

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

MEETING OF THE PUBLIC SERVICE COMMISSION

Thursday, May 14, 2015
10:30 a.m.
Three Empire State Plaza
Agency Building 3, 19th Floor
Albany, New York

COMMISSIONERS

AUDREY ZIBELMAN, Chair
GREGG C. SAYRE
PATRICIA L. ACAMPORA
DIANE BURMAN

1 May 14, 2015

2 (The meeting commenced at 10:30
3 a.m.)

4 CHAIR ZIBELMAN: I'm going to
5 bring this session of the Public Service Commission
6 to order.

7 Secretary Burgess, is there any
8 changes to the final agenda?

9 SECRETARY BURGESS: Good morning,
10 Chair and Commissioners. There's no changes to the
11 agenda this morning.

12 CHAIR ZIBELMAN: Okay. We have
13 actually sort of a brief regular agenda, but a very
14 important one which is reviewing the Staff's report
15 on our summer preparedness for 2015. And Raj
16 Addepalli is going to be introducing it, as well as
17 we have Diane Barney, who's our chief of bulk
18 electric supply, Tammy Mitchell, who is chief of
19 the electric distribution, Paul Darmetko is a
20 utility engineer, will be going through our
21 position -- where we are this summer.

22 And I see Michael and Scott and
23 others are at the podium, as well, to answer
24 questions. So we'll get started.

25 Raj, do you want to begin?

1 May 14, 2015

2 MR. ADDEPALLI: Yes. Good

3 morning, Chair Zibelman and Commissioners.

4 I know it was only in the 60s and
5 cool yesterday, but I can guarantee that summer is
6 around the corner. Our electric power grid in New
7 York is summer peaking. And as we approach summer,
8 we need to review whether we are adequately
9 prepared to meet the reliability needs of customers
10 for the summer.

11 A major thrust of our Public
12 Service Law obligation is to ensure safe and
13 adequate service. That includes being prepared for
14 this summer and beyond. Every year for the past
15 several years we have presented to the Commission
16 how prepared the system is from both a bulk power
17 level, as well as from the distribution level.

18 The Staff preparation includes
19 review of utility and the New York ISO plans and
20 discussions with them. And as the ISO is
21 interconnected and trades with our neighbors, our
22 review also includes a supply situation of our
23 neighbors.

24 As you said, Diane Barney and
25 Tammy Mitchell will discuss the bulk power and

1 May 14, 2015

2 distribution system readiness.

3 In addition to reviewing the
4 system reliability, we also have been reviewing how
5 utilities are addressing the needs of mass market
6 customers, that is residential and small
7 commercial, in mitigating volatility of electric
8 prices. If utilities do not hedge and simply pass
9 through market prices -- spot market prices,
10 customer bills could be volatile.

11 The Commission has provided
12 guidance in the past on how utilities should
13 structure supply portfolios to mitigate volatility,
14 keeping costs in mind. Staff regularly meets with
15 utilities in reviewing the supply portfolios. And
16 Paul Darmetko present what customers could see for
17 the coming summer in terms of prices for mass
18 market customers.

19 With that, I'll turn it over to
20 Diane and we'll take questions after each
21 presentation.

22 MS. BARNEY: Okay. Good morning,
23 Chair Zibelman, Commissioners.

24 While the main focus of today's
25 presentation is the reliability of the bulk

1 May 14, 2015

2 electric system for the upcoming summer, I would
3 like to set the stage by talking about the newly
4 released load forecast for the state.

5 The forecast, which can be found
6 in the New York ISO's 2015 load and capacity
7 report, or the Gold Book, shows a forecasted peak
8 load drop of about 1500 megawatts, by 2024, over
9 last year's projection.

10 On slide 4 is a graph of the
11 historical load levels. The red line is the actual
12 experienced peak loads. And the green line has
13 converted those load levels into weather normalized
14 numbers. The black line is the forecast from a
15 year ago. And the blue line, below it, is the
16 revised peak load forecast for this year.

17 If you look out to 2024, the
18 difference between the black and the blue lines is
19 about 1500 megawatts. The annualized load growth
20 rate dropped by almost half from .83 percent to .44
21 percent. 1500 megawatts is the equivalent of about
22 3 major power plants or the capacity needed to
23 serve about 1.3 million average-sized homes.

24 On slide 5 is information
25 expressed in the annual energy usage. The

1 May 14, 2015

2 annualized growth rate has dropped from an average
3 of .16 percent to a flat profile. The
4 6000-gigawatt-hour decrease by 2024 would represent
5 a drop of about 5 to 10 percent of the New York
6 electric industry's CO2 output.

7 Slide 6 demonstrates part of the
8 reason for the drop. Note that in 2024 the ISO is
9 forecasting about a 700-megawatt increase in DER
10 resources that will be available on peak. In
11 short, PSC efforts related to DER are increasingly
12 being reflected in load growth projections.

13 Previous estimates included
14 mainly EEPS with a small amount of the New York Sun
15 program projections. The ISO practice is to
16 include DER projections for which there has been
17 funding authorized. Between the clean energy fund
18 proposal from last September and authorized
19 spending for the New York Sun program, the ISO is
20 reflecting increased DER impacts. The remaining
21 reduced forecast is due to a changing relationship
22 of energy usage in relation to economic activity.

23 Turning to the situation for the
24 summer, slide 7 shows the operational capability.
25 As this table shows, we are marginally in better

1 May 14, 2015

2 shape going into the summer than we were last year.
3 Overall, New York has about 700 megawatts more
4 capability to depend on than we did at this time
5 last year.

6 Slide 8 puts the load forecast
7 for the summer together with the capability to
8 estimate the system reserve margin. The demand
9 forecast for the summer, 33,567 megawatts, is just
10 about 100 megawatts lower than the 2014 forecast.
11 Applying a 17 percent installed reserve margin
12 produces a capability requirement of 39,273
13 megawatts. Compared to the 42,073 megawatts from
14 slide 7, we calculate a surplus of about 2800
15 megawatts or about 900 megawatts more than we had
16 going into last summer.

17 Note that going into the summer
18 all of the generation capability represented by the
19 42,073-megawatt number is not yet available. We
20 have 2 plants that are under repair for cracked
21 rotors, one is recovering from a fire, and one is
22 experiencing upgrades representing a total of about
23 1800 megawatts. These units are all expected to
24 return to service during June.

25 In addition, this past weekend,

1 May 14, 2015

2 Indian Point 3 experienced the loss of one
3 generator step-up transformer which has sidelined
4 the approximately 1000-megawatt unit until the end
5 of the month.

6 While all efforts are underway to
7 return all of these units to full capability before
8 the brunt of summer hits, this demonstrates how
9 depending on an aging fleeted generation with a
10 constrained transmission system can turn a robust
11 margin into a tight situation fairly fast.

12 Slide 9 shows the capability and
13 required reserve levels since 2010. We have,
14 today, about the same level of capability we had in
15 2010, but the reserve margin is slowly slipping
16 toward the required IRM of 117 percent. As this
17 happens, the location of the generation becomes
18 increasingly important to reliability as the
19 transmission system is not free flowing.

20 More upstate to downstate
21 transmission capability would provide more
22 flexibility on where generation can be located to
23 meet system reliability needs.

24 Our neighboring control areas all
25 report sufficient operating capability to meet

1 May 14, 2015

2 summer peak load conditions. While PJM and ISO New
3 England report adequate reserves, our neighbors to
4 the north and west have significant resource gains.
5 Quebec has almost 1300 megawatts of increased
6 capability over last year, and Ontario is up about
7 1800 megawatts.

8 I'll now turn from the statewide
9 evaluation to the preparedness of the individual
10 transmission owners as reflected on slide 10.
11 Staff collected a detailed survey from each of the
12 transmission owners and had meetings with them to
13 go over their input. All of the transmission
14 owners report that they are able to meet peak load
15 projections in all areas with all lines and
16 generators in service.

17 All of the TOs currently meet
18 North American Reliability Council, Northeast Power
19 Coordinating Council, and New York State
20 Reliability Council planning criteria. However,
21 those criteria do not apply as you move lower into
22 the system or to radial portions of the system. So
23 there are some isolated areas where there is a
24 potential to lose load for a single contingency
25 during peak periods.

1 May 14, 2015

2 Staff is monitoring these areas
3 to ensure that the transmission owners have
4 up-to-date maintenance on these local facilities
5 and have contingency plans in place if a problem
6 does develop on peak in any of these areas.

7 With that, I will turn the
8 microphone over to Tammy Mitchell, who will report
9 on summer preparations on the distribution system.

10 CHAIR ZIBELMAN: Before we go
11 there, let me see if there are any questions for
12 you.

13 So from the perspective of the --
14 in terms of planning as you're talking about the --
15 you know, the changing and the reserve output, if
16 you wanted -- if you could take us few -- a couple
17 minutes and update us on where the activities are
18 in terms of the work that you're doing with respect
19 to the ISO, as well as the other participants in
20 the market, to develop a -- a resource plan for the
21 state.

22 MS. BARNEY: Okay. We have,
23 coming up, many changes on the system. We're
24 talking about all the REV changes, which is a major
25 C-change within the system, and we're talking about

1 May 14, 2015

2 the EPA Clean Power Plan, which is targeted to
3 start implementing in 2020 through 2030.

4 These many different changes are
5 calling for additional studies beyond what the ISO
6 normally does. The ISO does a reliability plan.
7 They do an economic plan. We saw a need to start a
8 state resource planning analysis targeting what we
9 need to do to prepare for 2030. That effort is
10 underway.

11 We are being assisted by the ISO
12 and the transmission owners in this effort.
13 NYSERDA and DEC are helping us lead this planning
14 effort. We have a defined study scope. Hopefully
15 by the end of this week, we'll be going out to get
16 a consultant to actually perform the study.

17 We're going to be looking at
18 three different scenarios. One is the base case of
19 what the system would look like in 2 planning
20 years -- we're looking at 2024 and 2030, so we'll
21 have a glide-path year -- as to what the system
22 would look like, what it would need to look like if
23 we didn't have any of these changes layered on.

24 The second scenario will cover
25 the Clean Power Plan, which is calling for dramatic

1 May 14, 2015

2 reductions in CO2 output. The third will be
3 implementing the Clean Power Plan from a REV
4 perspective. So basically, the difference between
5 scenario 2 and 3 is what if you were looking at all
6 resources available within the State of New York to
7 meet the EPA goals.

8 The third scenario is taking a
9 look from the bottom up. The first is top down.
10 The second is if we meet as much as we can of all
11 of the targets from the Clean Power Plan, from the
12 State Energy Plan, from a REV perspective, what are
13 we going to do locally, and only turning to
14 statewide resources as needed beyond that?

15 So we hope to have enough cases
16 to bound where we can kind of poke at the edges of
17 the bulk transmission system and see what changes
18 will need to be made by that timeframe. The
19 timeframe that have results are -- we should have
20 the consultant on board in June, looking for base
21 case results in August, scenario two is in October,
22 and January for scenario three.

23 CHAIR ZIBELMAN: Okay. Good.

24 I -- you know, as -- as you know, Diane, we're --
25 at the Commission, we -- you know, we're very

1 May 14, 2015

2 concerned that we have a forward-looking view of
3 what's going to happen on the system, what the
4 needs are going to be, and that we're thoughtful
5 not only about what's happening in New York, but
6 what's happening elsewhere and the pressures we can
7 have on the system.

8 I -- I also note that you're, you
9 know, certainly active in the Eastern Interconnect
10 Planning Committees that are really looking at it
11 on a region-wide basis. And I think that getting
12 this -- this plan done so we can -- you know, we
13 can at least have an -- a view towards what we need
14 to do and start to be thinking about what
15 investments are going to be needed, both locally in
16 New York, around making sure that we maintain a
17 resilient grid, but also is understanding the
18 impacts that that plays as the complexion of the
19 industry changes, you know, nationwide.

20 So I'm -- I'm glad you're part of
21 it. And I think the Commission will be very
22 interested in getting these forward views so we can
23 really get our arms around those issues.

24 The other thing I wanted to, you
25 know, make sure you said, and I just want to

1 May 14, 2015

2 underscore is from the perspective of going into
3 the summer. The reserves that we have in the
4 system, particularly with the units we're expecting
5 to come back are more than adequate to deal with
6 outages.

7 That's why we have them, and
8 we're not worried about the reserves for the
9 summer. Assuming that -- that was how I took what
10 your statement was, assuming that's correct?

11 MS. BARNEY: We should be in very
12 good shape.

13 Today, even before those
14 resources come back in, we're -- the system is
15 fully prepared for contingencies and what those
16 units coming back online that's a -- that's in
17 addition to what we need as a reserve margin.

18 CHAIR ZIBELMAN: And -- and for
19 that, I -- you know, I do want to note our
20 appreciation. I know they have gotten a couple
21 reports, both from the ISO and I've seen reports
22 from the individual TOs, including NYPA. And I
23 believe all the various entities in the state have
24 worked very hard this spring to get into position
25 for the summer. So I appreciate all the -- all the

1 May 14, 2015

2 work that folks have done.

3 And I agree; it looks like we're
4 in -- in good position going into what I kind of
5 hope is a warmer summer, since we had a really cold
6 winter.

7 So -- although I may regret that
8 in August, but -- any further questions for
9 comments or Diane?

10 Diane?

11 COMMISSIONER BURMAN: I'm just
12 going to save mine until after all three
13 presentations so that in case some of my questions
14 are answered by someone else or in the upcoming
15 presentations, I save people. Thanks.

16 CHAIR ZIBELMAN: Sure.

17 Commissioner Sayre?

18 COMMISSIONER SAYRE: Diane, could
19 you go a little bit deeper into what the outputs of
20 this study are -- are going to be? I heard you say
21 reinforcements, if necessary, in the bulk
22 transmission system. Is -- is that really the main
23 focus of the study?

24 MS. BARNEY: Okay. The main
25 focus of the study is the capability of the bulk

1 May 14, 2015

2 system. When the Clean Power Plan comes out, which
3 is anticipated sometime this summer, the State has
4 to start drafting their response and their plan to
5 meet those goals. This study is aimed to look at
6 what are the limits of our existing system and the
7 system we expect to have into the future to help
8 shape those plans.

9 And if those plans, by necessity,
10 need to go beyond what the system can handle, what
11 type of upgrades or changes or protocols we need to
12 implement by that time to accommodate, you know,
13 both the Clean Power Plan and the changes that are
14 coming due to REV.

15 COMMISSIONER SAYRE: Thank you.

16 CHAIR ZIBELMAN: Commissioner
17 Acampora?

18 Okay. So we move on to Tammy
19 Mitchell. Great earrings, Tammy.

20 MS. MITCHELL: Thank you.

21 Good morning Chair Zibelman and
22 Commissioners.

23 As mentioned, I will provide a
24 summary of the New York State Utilities
25 Preparedness on the Electric Distribution System

1 May 14, 2015

2 for the 2015 Summer Season.

3 The Summer Preparedness program
4 requires that all New York utilities review their
5 electric distribution system capabilities to
6 withstand increased loadings during the summer
7 period. Overall the annual summer preparation
8 process performed by each utility is similar in
9 methodology. The utilities project summer loads
10 reviewing historical summer loading information,
11 taking into account historical weather conditions,
12 load growth, and any new business information
13 available.

14 The utilities then simulate its
15 electric system using the projected summer loadings
16 to identify any equipment or specific areas where
17 overloading may occur. From these efforts,
18 projects are selected for completion prior to the
19 next summer season.

20 In terms of our review and
21 monitoring of these efforts, the utilities provide
22 reports to Staff starting in March of each year.
23 These reports include a summary of the company's
24 process, procedures, and associated efforts, along
25 with a list of equipment, such as transformers and

1 May 14, 2015

2 circuits, that are at or above normal operating
3 ratings during projected peak loading conditions, a
4 list of proposed projects identified for completion
5 prior to June 1st.

6 Typically, these projects include
7 load transfers, capacitor bank installations,
8 transformer upgrades, and sometimes even larger
9 projects like new substations. Additionally,
10 utilities provide status reports to Staff on those
11 projects identified for completion prior to the
12 summer.

13 This year, Staff is in the
14 process of tracking nearly 100 projects identified
15 by the utilities. At this time, these projects are
16 on track and expected to be completed on or before
17 June 1st. For any projects that are not completed
18 before June 1st, the Company will develop and
19 provide contingency plans describing alternatives
20 to address potential problems.

21 Next slide, please.

22 In addition to the distribution
23 system equipment, another important asset for
24 addressing summer peak loads on the distribution
25 system is the utility distribution demand response

1 May 14, 2015

2 programs. Due to its unique characteristics, Con
3 Edison has multiple load relief programs available
4 for deployment during high -- high load conditions.

5 These programs include the direct
6 load control program, Rider L, the distribution
7 load relief program, Rider U, and the commercial
8 system relief program, Rider S. The direct load
9 control program allows Con Edison to reduce
10 enrolled customers' demand by taking control of and
11 cycling air conditioning loads during system
12 emergencies. The total amount of load reduction
13 available through the direct load control program
14 is approximately 32 megawatts for both small
15 commercial and residential customers enrolled at
16 this time.

17 For the distribution load relief
18 program, participants provide demand response
19 through load reductions or operation of onsite
20 generation when called upon by Con Edison on a
21 network-by-network basis. The total amount of load
22 reduction available through the distribution load
23 relief program at this time is approximately 224
24 megawatts.

25 Con Edison's commercial system

1 May 14, 2015

2 relief program is available to all customers that
3 can curtail load or have access to generation to
4 reduce demand by a minimum of 50 kW on an
5 individual customer basis or to an aggregator that
6 can provide at least 100 kW of load reduction. At
7 this time, the commercial system relief program has
8 approximately 143 megawatts of load reduction
9 signed up.

10 Participation in the Company's demand
11 response programs is generally trending upwards.
12 Participation in the distribution load relief
13 program declined somewhat, particularly as you can
14 see from the chart, in 2013 after Super Storm
15 Sandy, but has begun to increase again. Recent
16 changes in the incentive payment structure were
17 made to the commercial system relief program, which
18 have resulted in increased participation in the
19 past couple years, as you can see from the -- the
20 red bar.

21 Just a note, for each of these
22 programs discussed, the 2015 enrollment levels are
23 only through April of this year, so they could
24 increase. In addition to these existing Con Edison
25 programs, it's important to mention that,

1 May 14, 2015

2 consistent with the objectives of REV, the
3 Commission has issued an order requiring that the
4 other New York State utilities develop dynamic load
5 management program. These proposed programs have
6 been filed and Staff is expecting to bring the
7 recommendations to the Commission in the near
8 future.

9 Overall, based on our analysis,
10 Staff is satisfied that the utilities are prepared
11 to meet the needs of the upcoming 2015 summer
12 period.

13 That concludes my presentation.
14 I will take any questions that you have.

15 CHAIR ZIBELMAN: In terms of
16 these programs, the -- one of the things that I --
17 I know happens is both Con Ed and I believe the
18 Staff track performance. So do you have any
19 information on terms of where performance has been
20 in the -- just in terms of the -- you know, the
21 participants to the program?

22 MS. MITCHELL: I don't have that
23 with me currently, but I believe that that
24 chart --.

25 CHAIR ZIBELMAN: I should have

1 May 14, 2015

2 given you more notice.

3 MS. MITCHELL: Yeah, that's okay.

4 We can provide that. And I -- I don't know if --

5 if anybody else has a -- going to be here if he

6 tracks the program but --.

7 CHAIR ZIBELMAN: But we -- I

8 think next time -- I -- I think what the -- you

9 know, it would be an interesting report I think the

10 Commissioners would like to see --

11 MS. MITCHELL: Okay.

12 CHAIR ZIBELMAN: -- you know, as

13 just as the effectiveness of these programs

14 relative to the performance of the individuals

15 which I know we monitor.

16 MS. MITCHELL: Right. Yeah,

17 so -- so each of the programs is, I guess you would

18 say, discounted for, you know, the expected

19 performance.

20 Just to -- to note, a couple of

21 the programs have actual -- there's two different

22 ways to participate. There's a voluntary one and

23 there's a mandatory. So for the mandatory, there's

24 sort of a capacity payment, a monthly -- monthly

25 K.W. payment. So there are, I would say, penalties

1 May 14, 2015

2 associated with nonperformance.

3 So the expectation is that
4 customers that are enrolled in those programs, the
5 participation would be at a higher level. But we
6 can get you, you know, the breakdown of those for
7 each of the programs.

8 CHAIR ZIBELMAN: Great. Thanks.

9 Any other questions? I did go to
10 law school, but I forgot you're always supposed to
11 know the answer before you ask the question.

12 COMMISSIONER ACAMPORA: Tammy, of
13 the hundred projects, could you kind of give an
14 overview of the regional area where most of them
15 are? Are they spread out?

16 MS. MITCHELL: Yeah, that --
17 that -- that covers all of the utilities. The
18 numbers, I think more than half of them are in Con
19 Edison's territory, but I don't have the breakdown
20 in front of me of all the different utilities and
21 where they are. But generally, it's -- you know,
22 each of the utilities looks at its system and finds
23 the areas where there may be overloads occurring.
24 I would generally expect that to be in higher load
25 growth areas of each of the utility systems.

1 May 14, 2015

2 COMMISSIONER ACAMPORA: Yeah, I
3 think it might be something that the Commissioners
4 might want to see a breakdown of that.

5 MS. MITCHELL: Sure. We can get
6 you that, too.

7 COMMISSIONER ACAMPORA: Thank
8 you.

9 CHAIR ZIBELMAN: The -- the other
10 thing that is happening, and I -- this is obviously
11 an evolving area. I mean, we're looking at this
12 with REV as you mentioned. We're -- we're looking
13 at putting in programs for all of the utilities.
14 These programs are intended to be and operate as a
15 complementary element to the ISO demand response
16 programs and are really around localized feeder
17 issues, localized relief, which I know we were
18 trying to explain to FERC.

19 So -- but I -- I think it will
20 be -- I think a good overview of how these programs
21 can work in tandem and how the rules are -- are
22 sort of being affected at the state level to be
23 much more friendly towards consumers who might be
24 interested and have the ability to participate to
25 help them reduce their bills, but also improve

1 May 14, 2015

2 reliability and resiliency of the grid.

3 So I think it's a -- you know,
4 sort of a great working and a great example of how
5 we can work in tandem with the ISO to create value.
6 And I think, you know, further discussion about
7 that, particularly when we're looking at the
8 programs that the other utilities are filing would
9 be great -- would be illuminating, so -- so to
10 speak.

11 All right. Any other questions?

12 Yes, Raj.

13 MR. ADDEPALLI: Just a follow-up.
14 I think that's a great idea. In -- in response to
15 the hundred projects, what we can do is, by June
16 1st, they should all be completed. We'll give you
17 the report on the first week of June on the status
18 and, to the extent that none are completed what the
19 contingency plans are.

20 CHAIR ZIBELMAN: Further
21 questions? Comments?

22 Okay. We'll go to the third.
23 Paul Darmetko is going to be talking about the --
24 the portfolio and the price volatility. Welcome,
25 Paul.

1 May 14, 2015

2 MR. DARMETKO: Thank you.

3 Good morning, Chair.

4 Good morning, Commissioners.

5 I'll be providing you with a
6 summary of how the utilities have performed at
7 reducing the electric supply price volatility of
8 their full-service residential customers, go over
9 the utilities' residential electric supply
10 portfolio composition for this summer, as well as
11 finally and compare the summer's forecast electric
12 market prices to last summer's actual market
13 prices.

14 Raj will then continue the
15 presentation by going over the last 2 slides, where
16 he'll provide you with a history of the state's
17 electric supply costs, so.

18 This graph shows the results of
19 the electric utilities' supply price volatility
20 mitigation efforts since June of 2008. It compares
21 the average New York ISO market price volatility,
22 the red line, with the volatility of the utilities'
23 residential electric supply portfolios, the blue
24 line. Or more simply stated, the lines show what
25 the volatility of the utilities' portfolios would

1 May 14, 2015

2 have been had they simply purchased spot market
3 versus what it actually is because they engage in
4 hedges.

5 Each point on the line represents
6 the volatility over a 12-month period as measured
7 by the coefficient of variation. As you can see
8 from the chart, the portfolio price volatility is
9 usually around 55 percent less volatile than the
10 market price. As we all know, and can clearly see
11 from the chart, the winter of 2014 resulted in some
12 very high market prices, as well as significant
13 increase in volatility.

14 However, because of the hedging
15 policies, as well as the utilities' hedging
16 practices, the portfolio volatility experienced a
17 much smaller increase which full-service
18 residential customers benefited from. As you can
19 also see, since January and February of 2014 have
20 dropped out of the volatility calculation, the
21 volatility is returning to more normal historic
22 levels.

23 So you might be wondering what
24 does all this volatility mitigation cost these
25 full-service mass market customers over the years,

1 May 14, 2015

2 which brings us to our next slide.

3 This slide shows the annual
4 above- or below-market costs of the utilities' new
5 hedges as a percentage of total supply costs.
6 These new hedges are those that were executed
7 pursuant to the Commission's hedging policy that
8 was issued back in 2004.

9 The blue bars represent the
10 annual hedging gains or losses, compared to total
11 supply costs since 2005. Negative percentages mean
12 that customers saved money, compared to what they
13 would have paid if no new hedges were entered into
14 and they paid spot prices.

15 You can see that in some years
16 the hedges were in the money and some years they
17 were out of the money. But on a cumulative basis,
18 over the last ten years, full-service mass market
19 customers have essentially paid no premium for
20 these new hedges.

21 This chart shows the elements of
22 the composite residential electric supply portfolio
23 for this summer. As shown, about 60 percent of the
24 portfolio consists of fixed price contracts. Of
25 the fixed price contracts, the majority are

1 May 14, 2015

2 financial in nature. The fixed portion of the
3 portfolio also includes newer physical contracts,
4 older legacy contracts, and a small amount of
5 utilities' own generation with fixed fuel costs, as
6 well as NYPA contracts.

7 The balance of the portfolio is
8 predominantly made up of market purchases, followed
9 by relatively small amounts of utilities' own
10 generation with variable fuel costs, index
11 contracts that are primarily indexed to gas, and
12 options contracts.

13 This chart shows this summer's
14 expected average energy market prices based on
15 NYMEX futures and how they compare to last summer's
16 futures and actuals for New York City, Hudson
17 Valley, and Western New York, or New York ISO Zones
18 J, G, and A, respectively. Last summer's expected
19 energy market prices that we reported to you last
20 May are in green, last summer's actual market price
21 are in blue, and this summer's expected market
22 prices are in red.

23 I'm sure you've noticed that last
24 summer's actual market prices turned out to be
25 quite a bit lower than what was expected going into

1 May 14, 2015

2 the summer. Primary reasons for this were lower
3 sales due to a relatively mild summer, as well as
4 low natural gas prices.

5 I'm sure you've also noticed that
6 at this point going into the summer, it's expected
7 that this summer's energy prices will be close to
8 last summer's actuals. And again, that's driven
9 primarily by expected low natural gas prices.

10 The last slide that I'll be
11 covering shows what last summer's New York ISO
12 strip auction capacity prices were and what this --
13 what this summer's strip auction capacity prices
14 are. As you can see, this summer's strip auction
15 capacity prices are a little bit lower than last
16 summer's. This is primarily due to Danskammer and
17 Astoria 20 generation stations coming back online
18 as well as the expected return to service to the
19 plants that Diane mentioned earlier.

20 So to conclude, overall, at this
21 point going into the summer, all else equal, it's
22 expected that supply costs will be about the same
23 as last summer. But even if the market does
24 experience an unexpected price spike, full-service
25 mass market customers will not experience the full

1 May 14, 2015

2 magnitude of price swings because of the utilities'
3 hedging.

4 That concludes this portion of
5 the presentation. Raj will pick up the last 2
6 slides.

7 CHAIR ZIBELMAN: Raj, why don't
8 you go forward and then when -- if we have
9 questions, we'll --.

10 MR. ADDEPALLI: Yes. Will do.

11 So the last 2 slides discuss the
12 overall cost from a market perspective. We started
13 tracking this in the last two years, trying to put
14 this data together. And first, let me acknowledge
15 Adam Evans who has compiled this information based
16 on public data, this slide, as well as the next
17 slide.

18 In terms of the ISO products,
19 roughly speaking, we have capacity product and then
20 energy and ancillary services. This particular
21 chart shows just the capacity cost if it were all
22 priced at the market. I want to emphasize that
23 it's all based on spot market prices. To the
24 extent that our bilateral contracts or hedges, the
25 actual cost to consumers could be different. And

1 May 14, 2015

2 they would be based on what the bilateral contracts
3 call for. Not knowing all the private bilateral
4 contract details, what we are looking at is using
5 spot market if -- if the product is priced at spot
6 market prices, what would the cost be.

7 So you'll notice the capacity.
8 There are -- there have been three zones for a long
9 time, and we started a new capacity zone last
10 year -- or that got added last year. So the rest
11 of the state or the statewide market is the light
12 green bar, the New York City market is the blue,
13 and the purple is Long Island. And the other
14 solid -- whatever the color that is -- is the new
15 capacity zone. The top --.

16 CHAIR ZIBELMAN: Turquoise --
17 turquoise.

18 MR. ADDEPALLI: I don't have my
19 glasses on.

20 So what is clearly obvious is
21 the -- the capacity costs swing up and down. 2006,
22 they earned 2 billion dollars on a statewide basis.
23 They dropped in 2008, '09, and '10, and '11, all
24 the -- all the way down to less than a billion
25 dollars. Then their up -- upswing, '12, '13, '14

1 May 14, 2015

2 was the peak over 3 billion dollars, and their
3 expected 2015 is an estimate going down.

4 Between 2012 and 2014, the huge
5 increase that you see more than double or almost
6 maybe even -- yeah, more than double, 2-1/2 times
7 is because of changes in the system. Almost about
8 2000 megawatts of supply retired exited the market
9 or mothballed. And also about 600 megawatts of SCR
10 resources exited the market. So there was less
11 supply leading to higher prices.

12 And the resources that exited
13 included Astoria units in the city, Far Rockaway
14 and Glenwood and Long Island, the Dunkirk units,
15 and the Danskammer units, they add up to about 2000
16 and the SCR is about 600 megawatts exiting market.

17 In addition, the peak loads also
18 went up by about 300 to 400 hundred megawatts
19 between '12 and '14. So lower supply, higher
20 demand, prices go up. 2015 -- and also the new
21 capacities on 2014 is the newest addition.

22 2015 we estimate the levels to
23 come down to the 2013 levels because, again, some
24 resources are coming back into the market,
25 especially the Danskammer units and Astoria -- some

1 May 14, 2015

2 of the Astoria units are expected to come back.

3 The next slide shows total supply
4 costs, so the energy and ancillary services is the
5 longer bar, and the capacity that you just saw. So
6 energy and supplies bulk of the supply costs. It
7 varies between 9 billion dollars as low in 2009
8 when there's a warm -- a cool summer and low gas
9 prices, as high as 16 billion or so in 2008, very
10 hot summer and high gas prices.

11 And so in -- between 2012 and
12 2014, again, in the last 3 years, they have been
13 inching up. And a lot of it can be attributed to
14 higher gas prices. 2012 is about \$2.75 a million
15 BTU. 2014 is around \$4.36 a million BTU, almost 60
16 percent increase, although this supply cost
17 increase is not one to one, given that some part of
18 the time -- 60 to 80 percent of the time gas is in
19 the margin, not all 100 percent of the hours.

20 So that shows you total cost of
21 the New York control areas, just slightly a notch
22 under 15 billion dollars. Again, these are priced
23 at spot market prices. So that provides you a
24 bigger picture perspective of what the total cost
25 of the electric supply component is. This does not

1 May 14, 2015

2 include any of the delivery component. The
3 delivery is separate, and that's fully regulated.

4 This is all pretty much, to a
5 large extent, competitive market-driven pricing.

6 So that concludes our quick
7 overview of the pricing arena. And I'm happy to
8 answer any questions.

9 CHAIR ZIBELMAN: Thank you, Dave
10 and Raj.

11 So going back, frankly, to -- to
12 the mark to market, as well as the portfolio, we --
13 we -- last year, after the polar vortex, we started
14 working with the distribution utilities to take a
15 look at their hedging strategies. Are you seeing
16 that reflected in both the prices and the price for
17 2000-here on the summer or for -- or in the
18 projections?

19 MR. ADDEPALLI: Yeah. Let me
20 start -- and Paul jump in.

21 So after the polar vortex,
22 especially the upstate utilities that have suffered
23 most of the volatility, NYSEG and National Grid
24 have modified their portfolios and increased the
25 level of hedges. But given that volatility is

1 May 14, 2015

2 mostly winter, there's a lot more hedging in the
3 winter period than in the summer period.

4 A lot of folks think summer
5 prices are higher. Sometimes winter prices are
6 even higher than summer prices. That's because
7 there are gas capacity constraints, so the gas
8 capacity costs are really high. And the -- what
9 the generators face in the winter drive the
10 marginal prices. And so winter prices are high and
11 volatile. And so the winter hedges are higher than
12 the summer hedges.

13 CHAIR ZIBELMAN: Then the other
14 question I have, all things being equal, and I know
15 it's looking at projections, but in looking at your
16 last slide on supply costs 2006 to 2014, and then
17 looking at the energy price comparison, and I don't
18 want to sort of jinx ourselves, but it would strike
19 me that for 2015, given what we're seeing as the
20 forward price reductions, we're going to see a
21 potentially a -- either a same or a delta down for
22 2015?

23 MR. ADDEPALLI: That's -- all
24 else equal, that should be true, yes.

25 CHAIR ZIBELMAN: Good news, I

1 May 14, 2015

2 hope.

3 MR. ADDEPALLI: That's correct.

4 CHAIR ZIBELMAN: I have no
5 further questions. Thank you.

6 Any further questions?

7 COMMISSIONER SAYRE: I've got
8 one.

9 CHAIR ZIBELMAN: Commissioner
10 Sayre?

11 COMMISSIONER SAYRE: Raj, I think
12 I heard you say that -- that Staff doesn't know the
13 bilateral contract details and so can't work them
14 into -- to these charts. Is that information that
15 we ought to be getting?

16 MR. ADDEPALLI: We do know the
17 utilities' bilateral contracts that they engage in
18 for their mass market customers, for sure. And
19 utilities do not engage in any hedges for the large
20 customers -- for the mandatory hourly pricing
21 customers. And to the extent the hourly pricing
22 customers engage in hedges with the ESCOs or
23 third-party providers, that's private, confidential
24 information we do not know.

25 And so the -- and there could be

1 May 14, 2015

2 other type of bilateral contracts between
3 generators and loads. So the easiest publicly
4 available data is the spot market prices. This
5 gives you trends. But in the long run even the
6 hedges would reflect the expectations of the market
7 price. But we do know the hedges that the
8 utilities enter into for mass market customers.

9 COMMISSIONER SAYRE: Thanks.

10 CHAIR ZIBELMAN: Commissioner
11 Burman?

12 COMMISSIONER BURMAN: Thank you.
13 I do understand that this is a for-information only
14 item, but that doesn't lessen the importance of the
15 item and what we're doing. And when I look at it,
16 the Commission has a responsibility to ensure that
17 utilities are prepared to provide New Yorkers with
18 safe, adequate, and reliable power throughout the
19 summer months. And this summer preparedness review
20 is very helpful to us in determining whether or not
21 we're meeting our responsibility and what we might
22 need to do to continue.

23 And so for me, when -- when I
24 looked at this, I also looked back at what we've
25 done the last five years and what's been proposed

1 May 14, 2015

2 over that. And I know Staff has gone even further,
3 and I appreciate that. And we really do need to
4 ensure and we are ensuring that we have adequate
5 resources, including capacity resources, to meet
6 this summer's projected demand, as well as the
7 required reserved margins, and also that the
8 transmission system is ready and able to serve the
9 summer's projected peak load -- peak loads and meet
10 the reliability criteria.

11 The couple of questions that I
12 had that have been answered is looking at do we
13 expect a high demand this year, what are our energy
14 reserves, and are they -- will they exceed the peak
15 demand expected on the hottest of summer days? And
16 looking also at our diverse portfolio of generation
17 sources.

18 In addition to demonstrating that
19 utilities have the ability to handle the
20 electricity needs of their customers for the coming
21 summer season, we -- we have, in the past, also
22 looked at how we are on emergency planning efforts
23 and coordination as well as customer communication.
24 And this is especially important post-Sandy. So I
25 just wonder if -- and I -- I don't know if Mike

1 May 14, 2015

2 Worden is the best person to address those things
3 that might be going on with the emergency planning
4 aspects.

5 MR. WORDEN: So you may recall,
6 back in March, you approved the utility emergency
7 plans -- the electric utility emergency plans. And
8 the electric utilities are going through a process
9 now of doing their annual drills for these plans,
10 or what we asked them to do. And it's part of the
11 regs is to have those drills after their plans are
12 approved, prior to June 1st, which is the beginning
13 of hurricane season.

14 Our staff has been going to these
15 drills. In fact, there's a -- a drill on Long
16 Island today. So our department staff is there
17 monitoring the drill and will provide feedback to
18 the utilities if there are things they need to do
19 differently. So we think the utilities are
20 prepared. You know, there's always lessons to be
21 learned in any emergency, but we think they're
22 ready for the summer.

23 COMMISSIONER BURMAN: Okay. And
24 what about vegetation management and wild fire
25 planning?

1 May 14, 2015

2 MR. WORDEN: So vegetation
3 management is something that is going on throughout
4 the year. All of the utilities, with one
5 exception, are on a cycle. The one utility that's
6 not on a cycle for its distribution vegetation
7 management is -- is moving in that direction. We
8 hope to do that in the next rate filing.

9 From a transmission perspective,
10 a lot of that work has to be done in the wintertime
11 because of a variety of factors, and getting access
12 to right-of-ways. So there really is a lot of
13 focus on transmission, getting ready for the summer
14 period.

15 COMMISSIONER BURMAN: Okay.
16 Great. Now there are obviously and -- and I think,
17 Diane Barney, you touched upon this, the planned
18 minimum reserves that -- to manage uncertainties.
19 And what I heard was that we are -- have adequate
20 minimum reserves to manage the uncertainties, such
21 as load forecast uncertainties, unplanned unit
22 outages, and also varying levels of customer
23 participation and resource standards.

24 I just want to sort of, you know,
25 look at that from the minimum reserve margins and

1 May 14, 2015

2 just get sort of another layer of comfort in that.

3 MS. BARNEY: Well, the installed
4 reserve margin calculation that is performed
5 annually by the New York State Reliability Council
6 takes a look on a probabilistic basis of what
7 resources would be available and how many
8 additional resources we need over the load level.

9 This calculation takes into
10 account the history of the units, themselves, the
11 history of technologies and what you can expect to
12 have available to you at different times of the
13 year. And the calculation right now is that we
14 need 17 percent above peak load. If you take a
15 look at the one slide, okay, that would -- let's
16 see -- come to -- I believe it's 5700 megawatts of
17 available capability over our peak load. We have
18 that out there plus an additional 2800 megawatts.

19 CHAIR ZIBELMAN: So we're --
20 we're at about 124 percent of peak.

21 MS. BARNEY: Correct. Okay.
22 Location does enter into that. That's -- you know,
23 those resources are there. You could have a
24 locational problem if you lose too many resources
25 in a -- you know, a confined area. But the system

1 May 14, 2015

2 operators pretty much are prepared for that, run
3 those contingencies, know what they would have to
4 do. We wouldn't necessarily be running at an
5 economically optimal position, but we would be in a
6 reliability position.

7 COMMISSIONER BURMAN: Okay.

8 Great. Thank you. You know, what's important for
9 me is not just that we're prepared for the normal,
10 but that we're prepared for any challenges that may
11 present. And that's really what I got from this
12 presentation. So it is very helpful.

13 You know, one of the things is,
14 you know, looking back and -- and having gone back
15 over the last few years, is also noticing sort of
16 the trend of, you know, originally we looked at a
17 2004 hedging policy, 2007 supply portfolio
18 guidelines, and 2008 volatility reporting
19 requirements. And each year we have looked at the
20 necessity of what those policies, you know, need to
21 be changed or tweaked, and, you know, we'd see
22 anything that might present itself differently from
23 past years.

24 And, you know, we did that after
25 Superstorm Sandy and, you know, continuing that

1 May 14, 2015

2 sort of drill down and looking at those things.
3 And, you know, I -- I heard today an important
4 takeaway on -- when Diane Barney spoke on the
5 changes on the system that, you know, we are having
6 to look towards in terms of REV and the EPA Clean
7 Power Plan, and going now beyond what we're
8 currently doing and drilling down some more and
9 looking at studies so that we can be focused on,
10 you know, making sure that we are as prepared as we
11 need to be and what the effects are from those
12 things.

13 So I really just wanted to thank
14 Staff for presenting us today the system planning
15 that's being done, not only by the Staff, but by
16 the ISO and NYPA and the utilities, as well as many
17 other folks, and ensuring customers will continue
18 receiving reliable and safe service as we enter
19 into the peak demands of a New York summer. And
20 it -- it sounds to me that the biggest takeaway is
21 that the forecast is that customers should really
22 feel confident that we're prepared for this summer
23 and that we're prepared for any challenges that
24 might come.

25 And just really kudos to the

1 May 14, 2015

2 utilities who are doing a good job, especially on
3 their load relief programs and their load control
4 programs because those are helping when there are
5 challenges. And I think we should, you know,
6 really recognize that and look at what's happening
7 with those programs, especially as we enter, you
8 know, new things that are on the horizon.

9 So, you know, that's it. So
10 thank you everyone. And, you know, if we were
11 voting, I'd vote, yes, so thanks.

12 CHAIR ZIBELMAN: We can all vote
13 for a mild summer and low temperatures and sunny
14 days and low energy prices.

15 Commissioner Acampora?

16 COMMISSIONER ACAMPORA: No,
17 just -- just to kind of follow up and -- and say,
18 you know, I've been listening to these reports for
19 quite a bit and, you know, every year we prepare.
20 But sometimes, like we mentioned before, things
21 come along like polar vortex that we've never
22 experienced before. So always the preparedness is
23 there, and then there are lessons learned.

24 So you know, I know that a lot of
25 work goes into this, not only from all of you and

1 May 14, 2015

2 the Staff, but, as Commissioner Burman mentioned,
3 other entities that work throughout the state to
4 ensure that the state is prepared at all times. So
5 I'd just like to say thank you and I agree with the
6 Chair. We're all waiting for summer, but let's not
7 have too hot of a summer with a lot of bad storms.

8 CHAIR ZIBELMAN: Thank you.

9 Raj?

10 MR. ADDEPALLI: Yeah, I just
11 wanted to thank all those folks, not only those who
12 are at the table here, but all those who help pull
13 this stuff together. It took a lot of effort and
14 work in getting this prepared. So thanks to all
15 the Staff.

16 CHAIR ZIBELMAN: Yeah, thank you,
17 Raj.

18 And I -- I want to echo that. I
19 know that one of the greatest things about this
20 presentation is -- is the amount of very complex
21 analysis that gets boils down -- boiled down into
22 very understandable slides. And I think you guys
23 do a great job of -- of doing that.

24 I also do want to note that,
25 relative to the system, as well, we -- we -- we --

1 May 14, 2015

2 even though we didn't have a polar vortex, we had
3 actually a very cold winter. And I think that we
4 are seeing that -- that the system we have is -- is
5 very reliable. And that's -- it's -- it is
6 actually the efforts of the utilities, the I.S.O.s,
7 the generators who really make sure that the system
8 is available and is running, and are, frankly,
9 there seven by twenty-four, running that airplane
10 that never lands. So we do appreciate all those
11 efforts.

12 So thank you and we can now move
13 on to next part of the agenda, which is the consent
14 agenda.

15 And with respect to that,
16 Commissioner Sayre, I believe you want to recuse
17 yourself from Item 561?

18 COMMISSIONER SAYRE: That's
19 correct. Thank you.

20 CHAIR ZIBELMAN: Do any of the
21 other Commissioners wish to recuse or abstain from
22 any matters? Hearing none, then I will take a
23 vote. All those in favor of the recommendations on
24 the consent agenda, please indicate by saying aye.

25 COMMISSIONER SAYRE: Aye.

1 May 14, 2015

2 COMMISSIONER BURMAN: Aye.

3 COMMISSIONER ACAMPORA: Aye.

4 CHAIR ZIBELMAN: Opposed? There
5 being no opposition, the recommendations are
6 adopted.

7 So thank you all. Again, thanks
8 to Staff. It was a great presentation. And before
9 we go, because I forgot last time, I do want to
10 welcome Scott Weiner, who is our director of
11 markets and innovation.

12 Scott's been here. He's -- I
13 know he -- many of you have met him. We are
14 extremely appreciative that he's joining us and is
15 helping us, particularly with the REV docket.

16 So welcome, Scott.

17 And he's done such a great job of
18 integrating himself into the agency that I forgot
19 that he was new. Thank you.

20 So with that, we -- Secretary
21 Burgess, is there anything more in front of us
22 today?

23 SECRETARY BURGESS: There's
24 nothing more for today. And the next Commission
25 meeting is Wednesday, June 17th, here in Albany.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

May 14, 2015

CHAIR ZIBELMAN: Great. Thank

you.

(The meeting concluded at 11:24

a.m.)

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

May 14, 2015

STATE OF NEW YORK

I, Chris Manning, do hereby certify that the foregoing was reported by me, in the cause, at the time and place, as stated in the caption hereto, at Page 1 hereof; that the foregoing typewritten transcription consisting of pages 1 through 49, is a true record of all proceedings had at the hearing.

IN WITNESS WHEREOF, I have hereunto subscribed my name, this the 20th day of May, 2015.

Chris Manning, Reporter

A	
ability 24:24 39:19	annual 5:25 17:7 28:3,10 40:9
able 9:14 39:8	annualized 5:19 6:2
abstain 47:21	annually 42:5
acampora 1:14 16:17 23:12 24:2 24:7 45:15,16 48:3	answer 2:23 23:11 35:8
access 20:3 41:11	answered 15:14 39:12
accommodate 16:12	anticipated 16:3
account 17:11 42:10	anybody 22:5
acknowledge 31:14	apply 9:21
active 13:9	applying 7:11
activities 10:17	appreciate 14:25 39:3 47:10
activity 6:22	appreciation 14:20
actual 5:11 22:21 26:12 29:20 29:24 31:25	appreciative 48:14
actuals 29:16 30:8	approach 3:7
adam 31:15	approved 40:6,12
add 33:15	approximately 8:4 19:14,23 20:8
added 32:10	april 20:23
addepalli 2:16 3:2 25:13 31:10 32:18 35:19 36:23 37:3,16 46:10	area 23:14 24:11 42:25
addition 4:3 7:25 14:17 18:22 20:24 33:17,21 39:18	areas 8:24 9:15,23 10:2,6 17:16 23:23,25 34:21
additional 11:5 42:8,18	arena 35:7
additionally 18:9	arms 13:23
address 18:20 40:2	asked 40:10
addressing 4:5 18:24	aspects 40:4
adequate 3:13 9:3 14:5 38:18 39:4 41:19	asset 18:23
adequately 3:8	assisted 11:11
adopted 48:6	associated 17:24 23:2
agency 1:10 48:18	assuming 14:9,10
agenda 2:8,11,13 47:13,14,24	astoria 30:17 33:13,25 34:2
aggregator 20:5	attributed 34:13
aging 8:9	auction 30:12,13,14
ago 5:15	audrey 1:13
agree 15:3 46:5	august 12:21 15:8
aimed 16:5	authorized 6:17,18
air 19:11	available 6:10 7:19 12:6 17:13 19:3,13,22 20:2 38:4 42:7,12 42:17 47:8
airplane 47:9	average 6:2 26:21 29:14
albany 1:11 48:25	averagesized 5:23
allows 19:9	aye 47:24,25 48:2,3
alternatives 18:19	
american 9:18	B
amount 6:14 19:12,21 29:4 46:20	back 14:5,14,16 28:8 30:17 33:24 34:2 35:11 38:24 40:6 43:14,14
amounts 29:9	bad 46:7
analysis 11:8 21:9 46:21	balance 29:7
ancillary 31:20 34:4	bank 18:7
	bar 20:20 32:12 34:5
	barney 2:17 3:24 4:22 10:22 14:11 15:24 41:17 42:3,21

44:4
bars 28:9
base 11:18 12:20
based 21:9 29:14 31:15,23 32:2
basically 12:4
basis 13:11 19:21 20:5 28:17
 32:22 42:6
beginning 40:12
begun 20:15
believe 14:23 21:17,23 42:16
 47:16
belowmarket 28:4
benefited 27:18
best 40:2
better 6:25
beyond 3:14 11:5 12:14 16:10
 44:7
bigger 34:24
biggest 44:20
bilateral 31:24 32:2,3 37:13,17
 38:2
billion 32:22,24 33:2 34:7,9,22
bills 4:10 24:25
bit 15:19 29:25 30:15 45:19
black 5:14,18
blue 5:15,18 26:23 28:9 29:21
 32:12
board 12:20
boiled 46:21
boils 46:21
book 5:7
bottom 12:9
bound 12:16
breakdown 23:6,19 24:4
brief 2:13
bring 2:5 21:6
brings 28:2
brunt 8:8
btu 34:15,15
building 1:10
bulk 2:17 3:16,25 4:25 12:17
 15:21,25 34:6
burgess 2:7,9 48:21,23
burman 1:14 15:11 38:11,12
 40:23 41:15 43:7 46:2 48:2
business 17:12

C

c 1:13
calculate 7:14

calculation 27:20 42:4,9,13
call 32:3
called 19:20
calling 11:5,25
cant 37:13
capabilities 17:5
capability 6:24 7:4,7,12,18 8:7
 8:12,14,21,25 9:6 15:25 42:17
capacities 33:21
capacitor 18:7
capacity 5:6,22 22:24 30:12,13
 30:15 31:19,21 32:7,9,15,21
 34:5 36:7,8 39:5
caption 50:3
case 11:18 12:21 15:13
cases 12:15
cause 50:3
cchange 10:25
certainly 13:9
certify 50:2
chair 1:13 2:4,10,12 3:3 4:23
 10:10 12:23 14:18 15:16 16:16
 16:21 21:15,25 22:7,12 23:8
 24:9 25:20 26:3 31:7 32:16
 35:9 36:13,25 37:4,9 38:10
 42:19 45:12 46:6,8,16 47:20
 48:4 49:2
challenges 43:10 44:23 45:5
changed 43:21
changes 2:8,10 10:23,24 11:4,23
 12:17 13:19 16:11,13 20:16
 33:7 44:5
changing 6:21 10:15
characteristics 19:2
chart 20:14 21:24 27:8,11 28:21
 29:13 31:21
charts 37:14
chief 2:17,18
chris 50:2,7
circuits 18:2
city 29:16 32:12 33:13
clean 6:17 11:2,25 12:3,11 16:2
 16:13 44:6
clearly 27:10 32:20
close 30:7
co2 6:6 12:2
coefficient 27:7
cold 15:5 47:3
collected 9:11
color 32:14

come 14:5,14 33:23 34:2 42:16 44:24 45:21	confined 42:25
comes 16:2	consent 47:13,24
comfort 42:2	consistent 21:2
coming 4:17 10:23 14:16 16:14 30:17 33:24 39:20	consisting 50:4
commenced 2:2	consists 28:24
comments 15:9 25:21	constrained 8:10
commercial 4:7 19:7,15,25 20:7 20:17	constraints 36:7
commission 1:3,6 2:5 3:15 4:11 12:25 13:21 21:3,7 38:16 48:24	consultant 11:16 12:20
commissioner 15:11,17,18 16:15 16:16 23:12 24:2,7 37:7,9,11 38:9,10,12 40:23 41:15 43:7 45:15,16 46:2 47:16,18,25 48:2,3	consumers 24:23 31:25
commissioners 1:12 2:10 3:3 4:23 16:22 22:10 24:3 26:4 47:21	contingencies 14:15 43:3
commissions 28:7	contingency 9:24 10:5 18:19 25:19
committees 13:10	continue 26:14 38:22 44:17
communication 39:23	continuing 43:25
company 18:18	contract 32:4 37:13
companys 17:23 20:10	contracts 28:24,25 29:3,4,6,11 29:12 31:24 32:2 37:17 38:2
compare 26:11 29:15	control 8:24 19:6,9,10,13 34:21 45:3
compared 7:13 28:10,12	converted 5:13
compares 26:20	cool 3:5 34:8
comparison 36:17	coordinating 9:19
competitive 35:5	coordination 39:23
compiled 31:15	corner 3:6
complementary 24:15	correct 14:10 37:3 42:21 47:19
completed 18:16,17 25:16,18	cost 27:24 31:12,21,25 32:6 34:16,20,24
completion 17:18 18:4,11	costs 4:14 26:17 28:4,5,11 29:5 29:10 30:22 32:21 34:4,6 36:8 36:16
complex 46:20	council 9:18,19,20 42:5
complexion 13:18	couple 10:16 14:20 20:19 22:20 39:11
component 34:25 35:2	cover 11:24
composite 28:22	covering 30:11
composition 26:10	covers 23:17
con 19:2,9,20,25 20:24 21:17 23:18	cracked 7:20
concerned 13:2	create 25:5
conclude 30:20	criteria 9:20,21 39:10
concluded 49:4	cumulative 28:17
concludes 21:13 31:4 35:6	currently 9:17 21:23 44:8
conditioning 19:11	curtail 20:3
conditions 9:2 17:11 18:3 19:4	customer 4:10 20:5 39:23 41:22
confident 44:22	customers 3:9 4:6,16,18 19:10 19:15 20:2 23:4 26:8 27:18,25 28:12,19 30:25 37:18,20,21,22 38:8 39:20 44:17,21
confidential 37:23	cycle 41:5,6
	cycling 19:11

D

danskammer 30:16 33:15,25
darmetko 2:19 4:16 25:23 26:2
data 31:14,16 38:4
dave 35:9
day 50:6
days 39:15 45:14
deal 14:5
dec 11:13
declined 20:13
decrease 6:4
deeper 15:19
defined 11:14
delivery 35:2,3
delta 36:21
demand 7:8 18:25 19:10,18 20:4
 20:10 24:15 33:20 39:6,13,15
demands 44:19
demonstrates 6:7 8:8
demonstrating 39:18
department 40:16
depend 7:4
depending 8:9
deployment 19:4
der 6:9,11,16,20
describing 18:19
detailed 9:11
details 32:4 37:13
determining 38:20
develop 10:6,20 18:18 21:4
diane 1:14 2:17 3:24 4:20 12:24
 15:9,10,18 30:19 41:17 44:4
didnt 11:23 47:2
difference 5:18 12:4
different 11:4,18 22:21 23:20
 31:25 42:12
differently 40:19 43:22
direct 19:5,8,13
direction 41:7
director 48:10
discounted 22:18
discuss 3:25 31:11
discussed 20:22
discussion 25:6
discussions 3:20
distribution 2:19 3:17 4:2 10:9
 16:25 17:5 18:22,24,25 19:6
 19:17,22 20:12 35:14 41:6
diverse 39:16

docket 48:15
doesnt 37:12 38:14
doing 10:18 38:15 40:9 44:8
 45:2 46:23
dollars 32:22,25 33:2 34:7,22
dont 21:22 22:4 23:19 31:7
 32:18 36:17 39:25
double 33:5,6
downstate 8:20
drafting 16:4
dramatic 11:25
drill 40:15,17 44:2
drilling 44:8
drills 40:9,11,15
drive 36:9
driven 30:8
drop 5:8 6:5,8
dropped 5:20 6:2 27:20 32:23
due 6:21 16:14 19:2 30:3,16
dunkirk 33:14
dynamic 21:4

E

earlier 30:19
earned 32:22
earrings 16:19
easiest 38:3
eastern 13:9
echo 46:18
economic 6:22 11:7
economically 43:5
ed 21:17
edges 12:16
edison 19:3,9,20 20:24
edisons 19:25 23:19
eeps 6:14
effectiveness 22:13
effects 44:11
effort 11:9,12,14 46:13
efforts 6:11 8:6 17:17,21,24
 26:20 39:22 47:6,11
either 36:21
electric 2:18,19 3:6 4:7 5:2
 6:6 16:25 17:5,15 26:7,9,11
 26:17,19,23 28:22 34:25 40:7
 40:8
electricity 39:20
element 24:15
elements 28:21
emergencies 19:12

emergency 39:22 40:3,6,7,21
emphasize 31:22
empire 1:10
energy 5:25 6:17,22 12:12 29:14
 29:19 30:7 31:20 34:4,6 36:17
 39:13 45:14
engage 27:3 37:17,19,22
engineer 2:20
england 9:3
enrolled 19:10,15 23:4
enrollment 20:22
ensure 3:12 10:3 38:16 39:4
 46:4
ensuring 39:4 44:17
enter 38:8 42:22 44:18 45:7
entered 28:13
entities 14:23 46:3
epa 11:2 12:7 44:6
equal 30:21 36:14,24
equipment 17:16,25 18:23
equivalent 5:21
escos 37:22
especially 33:25 35:22 39:24
 45:2,7
essentially 28:19
estimate 7:8 33:3,22
estimates 6:13
evaluation 9:9
evans 31:15
evolving 24:11
example 25:4
exceed 39:14
exception 41:5
executed 28:6
existing 16:6 20:24
exited 33:8,10,12
exiting 33:16
expect 16:7 23:24 39:13 42:11
expectation 23:3
expectations 38:6
expected 7:23 18:16 22:18 29:14
 29:18,21,25 30:6,9,18,22 33:3
 34:2 39:15
expecting 14:4 21:6
experience 30:24,25
experienced 5:12 8:2 27:16
 45:22
experiencing 7:22
explain 24:18
expressed 5:25

extent 25:18 31:24 35:5 37:21
extremely 48:14

F

face 36:9
facilities 10:4
fact 40:15
factors 41:11
fairly 8:11
far 33:13
fast 8:11
favor 47:23
february 27:19
feedback 40:17
feeder 24:16
feel 44:22
ferc 24:18
filed 21:6
filing 25:8 41:8
final 2:8
finally 26:11
financial 29:2
finds 23:22
fire 7:21 40:24
first 12:9 25:17 31:14
five 38:25
fixed 28:24,25 29:2,5
flat 6:3
fleeted 8:9
flexibility 8:22
floor 1:10
flowing 8:19
focus 4:24 15:23,25 41:13
focused 44:9
folks 15:2 36:4 44:17 46:11
follow 45:17
followed 29:8
followup 25:13
forecast 5:4,5,14,16 6:21 7:6,9
 7:10 26:11 41:21 44:21
forecasted 5:7
forecasting 6:9
foregoing 50:2,4
forgot 23:10 48:9,18
forinformation 38:13
forward 13:22 31:8 36:20
forwardlooking 13:2
found 5:5
frankly 35:11 47:8
free 8:19

friendly 24:23	greatest 46:19
front 23:20 48:21	green 5:12 29:20 32:12
fuel 29:5,10	gregg 1:13
full 8:7 30:25	grid 3:6 13:17 25:2 35:23
fullservice 26:8 27:17,25 28:18 30:24	growth 5:19 6:2,12 17:12 23:25
fully 14:15 35:3	guarantee 3:5
fund 6:17	guess 22:17
funding 6:17	guidance 4:12
further 15:8 25:6,20 37:5,6 39:2	guidelines 43:18
future 16:7 21:8	guys 46:22
futures 29:15,16	
	H
G	half 5:20 23:18
g 29:18	handle 16:10 39:19
gains 9:4 28:10	happen 13:3
gas 29:11 30:4,9 34:8,10,14,18 36:7,7	happening 13:5,6 24:10 45:6
generally 20:11 23:21,24	happens 8:17 21:17
generation 7:18 8:9,17,22 19:20 20:3 29:5,10 30:17 39:16	happy 35:7
generator 8:3	hard 14:24
generators 9:16 36:9 38:3 47:7	heard 15:20 37:12 41:19 44:3
getting 13:11,22 37:15 41:11,13 46:14	hearing 47:22 50:5
give 23:13 25:16	hedge 4:8
given 22:2 34:17 35:25 36:19	hedges 27:4 28:5,6,13,16,20 31:24 35:25 36:11,12 37:19,22 38:6,7
gives 38:5	hedging 27:14,15 28:7,10 31:3 35:15 36:2 43:17
glad 13:20	hell 26:16
glasses 32:19	help 16:7 24:25 46:12
glenwood 33:14	helpful 38:20 43:12
glidepath 11:21	helping 11:13 45:4 48:15
go 9:13 10:10 15:19 16:10 23:9 25:22 26:8 31:8 33:20 48:9	hereof 50:3
goals 12:7 16:5	hereto 50:3
goes 45:25	hereunto 50:5
going 2:4,16,20 7:2,16,17 11:15 11:17 12:13 13:3,4,15 14:2 15:4,12,20 22:5 25:23 26:15 29:25 30:6,21 33:3 35:11 36:20 40:3,8,14 41:3 44:7	hes 48:12,14,17
gold 5:7	hide 19:4
good 2:9 3:2 4:22 12:23 14:12 15:4 16:21 24:20 26:3,4 36:25 45:2	high 19:4 27:12 34:9,10 36:8,10 39:13
gotten 14:20	higher 23:5,24 33:11,19 34:14 36:5,6,11
graph 5:10 26:18	historic 27:21
great 16:19 23:8 25:4,4,9,14 41:16 43:8 46:23 48:8,17 49:2	historical 5:11 17:10,11
	history 26:16 42:10,11
	hits 8:8
	homes 5:23
	hope 12:15 15:5 37:2 41:8
	hopefully 11:14
	horizon 45:8
	hot 34:10 46:7
	hottest 39:15

hourly 37:20, 21
hours 34:19
hudson 29:16
huge 33:4
hundred 23:13 25:15 33:18
hurricane 40:13

I

id 45:11 46:5
idea 25:14
identified 18:4, 11, 14
identify 17:16
ill 4:19 9:8 26:5 30:10
illuminating 25:9
im 2:4 13:20, 20 15:11 29:23
 30:5 35:7
impacts 6:20 13:18
implement 16:12
implementing 11:3 12:3
importance 38:14
important 2:14 8:18 18:23 20:25
 39:24 43:8 44:3
improve 24:25
incentive 20:16
inching 34:13
include 6:16 17:23 18:6 19:5
 35:2
included 6:13 33:13
includes 3:13, 18, 22 29:3
including 14:22 39:5
increase 6:9 20:15, 24 27:13, 17
 33:5 34:16, 17
increased 6:20 9:5 17:6 20:18
 35:24
increasingly 6:11 8:18
index 29:10
indexed 29:11
indian 8:2
indicate 47:24
individual 9:9 14:22 20:5
individuals 22:14
industry 13:19
industrys 6:6
information 5:24 17:10, 12 21:19
 31:15 37:14, 24
innovation 48:11
input 9:13
installations 18:7
installed 7:11 42:3
integrating 48:18

intended 24:14
interconnect 13:9
interconnected 3:21
interested 13:22 24:24
interesting 22:9
introducing 2:16
investments 13:15
irm 8:16
island 32:13 33:14 40:16
iso 3:19, 20 6:8, 15, 19 9:2 10:19
 11:5, 6, 11 14:21 24:15 25:5
 26:21 29:17 30:11 31:18 44:16
isolated 9:23
isos 5:6
issued 21:3 28:8
issues 13:23 24:17
item 38:14, 15 47:17
ive 14:21 37:7 45:18

J

j 29:18
january 12:22 27:19
jinx 36:18
job 45:2 46:23 48:17
joining 48:14
jump 35:20
june 7:24 12:20 18:5, 17, 18
 25:15, 17 26:20 40:12 48:25

K

k 22:25
keeping 4:14
kind 12:16 15:4 23:13 45:17
know 3:4 10:15 12:24, 24, 25 13:9
 13:12, 19, 25 14:19, 20 16:12
 21:17, 20 22:4, 9, 12, 15, 18 23:6
 23:11, 21 24:17 25:3, 6 27:10
 36:14 37:12, 16, 24 38:7 39:2
 39:25 40:20 41:24 42:22, 25
 43:3, 8, 13, 14, 16, 20, 21, 24, 25
 44:3, 5, 10 45:5, 8, 9, 10, 18, 19
 45:24, 24 46:19 48:13
knowing 32:3
kudos 44:25
kw 20:4, 6

L

l 1:14 19:6
lands 47:10
large 35:5 37:19

larger 18:8	lot 34:13 36:2,4 41:10,12 45:24 46:7,13
law 3:12 23:10	low 30:4,9 34:7,8 45:13,14
layer 42:2	lower 7:10 9:21 29:25 30:2,15 33:19
layered 11:23	
lead 11:13	
leading 33:11	
learned 40:21 45:23	
legacy 29:4	
lessen 38:14	
lessons 40:20 45:23	
level 3:17,17 8:14 23:5 24:22 35:25 42:8	
levels 5:11,13 8:13 20:22 27:22 33:22,23 41:22	
light 32:11	
limits 16:6	
line 5:11,12,14,15 26:22,24 27:5	
lines 5:18 9:15 26:24	
list 17:25 18:4	
listening 45:18	
little 15:19 30:15	
load 5:4,6,8,11,13,16,19 6:12 7:6 9:2,14,24 17:12 18:7 19:3 19:4,6,7,8,12,13,17,19,21,22 20:3,6,8,12 21:4 23:24 39:9 41:21 42:8,14,17 45:3,3	
loading 17:10 18:3	
loadings 17:6,15	
loads 5:12 17:9 18:24 19:11 33:17 38:3 39:9	
local 10:4	
localized 24:16,17	
locally 12:13 13:15	
located 8:22	
location 8:17 42:22	
locational 42:24	
long 32:8,13 33:14 38:5 40:15	
longer 34:5	
look 5:17 11:19,22,22 12:9 16:5 35:15 38:15 41:25 42:6,15 44:6 45:6	
looked 38:24,24 39:22 43:16,19	
looking 11:17,20 12:5,20 13:10 24:11,12 25:7 32:4 36:15,15 36:17 39:12,16 43:14 44:2,9	
looks 15:3 23:22	
lose 9:24 42:24	
loss 8:2	
losses 28:10	
	M
	m 1:9 2:3 49:5
	magnitude 31:2
	main 4:24 15:22,24
	maintain 13:16
	maintenance 10:4
	major 3:11 5:22 10:24
	majority 28:25
	making 13:16 44:10
	manage 41:18,20
	management 21:5 40:24 41:3,7
	mandatory 22:23,23 37:20
	manning 50:2,7
	march 17:22 40:6
	margin 7:8,11 8:11,15 14:17 34:19 42:4
	marginal 36:10
	marginally 6:25
	margins 39:7 41:25
	mark 35:12
	market 4:5,9,9,18 10:20 26:12 26:12,21 27:2,10,12,25 28:18 29:8,14,19,20,21,24 30:23,25 31:12,22,23 32:5,6,11,12 33:8 33:10,16,24 34:23 35:12 37:18 38:4,6,8
	marketdriven 35:5
	markets 48:11
	mass 4:5,17 27:25 28:18 30:25 37:18 38:8
	matters 47:22
	mean 24:11 28:11
	measured 27:6
	meet 3:9 8:23,25 9:14,17 12:7 12:10 16:5 21:11 39:5,9
	meeting 1:6 2:2 38:21 48:25 49:4
	meetings 9:12
	meets 4:14
	megawatts 5:8,19,21 7:3,9,10,13 7:13,15,15,23 9:5,7 19:14,24 20:8 33:8,9,16,18 42:16,18
	mention 20:25
	mentioned 16:23 24:12 30:19

45:20 46:2
met 48:13
methodology 17:9
michael 2:22
microphone 10:8
mike 39:25
mild 30:3 45:13
million 5:23 34:14,15
mind 4:14
mine 15:12
minimum 20:4 41:18,20,25
minutes 10:17
mittell 2:18 3:25 10:8 16:19
 16:20 21:22 22:3,11,16 23:16
 24:5
mitigate 4:13
mitigating 4:7
mitigation 26:20 27:24
modified 35:24
money 28:12,16,17
monitor 22:15
monitoring 10:2 17:21 40:17
month 8:5
monthly 22:24,24
months 38:19
morning 2:9,11 3:3 4:22 16:21
 26:3,4
mothballed 33:9
move 9:21 16:18 47:12
moving 41:7
multiple 19:3

N

name 50:6
national 35:23
nationwide 13:19
natural 30:4,9
nature 29:2
near 21:7
nearly 18:14
necessarily 43:4
necessary 15:21
necessity 16:9 43:20
need 3:8 11:7,9,22 12:18 13:13
 14:17 16:10,11 38:22 39:3
 40:18 42:8,14 43:20 44:11
needed 5:22 12:14 13:15
needs 3:9 4:5 8:23 13:4 21:11
 39:20
negative 28:11

neighboring 8:24
neighbors 3:21,23 9:3
networkbynetwork 19:21
never 45:21 47:10
new 1:3,11 3:6,19 5:6 6:5,14,19
 7:3 9:2,19 12:6 13:5,16 16:24
 17:4,12 18:9 21:4 26:21 28:4
 28:6,13,20 29:16,17,17 30:11
 32:9,12,14 33:20 34:21 38:17
 42:5 44:19 45:8 48:19 50:2
newer 29:3
newest 33:21
newly 5:3
news 36:25
nonperformance 23:2
normal 18:2 27:21 43:9
normalized 5:13
normally 11:6
north 9:4,18
northeast 9:18
notch 34:21
note 6:8 7:17 13:8 14:19 20:21
 22:20 46:24
notice 22:2 32:7
noticed 29:23 30:5
noticing 43:15
number 7:19
numbers 5:14 23:18
nymex 29:15
nypa 14:22 29:6 44:16
nyseg 35:23
nyserda 11:13

O

o 47:6
objectives 21:2
obligation 3:12
obvious 32:20
obviously 24:10 41:16
occur 17:17
occurring 23:23
october 12:21
okay 2:12 4:22 10:22 12:23
 15:24 16:18 22:3,11 25:22
 40:23 41:15 42:15,21 43:7
older 29:4
online 14:16 30:17
onsite 19:19
ontario 9:6
operate 24:14

operating 8:25 18:2	performance 21:18,19 22:14,19
operation 19:19	performed 17:8 26:6 42:4
operational 6:24	period 17:7 21:12 27:6 36:3,3 41:14
operators 43:2	periods 9:25
opposed 48:4	person 40:2
opposition 48:5	perspective 10:13 12:4,12 14:2 31:12 34:24 41:9
optimal 43:5	physical 29:3
options 29:12	pick 31:5
order 2:6 21:3	picture 34:24
originally 43:16	pjm 9:2
ought 37:15	place 10:5 50:3
outages 14:6 41:22	plan 10:20 11:2,6,7,25 12:3,11 12:12 13:12 16:2,4,13 44:7
output 6:6 10:15 12:2	planned 41:17
outputs 15:19	planning 9:20 10:14 11:8,13,19 13:10 39:22 40:3,25 44:14
overall 7:3 17:7 21:9 30:20 31:12	plans 3:19 10:5 16:8,9 18:19 25:19 40:7,7,9,11
overloading 17:17	plants 5:22 7:20 30:19
overloads 23:23	plays 13:18
overview 23:14 24:20 35:7	plaza 1:10
owners 9:10,12,14 10:3 11:12	please 18:21 47:24
<hr/> P <hr/>	plus 42:18
page 50:3	podium 2:23
pages 50:4	point 8:2 27:5 30:6,21
paid 28:13,14,19	poke 12:16
part 6:7 13:20 34:17 40:10 47:13	polar 35:13,21 45:21 47:2
participants 10:19 19:18 21:21	policies 27:15 43:20
participate 22:22 24:24	policy 28:7 43:17
participation 20:10,12,18 23:5 41:23	portfolio 25:24 26:10 27:8,16 28:22,24 29:3,7 35:12 39:16 43:17
particular 31:20	portfolios 4:13,15 26:23,25 35:24
particularly 14:4 20:13 25:7 48:15	portion 29:2 31:4
pass 4:8	portions 9:22
patricia 1:14	position 2:21 14:24 15:4 43:5,6
paul 2:19 4:16 25:23,25 35:20	postsandy 39:24
payment 20:16 22:24,25	potential 9:24 18:20
peak 5:7,12,16 6:10 9:2,14,25 10:6 18:3,24 33:2,17 39:9,9 39:14 42:14,17,20 44:19	potentially 36:21
peaking 3:7	power 3:6,16,25 5:22 9:18 11:2 11:25 12:3,11 16:2,13 38:18 44:7
penalties 22:25	practice 6:15
people 15:15	practices 27:16
percent 5:20,21 6:3,5 7:11 8:16 27:9 28:23 34:16,18,19 42:14 42:20	predominantly 29:8
percentage 28:5	premium 28:19
percentages 28:11	preparation 3:18 17:7
perform 11:16	

preparations 10:9
prepare 11:9 45:19
prepared 3:9,13,16 14:15 21:10
 38:17 40:20 43:2,9,10 44:10
 44:22,23 46:4,14
preparedness 2:15 9:9 16:25
 17:3 38:19 45:22
present 4:16 43:11,22
presentation 4:21,25 21:13
 26:15 31:5 43:12 46:20 48:8
presentations 15:13,15
presented 3:15
presenting 44:14
pressures 13:6
pretty 35:4 43:2
previous 6:13
price 25:24 26:7,19,21 27:8,10
 28:24,25 29:20 30:24 31:2
 35:16 36:17,20 38:7
priced 31:22 32:5 34:22
prices 4:8,9,9,17 26:12,13
 27:12 28:14 29:14,19,22,24
 30:4,7,9,12,13,15 31:23 32:6
 33:11,20 34:9,10,14,23 35:16
 36:5,5,6,10,10 38:4 45:14
pricing 35:5,7 37:20,21
primarily 29:11 30:9,16
primary 30:2
prior 17:18 18:5,11 40:12
private 32:3 37:23
probabilistic 42:6
problem 10:5 42:24
problems 18:20
procedures 17:24
proceedings 50:4
process 17:8,24 18:14 40:8
produces 7:12
product 31:19 32:5
products 31:18
profile 6:3
program 6:15,19 17:3 19:6,7,8,9
 19:13,18,23 20:2,7,13,17 21:5
 21:21 22:6
programs 19:2,3,5 20:11,22,25
 21:5,16 22:13,17,21 23:4,7
 24:13,14,16,20 25:8 45:3,4,7
project 17:9
projected 17:15 18:3 39:6,9
projection 5:9
projections 6:12,15,16 9:15

35:18 36:15
projects 17:18 18:4,6,9,11,14
 18:15,17 23:13 25:15
proposal 6:18
proposed 18:4 21:5 38:25
protocols 16:11
provide 8:21 16:23 17:21 18:10
 18:19 19:18 20:6 22:4 26:16
 38:17 40:17
provided 4:11
providers 37:23
provides 34:23
providing 26:5
psc 6:11
public 1:3,6 2:5 3:11 31:16
publicly 38:3
pull 46:12
purchased 27:2
purchases 29:8
purple 32:13
pursuant 28:7
put 31:13
puts 7:6
putting 24:13

Q

quebec 9:5
question 23:11 36:14
questions 2:24 4:20 10:11 15:8
 15:13 21:14 23:9 25:11,21
 31:9 35:8 37:5,6 39:11
quick 35:6
quite 29:25 45:19

R

radial 9:22
raj 2:15,25 25:12 26:14 31:5,7
 35:10 37:11 46:9,17
rate 5:20 6:2 41:8
ratings 18:3
readiness 4:2
ready 39:8 40:22 41:13
really 13:10,23 15:5,22 24:16
 36:8 39:3 41:12 43:11 44:13
 44:21,25 45:6 47:7
reason 6:8
reasons 30:2
recall 40:5
receiving 44:18
recognize 45:6

recommendations 21:7 47:23 48:5	requiring 21:3
record 50:4	reserve 7:8,11 8:13,15 10:15 14:17 41:25 42:4
recovering 7:21	reserved 39:7
recuse 47:16,21	reserves 9:3 14:3,8 39:14 41:18 41:20
red 5:11 20:20 26:22 29:22	residential 4:6 19:15 26:8,9,23 27:18 28:22
reduce 19:9 20:4 24:25	resiliency 25:2
reduced 6:21	resilient 13:17
reducing 26:7	resource 9:4 10:20 11:8 41:23
reduction 19:12,22 20:6,8	resources 6:10 12:6,14 14:14 33:10,12,24 39:5,5 42:7,8,23 42:24
reductions 12:2 19:19 36:20	respect 10:18 47:15
reflect 38:6	respectively 29:18
reflected 6:12 9:10 35:16	response 16:4 18:25 19:18 20:11 24:15 25:14
reflecting 6:20	responsibility 38:16,21
regional 23:14	rest 32:10
regionwide 13:11	resulted 20:18 27:11
regret 15:7	results 12:19,21 26:18
regs 40:11	retired 33:8
regular 2:13	return 7:24 8:7 30:18
regularly 4:14	returning 27:21
regulated 35:3	rev 10:24 12:3,12 16:14 21:2 24:12 44:6 48:15
reinforcements 15:21	review 3:8,19,22 17:4,20 38:19
related 6:11	reviewing 2:14 4:3,4,15 17:10
relation 6:22	revised 5:16
relationship 6:21	rider 19:6,7,8
relative 22:14 46:25	right 22:16 25:11 42:13
relatively 29:9 30:3	rightofways 41:12
released 5:4	robust 8:10
reliability 3:9 4:4,25 8:18,23 9:18,20 11:6 25:2 39:10 42:5 43:6	rockaway 33:13
reliable 38:18 44:18 47:5	rotors 7:21
relief 19:3,7,8,17,23 20:2,7,12 20:17 24:17 45:3	roughly 31:19
remaining 6:20	rules 24:21
repair 7:20	run 38:5 43:2
report 2:14 5:7 8:25 9:3,14 10:8 22:9 25:17	running 43:4 47:8,9
reported 29:19 50:3	
reporter 50:7	
reporting 43:18	
reports 14:21,21 17:22,23 18:10 45:18	
represent 6:4 28:9	
represented 7:18	
representing 7:22	
represents 27:5	
required 8:13,16 39:7	
requirement 7:12	
requirements 43:19	
requires 17:4	
	S
	s 19:8 47:6,6
	safe 3:12 38:18 44:18
	sales 30:3
	sandy 20:15 43:25
	satisfied 21:10
	save 15:12,15
	saved 28:12
	saw 11:7 34:5

<p> saying 47:24 sayre 1:13 15:17,18 16:15 37:7 37:10,11 38:9 47:16,18,25 scenario 11:24 12:5,8,21,22 scenarios 11:18 school 23:10 scope 11:14 scott 2:22 48:10,16 scotts 48:12 scr 33:9,16 season 17:2,19 39:21 40:13 second 11:24 12:10 secretary 2:7,9 48:20,23 see 2:22 4:16 10:11 12:17 20:14 20:19 22:10 24:4 27:7,10,19 28:15 30:14 33:5 36:20 42:16 43:21 seeing 35:15 36:19 47:4 seen 14:21 selected 17:18 separate 35:3 september 6:18 serve 5:23 39:8 service 1:3,6 2:5 3:12,13 7:24 9:16 30:18 44:18 services 31:20 34:4 session 2:5 set 5:3 seven 47:9 shape 7:2 14:12 16:8 short 6:11 show 26:24 shown 28:23 shows 5:7 6:24,25 8:12 26:18 28:3,21 29:13 30:11 31:21 34:3,20 sidelined 8:3 signed 20:9 significant 9:4 27:12 similar 17:8 simply 4:8 26:24 27:2 simulate 17:14 single 9:24 situation 3:22 6:23 8:11 slide 5:10,24 6:7,24 7:6,14 8:12 9:10 18:21 28:2,3 30:10 31:16,17 34:3 36:16 42:15 slides 26:15 31:6,11 46:22 slightly 34:21 slipping 8:15 </p>	<p> slowly 8:15 small 4:6 6:14 19:14 29:4,9 smaller 27:17 solid 32:14 somewhat 20:13 sort 2:13 22:24 24:22 25:4 36:18 41:24 42:2 43:15 44:2 sounds 44:20 sources 39:17 speak 25:10 speaking 31:19 specific 17:16 spending 6:19 spike 30:24 spoke 44:4 spot 4:9 27:2 28:14 31:23 32:5 32:5 34:23 38:4 spread 23:15 spring 14:24 staff 3:18 4:14 9:11 10:2 17:22 18:10,13 21:6,10,18 37:12 39:2 40:14,16 44:14,15 46:2 46:15 48:8 staffs 2:14 stage 5:3 standards 41:23 start 11:3,7 13:14 16:4 35:20 started 2:24 31:12 32:9 35:13 starting 17:22 state 1:3,10 5:4 9:19 10:21 11:8 12:6,12 14:23 16:3,24 21:4 24:22 32:11 42:5 46:3,4 50:2 stated 26:24 50:3 statement 14:10 states 26:16 statewide 9:8 12:14 32:11,22 stations 30:17 status 18:10 25:17 stepup 8:3 storm 20:14 storms 46:7 strategies 35:15 strike 36:18 strip 30:12,13,14 structure 4:13 20:16 studies 11:5 44:9 study 11:14,16 15:20,23,25 16:5 stuff 46:13 subscribed 50:6 </p>
--	---

substations 18:9
suffered 35:22
sufficient 8:25
summary 16:24 17:23 26:6
summer 2:15,21 3:5,7,7,10,14
 4:17 5:2 6:24 7:2,7,9,16,17
 8:8 9:2 10:9 14:3,9,25 15:5
 16:3 17:2,3,6,7,9,10,15,19
 18:12,24 21:11 26:10 28:23
 30:2,3,6,21,23 34:8,10 35:17
 36:3,4,6,12 38:19,19 39:15,21
 40:22 41:13 44:19,22 45:13
 46:6,7
summers 26:11,12 29:13,15,18,20
 29:21,24 30:7,8,11,13,14,16
 39:6,9
sun 6:14,19
sunny 45:13
super 20:14
superstorm 43:25
supplies 34:6
supply 2:18 3:22 4:13,15 26:7,9
 26:17,19,23 28:5,11,22 30:22
 33:8,11,19 34:3,6,16,25 36:16
 43:17
supposed 23:10
sure 13:16,25 15:16 24:5 29:23
 30:5 37:18 44:10 47:7
surplus 7:14
survey 9:11
swing 32:21
swings 31:2
system 3:16 4:2,4 5:2 7:8 8:10
 8:19,23 9:22,22 10:9,23,25
 11:19,21 12:17 13:3,7 14:4,14
 15:22 16:2,6,7,10,25 17:5,15
 18:23,25 19:8,11,25 20:7,17
 23:22 33:7 39:8 42:25 44:5,14
 46:25 47:4,7
systems 23:25

T

table 6:25 46:12
take 4:20 10:16 21:14 35:14
 42:14 47:22
takeaway 44:4,20
takes 42:6,9
talking 5:3 10:14,24,25 25:23
tammy 2:18 3:25 10:8 16:18,19
 23:12

tandem 24:21 25:5
targeted 11:2
targeting 11:8
targets 12:11
technologies 42:11
temperatures 45:13
ten 28:18
terms 4:17 10:14,18 17:20 21:15
 21:19,20 31:18 44:6
territory 23:19
thank 16:15,20 24:7 26:2 35:9
 37:5 38:12 43:8 44:13 45:10
 46:5,8,11,16 47:12,19 48:7,19
 49:2
thanks 15:15 23:8 38:9 45:11
 46:14 48:7
thats 14:7,10,16,16 22:3 25:14
 30:8 35:3 36:6,23 37:3,23
 41:5 42:22 43:11 44:15 45:9
 47:5,18
theres 2:10 22:21,22,23,23 34:8
 36:2 40:15,20 48:23
theyre 40:21
thing 13:24 24:10
things 21:16 36:14 40:2,18
 43:13 44:2,12 45:8,20 46:19
think 13:11,21 22:8,8,9 23:18
 24:3,19,20 25:3,6,14 36:4
 37:11 40:19,21 41:16 45:5
 46:22 47:3
thinking 13:14
third 12:2,8 25:22
thirdparty 37:23
thoughtful 13:4
three 1:10 11:18 12:22 15:12
 32:8
thrust 3:11
thursday 1:9
tight 8:11
time 7:4 16:12 18:15 19:16,23
 20:7 22:8 32:9 34:18,18 48:9
 50:3
timeframe 12:18,19
times 33:6 42:12 46:4
today 8:14 14:13 40:16 44:3,14
 48:22,24
today's 4:24
top 12:9 32:15
tos 9:17 14:22
total 7:22 19:12,21 28:5,10

34:3,20,24	usage 5:25 6:22
touched 41:17	usually 27:9
track 18:16 21:18	utilities 4:5,8,12,15 16:24
tracking 18:14 31:13	17:4,9,14,21 18:10,15 21:4,10
tracks 22:6	23:17,20,22 24:13 25:8 26:6,9
trades 3:21	26:19,22,25 27:15 28:4 29:5,9
transcription 50:4	31:2 35:14,22 37:17,19 38:8
transfers 18:7	38:17 39:19 40:8,18,19 41:4
transformer 8:3 18:8	44:16 45:2 47:6
transformers 17:25	utility 2:20 3:19 17:8 18:25
transmission 8:10,19,21 9:10,12	23:25 40:6,7 41:5
9:13 10:3 11:12 12:17 15:22	
39:8 41:9,13	
trend 43:16	V
trending 20:11	valley 29:17
trends 38:5	value 25:5
true 36:24 50:4	variable 29:10
trying 24:18 31:13	variation 27:7
turn 4:19 8:10 9:8 10:7	varies 34:7
turned 29:24	variety 41:11
turning 6:23 12:13	various 14:23
turquoise 32:16,17	varying 41:22
tweaked 43:21	vegetation 40:24 41:2,6
twentyfour 47:9	versus 27:3
two 12:21 22:21 31:13	view 13:2,13
type 16:11 38:2	views 13:22
typewritten 50:4	volatile 4:10 27:9 36:11
typically 18:6	volatility 4:7,13 25:24 26:7,19
	26:21,22,25 27:6,8,13,16,20
U	27:21,24 35:23,25 43:18
u 19:7	voluntary 22:22
uncertainties 41:18,20,21	vortex 35:13,21 45:21 47:2
underscore 14:2	vote 45:11,12 47:23
understand 38:13	voting 45:11
understandable 46:22	
understanding 13:17	W
underway 8:6 11:10	w 22:25
unexpected 30:24	waiting 46:6
unique 19:2	want 2:25 13:25 14:19 24:4
unit 8:4 41:21	31:22 36:18 41:24 46:18,24
units 7:23 8:7 14:4,16 33:13,14	47:16 48:9
33:15,25 34:2 42:10	wanted 10:16 13:24 44:13 46:11
unplanned 41:21	warm 34:8
upcoming 5:2 15:14 21:11	warmer 15:5
update 10:17	way 32:24
upgrades 7:22 16:11 18:8	ways 22:22
upstate 8:20 35:22	weather 5:13 17:11
upswing 32:25	wed 43:21
uptodate 10:4	wednesday 48:25
upwards 20:11	week 11:15 25:17
	weekend 7:25

weiner 48:10	zibelman 1:13 2:4,12 3:3 4:23
welcome 25:24 48:10,16	10:10 12:23 14:18 15:16 16:16
went 33:18	16:21 21:15,25 22:7,12 23:8
west 9:4	24:9 25:20 31:7 32:16 35:9
western 29:17	36:13,25 37:4,9 38:10 42:19
weve 38:24 45:21	45:12 46:8,16 47:20 48:4 49:2
whats 13:3,5,6 38:25 43:8 45:6	zone 32:9,15
whereof 50:5	zones 29:17 32:8
whos 2:17	<hr/>
wild 40:24	0
winter 15:6 27:11 36:2,3,5,9,10	073 7:13
36:11 47:3	073megawatt 7:19
wintertime 41:10	09 32:23
wish 47:21	<hr/>
withstand 17:6	1
witness 50:5	1 5:23 50:3,4
wonder 39:25	10 1:9 2:2 6:5 9:10 32:23
wondering 27:23	100 7:10 18:14 20:6 34:19
worden 40:2,5 41:2	1000megawatt 8:4
work 10:18 15:2 24:21 25:5	11 32:23 49:4
37:13 41:10 45:25 46:3,14	117 8:16
worked 14:24	12 32:25 33:19
working 25:4 35:14	124 42:20
worried 14:8	12month 27:6
wouldnt 43:4	13 32:25
<hr/>	1300 9:5
X	14 1:9 2:1 3:1 4:1 5:1 6:1 7:1
<hr/>	8:1 9:1 10:1 11:1 12:1 13:1
Y	14:1 15:1 16:1 17:1 18:1 19:1
<hr/>	20:1 21:1 22:1 23:1 24:1 25:1
yeah 22:3,16 23:16 24:2 33:6	26:1 27:1 28:1 29:1 30:1 31:1
35:19 46:10,16	32:1,25 33:1,19 34:1 35:1
year 3:14 5:15,16 7:2,5 9:6	36:1 37:1 38:1 39:1 40:1 41:1
11:21 17:22 18:13 20:23 32:10	42:1 43:1 44:1 45:1 46:1 47:1
32:10 35:13 39:13 41:4 42:13	48:1 49:1 50:1
43:19 45:19	143 20:8
years 3:15 5:9 11:20 20:19	15 34:22
27:25 28:15,16,18 31:13 34:12	1500 5:8,19,21
38:25 43:15,23	16 6:3 34:9
yesterday 3:5	17 7:11 42:14
york 1:3,11 3:7,19 5:6 6:5,14	17th 48:25
6:19 7:3 9:19 12:6 13:5,16	1800 7:23 9:7
16:24 17:4 21:4 26:21 29:16	19th 1:10
29:17,17 30:11 32:12 34:21	1st 18:5,17,18 25:16 40:12
42:5 44:19 50:2	<hr/>
yorkers 38:17	2
youll 32:7	2 7:20 11:19 12:5 26:15 31:5,11
youre 10:14,18 13:8,20 23:10	32:22 33:6 34:14
youve 29:23 30:5	20 30:17
<hr/>	2000 33:8,15
Z	<hr/>

<p>2000here 35:17 2004 28:8 43:17 2005 28:11 2006 32:21 36:16 2007 43:17 2008 26:20 32:23 34:9 43:18 2009 34:7 2010 8:13,15 2012 33:4 34:11,14 2013 20:14 33:23 2014 7:10 27:11,19 33:4,21 34:12,15 36:16 2015 1:9 2:1,15 3:1 4:1 5:1,6 6:1 7:1 8:1 9:1 10:1 11:1 12:1 13:1 14:1 15:1 16:1 17:1 17:2 18:1 19:1 20:1,22 21:1 21:11 22:1 23:1 24:1 25:1 26:1 27:1 28:1 29:1 30:1 31:1 32:1 33:1,3,20,22 34:1 35:1 36:1,19,22 37:1 38:1 39:1 40:1 41:1 42:1 43:1 44:1 45:1 46:1 47:1 48:1 49:1 50:1,6 2020 11:3 2024 5:8,17 6:4,8 11:20 2030 11:3,9,20 20th 50:6 21 33:6 224 19:23 24 49:4 273 7:12 2800 7:14 42:18</p> <hr/> <p style="text-align: center;">3</p> <hr/> <p>3 1:10 5:22,23 8:2 12:5 33:2 34:12 30 1:9 2:2 300 33:18 32 19:14 33 7:9 36 34:15 39 7:12</p> <hr/> <p style="text-align: center;">4</p> <hr/> <p>4 5:10 34:15 400 33:18 42 7:13,19 44 5:20 49 50:4</p> <hr/> <p style="text-align: center;">5</p> <hr/>	<p>5 5:24 6:5 50 20:4 55 27:9 561 47:17 567 7:9 5700 42:16</p> <hr/> <p style="text-align: center;">6</p> <hr/> <p>6 6:7 60 28:23 34:15,18 600 33:9,16 6000gigawatthour 6:4 60s 3:4</p> <hr/> <p style="text-align: center;">7</p> <hr/> <p>7 6:24 7:14 700 7:3 700megawatt 6:9 75 34:14</p> <hr/> <p style="text-align: center;">8</p> <hr/> <p>8 7:6 80 34:18 83 5:20</p> <hr/> <p style="text-align: center;">9</p> <hr/> <p>9 8:12 34:7 900 7:15</p>
---	---