency standards, one of the things they are intended to do is to save consumers energy and money in the long run. And they have, and also, they are not implemented without just cause. So, Mr. deLaski, I want to ask you a couple of questions. DOE has a process for determining whether standards economically justified, technologically feasible, or would result in significant energy savings; is that right?

Mr. deLaski. That is correct.

Ms. DeGette. And DOE would modify its standards if one of the standards they promulgated didn't meet those criteria; is that right?

Mr. deLaski. That is correct. DOE has to consider that as work on -- working on updated standard.

Ms. DeGette. Right. They are not going to just willy-nilly do these standards if they don't meet the criteria?

Mr. deLaski. That is correct.

Ms. DeGette. Now, in your testimony, you mentioned the benefit of energy efficiency standards for low- and moderate-income households. Can you expand upon that a little bit?

Mr. deLaski. Yes. If you think about it, energy efficiency innovation often shows up in the most expensive products first. What the standards do is ensure that energy innovation show up in full range of choices available to consumers, including the value price products at the entry point of the market, where the most price conscious consumers are going to be shopping. Also, low-income households are disproportionately renters.

Ms. DeGette. Right.

Mr. deLaski. Landlords have no incentive to buy a more expensive appliance, even a dollar more expensive, to save their tenant more money. So it is really important for low-income households, especially tenants, that we increase the efficiency standards to save them money and reduce their bills.

Ms. DeGette. Right. Now, I want to talk for a few minutes about transformers and transmission. Mr. Paulling, I have particular affection for you because I am also a tiger, a Colorado College Tiger, though, but still.

Mr. Paulling. Go Tigers.

Ms. DeGette. Go Tigers. You know, and also I have a really wonderful working relationship with my rural electric co-ops, too, in Colorado. And you guys face a lot of different challenges. One way to alleviate some of the challenges that you face is if we have additional Federal investments in the distribution transformer supply chain. Is that right?

Mr. Paulling. That is correct. Can I give a you brief history of amorphous transformers in the State of South Carolina and transformers in general?

Ms. DeGette. Yes. Go ahead.

Mr. Paulling. So I got in the industry in 1980s. Prior to that, a transformer was simply a commodity item. You just bought it on lost cost. Low bid, low bid, low bid. In the 80s, we started really understanding energy efficiencies and losses and those type things. So we changed the narrative and started devaluating transformers for total ownership cost, life of the transformer, how much does it cost up front?

There is two types of losses in transformers. One is no-load loss. In other words, the transformer is sitting there just to energize. It takes energy to keep it humming. And then as the transformer uses -- as the consumer uses the transformer is loaded, the more inefficient the transformer is, the more losses.

Ms. DeGette. Right.

Mr. Paulling. So we went through that. I heard earlier that there is 80,000 different transformer designs. In South Carolina, there is about six because our engineering association with the co-ops, we developed it over the years and we streamlined it. And we went through a period of time in 1993 to 1997 where we bought amorphous core transformers from General Electric. General Electric had a plant in

Hickory, North Carolina, and we bought them. And we had a number of issues with them, and mainly the size. The amorphous core transformer has a rectangular winding versus a circular winding. So it has to just be larger in physical size. So instead of having a, you know, 300-pound transformer, you have a 600-pound transformer trying to put it on a little small pole out there.

So we actually had to change our system design to use larger poles and do different things. So we have been through the amorphous transformers. I contend that the transformer today is many, many, many times more efficient than it was even 15 years ago. The standard to build a transformer more efficiently, I am all for. But don't push us into a, you know, another type of design that is really unproven.

Ms. DeGette. But Federal investment really helped?

Mr. Paulling. I can't speak to that because I don't know how the Federal investment really feeds into that process.

Ms. DeGette. Well, let me ask you this: If you could get some new transmission lines to help address reliability, that would probably help, too?

Mr. Paulling. Transmission lines?

Ms. DeGette. Yeah.

Mr. Paulling. Every utility -- systems are interconnected. The more robust those interconnections are, the better we are all.

Ms. DeGette. Thank you very much. I yield back.

Mr. Duncan. Thank you for that. And I will now go to Mr. Johnson for 5 minutes.

Mr. Johnson. Thank you, Mr. Chairman, and thanks to our panelists for being here. Some really important things we are talking about today. If my colleagues and

the panelists will indulge me for a quick history moment here. I know a few of us in this room, but certainly none of our staff, may be old enough to remember, but the 1973 oil crisis was launched by Saudi Arabia and others leading to an all embargo against the United States and other countries who supported Israel in the Yom Kippur War. Some of us with gray hair, I won't mention any names, might actually remember that. It was a crisis, a gasoline crisis skyrocketed. American families suffered, and lawmakers were scared across the spectrum.

Congress responded with what we call the Energy Policy and Conservation Act of 1985 signed into law by President Ford, a Republican, I might note. Now, I want to take a step back, though, and I think as Federal lawmakers, especially on my side of the aisle, we should view this as a cautionary tale. It shows just what can happen when you legislate in a crisis and delegate authority after authority to the executive branch.

Now, almost 50 years into the law's existence, with several changes having been made since then, you now can go to the DOE website to see where, and I quote, the U.S. Department of Energy has the authority to regulate the energy efficiency level of ceiling fans. Ceiling fans, I kid you not. From oil crisis to ceiling fans. Talk about mission creep. We started with addressing a major foreign policy and economic crisis, and ended up with bureaucrats in Washington telling my constituents, all of your constituents, the maximum flow for their shower and how their ceiling fans should operate. And the list goes on and on, whether it is gas stoves, thermostats, or water heaters, how did we ever end up where the Federal Government can tell you which kind of device and appliance to buy for your home?

And now this administration has taken this a step further to use those standards as a way to shoehorn in their goals of societal electrification, regardless of true efficiency,

the availability of proven technology, convenience, or cost.

So, Mr. Lieberman, let me start with you. I know Congress established the authority for these appliance standards decades ago, long before I got here. But is it time to repeal or significantly curtail them, especially with so many examples of abuse of this authority to drive an agenda?

Mr. Lieberman. Incidentally, there is just not just regulations for ceiling fans, but separate regulations for ceiling fan lights --

Mr. Johnson. Right.

Mr. Lieberman. As well. I think that it is high time to sunset the program. As I said, consumers who want to buy ultra efficient appliances are free to do so. Manufacturers make just about every appliance, appliances -- models that go well beyond the efficiency standards for those whom it makes sense. But for many it doesn't make sense. The problem with EPCA is it has some reasonable limitations, for example, said you can't set a standard unless it saves a significant amount of energy.

Mr. Johnson. Right.

Mr. Lieberman. But it didn't define significance so it has been defined downward so that the agency does anything significant if they want to regulate it. So a lot of the reforms aren't really changing EPCA, but just strengthening some of the vague language.

Mr. Johnson. Let me continue with you, can you outline how these standards have now morphed into pursuing unrelated electrification and climate goals instead of purely conserving resources and saving consumers money? You kind of alluded to it in your answer. You want to expand on that?

Mr. Lieberman. All of the proposed rules this year, clothes washers, dishwashers, refrigerators, ceiling fans, water heaters, stoves, they all include climate

benefits as part of the overall benefits. That is just taking the eye off the ball in terms of what is best for consumers. You are now saying that consumers don't necessarily come first.

Mr. Johnson. I have got one final question for you. I represent a rural working-class Appalachian district. Could these rules, as we just talked about, as they become more onerous, could they constitute a public health concern, in your view, as costs go up and Americans can't afford the water heaters, the new stoves, rewiring their homes for these appliances, is that a -- could this constitute a health crisis?

Mr. Lieberman. Just about all of these standards will raise the upfront cost of the appliance, and for some low-income homeowners, that could be prohibited. For those who aspire to own a home, almost every appliance in the house is going to be more expensive.

Mr. Johnson. If nothing more, a mental health crisis as that stress increases. Mr. Chairman, I yield back.

Mr. Duncan. I thank the gentleman. Lay of the land, we are going to get to Mr. Tonko, Ms. Lesko. We are going to take a break, go vote and come back. We will reconvene afterwards.

Mr. Tonko is recognized for 5 minutes.

Mr. Tonko. Thank you, Mr. Chair. Mr. deLaski, I am hoping that you can help make this very clear for everyone. Can you explain the role efficiency improvements can play in reducing energy demand, and therefore enhancing the reliability of the grid?

Mr. deLaski. Absolutely. We estimate that existing standards have reduced electricity demand, peak electricity demand by 130,000 megawatts, and update the standards, including those for air conditioners which are the most important for reducing

peak demand. New standards could reduce demand by 90,000 megawatts. When you bring demand down, that reduces probability that on a hot summer day you are going to have an outage or other problems. So standards have brought the peak demand down that helps reduce the probability of reliability problems.

Mr. Tonko. And I believe it is accurate to say that some of the greatest potential beneficiaries of energy efficiency are low-income households, which spend a higher percentage of their incomes on energy bills. So again, Mr. deLaski, can you explain some of the barriers that may exist that prevent low-income Americans from experiencing all of these benefits?

Mr. deLaski. One of the most significant benefits is the split incentive between the landlord and the tenant, right, so that a landlord, particularly a private landlord has every incentive to keep their costs down, but the tenant pays the utility bill most commonly. So one of the things the standards do is ensure that all the full range of choices on the market include a basic level of energy efficiency performance, delivering benefits to all households, including tenants and people across the income spectrum.

Mr. Tonko. All right. Thank you for that. This is certainly why minimum efficiency standards raise the floor and help all Americans. But DOE also has a wonderful program, the Weatherization Assistance Program, dedicated to enabling the low-income households to overcome some of these barriers to efficiency improvements, and this program works. Households receiving weatherization services save, on average, $372 every year on their energy bills. This is so important for vulnerable Americans that may otherwise have to choose between paying their energy bills and other essentials like food and medicine.

But despite the weatherization program's great track record, we know it can be

strengthened. Last year, I proposed a bill that would have allowed each home in the program to receive more funding. This would reflect the recent realities of increased costs of construction materials and inflation.

Similarly, the bill would also support weatherization readiness, which would be able to provide assistance to homes in such poor condition that they cannot enter into the Weatherization Assistance Program. It has been estimated that as many as 25 percent of eligible households are unable to receive weatherization services and that the readiness fund can help many of those households.

So Mr. deLaski, I know you are here to discuss the standards program, but I hope you might be able to offer a reaction to some of the reforms that I just outlined on the Weatherization Assistance Program. Is this an area Congress should explore to ensure low-income Americans are able to fully experience the benefits of this effort for energy efficiency?

Mr. deLaski. Absolutely. The weatherization program and ensuring that households are ready to be weatherized is a fundamental need that we need to pursue. And it complements the energy efficiency standards, but very essential that we improve weatherization programs and make it accessible to more households to be able to bring their bills down and help people, you know, make ends meet month to month.

Mr. Tonko. Well, within that 25 percent of eligible households, I have talked to folks in my district who, you know, know of the benefits from talking to neighbors and friends. And I just think, if we can get them to qualify by offering the readiness fund, it is a benefit for everyone.

So with that, I thank you, and I thank the chair. And I yield back.

Mr. Duncan. Gentleman yields back. I will now go to Arizona's Mrs. Lesko.

Mrs. Lesko. Thank you, Mr. Chair, and thank you to all of you being here to testify in front of us today. I have a bit of breaking news for the committee. I have been informed that the energy efficiency advocates and appliance industry groups have reached an agreement that if implemented by Department of Energy, should preserve a full line of gas appliances with the features consumers enjoy and inspect.

So I want to thank the members of this committee that voted for my Save Our Gas Stoves Act. I hope that the Department of Energy has taken notice of my bill, the Save Our Gas Stoves Act and the strong bipartisan vote it received on the House floor. I am proud that we worked across the aisle to pass the bill out of the House.

My hope is that this agreement will show that the Biden administration has no intention of banning gas stoves. This would be a win for common sense and the American people. EPCA, the Energy Policy and Conservation Act, is broken. And environmental activists are exploiting the fact through sue and settle backroom deals, and I do think this must end. That is why I am glad to sponsor, and once again, introduce a new bill to protect consumer choice on all appliances and plumbing products.

I don't know about you, but I hate when the Federal Government restricts the water pressure in my shower head and messes with the effectiveness of my dishwasher. Unless we pass comprehensive reforms, we will be right back here dealing with the same broken process. The reforms in my bill are long overdue. This bill will address future attempts by the Biden administration, or any administration, to impose regulatory overreach and reduce consumer choices. Most importantly, this bill will finally establish a minimum standard for energy savings for any future rulemaking.

We are putting real energy saving dollars back into the energy efficiency standards. The bill is common sense, energy efficiency is a good thing, but only if it

helps the consumer save money and the product still works. The bill will establish a standard that any future rule must save the consumer at least 10 percent. More importantly, it will establish a low-income household index where the savings for low-income households must be significant. Finally, the bill will only allow future rules that are technologically feasible and economically justified.

Mr. Messner, I believe AHAM was part of the agreement I spoke about. Given your experience with the gas stoves rule, why is it important we reform EPCA, the Energy Policy and Conservation Act with commonsense approaches?

Mr. Messner. Thank you, Congresswoman, and thank you for your leadership with the Save Our Gas Stoves Act.

EPCA -- I think the process that we have kind of been going through in seeing some of the proposed rules that have come out by the Department of Energy just exposed some of the need to reform EPCA. EPCA has a lot of the things that people talk about that are important about protecting features, and consumer choice, and economic justification, and technological feasibility. It has all that in the law, but it is just that DOE has to consider these factors.

So over the years, over the last 30 years, it has become apparent in that DOE is going to be proposing some rules that are out of step with some of these considerations, that those considerations should be -- there should be more requirements that they need to address these things instead of just consider them, and then move forward with potentially standards that doesn't protect the features that people want. If they don't have products that people want to buy, then we have kind of all failed.

Mrs. Lesko. Well, thank you. Mr. Lieberman, can you comment on the importance of establishing a firm, measurable standard for energy savings?

Mr. Lieberman. The upside of these standards for consumers is the energy or water saving. That has to be weighed against the downside, higher upfront costs, potential diminution of product features, performance, reliability, longevity. And if the upside is very, very small, then it is quite likely that these are standards that are going to be more trouble than they are worth. For example, the proposed gas stove rule, or the proposed rule for gas stove was estimated to save gas cook top stove owners $1.51 per year. That is been revised downward I have heard. We will have to see this new negotiated agreement comes up with. That is a very, very modest upside given the risks, especially for people who like cooking with gas and are concerned that gas stoves will have to eliminate some of their favorable features. So benefiting consumers ought to be pretty obvious and having a minimum savings is part of that.

Mrs. Lesko. Thank you. And I yield back.

Mr. Duncan. Gentlelady yields back. We are going to go vote. So we will stand in recess to the call of the chair.

[Recess.]

[2:18 p.m.]

Mr. Duncan. We will call the Energy Subcommittee back to order. And I will recognize Mr. Cardenas, our new ranking member here for 5 minutes.

Mr. Cardenas. In minutes, I become ranking member. Thank you, chairman. Thank you Chairman Duncan and also Ranking Member DeGette for holding this hearing. And I want to thank the panel, our second panel today, of witnesses and experts to enlighten us with what is going on out there in the real world.

It is interesting to me that Republicans are so dead set on weakening agency's ability to regulate, when I can think of many examples of standards and regulations protecting the health and well-being of American children, men, and women across our country for generations now.

Take lead gasoline as an example. Despite knowing that lead was a poison, industries, such as automaker industries and oil companies and chemical giants, said that Well, low levels of exposure to lead in gasoline wouldn't harm the public. Well, in 1973 the EPA began an effort to phase out leaded gasoline. And within a decade, new vehicles were designed to run on unleaded gasoline.

To each one of the panelists here, do you agree that it was a good idea to take lead out of gasoline across America? Start to my left.

Mr. Messner. Well, that -- I represent the appliance manufacturers, so it would just be a personal opinion, not what I represent.

Mr. Cardenas. Sure. Good idea or bad idea?

Mr. Messner. I am really not an expert on that, but I would say it would be a bad idea to ingest lead and have lead in anything that you want -- it is not a good chemical to

be -- to have ingested.

Mr. Cardenas. Okay. Thank you.

Mr. Paulling. Yeah. I think taking lead out of gasoline is one of those things you could prove that is beneficial to all, in my opinion.

Mr. Cardenas. Beautiful. Thank you.

Mr. deLaski. I have two children and I am very happy they grew up without lead in gasoline.

Mr. Cardenas. Thank you.

Mr. Lieberman. Good to see leaded gasoline go, but the substituted compound was MTDE which caused problems of its own, so we need to think big picture.

Mr. Cardenas. Absolutely. I couldn't agree with you more about we need to think big picture, especially when it comes to the health and wellbeing of the American people. Imagine if Congress meddled with the EPA's process rendering them unable to do their job. So getting the lead out would have not happened had they not been allowed to do so.

While banning lead in gas is different than energy efficiency standards, it is a reminder that when we allow experts like the DOE or EPA to regulate and to do their job when we prioritize the health and safety of consumers, is a good benefit for all. Allowing the DOE to do its job will protect the health of consumers by cutting down emissions. It will also save consumers money.

As many of us recognize, enhancing energy efficiency directly contributes to the affordability of the grid. According to the Department of Energy, its energy efficiency actions under the Biden/Harris administration will save Americans about $570 billion over the next 30 years. That is good money for Americans to be able to keep in their own

pockets. Those utility savings are significant for families, particularly those that are low- and moderate-income families in all of our districts.

Mr. DeLaski, in your testimony, you discussed the impact that energy efficiency standards have on American families. For constituents at home who may be struggling to wrap their heads around the relationship between federal efficiency standards and utility bills, can you break down how strong efficiency standards translate to lower utility bills for households, particularly those that are low- and moderate families?

Mr. deLaski. The typical household spends about $500 less a year on utility bills as an existing efficiency standards. Updating those standards in the months and years ahead has the potential to reduce utility bills on an annual basis for an average household by hundreds of dollars. That is real money that helps households, particularly ones on tight budgets make ends meet month to month.

Mr. Cardenas. Yes, especially those families who their only income might be Social Security, like many of our seniors. So thank you for that answer. My district has nearly 140,000 renters, and as you mentioned, renters are not always able to choose their appliances. Can you expand how robust appliance standards help ensure that renters benefit from savings on their utility bills from more efficient appliances?

Mr. deLaski. Often, a landlord doesn't have an incentive to buy an even slightly more expensive appliance because they are not going to be the one who saves on the utility bill. It is the renter who is going to save, who typically pays the utilities. So the standards ensure that landlords are buying reasonably efficient appliances to help keep costs and down, and that benefits renters who are disproportionately lower-income households.

Mr. Cardenas. Okay. My time expiring, I yield back, Mr. Chairman.

Mr. Duncan. Gentleman yields back. It is interesting that the same year they took lead out of gasoline, Jimmy Carter's administration and President Biden and Senator Biden voted for coal as a power generation source for this country, not oil and gas.

I will now recognize Mr. Walberg for 5 minutes.

Mr. Walberg. Thank you, Mr. Chairman, and thanks to the panel for being here. We are in the midst of a drastic push towards all electric vehicles, in spite of the fact that we have seen some very significant failures, including with our Energy Secretary and her attempt to drive electric vehicles on a tour this past week that just didn't work out well, including police had to be called at one point in time, and it didn't work well.

And then Ford Motor Company president took an extended trip to, I believe, California, never made it in his EV vehicle because of significant challenges with charging and the ability to do that. So we have seen auto companies lose billions of dollars. It is reported last week that General Motors lost $60,000 per EV last year. That is a loss leader. The rest of us make up that slack.

Consumers not there yet as well. Talking across my district with farmers, factory workers, contractors, et cetera, they are not ready for it yet. They feel the government is pushing them into something that they are not unwilling to look at, but to be mandated and neither is our electric grid ready for it.

Under the current DOE standard, an average electric vehicle requires 0.364 kilowatt hours of energy per mile driven. That means if Michiganders were to transition entirely to EVs in our State, the State would need an additional 44.7 billion kilowatt hours of generation per year to support just the light-duty fleet. I understand that the transition to all EVs will not happen overnight, but we must acknowledge the feasibility of adding such significant demand on our electric grid while the Biden administration

simultaneously decreases generation through their heavy-handed policies.

Mr. Paulling, like South Carolina, Michigan has also seen significant investment in EV manufacturing, but I fear that we are barreling towards a reliability crisis if we don't balance this massive increase in demand with increased supply of reliable dispatchable generation. As it stands, can our energy distribution system handle the projected loads and all the EV fleet would require?

Mr. Paulling. I can speak for Mid Carolina Electric Cooperative. What we have done is we have done our best to prepare our system for the influx of electric vehicles. We have not seen a significant influx of electric vehicles, but one of the main things we did was we put a rate structure in place to make sure there is no cross-subsidization going on. That is the most important to me. Somebody living in these apartments we are talking about, low income, doesn't need to power somebody's Tesla. So that is the main thing we did. Other thing is we have planned, as best we can, to have our distribution system as robust as possible. The other thing I am doing right now is saying, Hey, we have got to have generation in place because the train has left the station, these EVs are coming, timing of it we don't know. But we really need to build baseload generations so folks can charge these cars. We, as a utility, have not gotten into the charging arena. We want the marketplace to take care of that.

If somebody wants to put a charging station in, they got to pay the freight. They got to buy the transformer. They got to put in the infrastructure. So again, we are agnostic to whether they come or not, but recognize that they are coming and we need to be prepared for them. But to answer your question, overall, no the grid is not even close to being capable to have the capacity if they come full speed in the next 10 to 15 years.

Mr. Walberg. Yeah. In fact, I think we have gone away from it. We put ourselves backwards.

Mr. Lieberman, in your testimony you discuss how DOE's energy and water limits for dishwashers have had an adverse impact on consumers, and that the efficiency savings from those regulations might even be negligible because of performance losses. Can you elaborate more on why that is and, if Representative Lesko's legislation would prevent similar regulations from going into effect?

Mr. Lieberman. Well, dishwashers have been regulated four times. Now, we are onto the fifth, and as Mr. Messner said, we are reaching, if not already at the point of diminishing, and maybe even negative returns. The time it takes to do a normal cycle on your dishwasher is more like 2 hours rather than 1. Now many models have a quick wash cycle, but that is not optimal. I think most people would like the normal cycle to get the job done in an hour, rather than two. The energy savings just isn't worth it for many consumers in terms of the reduced performance of the dishwasher.

Something else that hasn't gotten enough attention is whether appliances aren't lasting as long because of these appliance efficiency regulations, the over-engineering that has to go into squeezing out a little bit more efficiency maybe creating more fickle systems that aren't as durable as older systems. I have worked with some appliance mechanics, technicians, repairmen and they tell me that they don't make them like they used to.

Mr. Walberg. Well, I am not looking forward to washing dishes myself again as much as I did as a kid. I hope we stop and think and get this right. I yield back.

Mr. Duncan. Gentleman yields back. I now go to Mr. Balderson from Ohio for 5 minutes.

Mr. Balderson. Thank you. Mr. Chairman. Mr. Paulling -- I want to thank all of you for being here, but my first question is to Mr. Paulling. In the first panel, I discussed with the Assistant Secretary Rodrigues about the implications of their distribution transformer efficiency proposal. In our back and forth with the Assistant Secretary, he said, Even if we were to go -- even if the rule would go into effect as proposed, there would still be a market for good American GOES steel.

I would like to enter into the record a letter from the CEO of Cleveland Cliffs, Mr. Chairman.

Mr. Duncan. Without objection, so ordered.

[The information follows:]

******** COMMITTEE INSERT ********

Mr. Balderson. Thank you. The CEO of Cleveland Cliffs discussing his concerns with the proposed rule. If this rule is implemented, and I am reading from his letter, if this rule is implemented as proposed, it will mean the end of the highest efficiency electrical steel production in the United States. Without a market for this GOES, Cleveland Cliffs production of both GOES and NOES would be completely unsustainable. The company would have no choice but to discontinue the production of GOES for this market. GOES for the power -- GOES for the power transformer market, and NOES for needed for electric vehicles and other applications.

I just wanted to set the record straight, if implemented, the Department of Energy's proposal directly threatens 1,500 good-paying union jobs in Butler, Pennsylvania and Jamesville, Ohio. I am a cosponsor of Congressman Hudson's Protecting America's Distribution Transformer Supply Act, which prohibits the EPA from imposing new efficiency standards for distribution transformers for 5 years.

I am coming, Mr. Paulling, I apologize. I know folks across the supply chain have expressed concerns regarding the Department's distribution transformer role. Can you discuss your concerns with moving away from GOES to a different type of steel, question one. And how will this create uncertainty in the transformer market?

Mr. Paulling. The most important component to a utility system is our transformers, whether that be a substation transformers that transmission voltage to distribution voltage or the transformer that changes from distribution voltage and to usable voltage in the home or business, with that, the most critical component we have. And when a transformer goes bad, existing transformer, we have to have one to replace it with. We can't say, Well, we will get you one in three weeks, just do the best you can.

Or if a new subdivision comes along, we can't tell the developer well we will wait 2 years before we can start building homes. So that supply chain is just the most intricate thing that we have, and if we disrupt that by going to amorphous steel -- again, I mentioned earlier, I was part of the amorphous steel experiment and did not work out. It is just the physics of it, it won't work. But it is not only the thousands of jobs that you talked about, but it is all, think about how many people work at ERMCO or Howard Industries, or those other transformer manufactures that for them to change processes and start winding amorphous core steel, they not going to be able to do without retooling their entire plants to do this. So if all of a sudden you disrupt and go to amorphous steel, it is a disaster. I wish I had facts and figures behind it. But just from distribution perspective, I know if my cooperative, they probably would run me off first thing because I couldn't supply the needs of my members, so it is critical.

Mr. Balderson. Thank you. Mr. Paulling, do you think it would be good policy for the agencies responsible for ensuring grid reality, such as FERC in the North American Electrical Rehability Corporation, and the actual operators of the bulk power system to report back to Congress on the potential issues that threaten grid reliability?

Mr. Paulling. I think a lot of the situation we are in is because the right hand doesn't know what the left hand is doing. In my organization we know everything that goes on affects every part of the organization. So these entities need to speak. They need to have it. And everybody needs to get around the table and work together to make things happen. If we don't, we are falling further behind.

Mr. Balderson. That follows up my next question to you. Would you agree there should be a greater coordination between FERC and Federal agencies to consider the consequences on the bulk system?

Mr. Paulling. Absolutely. And it is all about reliability and affordability, and safety, and all those type things. But until they begin to figure somehow how to work together and a truly partnership basis, we won't move forward.

Mr. Balderson. Okay. Thank you. Mr. Chairman, I will yield back.

Mr. Duncan. Gentleman yields back. I now go to the gentleman from Alabama who didn't have a great day Saturday, but roll tide, Mr. Palmer.

Mr. Palmer. I thank the gentleman for his sympathy, but we will get over it.

I want to stay on the physics issue, and this is one of the things I have tried to explain constantly to my Democratic colleagues. I worked for two international engineering companies. One company was environmental systems. We did everything from [inaudible] aerospace to, in some cases, nuclear work. And the physics don't work for intermittent power, and it creates, I think, a threat to grid reliability, the North American Electric Reliability Corporation updated their risk assessment from 2021, where the number one risk was changing the resource mix, in other words shutting down hydrocarbon energy generation going to wind and solar. We were losing generative capacity to such extent that they are now warning parts of the country that never experienced blackouts, like from the Midwest down to the south, a warning that this could occur.

The updated, it is still changing the resource mix is the number one threat. The number two threat is resource adequacy and performance. What I want to point out is that wind and solar, as everybody knows, is intermittent. So you can't schedule electricity production, and even wind and solar only have like a 40 -- wind would have a 40 percent, solar 30 percent less capacity. You know, traditional hydrocarbon production is 85 to 90 percent. It is reliable. You can maintain a consistent baseload.

You can meet peak demand, and that would include nuclear as well, which I think we do have a bipartisan agreement on advanced nuclear.

So I think that is one of the biggest issues that we have got to deal with along with something else that has been mentioned in this hearing, and that is the supply-chain issue. If we haven't learned anything else from the war in Ukraine, it should simply be this: that no Nation should be relying on an adversarial nation for something that is critical to its economic security and national security as energy. And we could completely eliminate our reliance on hydrocarbon energy, which we will not do, by the way, it is not feasible in the short-term, and become 100 percent renewable would make us 100 percent reliant on China, because we don't produce batteries here. We assemble batteries from parts from China. So I will let you respond to this in just a moment.

But I want to respond to Mr. Lieberman. I am concerned that the Department of Energy is ignoring impact of efficiency standards like for the dishwashers and the gas range tops and gas hot water heaters. They are ignoring this for low-income families. And they say over 10 years, you will recover, basically, pennies on the dollar. I grew up dirt poor. My mom and dad could not afford a new range top. They could not afford a new water heaters. We heated our house with coal burning in a heater sitting in our kitchen, but if we had had a gas heat, we couldn't afford to replace it.

And it amazes me how out of touch some of my colleagues are with how people are having to live today. Median household income has about $9,000 a year less buying power than it did just 3 years ago, before this administration came into office. Would you comment on this? I mean, to tell people, Yeah, go ahead and replace your gas range, your water heater and everything, and over 10 years, you will come out a little bit ahead. I beg to differ. I mean, most people would have to put it on credit card and

pay the interest on it in addition to the higher cost for the appliance.

RPTR GIORDANO

EDTR HUMKE

[2:37 p.m.]

Mr. Lieberman. Well, I don't think we are going to resolve the disputes over whether these appliance standards are good for low-income households or bad. I think they clearly are bad.

The fallback position is, oh, they are renters, they don't have to buy the appliances. But more expensive appliances will raise --

Mr. Palmer. Bullcrap.

Mr. Lieberman. -- tax as well.

Mr. Palmer. Yeah. Don't -- low-income people are not all renters.

Mr. Lieberman. And they aspire to own a home, and we are making appliances more expensive and putting home ownership out of reach --

Mr. Palmer. And who do you think is going to pay for the appliance if they are renters? It will be reflected in their rent. I mean, people need to wake up to what is happening to them in this country right now.

Mr. Lieberman. One other point I would make with regard to this push towards electrification. The Department of Energy came out with something in the Federal Register a few days ago that shows the per-unit energy cost of differing energy sources. Natural gas is three times cheaper per unit energy than electricity is. So certainly keeping natural gas in the mix is absolutely essential to energy affordability.

Mr. Palmer. Mr. Chairman, with your indulgence, 15 seconds, I just want to point out that The Economist magazine reported that there were 68,000 people died in

Europe last winter because they couldn't afford their household utilities. They were classified as excess winter deaths. That is more than died from COVID in the exact same time period. There are consequences for this.

I yield back.

Mr. Duncan. Gentleman's time has expired.

I will now go to the chairwoman of the full committee. Washer State had a great Saturday against Wisconsin.

Ms. Rodgers for 5 minutes.

The Chair. That is right. It was a good win. Thank you, Mr. Chairman.

Mr. Lieberman, do you agree with me that the law that authorizes DOE's appliance standard program is broken and should be reformed?

Mr. Lieberman. I think the events of this year say yes. A lot of appliances that have already been very, very heavily regulated are now the subject of an avalanche of new regulations. We will see what the result of those proposed rules are, but I would say the system is broken.

The Chair. Certainly, all across the country, Americans started taking notice when Department of Energy proposed to ban natural gas stoves. Are you aware of other products that use natural gas that Department of Energy plans to ban?

Mr. Lieberman. Well, there are regulations for stoves, for water heaters, and for furnaces, all of which come in natural gas and electric versions. And I would argue those proposed rules tip the balance very strongly in favor of electric versions to the detriment of consumers that would benefit from the gas versions.

The Chair. I am growing more and more concerned about the regulatory restrictions that really work against American manufacturing, and I wondered -- I wanted

to ask, Mr. Lieberman, if you would share any insights you might have on appliances and where they are being manufactured. We recently redid our kitchen and, you know, were buying new appliances. And one of the -- you know, I learned that the GE microwave was -- when I talked to the GE folks, they are like, oh, no, that is actually -- that was a brand that was bought by China. That is manufactured in China.

Just can you speak to what you have seen as far as the manufacturing of appliances? Are they being made here, or elsewhere, and is this a valid concern?

Mr. Lieberman. Well, one thing I would point out, the proposed water heater standard, the latest one, would -- may end a certain type of water heater being on the market, and the American manufacturer of that particular type of water heater is very concerned about that.

So these standards do have an impact. Generally, and for a number of reasons beyond just these DOE standards, there has been a lot of outsourcing of appliance manufacturing over the last 20 years or so. Even well-known American brands often are made overseas. And even appliances that may be technically made in America, that usually means assembled in America from components that come from one or more countries.

So it is not easy to find American-made products. You have to do your homework. And there is some appliances, such as window-unit air conditioners, where there virtually aren't any American manufacturers anymore.

The Chair. Thank you.

Mr. Paulling, I wanted to ask about natural gas. And, in so many ways, the natural gas has been such a success story in the United States. It has really been the reason that we have been able to lead the world in bringing down carbon emissions.

One of the best things that we could do for the rest of the world if we wanted to focus on reducing carbon emissions would be to unleash American natural gas.

I wanted to ask if you would speak to the role natural gas has played and is playing in impacting grid reliability.

Mr. Paulling. Sure. And I will address from a South Carolina perspective first.

In 2005, the utilities took measures of carbon emissions, and then we set goals and standards where we were going to be from -- in 2030, 2040, 2050. But, in 15 short years, South Carolina's cooperative system and Santee Cooper, we have -- we are about 40 percent less in our carbon emissions. And that is simply from shutting down a couple of coal plants, building a natural gas plant, and have purchase power agreements from natural gas. So that is where that is coming from.

So that is the beginning. But I tell you, if these new 111(b) and (d) standards are put in place, all that will stop, because we -- it is unproven technologies. Carbon sequestration, green hydrogen, the things that are being proposed, they are undoable. We don't know how much they are going to cost. We don't know where the hydrogen is going to come from.

So what we need to do until that technology matures -- and hopefully one day, it will. But, until that time, we have to use natural gas as a bridge fuel. And that is not just in South Carolina. That is really across the whole Nation and the whole -- the real issue we have in South Carolina is all of our pipelines are fully subscribed.

So we have got to do something about permitting. We have got to do something about somebody -- and I will say it from South Carolina. Anybody that can fog a mirror can bring a lawsuit against a project. And that is -- we have got to figure out what to do about that.

But natural gas is the bridge fuel that we have to contend with. I mentioned earlier that, if you put in -- I am all for solar, but solar can't stand on its own, because it comes and goes. It fluctuates. You have to have a spinning generator that can ebb and flow whenever a cloud cover comes over that solar farm or when the lights -- you know, when the sun goes down. So you have got to have it there, but it is -- again, natural gas is going to be a very important portion of our portfolio going forward.

The Chair. Thank you. Thank you all for being here.

Mr. Paulling. Sure.

The Chair. I yield back, Mr. Chairman.

Mr. Duncan. Gentlelady yields back.

And I now go -- we won't talk about what happens in Blacksburg, but I will talk -- I will recognize the gentleman from Virginia, Mr. Griffith.

Mr. Griffith. It was a sad, wet day. That is all I can say. Sad, wet day.

All right. So let me pick up with this appliance thing, because I am sitting here listening, and that is one of the reasons I like to be in here, and I apologize I wasn't in here sooner, juggling all kinds of things.

But I heard Mr. Palmer's talking about how his family was poor and that they used coal in a stove. And I want to start with you, Mr. Lieberman, but, Mr. Messner, might get your input on this, too.

Here is the concern I have. Representing a coal-producing region where, if you are driving down in the mountains of south West Virginia, there is some coal. It might not be the hottest-burning coal, but it is right there on the side of the road. And most everybody in a small community is going to know where there is an old mine that you can get into if you work at it a little bit.

If we keep making the price of these appliances go up and we don't let people use affordable appliances, isn't it only reasonable to expect that poor folks are going to do what they need to do, and they are going to find that coal whether it is on the side of the road or not? And I dare say not a sheriff in south West Virginia would stop somebody who is on the side of the road collecting poor-quality coal. But, if they can burn it, they will.

Isn't that what we are pushing these people towards?

Mr. Lieberman. Well, certainly, when appliances become more expensive, that is very, very difficult for low-income households. And it is not just the higher costs. They have higher financing to pay for them. So this is a -- this is a hardship for low-income households.

Mr. Griffith. Yeah. And I don't see -- I mean, it seems very uncaring to make this stuff cost so much when we have done a tremendous amount to clean up the air and the water of our country already. I am not saying we can't do more, but we do need to take into account the cost.

Would you not agree with that, Mr. Messner?

Mr. Messner. I agree with it 100 percent. So two -- one example. Clothes washers, the DOE proposed rule, DOE's own data would have increased -- said that it would increase the clothes washer by $150. But it is not just appliance standards where this comes into play. There is also a lot of things -- I will give one other example. California is about to enact a bill that will add about $300 to a clothes washer by dealing -- putting -- forcing a filter to go on it.

So that would essentially double the cost of an entry point product for a clothes washer that the low-income and low-income household might rely on in order to buy a

new close washer into the future. So it is an onslaught of really regulations that go -- proposed regulations and legislation that goes too far across the country, quite honestly, that we have to deal with.

Mr. Griffith. Well, and people just aren't going to pay attention to some of these regulations. They are going to find ways to work around it. Now, you are not going to be washing any clothes with coal, but -- but I will tell you the last round of regulations on washing machines, I had a lady out of Bluefield, Virginia, who told me she was putting a hose into her washing machine to get it the extra water because the machine wouldn't allow it in because of the new regs. So she put a hose in there to redo it.

I wrote a column about that. I do a weekly column. I wrote a column about that when these new regulations came out and said, I guess we are going to see more of that.

And I got several responses from constituents who said, Oh, yeah, we are doing that, too.

So, I mean, sometimes you just take these things to the point of absurdity, and people -- good, commonsense people are going to figure a way around it, or they are going to wash their clothes a lot more, one of the two. I mean, that is -- you know, or they are not going to be able to afford it, and they go to the laundromat when they can afford it, and unfortunately are not able to wear clean garments on all occasions.

All right. I had never planned to go in that direction.

That was -- the reason I was going to Mr. Paulling, just to talk about the fact that there have been more than 220 coal plants that have closed since 2014. And, while a lot of that was replaced with natural gas, some of that capacity was replaced with wind and solar. And I think you hit it on the head in your testimony when you said that, you

know, the problem is our timelines aren't matching up. We are getting rid of the coal-fired power plants, and now they are after the natural gas plants, claiming we are going to bring in all these new ways to create power, and our timelines are not matching up.

So, in light of that, how has the closure of dispatchable power plants affected your members?

Mr. Paulling. Well, we have been fortunate enough to stay just ahead of it, but we are very close to that threshold right now.

My contention is pretty simple, common sense. Don't shut a generation station down, no matter what the fuel, until you get adequate replacement plus reserves. Then shut it down. But that takes time. That takes effort.

One of the -- we are in the Santee Cooper balancing authority. We buy power from Santee Cooper and Duke Energy. Santee Cooper has got a coal generating station that they want to shut down, and we just can't do it yet, because every -- every time there has been a large load event, whether it be hot or cold, those four coal plants of that generating station are running around the clock.

So we can't close them down, but what they have to do is they have to go through some permitting to get the effluent water taken care of. So we need to go to those -- you know, go ahead and go through those exercises and get it done so we can continue to burn those -- burn that coal and keep the lights on until, again, adequate replacement generation is up and running, plus reserves, reserves meaning that, if a generator goes down, then you have got room so you won't have to blackout.

The way it all works is all these transmission systems are tied together. And, if one of -- if the frequency drops below, then they are going to automatically disconnect

and leave that utility on an island, and it is -- that is blackout for everyone. So --

Mr. Griffith. Yeah.

Mr. Paulling. All that has got to be taken care of.

Mr. Griffith. That makes common sense to me, but unfortunately the Biden administration doesn't consider all of the consequences when they have men and women in the ivory towers come up with some of these rules.

I yield back.

Mr. Duncan. Gentleman yields back.

I would like -- this concludes the hearing.

Both panels, I would like to thank all the witnesses for being here today. I apologize for the break with the votes, but that is just the way it goes sometimes here in the United States House of Representatives.

Members will have additional questions. I am sure they will submit those in writing. I would remind members they have 10 business days to submit additional questions for the record, and I ask the witnesses do their best to submit responses within 10 business days upon receipt of the question.

I ask unanimous consent to insert in the record documents included on the staff hearing documents list.

And, without objection, that will be the order.

And, without objection, seeing no other members, we will stand adjourned.

[Whereupon, at 2:51 p.m., the subcommittee was adjourned.]