1	BEFORE THE
2	FEDERAL ENERGY REGULATORY COMMISSION
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5	IN THE MATTER OF: :
6	CONSENT ELECTRIC :
7	CONSENT GAS :
8	CONSENT HYDRO :
9	CONSENT CERTIFICATES :
10	DISCUSSION ITEMS :
11	STRUCK ITEMS :
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14	1060TH COMMISSION MEETING
15	OPEN SESSION
16	
17	Commission Meeting Room
18	Federal Energy Regulatory
19	Commission
20	888 First Street, N.E.
21	Washington, D.C.
22	
23	Thursday, October 17, 2019
24	10:17 a.m.
25	

1 APPEARANCES:

2 COMMISSIONERS PRESENT: CHAIRMAN NEIL CHATTERJEE (Presiding) COMMISSIONER BERNARD MCNAMEE COMMISSIONER RICHARD GLICK SECRETARY KIMBERLY BOSE

1	PROCEEDINGS
2	(10:17 a.m.)
3	SECRETARY BOSE: Good morning, Mr. Chairman.
4	Good morning, Commissioners. This is the time and the place
5	that has been noticed for the open meeting of the Federal
6	Energy Regulatory Commission to consider the matters that
7	have been duly posted by the Commission.
8	Please join us in the Pledge of Allegiance.
9	(Pledge of Allegiance recited.)
10	SECRETARY BOSE: Commissioners, since the
11	September open meeting the Commission has issued 50
12	Notational Orders.
13	Thank you, Mr. Chairman.
14	CHAIRMAN CHATTERJEE: Thank you, Madam Secretary,
15	and good morning to everyone. I would like to begin by
16	welcoming you all to the newly dedicated Kevin J. McIntyre
17	Commission Meeting Room. It is the perfect setting to honor
18	a man who had a deep and lasting impact not only on me, not
19	only on this Commission, but on everyone who was lucky
20	enough to know him.
21	It is an honor to be working alongside my
22	colleagues and FERC staff to carry forward the good work
23	that Kevin began, and I am sporting this Washington
24	Nationals cap today because I know that he would be
25	absolutely thrilled, and was, as he watched the Nationals

1 reach the first World Series in franchise history.

I want to take some time to highlight the recent trip I made to India with Frank Fannon, the Assistant Secretary for the Bureau of Energy Resources for the U.S. State Department.

6 Together, the State Department and FERC announced 7 the creation of a joint initiative with the Government of 8 India to assist with the challenges facing India's energy 9 system. In particular, as India's power grid attains higher 10 penetrations of renewables, system reliability remains an 11 ongoing concern.

As part of the State Department's Asia EDGE Initiative--and EDGE stands for Enhancing Development and Growth through Energy--State and FERC launched a new two-year Flexible Resources Initiative with Indian policymakers and regulators to advance a comprehensive strategy to promote a flexible, reliable, stable, and sustainable power system in India.

19 This work will build on the existing 20 relationships that FERC has with Indian regulators, 21 including the Petroleum and Natural Gas Regulatory Board, 22 and the Central Electricity Regulatory Commission, to 23 provide assistance by analyzing flexible resource 24 requirements and identifying cost--strategies to integrate 25 renewables using commercial interventions to increase

flexible resource adoption and enabling electricity markets
 to value and compensate system flexibility.

3 This work will be foundational for the market 4 mechanisms needed to enable the Indian power sector to 5 thrive efficiently and cost effectively.

I look forward to working on this initiative, and
I thank our staff here at FERC for providing much needed
support for this work.

9 Turning briefly to our agenda for today, I am 10 looking forward to staff's presentation of the 2019-2020 11 Winter Energy Market Assessment. This annual report 12 provides a critical overview of the risks and challenges 13 we're facing in our markets during the winter months.

14 One of the issues the Winter Energy Market Assessment makes clear is the importance of additional 15 16 natural gas capacity out of the Permian Basin. So I am 17 pleased that one of the Certificate Orders the Commission is considering today, C-1, the Lockridge Extension Pipeline 18 19 Project, will provide up to 500,000 decatherms per day of 20 additional transportation service for gas from that region. C-1, the other Certificate Project on today's 21 22 agenda, is the Southeastern Trail Expansion Project which 23 would provide additional capacity to serve utility and local distribution companies in Virginia, North Carolina, South 24 25 Carolina, and Georgia.

1 Staff will also be making a presentation on Items 2 E-1 and E-2 which act on the Order 841 compliance filings by SPP and PJM. I am extremely pleased that we are taking 3 action on these items today. As I have repeatedly said, I 4 5 view storage as a key part of our energy future. That is 6 why I was so proud to support Order 841 in 2018, and why I 7 enthusiastically joined in affirming that landmark Order 8 earlier this year with Order 841-A.

9 I firmly believe we are taking the right and 10 necessary steps to unleash the potential of storage 11 technologies. I am looking forward to staff's presentation 12 on those items, and am proud of the bipartisan work we are 13 doing on storage.

I would also like to take a moment to highlight Item E-3, which I know has been the source of much anticipation from folks trying to figure out what it is, which initiates an investigation under Section 206 of the Federal Power Act to determine whether ISO New England, PJM, and SPP are appropriately implementing what is known as the Immediate-Need Reliability Exemption.

This Exemption was meant to shield certain short lead-time projects from competition. And the proceeding we are instituting today is meant to examine whether these RTOs and ISOs are complying with the Commission's conditions for use of the Exception, and whether the Commission's previous

1 conditions remain appropriate.

I think the examination we are undertaking today is an important step to ensure that the rules in each RTO appropriately balances concerns about reliability with the benefits of competition.

6 With that, I will conclude my remarks and turn 7 back to my colleagues for any additional opening statements 8 or announcements that they may have.

9

Commissioner Glick?

10 COMMISSIONER GLICK: Thank you, Mr. Chairman. 11 And I do want to join you, and I want to congratulate you. 12 We presided over the dedication ceremony last Friday of this 13 Kevin J. McIntyre Commissioner Meeting Room, and I think it 14 is very fitting. So very nice presentation.

I wanted to talk about a couple of Orders today. 15 I want to start with C-1 and C-2. Those are two orders 16 17 approving Certificates, as the Chairman mentioned, for natural gas pipeline projects. I will be partially 18 19 dissenting on both of those projects--probably no surprise, 20 because the Commission is continuing with the same thing as it's done before and refusing to look at any issues related 21 22 to the significance or the impacts of the project's 23 greenhouse gas emissions on climate change.

And I'm going to do you all a favor and I'm not going to belabor that point today like I have in the past, but I do want to talk a little bit about C-1, as the
 Chairman mentioned, is the Lockridge Pipeline Project.
 What's interesting about that particular Order,

4 it doesn't even mention the word "climate change." It 5 doesn't even talk about climate change at all. And I think 6 it's very inconsistent--it's clearly inconsistent with what 7 the courts have been telling us.

8 The D.C. Circuit has, on several occasions, told 9 us that we need to take climate change, or the pipelines' 10 impact on climate change into account in determining whether 11 a project is in the public interest to qualify for a 12 Certificate of Public Convenience and Necessity.

But, again, we're not doing that. In thisparticular Order, we don't even mention it.

And then if you look at the environmental assessment, which the Commission is also approving in coordination with the Order today, we are actually not even doing the same things we've done in previous environmental assessments.

First, there is no discussion of the causal relationship between human activity and climate change, which we have done in previous environmental assessments. Second, there's no discussion of the likely effects of climate change. Again, we've done that, as I understand it, in previous environmental assessments.

And third, we don't even acknowledge that the project's greenhouse gas emissions will contribute to climate change. Again, which I think we have done in the past.

5 So it may just be a particular nuance with regard 6 to this particular proceeding or not, but it is inconsistent 7 with what we have done in the past and I think we need to 8 keep an eye on this going into the future in how we handle 9 additional pipeline projects.

I am also going to be dissenting on G-2 and G-3. And both of those proceedings combined together. We are essentially denying requests, or deciding not--or announcing that we're deciding not to seek Section 5 proceedings to reduce rates to particular pipelines in the aftermath of Congress's 2017 reducing the corporate tax rate.

16 Right after Congress did enact that particular 17 reduction, we all got together in this room, the 18 Commissioners that were here, and said we were going to 19 protect consumers and we were going to make sure that the 20 benefits of those tax cuts were going to flow down to 21 consumers. And we generally did that with regard to--on 22 the electric side, with regard to jurisdictional utilities.

23 On the natural gas side we created a more 24 nuanced, not necessarily a very transparent process, to try 25 to determine whether we were going to require pipelines to

also pass through to consumers the benefits of those
 particular tax cuts.

In this particular case we have two pipelines that in the aftermath of the tax cuts, because again they're recovering rates based on a 35 percent rate and they're paying now a much lower corporate tax rate, in the aftermath the ROEs are in excess, or one of them is well in excess of 20 percent. The other one is about 20 percent, as I understand it.

And we're saying, well, there were settlements that were adopted before the tax cuts went into effect, and the settlements essentially agreed to a particular rate. Now those settlements said that, you know, that if you were going to change the rate, it would be based on whether the--the just and reasonable standard.

And the settlements essentially had a clause in there that said, well, if the Commission on a uniform basis across all pipelines went forward and said you had to reduce your rates, then the settlement wouldn't apply for those particular pipelines as well.

21 Well in this case we're presented a situation, as 22 I mentioned before, where the ROEs are well in excess of 20 23 percent, and essentially what we're doing is, by today's 24 orders, we are allowing for a windfall for the companies. 25 We are not passing through like we promised back at the end

1 of 2017 that we were going to pass through the benefits to 2 consumers.

3 I think that is very troubling. So I am going to4 be dissenting on both G-2 and G-3.

5 Now I just want to talk about a couple other 6 orders that I'm not dissenting on but I did want to talk 7 about them, anyway.

8 The first one is, as the Chairman mentioned, E-3 9 in which we are essentially initiating, as the Chairman mentioned, a Section 206 proceeding examining whether some 10 11 of the RTO's practices with regard to the Immediate-Need Reliability Exemption are just and reasonable. And I think 12 13 that's fine. I think the Commission is doing a very smart 14 thing by initiating this proceeding, and I'm all for it, and 15 I'm very happy with it.

16 I would say, though, that I am concerned that if 17 we say that this is our answer to addressing the ills, or the issues that Order 1000 has raised, that would be my 18 19 concern. And I mentioned this recently on a couple of 20 occasions. And I think the problem with--there are a lot of problems with Order 1000, but Order 1000 has done a lot of 21 22 good things, too. I don't want to suggest that it hasn't, 23 with transmission planning and so on, that it hasn't had a 24 number of positive impacts.

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But I think overall we have created a very

strange incentive for utilities to develop transmission projects that might not necessarily be the best type of transmission project in large part because we're saying in one set of transmission projects you have to be subject to competition, and in the other set of transmission projects don't have to be subject to competition.

7 So if you're a utility and you want to build a 8 transmission line, and you want to recover a pretty good rate of return and pass it on to your investors and so on, 9 10 what are you going to do? Are you going to try to arrange 11 for a situation where you're going to have a bidding process for that transmission project? Or are you going to create a 12 13 different transmission project that might not be as 14 beneficial but you get to build it, and again you get to recover that rate of return? 15

And so I think the intent of Order 1000, I'm all for competition. I really think competition is a good thing. I know the Chairman has mentioned it a number of times, and we need to promote competition. But I don't think we're actually promoting competition; we're doing just the opposite in Order 1000. I really think we need to take a look at that.

In large part, because I think everyone around here recognizes that a lot of states have set very ambitious clean energy goals. A lot of corporations around America

1 have done the same. And we're not going to be able to 2 achieve those goals if we don't build out the transmission system. And in a lot of cases that means inter-regional 3 transmission lines, and even inter-regional transmission 4 5 lines, projects that are of sufficient length and sufficient 6 size, and so on. And my fear is that we're not going to 7 build those transmission projects because we're encouraging 8 companies to build the wrong types of transmission projects, the smaller projects, because then they can build 9 10 them themselves and not worry about being subject to 11 competition.

So I think we need to take a look at that. And again I'm hoping that E-3 doesn't suggest that we're not going to be considering other aspects of Order 1000.

A couple of other items, just quickly. E-25, we're going to be--essentially, as I understand, we're denying a complaint filed by a public citizen related to PJM's recovery of certain expenses associated with political activity.

20 And actually I agree with the Order. I agree 21 that actually I don't think that the Federal Power Act 22 requires us to ensure that--actually the Federal Power Act 23 does require us to ensure that PJM is allowed to recovery 24 those particular types of expenses.

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And there was also an issue with regard to

whether we should require PJM to submit information regarding their political activity. And again, I don't think they're necessarily required to do so, but I do think it's good policy. Transparency is always the best policy. We always quote Justice Frankfurter as saying sunlight is the best disinfectant. It's certainly true.

7 My concern in this particular case, even though I 8 do support the Order, is that I do think it would make some sense for PJM and other RTOs as well to provide stakeholders 9 more information about their political activities, whether 10 11 it be their political contributions, or their lobbying activities. And so even though I don't think necessarily 12 it's required under the statute, I would urge PJM, but also 13 14 urge all the other RTOs, to be more transparent in terms of these activities because I think it makes better--it makes 15 16 sense, and is probably better public policy.

Finally, with regard to E-24, La Paloma, the Commission today is going to be denying rehearing on La Paloma's complaint that was filed awhile back in terms of seeking a mandatory capacity market in the California ISO. And I strongly support the Commission's decision denying the rehearing of the original Order, which again denied their request for a capacity market.

In large part, things have gone pretty well out West in a number of matter, and I think there's a lot of

progress being made. I was out at the California ISO just recently and there was a lot of good discussion going on. The Energy Imbalance Market is growing at a pretty rapid rate. The Bonneville Power Administration, a very big player in the region, has just announced they are joining. That's a pretty meaningful milestone.

7 The EIM participants are now looking at putting a 8 day-ahead market with regard to the West. The California Public Utility Commission is looking at some options on 9 10 resource adequacy. And I think everyone recognizes that 11 there's been a lot of distrust between the region, the West in particular, and FERC, related to a lot activity that 12 really occurred at the turn of the century, but nonetheless 13 14 the distrust remains.

And so I think that to the extent that the 15 16 Commission were to have acted to impose a top-down approach 17 to resource adequacy and how these markets are supposed to 18 work, I think it would have really had a very destructive 19 effect and would have essentially stunted the progress that 20 is being made in the region, and that progress toward regionalization, which may be slow but it's definitely 21 22 progress. And I applaud the Commission for taking a more 23 measured approach today.

So thank you very much, Mr. Chairman.
 CHAIRMAN CHATTERJEE: Commissioner McNamee?

1 COMMISSIONER McNAMEE: Thank you, Mr. Chairman. 2 The first thing I want to do is thank the Executive Secretary and her staff. I think sometimes these 3 Orders come out, they look pristine, they're in proper 4 5 order, and you don't realize how much work not just goes 6 behind the regular staff here at the Commission, the Commissioners themselves, in getting the orders right, but 7 8 the Executive Secretary's office. They do extraordinary work to make us look good, and to make these Orders look 9 good. And I just want to publicly thank you for all that 10 11 work that you do on that. 12 Just also a couple minor comments. You will notice that I am issuing concurrences and separate 13 14 statements on E-1 and E-2 related to energy storage. There's no new news there. All I am doing is restating that 15 16 I agree and concur with the Commission's conclusions that 17 the filings generally comply with the Orders issued by the Commission in 841 and 841-A, but I still have the 18 19 reservations that I stated in my partial concurrence and 20 dissent in 841-A which is that I believe the Commission exceeded its authority when it directed that storage 21 22 resources be allowed to use the distribution system, or from 23 behind the meter, and that at a minimum we should have 24 provided an opt-out.

25

So I restate that I support the idea of energy

storage and think it has great potential for transforming
 the electric grid.

Also in regard to the natural gas pipeline issues, the Glick-McNamee show continues. And I also won't restate everything. Needless to say, I believe that we have complied with our requirements both under the Natural Gas Act and under NEPA to ensure that we're considering all the issues and applying the laws properly.

9 And finally, because we can't let anything go unrebutted, you know, very important in my view is that 10 11 recognizing that when parties engage in settlements, especially in its relation to rates, there's usually a lot 12 of issues that go into a settlement. And there's a lot of 13 14 give-and-take. And these are sophisticated parties that enter into these settlements. And to the extent we can, we 15 16 should honor those settlements by parties. And that's what 17 the Commission does today in its Orders. And so that's why I support those Orders. 18

And, you know, finally, I agree that we come to the proper conclusion in E-24 on La Paloma. I think it's important, though, to recognize that that Order is narrow in its application in addressing how--in addressing the pleadings and not making any broad, sweeping statements about the market itself. And I think that it's important that we pay attention to what the Order actually says.

1 With that, thank you. 2 CHAIRMAN CHATTERJEE: Madam Secretary? SECRETARY BOSE: Thank you, Mr. Chairman. 3 Since the issuance of the Sunshine Act Notice on 4 5 October 10th, 2019, no items have been struck from this 6 morning's agenda. Your Consent Agenda is as follows: 7 Electric Items: E-3, E-4, E-6, E-7, E-8, E-9, E-10, E-11, E-12, E-13, E-14, E-16, E-17, E-18, E-19, E-20, 8 E-21, E-22, E-24, E-25, and E-26. 9 10 Gas Items: G-1, G-2, G-3, G-4, G-5 and G-6. 11 Hydro Items: H-1, H-2, and H-3. 12 Certificate Items: C-1 and C-2. 13 As to E-1, Commissioner McNamee is concurring 14 with a separate statement. As to E-2, Commissioner McNamee is concurring with a separate statement. As to G-2, 15 16 Commissioner Glick is dissenting with a separate statement. 17 As to G-3, Commissioner Glick is dissenting with a separate statement. As to C-1, Commissioner Glick is dissenting in 18 19 part with a separate statement. As to C-2, Commissioner 20 Glick is dissenting in part with a separate statement. With the exception of E-1 and E-2 where a vote 21 22 will be taken after the presentation and discussion of that 23 item later in the meeting, we are now ready to take a vote 24 on this morning's consent agenda. The vote begins with Commissioner McNamee. 25

COMMISSIONER McNAMEE: I vote aye.
 SECRETARY BOSE: Commissioner Glick?
 COMMISSIONER GLICK: Noting my dissents in C-1
 and C--my partial dissents in C-1 and C-2, and my dissents
 in G-2 and G-3, I vote aye.
 SECRETARY BOSE: And Chairman Chatterjee.

CHAIRMAN CHATTERJEE: Aye.

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8 SECRETARY BOSE: We are now ready to move to the discussion and presentation portion of this meeting. The 9 first presentation will be A-3 concerning the 2019-2020 10 11 Winter Energy Market Assessment. There will be a presentation by Micah Gowen and Hillary Huffer from the 12 Office of Energy Policy and Innovation. They are 13 14 accompanied by James Burchill and Adam Bennett from the Office of Energy Policy and Innovation; Diedra Archie from 15 16 the Office of Energy Market Regulation. And Louise Nutter 17 from the Office of Electric Reliability. There will be a PowerPoint presentation on this item. 18

MR. GOWEN: Good morning, Mr. Chairman and Commissioners. The Office of Enforcement and the Office of Energy Policy and Innovation present their 2019-2020 Winter Energy Market Assessment.

The Winter Energy Market Assessment is staff's opportunity to look ahead to the coming winter and share its thoughts and expectations about market preparedness, including a high-level assessment of risks and challenges
 anticipated in the coming operating season.

3 Weather remains one of the largest determinants 4 of outcomes in the energy markets. As we will discuss on 5 the next slide, the National Oceanic and Atmospheric 6 Administration, or NOAA, forecasts a high chance for a 7 warmer than average winter.

8 Going into this winter, natural gas storage 9 levels are close to the five-year average, and natural gas 10 futures prices are lower than last winter.

11 Also, pipeline additions in the Permian and 12 Marcellus Basins have bolstered the fuel supply chain, 13 allowing additional natural gas supplies to reach markets. 14 However, certain regions are more dependent on natural gas 15 than others, and pipeline outages have the potential to 16 increase both electric and natural gas price volatility.

17 Coal- and oil-fired generation continue to play 18 an important role in maintaining electric reliability during 19 the winter, especially in the Northeast where winter demand 20 for natural gas can exceed pipelines' capacity.

The North American Electric Reliability Council, or NAERC, annually assesses the on-peak fuel mix and the availability of generators capable of serving peak winter loads. According to NAERC's Draft Assessment, winter reserve margins are expected to exceed the reserve margin 1 targets in all assessment areas.

2 NAERC will release its 2019 winter reliability
3 assessment at a later date, and therefore this assessment is
4 still subject to change.

5 As mentioned, the current NOAA three-month 6 outlook for December 2019 through February 2020 predicts a 7 higher-than-average probability for warmer temperatures 8 across much of the Continental United States.

9 Warmer-than-average winter temperatures are 10 expected in the Northeast, West, Texas, and Florida, with 11 the Upper Midwest experiencing more normal conditions. A 12 warmer-than-average winter would moderate fuel and 13 electricity demand. However, as seen in previous winters, 14 acute cold-weather events can occur during 15 warmer-than-average seasons.

16 These events create--increases the short-term 17 demand for natural gas and electricity, which could create 18 significant operational and market challenges.

19 Natural gas storage inventories for the 2019
20 injection season running from April 1st through October
21 31st, began at 1.2 trillion cubic feet, or tcf, 30 percent
22 lower than the prior five-year average. However, by
23 November inventories are expected to be slightly above the
24 five-year average, reflecting robust storage injections
25 throughout the season.

1 This year, natural gas storage levels have 2 increased at the highest rate since 2015. As of September 3 6th, natural gas inventories were at 3 tcf, which is 15 4 percent higher than last year's levels at this time.

5 According to an Energy Information 6 Administration, or EIA, forecast, the rate of natural gas 7 injections into storage will be above the five-year average 8 of 10.8 billion cubic feet per day, or bcfd, for the 9 remainder of the injection season.

This injection rate would result in natural gas inventories exceeding 3.7 tcf by the end of October, a 16 percent increase over October 2018 levels, and slightly above the five-year average.

The EIA projects that the total withdrawals over the coming winter will be 2.1 tcf, which is slightly more than last winter's total withdrawals of 2 tcf.

This graph shows the total natural gas futures prices for the past and upcoming winters for regions in the United States. Regional natural gas prices are calculated by adding the NYMEX-Henry Hub Winter Futures Price to the Winter Basis Futures Prices at major trading hubs in the United States.

As of October 4th, 2019, the NYMEX-Henry Hub Futures Price, which measures the general cost of the natural gas commodity, was 73 cents below last winter's Average Futures Settlement Price, with an average price of
 \$2.56 per mmbtu for January and February 2020.

Basis Futures Prices, which approximate the cost to deliver natural gas to regional markets, were lower for the upcoming winter compared to last year's Futures Settlement Prices across all regions except New England. In Boston, Basis Futures Prices averaged \$6.54 per mmbtu, a \$1.16 rise from last winter.

9 New York City experienced the largest declines 10 from last winter. Basis Futures Prices in New York City 11 averaged \$2.92 per mmbtu, down \$1.56 from last year. Basis 12 Futures Prices in the Southwest, Chicago, Southern 13 California, and the Marcellus Shale region all experienced 14 moderate declines compared to last year.

Dry natural gas production, or the process of producing consumer grade natural gas, set new record highs in the first half of 2019, averaging 90 bcfd through June, a l2 percent increase from the 2018 level over the same period.

The Marcellus Basin, located in Pennsylvania, West Virginia, Ohio, and New York, led all production regions with an average of 22 bcfd of production through June 2019. The Permian Basin, located in Texas and New Mexico, averaged 9 bcfd in 2019 through June, which represents a 38 percent increase year-over-year.

1 The EIA short-term energy outlook forecast that 2 production growth will continue through the winter, 3 averaging 93 bcfd from November 2019 through March 2020. While production continues to grow, the EIA 4 5 forecasts U.S. demand will average 100 bcfd from November to 6 March, a 1 percent increase from the previous winter. EIA forecasts demand in January 2020 will average 112 bcfd. 7 8 This is nearly 3 bcfd higher than the record for the average monthly demand which was observed in January 2019. 9 10 Electric power generation is a driver of the 11 forecasted increase in domestic demand this winter, with an expected year-to-year increase of 6 percent to 27 bcfd, a 12 13 projected all-time winter high. 14 Industrial natural gas demand is also expected to increase, but only by 2 percent to 25 bcfd. However, 15 16 residential natural gas demand, which is typically the 17 biggest driver of peak winter demand, is expected to decrease 3 percent to 25 bcfd. 18 19 Since the beginning of 2019, the consumption of feed gas, which is natural gas used as a raw material for 20 LNG liquefaction, has grown over 1.5 bcfd from 4.5 bcfd to 21

22 more than 6 bcfd.

From March to October 2019, more than 3 bcfd of new LNG export capacity went into service, representing the largest concentration of capacity additions in the short

history of U.S. LNG exports. During that time, operation
 started on the first trains of LNG export plants at Corpus
 Christi and Freeport in Texas, Cameron in Louisiana, and
 Elba Island in Georgia.

5 Additionally, a second LNG train at Corpus 6 Christi and a fifth LNG train at Sabine Pass in Louisiana 7 went in service during that period. Increase demand for 8 feed gas from all operational facilities should continue 9 through this winter, as utilization rates are expected to 10 remain high.

Second LNG trains at both Cameron and Freeport are expected to start operations during the winter months. Recent reports estimate that the in-service date for Freeport's second train will be in January 2020, while the in-service date for Cameron's second train will be in February 2020.

My colleague, Hillary Huffer, will continue thepresentation.

19 MS. HUFFER: Thank you, Micah.

In its preliminary 2019-2020 Winter Reliability Assessment, NAERC estimates that reserve margins for all assessment areas will exceed the reference margin targets this winter.

The columns on the chart display the anticipated reserve margins for the regions comprising the U.S., while the black bars indicate the referent margins identified by
 the RTO or Reliability Region.

Although all regions are expected to maintain healthy reserve margins through the winter, reserve margins are not always guarantors of reliable operations during the winter. Staff notes that fuel availability, particularly natural gas and fuel oil, can affect electric operations and must be monitored.

9 The past three years have seen significant 10 additions of natural gas-fired and renewable generation 11 across RTO-ISO and non-RTO-ISO regions, all setting 12 retirements of coal capacity and nuclear capacity.

13 This chart shows actual and planned capacity 14 additions and retirements in the 48 Contiguous States from 15 March 2019 to February 2020 as reported to the EIA.

More than 3.4 gigawatts of coal capacity retired from March 2019 to June 2019, and another 6.2 gigawatts of coal capacity is expected to retire between July 2019 and February 2020.

Approximately 680 megawatts of nuclear capacity retired from March 2019 to June 2019. An additional 829 megawatts of nuclear capacity has announced plans to retire between July 2019 and February 2020.

From the end of last winter through the upcoming winter, 5.6 gigawatts of natural gas capacity has been or

1 will be added across the United States. The installed 2 capacity of renewable resources continues to increase, including significant additions of wind in MISO and SPP, and 3 of solar voltaic in CAISO. In both cases, this follow 4 5 capacity addition trends from the past three years. 6 This concludes staff's prepared comments. A copy 7 of this presentation will be posted on the Commission's 8 website. The online version of this report contains additional information on pipeline additions, pipeline 9 10 restrictions in Southern California and the Northeast, 11 dual-fuel capability in the Northeast, and winter reliability initiatives. 12 We are available to answer any questions you may 13 14 have. 15 CHAIRMAN CHATTERJEE: Thank you to the team for 16 your work and this interesting presentation. Just a couple 17 of questions. I noticed in the presentation that there appears to be lower natural gas futures prices going into 18 19 the winter everywhere except in New England. 20 Can you just explain what factors contributed to lower prices in most of the U.S., as well as the increased 21 22 prices in New England? 23 MR. GOWEN: Thank you for the question. The 24 strongest contributors to lower winter futures prices across 25 the country include the continued growth of natural gas

1 production, the return of natural gas storage inventories to 2 long term average levels, as well as forecasts for a warmer 3 than average winter.

However, lower average futures prices do not
preclude the possibility of localized high prices during
cold weather events, especially in regions with winter
constraints to natural gas delivery.

8 In New England, futures prices for this winter 9 are higher than in Winter 2018-2019, though still lower than 10 in Winter 2017-2018. The increased New England prices 11 compared to last winter may reflect local weather 12 expectations, as well as the potential for reduced delivery 13 during integrity testing on the Algonquin and Texas Eastern 14 Transmission lines.

15 CHAIRMAN CHATTERJEE: Thank you for that. I 16 would like to turn to the slide on LNG exports. LNG export 17 capacity has increased significantly this year, and export 18 capacity is expected to continue to increase in 2020.

Are we nearing the end of this growth trend? Or will LNG exports continue to increase well into 2020 and beyond?

22 MR. BENNETT: Yeah. We see actually LNG export 23 capacity continuing to grow, although it may not be at the 24 pace that we saw over the past year. As we mentioned in the 25 report, there was a clustering of in-services this summer,

and over in 2019 in general. Freeport Train One is in the
 final stages of testing. Cameron went in service very
 recently. And both of those facilities are under
 construction for a second train at the respective sites.

5 Elba Island is also working to bring several 6 small-scale units online. Collectively, that's about 1.5 7 bcf a day of additional LNG export capacity over the next 8 couple of months.

9 Looking forward a little bit, construction kicked 10 off at a couple of additional facilities. Expansions at 11 Corpus Christi and Sabine Pass went forward, as well as for 12 new facilities at Golden Pass in Texas, and Calcashu Pass in 13 Louisiana, although the first trains at those facilities 14 probably aren't expected until 2023 or after.

15 CHAIRMAN CHATTERJEE: Thank you. Bottom line,
16 you expect continued growth well into 2020 and beyond.

17 Commissioner Glick?

18 COMMISSIONER GLICK: Thank you very much, Mr. 19 Chairman. First of all, I want to thank the staff for, 20 again, the excellent presentation and the report. I said 21 this when I first got here at the Commission, and when I was 22 in the private sector, how important it was to have these 23 reports and the winter assessments and the summer 24 assessments and so on, and it was very valuable.

25 As I understand it, traditionally, and since I've

been here, when we've had these types of reports we've had the ability to see the reports in advance and make some suggestions, if things were unclear and so on, and I'm very disappointed that that didn't occur today. That is the normal process, and for some reason we were told we had to go back to the original report. So that's disappointing. I did have a couple of questions, though. I

8 wanted to go to slide 2, and really more your discussion 9 with regard to slide 2. That's really your highlight slide. 10 You mentioned that, and I'm just going to quote here, "Coal-11 and oil-fired generation continue to play an important role 12 in maintaining electric reliability during the winter, 13 especially in the Northeast."

I'm a little confused about that because as I understand it, in New York ISO, as I understand it, coal makes up about 2 percent of installed capacity, and that's even less in New England. I think it's like 1 percent.

18 So what is it about coal and oil that makes it 19 more important for the winter in terms of reliability than 20 nuclear and hydro, for instance, or other technologies? MS. NUTTER: In any region having a variety of 21 22 fuel sources, it's always been beneficial to reliability, 23 particularly in areas where we have considerations such as 24 deliverability and fuel assurance questions. And again, 25 continuing to monitor all of those fuel--all those different

1 fuel sources helps us to ensure that there will be 2 reliability in a variety of circumstances.

3 COMMISSIONER GLICK: But how does coal "continue 4 to play an important role," as was said, at that level one 5 percent, two percent? I know we have to have diversity. 6 Diversity is good, and so on. But why is coal in particular 7 playing an important role compared to other technologies?

8 MS. NUTTER: In the case of any technology, it's 9 good to have a diversity of them, including coal, including, 10 as you mentioned, hydro, other types of resources. And the 11 more resources you have, the better able any region will be 12 able to address any emerging issues, any operational 13 considerations.

14 COMMISSIONER GLICK: Okay. I'll move on. With 15 regard to, I think it's slide 9, I just had a quick question 16 with regard to slide 9. That was the new generation slide, 17 I believe.

So you mentioned that natural gas, we're looking at installed capacity additions of 5.6 gigawatts. And you have there, graphically there's a reference to solar and wind. I was wondering if you have the number of specific capacity additions we're talking about for solar and wind for the next year or so?

MS. HUFFER: Yes. Since last winter, going through this winter, about 12 gigawatts of wind, and about 6

gigawatts of solar will be added throughout the United
 States.

COMMISSIONER GLICK: Great. Thank you. 3 And then lastly, with regard to I think it's 4 5 slide 8 on reserve margins, this is an issue I know that we 6 discussed a little bit last year as well, but it looks like for the Northeastern--which is really I think New England 7 8 and New York--we're talking about very healthy reserve margins in the neighborhood of 70 percent. And we had this 9 10 discussion even on summer reliability assessments about 11 reserve margins and whether they're a good metric.

12 But specifically for the winter, do you think 13 reserve margins are the right metric to assess reliability? 14 Or should we actually as a Commission, and certainly NAERC and others, should we be considering other alternative 15 16 methodologies to assess whether there are reliability 17 concerns? Because 70 percent, when you see 70 percent you say, hey, that's pretty good, what do we need to worry 18 19 about? And clearly there are concerns, especially in New 20 England. So are there other metrics that we should be thinking about? 21

MS. NUTTER: So there are a variety of metrics to be used. Reserve margins does give us beneficial information and valuable insights for planning for potential reliability issues that can emerge on a longer term of our

planning horizon. They are, however, based on forecasts.
And the actual demand and generation can vary from
anticipated levels because they're subject to operational
considerations. And that's why they benefit from that
continued monitoring, and that helps us to assure
reliability as those emerging issues occur and make them a
valid metric in this case.

8 COMMISSIONER GLICK: I appreciate the answer. I would say, Mr. Chairman, I think this is an important issue 9 that I think we should start considering. Because the way 10 11 we structure market rules, the way markets operate, the way 12 decisions are made here but elsewhere as well, are in large 13 part based on trying to meet reliability, which is obviously 14 what we need to--what we're required to do, but using the 15 reserve margins sometimes causes us to over-procure 16 capacity, or make decisions that might be good for one part 17 of the year and not be good for the other part of the year. 18 And I think that brings a lot of cost down to consumers.

19 So I just think this is some area that I would 20 hope that the Commission and NAERC and others can start 21 taking a look at, because I think we need to start taking a 22 look at different metrics for, especially for winter 23 reliability. So thank you again, Mr. Chairman.

24CHAIRMAN CHATTERJEE: Commissioner McNamee?25COMMISSIONER McNAMEE: First of all I want to

1 thank you all for the hard work on this. I enjoyed the 2 summer presentations and the winter presentations because it 3 really does give us an idea of what's going on, and gives us 4 a broad view. And I find this information extremely 5 helpful.

6 I just want to follow up, because I found some of 7 the comments from Commissioner Glick helpful in pointing out 8 what's going on in the markets.

9 The first thing I want to ask about is on slide 10 9. This is when the new generation plants continue to 11 switch toward natural gas renewables. And it shows a 12 significant decline in the amount of coal capacity, and 13 significant additions in, I guess it's wind and solar 14 capacity. Is that correct? And what are the capacity 15 factors for solar facilities?

MS. HUFFER: So we're using nameplate capacity for this figure from the EIA. So we're not using--we're not adjusting by capacity factor for this particular--

19 COMMISSIONER MCNAMEE: Okay. And there's 20 generally a capacity factor for solar that's hugely in the 21 25 percent range, and it can be more or less depending on 22 where you are in the country. Does that generally sound 23 right? The capacity factor being the amount that a solar 24 facility can run?

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MR. BURCHILL: Yes. Just a you say, it's highly

variable based on where the facility is located and its
 operating characteristics.

3 COMMISSIONER MCNAMEE: Okay. Am I also correct 4 with wind generally that its capacity factor means the 5 amount of time it can run is usually about a third, 6 sometimes some places can be even up to 50 percent, I know, 7 but its capacity factor is usually somewhere between a third 8 and 50 percent?

9 MR. BURCHILL: Yes, depending on seasonality and 10 number of local characteristics.

11 COMMISSIONER McNAMEE: Okay. And for coal 12 plants, they're capable--their capacity factor, since they 13 are fuel-fed, their capacity factor, if they're needed, can 14 be up to 85, 90 percent. You know, of course they have to 15 be taken out for maintenance and things like that. Is that 16 correct?

MR. BURCHILL: Barring any sort of forced outage or things like that, their capacity factors can be much higher.

20 COMMISSIONER McNAMEE: So really you can't just 21 measure the megawatt capacity, the nameplate capacity, but 22 you actually also have to look at its availability to run 23 when you're considering how you're going to meet energy 24 needs? Is that correct?

25 MR.

MR. BURCHILL: That's correct. And as the

1 reserve margin, for example, that we presented on that
2 incorporates characteristics of the intermittent generation
3 for those forecasts.

4 COMMISSIONER McNAMEE: You anticipated my next 5 question. So that seems to inform a little bit, if you go 6 back to the comments that were made in relation to slide 2, where you said that coal and oil-fired generation continue 7 8 to play an important role in maintaining reliability during the winter. And I know you already responded to that 9 question. And I guess that would be my response to 10 11 Commissioner Glick's concern about comments.

12 I do think that it's appropriate at times for 13 Commissioners to make comments about slides, maybe ask for a 14 slide that wasn't included in the presentation to be there, but I think it's very important that the staff give us their 15 16 unvarnished view of these issues, and for us not to scrub 17 what you want to tell us. We can respond to it. We can answer it. But I think it's very important that you present 18 19 this information. And I think this has been very helpful. 20 Thank you.

21 COMMISSIONER GLICK: I apologize. I want to 22 respond to that. I do agree that it's important for staff 23 to provide their unvarnished views, and I think that's 24 important. I would say that historically the Commission--25 and I understand this has been true for every single report

1 beforehand, before this when someone complained about it, 2 that the Commission has had a chance to provide an 3 opportunity to comment if there were questions, or maybe some numbers that might not seem correct, or not necessarily 4 5 for Commissioners to say well you should say it this way, 6 because I like this technology versus another technology, I'm not saying that at all. 7 8 But I am saying it's important to have the opportunity to help clarify these particular reports. 9 Because, again, it's been done since these reports started 10 11 out every single time by the Commission, except for today. So thank you. 12 13 CHAIRMAN CHATTERJEE: That's why we have the 14 opportunity to ask questions. Thank you again for the presentation. And, Madam 15 16 Secretary, since there's no vote on this, let's move to the 17 next item. SECRETARY BOSE: Thank you, Mr. Chairman. Thank 18 19 you, team. 20 The next presentation and discussion item for this morning will be a joint presentation on E-1 and E-221 22 concerning certain filings submitted in compliance with 23 Order No. 841. There will be a presentation by Matthew McWhorter from the Office of Energy Market Regulation. He 24 25 is accompanied by Karin Herzfeld from the Office of the

General Counsel, Kaitlin Johnson from the Office of Energy
 Policy and Innovation, Yasmine Jamnejad and Scotiana
 Bennett from the Office of Energy Market Regulation, and
 Gilbert Lowe from the Office of Electric Reliability.

5 MR. McWHORTER: Good morning, Mr. Chairman and 6 Commissioners. Today the Commission is acting on Items E-1 and E-2, Draft Orders Addressing Southwest Power Pools and 7 8 PJM Interconnections filings in compliance with Order No. 841, the Commission's final rule on electric storage 9 resource participation in markets operated by Regional 10 11 Transmission Organizations, or RTOs, and Independent System Operators or ISOs. 12

Order No. 841 addresses the participation of electric storage resources in the capacity, energy, and ancillary service markets operated by RTOs and ISOs. The reforms adopted in Order No. 841 more effectively integrate electric storage resources into RTO and ISO markets, enhance competition, and help ensure that those markets produce just and reasonable rates.

To remove barriers to the participation of electric storage resources in the RTO and ISO markets, Order No. 841 requires each RTO and ISO to revise its tariff to establish a participation model consisting of market rules that, recognizing the physical and operational characteristics of electric storage resources, facilitate

1 their participation in the RTO and ISO markets.

2 Today's draft orders find that, consistent with Order No. 841, SPP's and PJM's participation models for 3 electric storage resources generally enable electric storage 4 5 resources to provide all services those resources are 6 capable of providing in their wholesale electric markets, and allow those resources to be compensated for the 7 8 wholesale services that they provide in the same manner as other resources that provide these services. 9

10 The draft orders find that both SPP and PJM have 11 proposed market rules that appropriately recognize the 12 unique physical and operational characteristics of electric 13 storage resources, and facilitate their participation in the 14 RTO and ISO markets.

15 The draft orders also direct SPP and PJM to 16 submit further compliance filings within 60 days of the date 17 of the issuance of these orders.

The draft orders also find that SPP's and PJM's tariffs generally satisfy Order No. 841's directive with respect to allowing electric storage resources to de-rate their capacity to meet minimum run time requirements. However, they note that SPP's and PJM's tariffs do not include minimum run time requirements for resource adequacy and capacity, respectively.

25

The draft orders explain that, even though the

Commission did not require RTOs and ISOs to make specific
 changes to their minimum run time requirements in Order No.
 841, such requirements affect rates, terms, and conditions
 of service.

5 Therefore, pursuant to Section 206 of the Federal 6 Power Act, the draft orders direct both SPP and PJM to 7 submit tariff provisions reflecting their rules and 8 practices regarding minimum run time requirements.

9 The daft orders direct SPP and PJM to submit 10 these tariff provisions no later than 45 days after 11 publication of notice in the Federal Register of the 12 Commission's initiation of these separate 206 proceedings.

In initiating the separate 206 proceeding for PJM, the draft order addressing PJM's compliance filing also establishes a paper hearing procedure to investigate whether PJM's minimum run time rules and procedures are unjust, unreasonable, unduly discriminatory, or preferential as applied to capacity storage resources outside of its compliance with Order No. 841.

Thank you, and thank you to the large interoffice team of Commission staff who contributed to the preparation of these Orders. This concludes our presentation. We would be happy to address any questions that you may have.

24 CHAIRMAN CHATTERJEE: Thank you to the team here 25 at the table, and to the broader team throughout the 1 building, for your work on these compliance orders.

As I mentioned at the beginning of my remarks, I am extremely proud of the Commission's action on storage. Storage has been and remains one of my top priorities. It's an issue I frequently talk about because I firmly believe that storage technologies have the power to transform the grid, and this is an area where we can directly benefit consumers through lower costs and enhanced reliability.

9 The issues that we must tackle on compliance are 10 complex and often highly technical, but these orders 11 represent critical work toward breaking down the artificial 12 barriers to storage that we saw in our markets.

13 So I again want to thank you for your diligent 14 and excellent work on these orders. And I'd like to ask the 15 team a couple of high-level questions about the action that 16 we are taking today.

First, at a high level, what role can electric storage resources play in wholesale electric markets? And how will the implementation of Order 841 affect that role? MS. JOHNSON: Thank you for the question, Mr. Chairman. The Commission acknowledged in Order No. 841 that electric storage resources are already providing energy and ancillary services in some RTO-ISO markets.

However, the Commission explained that these resources must often use existing participation models that were designed for traditional generation or load resources, and that did not recognize electric storage resources' unique physical and operational characteristics and their capability to provide capacity, energy, and ancillary services in the RTO-ISO markets.

Even where the RTO-ISOs had already established distinct participation models for electric storage resources, the Commission stated that those models limit the services that electric storage resources may provide, or are designed for electric storage resources with very specific characteristics such as pumped hydro facilities or resources with a maximum run time that is less than one hour.

13 The Commission also noted that existing RTO-ISO 14 tariffs generally limit smaller electric storage resources to participating in the RTO-ISO markets as demand response 15 16 resources, which can restrict these electric storage 17 resources' ability to employ their full operational range, 18 prohibit them from injecting power onto the grid, and 19 preclude them from providing certain services that they are 20 technically capable or providing such as operating reserves. 21 Implementation of Order No. 841 will remove 22 barriers to the participation of electric storage resources 23 in wholesale electric markets. These new participation 24 models will provide a means for all types of electric

25 storage resources to compete in wholesale electric markets,

and provide all of the wholesale services that they are
 technically capable of providing.

Implementation of Order No. 841 will therefore 3 facilitate broader participation of electric storage 4 5 resources in the wholesale electric markets. Due to the 6 ability of storage to both inject energy into the grid and 7 receive energy from it, implementation of this rule will 8 also help support the resilience of the bulk power system. 9 CHAIRMAN CHATTERJEE: Thank you for that comprehensive answer. One last question. Could the team 10 11 provide additional context for why the draft orders institute new FPA Section 206 proceedings for both PJM and 12 SPP? Is there any difference between the two further 13 14 proceedings?

MS. HERZFELD: Thank you for the question. 15 The 16 decision as to whether an item should be placed in a tariff 17 or in a business practice manual are guided by the Commission's Rule of Reason Policy. Under that policy, 18 19 provisions that significantly affect rates, terms, and 20 conditions of service that are readily susceptible of specification, and that are not generally understood in the 21 22 contractual agreement, must be included in the tariff.

The draft orders find that minimum run time rules and procedures for all resources do significantly affect rates, terms, and conditions of service. However, unlike

other RTOs and ISOs, SPP and PJM's tariffs don't include
 these rules. Therefore, the draft orders institute separate
 Section 206 proceedings and direct PJM and SPP to submit
 tariff provisions reflecting the rules and practices for
 minimum run time requirements.

6 The record in the PJM proceeding also raises 7 concerns that PJM's application of its minimum run time to 8 capacity storage resources may be unjust, unreasonable, 9 unduly discriminatory, or preferential.

10 These same concerns were not raised in the SPP 11 proceeding. Therefore, the draft PJM order initiates a 12 paper hearing procedure to investigate whether PJM's minium 13 run time is unjust, unreasonable, unduly discriminatory, or 14 preferential as applied to capacity storage resources.

15 The draft SPP order does not establish a paper 16 hearing related to SPP's resource adequacy minimum run time. 17 CHAIRMAN CHATTERJEE: That was very helpful. 18 Thank you. Thank you all again for this presentation and 19 for your hard work on this top Commission priority.

20 Commissioner Glick?

21 COMMISSIONER GLICK: I just wanted to thank staff 22 for the great work that you all are doing in this proceeding 23 and these other storage proceedings. It's very impressive, 24 so thank you.

25 Nothing further.

1 CHAIRMAN CHATTERJEE: Commissioner McNamee. 2 COMMISSIONER McNAMEE: Even though I'm concurring in these orders, I do want to thank you all for the hard 3 work that you've done to plow through everything and provide 4 5 us a reasoned order. Thank you. 6 SECRETARY BOSE: We are now ready to take a vote. I will take a vote on these items together, E-1 and E-2. 7 8 The vote begins with Commissioner McNamee. COMMISSIONER McNAMEE: With the exception of 9 noting that I concur and am issuing a separate statement in 10 11 both, I vote aye. 12 SECRETARY BOSE: Commissioner Glick? 13 COMMISSIONER GLICK: Aye. 14 SECRETARY BOSE: And Chairman Chatterjee. CHAIRMAN CHATTERJEE: Aye. 15 16 SECRETARY BOSE: That concludes today's 17 presentation and discussion items. CHAIRMAN CHATTERJEE: Thank you to the team. 18 19 Thank you, Madam Secretary. 20 I would like to close by briefly mentioning that the Envision Forum will be taking place next Monday, October 21 22 21st, in Lexington, Kentucky. We are excited to partner 23 with the University of Kentucky to host a wide-ranging 24 discussion on the opportunities and challenges that we're 25 seeing in the energy space, and that's on the horizon for

1 energy leaders and stakeholders.

2	Launching the Envision Forum in my home State of
3	Kentucky was a logical step for me, as the Kentucky
4	communities have seen a wave of challenges during the energy
5	transition. We wanted to start new conversations with a
6	diverse set of voices and spark new relationships and
7	understanding. Envision Forum participants include
8	stakeholders from numerous facets of the energy industry,
9	including land owners, union leaders, environmentalists,
10	consumer activists, fossil fuel and renewable energy
11	corporations, as well as state, federal, and foreign
12	government leaders.
13	I am really looking forward to hearing from
14	leaders across disciplines and industries as we continue to
15	work toward sustainable, long-term solutions for challenges
16	related to our energy economy.
17	And before we conclude, I wanted to turn it over
18	to my colleagues for any additional comments they may have?
19	(No response.)
20	CHAIRMAN CHATTERJEE: Seeing none, with that this
21	meeting is adjourned.
22	(Whereupon, at 1:17 p.m., Thursday, October 17,
23	2019, the meeting of the Commissioners of the United States
24	Federal Energy Regulatory Commission was adjourned.)
25	

1	CERTIFICATE OF OFFICIAL REPORTER
2	
3	This is to certify that the attached proceeding
4	before the FEDERAL ENERGY REGULATORY COMMISSION in the
5	Matter of:
6	Name of Proceeding:
7	1060th Commission Meeting
8	
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16	Docket No.:
17	Place: Washington, DC
18	Date: Thursday, October 17, 2019
19	were held as herein appears, and that this is the original
20	transcript thereof for the file of the Federal Energy
21	Regulatory Commission, and is a full correct transcription
22	of the proceedings.
23	
24	Jim Seely
25	Official Reporter