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BEFORE THE
ILLINOIS COMMERCE COMMISSION
ELECTRIC POLICY SESSION
2016 SUMMER PREPAREDNESS
Thursday, May 26, 2016
Chicago, Illinois

Met, pursuant to notice, at 10:00 A.M.,
at 160 North La Salle Street, Chicago, Illinois.

- PRESENT:
- BRIEN J. SHEAHAN, Chairman
 - ANN MCCABE, Commissioner
 - SHERINA E. MAYE EDWARDS, Commissioner
 - MIGUEL DEL VALLE, Commissioner
 - JOHN R. ROSALES, Commissioner

SULLIVAN REPORTING COMPANY, by
PATRICIA WESLEY
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1 COMMISSIONER ROSALES: Okay. Folks, let's begin.
2 Good morning, everyone, and thank you for being here
3 on this Thursday, before Friday, before the
4 holiday.

5 Pursuant to the Illinois Open Meetings
6 Act, I now call to order the Illinois Commerce
7 Commission 2016 Summer Preparedness Policy Session.

8 With me here in Chicago are
9 Commissioner McCabe, Commissioner del Valle.
10 Chairman Sheahan will be here shortly, and when he
11 arrives, we'll have a quorum.

12 Our guests and panelists should be
13 aware that a court reporter is present. A
14 transcript of this session will be posted on the
15 Commission's website following the session.

16 I would like to thank today's
17 presenters and Commission Staff for the effort that
18 they put in this presentation and for all of you for
19 taking the time to attend. Again, I would like to
20 welcome all of you to our Annual Summer Preparedness
21 Policy Session.

22 Summer, as you know, can bring extreme

1 weather which constrains transmission lines and
2 cause outages.

3 According to the U. S. Energy
4 Information Administration, U.S. temperatures this
5 summer are forecasted to be close to last year's
6 level but 3 percent higher than the 10-year
7 average.

8 The warm summer weather typically
9 causes spikes, and, obviously, demand for
10 electricity, and utilities and Regional Transmission
11 Organizations do their best to ensure that Illinois
12 customers have power when they need it.

13 Since the enactment of the Energy
14 Infrastructure Modernization Act, Illinois utilities
15 have worked to modernize and strengthen the grid.
16 These efforts are intended to improve system
17 reliability thereby helping Illinois customers
18 experience less outages and improving power
19 restoration.

20 RTOs work to ensure that adequate
21 resources are available to meet customer demand even
22 during inclement weather in extreme system

1 conditions.

2 Today electric utilities and RTOs
3 serving Illinois will discuss their plans for
4 ensuring reliability and resiliency of electric
5 service for Illinois customers.

6 Specifically, we would like the
7 panelists to address the following three questions:

8 No. 1, what are the most significant
9 threats to the grid during the summer months and how
10 is the utility prepared to address these threats?

11 No. 2, how have the infrastructure
12 investments and upgrades due to EIMA help utilities
13 to improve service and meet demand in the summer
14 months?

15 And, 3, what challenges are the RTOs
16 facing with regard to assuring electric reliability
17 this year?

18 Panelists, please remember that your
19 time allocations include questions and answers.

20 First, we will hear from our electric
21 utilities. Electric utilities are our first set of
22 presenters from Commonwealth Edison.

1 company^ accompany, safety for our employees, safety
2 for the public, was our best safety performance on
3 record. We did win, Environmental Health and Safety
4 Magazine, one of America's safer companies, not just
5 utilities, and we are very proud of that. We had a
6 peak load. It was a cooler summer. We had no
7 issues.

8 (slide presentation.)

9 I just wanted to highlight our
10 reliability, and a lot of that again through the
11 support of the ICC and the General Assembly, and the
12 EIMA legislation with achieving our best reliability
13 on record last year, with or without storms, and
14 that is actually a 44 percent improvement since the
15 start of the EIMA, which is I believe highly
16 significant, and just when you look at Veg SAIFI or
17 reliability from our tree trim liability, over
18 65 percent improvement since the start of the EIMA.

19 Customer reliability complaints,
20 another indicator. They are down 40 percent
21 favorable -- well, actually down 40 percent just
22 from last year of 2014.

1 Our investments -- we are continuing
2 to make our investments benefitting 2.3 million
3 customers and we avoided -- about close to a million
4 customers avoided interruptions from our
5 distribution automation program with about half a
6 million of those customers just on the circuit that
7 we work with the EIMA program alone.

8 (Chairman Sheahan
9 entered the room.)

10 COMMISSIONER ROSALES: Excuse me, Terry. The
11 Chairman has arrived. We now have a quorum. Thank
12 you.

13 MR. DONNELLY: Thank you. Good morning,
14 Chairman.

15 CHAIRMAN SHEAHAN: Good morning.

16 MR. DONNELLY: I just wanted to briefly mention
17 our AMI program. We are a little more than halfway
18 through that program. We are achieving benefits in
19 avoiding truck rolls or service calls to our
20 customers because we are able to verify the voltages
21 on to the customer premises. So far we have avoided
22 19,000 truck rolls of service calls because we are

1 able to use the AMI meters thereby allowing our
2 crews to deploy two other outages and restore power
3 faster.

4 Storm interruptions from our
5 investments we have seen a 30 percent reduction in
6 storm-related outages due to our work on the
7 storm-hardening smart switches and other
8 investments, and our restoration times continue to
9 improve.

10 I will highlight our statewide
11 exercise drill -- which involve all the utilities in
12 the state, as well as private and public
13 partnership; we did all that last year; we hold
14 every two years -- was held at Oak Forest where the
15 Cook County Department of Homeland Securities and
16 Emergency Management is headquartered, and
17 30 agencies participate.

18 You know, the main message I want to
19 communicate there is around how we are working hard
20 to collaborate across the whole state, not just in
21 our service territory, on how we can collectively
22 learn on how we improve our response and how we

1 improve our partnerships.

2 We are prepared for the summer this
3 year. We have -- I know Mr. Mathias will comment
4 from PJM around our peak load. Our load forecast is
5 at 90/10, which would maybe -- our highest
6 peak-making weather is at 24,000, a little over
7 24,000 megawatts.

8 Our demand response programs, spare
9 equipment, and contingency programs are all in
10 place. Our capacity projects we are 95 percent
11 complete.

12 We have one remaining job to complete
13 by July 1st, and our Storm Task Force continues in
14 our fifth year, and our task force is really focused
15 on how we can keep improving our storm response, and
16 we have implemented over 300 improvements in our
17 Storm Task Force set up and they range from
18 everything around getting material to crews and
19 increasing communication to our customers and
20 stakeholders.

21 Customer channels continue to offer
22 improved outage reporting options, whether it's text

1 messaging; customers can report an outage via
2 Facebook. We can provide outage updates via text
3 messaging. We have an outage map that's available
4 via the web. We have an E-Channel team that
5 monitors social media during storms and helps
6 provide information to customers, and five years ago
7 we didn't have anything in that regard, and we are
8 really making a lot of progress to operating the
9 channels where our customers are operating.

10 In terms of a forecasted load, our
11 substations, our transmission lines, our feeders, we
12 have over 5500 feeders. They're all within our
13 design-rating capabilities to meet the forecasted
14 peak load, if it should so materialize, so we are
15 all good in our equipment ratings.

16 Our summer forecast weather, you know,
17 it's difficult to predict the weather. I think we
18 all know day to day, let alone season to season, but
19 we are generally looking at a warmer than normal
20 summer, you know, maybe slightly warmer but
21 generally towards the warmer than normal summer.
22 Typically that could result in some increased storm

1 activity, maybe normal rainfall, so that's kind of
2 what we are looking at in general.

3 We are prepared for that, and I know
4 Michelle Blaise will provide a little more detail on
5 that and that level of preparation in our drills and
6 exercises.

7 And, finally, before I turn it over to
8 Michelle, on Page 4, I did talk about the peak load
9 forecast, which is indicated there just over 24,000
10 megawatts. That's a 90 percentile. If it was sort
11 of normal weather, we are talking about -- just
12 about 22,000 megawatts, 50th percentile chance. If
13 it's a peak-making worse case, it would be 24,000.

14 Demand response, just my final point.
15 Our demand response is fairly robust. We estimate
16 about 1300 megawatts to be available to us, if need
17 be, in a variety of situations to be available by
18 June 1, and we are already in year two of the Peak
19 Time Savings Program.

20 That is a program that's part of our
21 AMI deployment which offers rebates to customers who
22 sign up and would reduce their load during

1 peak-making times. It could be three, four, five
2 days during the summer, and we anticipate really
3 going well over a 150,000 customers would be
4 involved. That's triple what it was last year,
5 which is very encouraging.

6 Also, in addition, we expect over
7 4,000 customers to participate in our Smart
8 Thermostat Program, which offers rebates on buying
9 and selecting thermostats. It all ties into demand
10 response, also energy efficiency, and we are -- with
11 that and all of our other preparations, we are
12 prepared for the summer.

13 And I would like to turn it over to
14 Michelle to provide a little more detail.

15 COMMISSIONER McCABE: Terry, first, could you
16 expand on examples of the summer expansion projects,
17 just to give a few examples?

18 MR. DONNELLY: Sure. One example is a brand new
19 substation in the Bolingbrook/Romeoville area. It's
20 actually brand new, and that is, you know, the
21 Greenfield Substation, and that is in service, so
22 that's probably one of our larger jobs that was on

1 the -- that we completed.

2 PRESENTATION

3 BY

4 MS. BLAISE:

5 Good morning, Chairman Sheahan and
6 Commissioners. I am pleased to talk to you today
7 about the initiatives and projects that we have
8 completed and as well as that are underway to ensure
9 that we're prepared for the summer.

10 As Terry mentioned, we have identified
11 about 122 capacity expansion projects needed for
12 this summer, 5 transmission and 117 distribution
13 projects which will all become completed by 7/1.

14 Some highlights on major capacity
15 expansion work that we have completed are ongoing.
16 Terry mentioned the Normantown Substation. We also
17 have three new feeders coming out of that substation
18 to help relieve load growth projections primarily in
19 the southwest suburbs, Bolingbrook/Romeoville area.

20 We have upgraded the line relays on 99
21 of 99 345kV lines that were on analog microwave
22 system and 37 of 83 -- I'm sorry -- 86 138 kV lines

1 on leased Audiotone Circuits. The remaining will be
2 completed by 2017.

3 We have replaced five 300 MVA
4 Auto-Transformers, 638 circuit breakers. All that
5 is the type of work that we are doing to be prepared
6 for the summer.

7 Major project that is underway now is
8 the Grand Prairie Gateway Project, and that's a new
9 345kv line connecting Byron and Wayne Substations
10 and that work is in progress. It is on schedule to
11 be completed by June 2017.

12 We also improved system resiliency.
13 We have done work to upgrade our overhead
14 transmission line, quite a bit of an investment. We
15 also look for new processes and new technology to
16 reduce costs and make the project more efficient.
17 We're utilizing, for example, new conductors which
18 provide a design to operate at higher temperatures
19 and lower costs helping to reduce modifications that
20 are needed for in our towers.

21 We are using processes like aerial
22 cranes to install conductors which is much more time

1 efficient than doing it from ground-raised cranes,
2 so we are always looking for ways to improve both
3 the technology and processes in improving our
4 system.

5 We have a couple of generation
6 retirement preparedness projects. The Crawford
7 Static Var Compensator is complete and Audiotone --
8 I'm sorry -- additional Auto Transformer are at
9 Goodings Grove is another project which will be done
10 by 2016.

11 COMMISSIONER ROSALES: Where are they located?

12 MS. BLAISE: I'm sorry?

13 COMMISSIONER ROSALES: Where are they located?

14 MS. BLAISE: Goodings Grove.

15 MR. DONNELLY: It's actually part of -- generally
16 a big feed from the south to the western suburbs and
17 then into Chicago, and a lot of the investment there
18 has been a big part of getting ahead of the curve on
19 generator retirements to make sure that we're not
20 caught short. We are always looking ahead to what
21 coal plants might retire.

22 Looking back, there was Fisk and

1 Crawford, and those plants retired. We have had a
2 lot of investment to make sure that we're ready, and
3 investments like the transformer, part of looking at
4 that area of the system when you look at the plants
5 in Will County, or Joliet, or that area, and just
6 making sure that we're looking ahead and making sure
7 we're prepared if there is some retirement in the
8 future. We don't want to be caught short. We want
9 to make sure we're ready.

10 That's an example of one there, and
11 then the Static Compensator. Crawford is another.
12 Technology kind of makes up for lost generation --
13 loss of coal plant generation on the system.

14 COMMISSIONER ROSALES: Okay.

15 MS. BLAISE: Moving on to EIMA investments, we,
16 since 2003, initiated that program working 2012. We
17 are about 82 percent of the way complete with the
18 program of work identified to be done of
19 highlighting the Storm Hardening Projects,
20 specifically focus pocket areas where customers that
21 see outages and extended outages during storms. We
22 have done quite a bit of work around that area and

1 are seeing the results, and we'll talk a little bit
2 about the results.

3 Next. Just highlighting EIMA
4 benefits that we have seen, we are estimating that
5 we have avoided about 2.5 million customer
6 interruptions as a result of the work that we have
7 done through the EIMA. The Storm Hardening Program
8 specifically, we're estimating, has avoided about
9 600,000 customer interruptions.

10 We continue to do some targeted
11 reliability work, have impacted well over 200-some
12 municipalities. Those include overhead to
13 underground work space for cable solutions,
14 reconductoring and rerouting lines in order to avoid
15 repeated outages and interruptions.

16 Our veg management program, Terry
17 mentioned earlier, we are on track to complete our
18 cycle of the trimming that's required for this year,
19 both in our transmission and distribution programs.
20 We have removed over 50 percent of the trees that we
21 have touched since the program began. That really
22 makes a huge impact during storms.

1 We will go to emergency preparedness.
2 I would like to talk about the work that we have
3 done to improve our storm response as well. We do
4 initiate -- we do have an annual storm
5 response improvement initiative that we take on
6 every year, and since 2012 we have implemented over
7 300 improving initiatives.

8 Things that we're focused on this year
9 around improving the accuracy of our estimated time
10 to restore has information that's important to
11 customers, and we have put and improved processes to
12 help our crews give us more information about what's
13 going on in the field when they're out there
14 restoring so we can provide better information to
15 our customers.

16 We streamline the processes in
17 reporting for our crews -- crew management so that
18 we know when crews are available and we can get them
19 to the next outage quicker reducing the outage
20 situation.

21 We have also leveraged the AMI. We
22 have really assigned -- have a storm role for

1 someone to monitor the AMI to look for what we call
2 "nested outages" during storms.

3 We may have restored the main branch
4 or a branch of a feeder and we may still have
5 pockets of customers, because the damage is more
6 local, like in their backyard, but we may not have
7 gotten to, so we can tell with the AMI meters that a
8 customer is still out and we can address it. Those
9 tend to be what we're focused on especially towards
10 the end of the storm.

11 Mutual assistance is also important.
12 That's the partnership with our local other
13 utilities. We have participated in the Edison
14 Electric Institute in exercise planning for the
15 National Response Event. That's really instrumental
16 if we use this RAMUP tool that EEI has developed to
17 enable multiple utilities to manage their crews and
18 resources in the event of a major catastrophic event
19 that impacts large areas.

20 We are active in three Regional Mutual
21 Assistance Groups, that's at Great Lakes, Midwest
22 and Southeastern Electric Exchange. That really

1 gives absolute diverse resources for additional help
2 if we need it.

3 We have expanded base camp. Base camp
4 is reporting locations where we bring in contractor
5 crews, outside crews to help. We have set up
6 locations where they can -- we can process them, get
7 them training, and get them going and assign them
8 tickets to get going as quickly as possible.

9 We have established agreements with
10 local municipalities, so now we have about 30 base
11 camp locations that we can locate crews depending on
12 where we need them.

13 I'll go on to additional emergency
14 preparedness exercises that we have done. We are
15 very focused on really kind of practicing to make
16 sure that folks understand the processes or roles
17 and responsibilities, and exercises are important to
18 that.

19 We have 63 exercises that we are
20 conducting in 2016. Thirty-five of them with
21 external entities that are impacted during major
22 events are part of our support system during major

1 events. They include things like summer readiness,
2 winter readiness -- I mentioned the National
3 Response Event -- business continuity, and workplace
4 violence.

5 We also do some education for our
6 local municipalities and governmental agencies
7 around
8 load shed, for example, and we have held workshops
9 with several partnering counties trying to explain
10 to them how ComEd goes through load-shedding events.

11 We have looked at emergencies. We
12 have also held contractor symposiums to bring the
13 contractors who come in and help us during storms.
14 We have held symposiums to help us understand
15 feedback from them and how we can be more effective
16 in utilizing that when they come in and help us, and
17 it was held May 10th and there was really great
18 participation from folks.

19 Contingency planning, the emergency
20 equipment is ready and available for the storm
21 season. We have seven mobile substations, two
22 megawatt generators, and we have 17 ComEd-owned

1 units, and we also have additional generators on
2 standby with vendors. We also have 31 portable
3 generators and some spare substation transformer
4 fleets providing a list of the transformer sizes and
5 the number that we have as spare inventory.

6 Supply readiness is important. We've
7 restocked mobile storm trailers that can bring
8 materials out to crews during storm restoration. We
9 always ensure that they're well stocked and ready to
10 go, and we have also initiated a flood mitigation
11 plan a couple of years ago to address substations
12 that are at risk for flooding, and we have completed
13 three of those across the system and we're working
14 on some additional ones.

15 Key focus areas for us are also around
16 our customer communications. In the call center we
17 have expanded our call center hours, especially --
18 we are also on-boarding additional temporary
19 customer service reps to accommodate the summer call
20 volumes.

21 One of the areas we are focusing on is
22 customer -- as I said, is customer communications.

1 We are really seeing greater participation in
2 adoption of the tools that we put out there for
3 customers.

4 More than almost 300,000 customers,
5 for example, have signed up for our text alerts to
6 let them know that they're -- that we know they're
7 out of service and give them some expectations, but
8 we also recognize that customers sometimes want to
9 speak with us when they have questions.

10 I talked about how we have expanded
11 our storm hours and we're adding temporary customer
12 service reps during the summer. We also are in
13 construction of a new backup call center at our
14 Maywood tech center that will be finished by the end
15 of the year.

16 For those customers that want to use
17 technology, we made it easier for them to report
18 outages so now they no longer need to provide a user
19 ID or a password to report an outage at ComEd.com,
20 and then to help customers better during outages,
21 we have introduced what we call "community care
22 crews," and these are vans that they operate that

1 have phone charges and water, as well as access to
2 our outage maps that we take out to the communities
3 and to get them information about their outages and
4 restoration times, and they can also -- we commend
5 them. Having the phone available is a critical item
6 for customers who have actual phone charges that we
7 have for them as well.

8 In conclusion, ComEd is prepared to
9 provide reliable electric service to our customers
10 during the summer of 2016.

11 Our transmission and distribution
12 facilities are ready to meet the 2016 forecasted
13 load. Our transmission has reached summer capacity
14 expansion projects and proactive annual maintenance
15 is on track to complete by June 1st -- by July 1st,
16 and storm response improvements, preparedness
17 drills, and exercises are underway -- have been
18 taking place and are underway to ensure that we're
19 ready, and our customer service channels are ready
20 to respond to customer inquiries.

21 We thank you again and we are happy
22 to take any questions that you have.

1 COMMISSIONER ROSALES: Ironically, yesterday they
2 had a blackout in Seattle. The reason was someone
3 kind of -- at a direct the one was somebody at a
4 substation. How do we make sure that doesn't happen
5 here?

6 MR. DONNELLY: We do many, many, many -- part of
7 it is our summer readiness program that we talked
8 about here today, many of these. Also, an example,
9 is our design criteria that build redundancies into
10 the system, not unlike the other utilities here in
11 Illinois, so if a component fails, we do have
12 remaining capacity of the other component to carry
13 the load.

14 As an example, specifically say in the
15 City of Chicago, since a lot of the plants are
16 retired, we have made tremendous investments with
17 transmission and with the increasing capacity of
18 several adjoining substations which kind of gives us
19 some redundancy. If something happens in one area
20 that is catastrophic, we have kind of leaned on the
21 other areas to restore load of the customers.

22 No system is full proof in terms of,

1 you know, what the range of actions can be
2 happening, but certainly our robust drill plan, over
3 63 exercises, also focuses on if something might
4 happen how do we get it on as quick as possible, so
5 we're working hard on that, and part of that is our
6 summer readiness program which is part of that.

7 MS. BLAISE: I would also add that we have a
8 rigorous inspection and maintenance program on our
9 main pieces of equipment -- on all of our equipment,
10 especially substations. This is a pretty thorough
11 program, and, as part of our summer preparedness, we
12 do have certain corrective maintenance items that
13 have to be done before the summer. We track it.

14 COMMISSIONER ROSALES: Anybody else?

15 (No response.)

16 Thank you all.

17 MR. DONNELLY: If I could just make one more
18 comment to the Commission --

19 COMMISSIONER ROSALES: Sure.

20 MR. DONNELLY: -- if you will indulge me.

21 I want to publicly thank Claudia for
22 her over 34 years of service to our company,

1 dedicated service. She will be retiring. I want to
2 publicly thank Claudia for her service. I know she
3 has worked with a lot of people here in this one
4 room. We just appreciate what she's done for us and
5 all of us and wish you the best in retirement.

6 COMMISSIONER ROSALES: Terry, if you were here
7 yesterday, you would have heard me say the same
8 thing.

9 MR. DONNELLY: I did hear that. I thought I
10 would just repeat it.

11 COMMISSIONER ROSALES: I'm glad you did.

12 MR. DONNELLY: Thank you.

13 COMMISSIONER ROSALES: Thank you.

14 Next we have MidAmerican, Jeff
15 Gust --

16 MR. GUST: Yes.

17 COMMISSIONER ROSALES: -- Vice President of
18 Compliance and Planning.

19 PRESENTATION

20 BY

21 MR. GUST:

22 Yes, and thank you for inviting us.

1 Thank you, Chairman Sheahan and the Commissioners.

2 I am pleased to be here this morning.

3 As you mentioned, my name is Jeff
4 Gust. I'm Vice President of Compliance and
5 Planning, and I have transmission planning and
6 resource planning, a lot of the NERC compliance and
7 other compliance aspects of what a utility faces.

8 I am here to talk about summer
9 preparedness this morning. I have a number of
10 slides to go through.

11 (slide presentation.)

12 So quickly, just a quick overview of
13 our company, if you are not quite familiar, we are
14 headquartered in Des Moines, Iowa, serve four
15 states, but -- and we do serve -- part of our
16 service territory is in Illinois. We have just over
17 85,000 customers -- electric customers in the Quad
18 City area, the Illinois portion of the Quad city
19 area. We're kind of uniquely situated in Illinois.
20 We are kind of a hybrid. We have a utility-owned
21 capacity serving our customers.

22 We recently just completed

1 participating in the IPA process. Beginning June
2 1st will be the first time we will have a portion of
3 our load served under that -- under those new
4 contracts.

5 I was involved with some of that
6 process making sure it went smoothly for us. This
7 is our first time there and very pleased with how
8 that worked, working with the consultant here and
9 working with other folks at the Illinois Commerce
10 Commission and very pleased of how that worked, got
11 the capacity, energy acquired to serve for the next
12 year and couldn't be happier with that, so I just
13 wanted to make that comment here.

14 So, as far as what we are facing this
15 summer as far as the peak -- and these numbers are
16 total company. I do have some break out for our
17 Illinois portion, but total company we're
18 forecasting just over 4500 megawatts of peak load in
19 our system.

20 Last year, as you heard from ComEd, we
21 are expecting to be slightly higher -- forecasting
22 slightly higher than what we had forecast last year.

1 We do have some loads that are not coming in as fast
2 as we had thought it would. Some large customers
3 are a little late, so, you know, trying to forecast
4 that is a little difficult when that load will
5 actually come on, but I don't anticipate a very --
6 hitting our all-time peak, but hotter weather could
7 push us over this as indicated by an extreme weather
8 forecast.

9 COMMISSIONER ROSALES: What was the reason for
10 that forecast?

11 MR. GUST: Well, when we -- a couple of things
12 that go into our forecast. Peak forecast is both
13 obviously weather and then large customers coming on
14 line. New customers they're late in coming on-line,
15 building their new facilities. It's just they're
16 behind schedule, and so when we forecasted that a
17 couple months ago, we've gotten new updates saying
18 they're behind schedule, so they may not show up
19 during peak conditions this summer, so we may not be
20 as high as we anticipated, so that's the difficulty
21 of forecasting demand.

22 Adequate reserves to serve our load,

1 again, we are a hybrid system in Illinois. A
2 portion of our Illinois load would be served by our
3 own capacity and then the remaining portion will be
4 served by the purchases that we made to the IPA, but
5 adequate reserves these numbers are based on ICAP
6 and MISO. UCAP will show lower reserve numbers but
7 we have a lower requirement just because of ICAP and
8 -- UCAP versus ICAP. The difference in UCAP is
9 including forecast traded in units where ICAP isn't.
10 From just a mix of what capacity is used to serve
11 our load, we have coal, gas, nuclear, oil, hydro and
12 wind.

13 One thing to note in this year, April
14 of this year, we did retire two older coal units, so
15 those units are no longer available to us.
16 Part of the reason why we had to go in with the
17 purchases through the IPA is because of the
18 retirements.

19 We do have a robust demand-side
20 management program, interruptible load. In
21 Illinois, we had a total about 25 megawatts of both
22 interruptible load and behind-the-meter generation,

1 so that's a key resource we rely on when it gets hot
2 and you need to call on these resources.

3 So it's just kind of a graph showing
4 kind of our load, our actual and forecasted loads,
5 and stuff like that, so we did -- we have seen a
6 drop in load. Part of it is weather-driven, another
7 part is just changing load, certain customers coming
8 off and new customers coming on.

9 Moving on to the transmission side of
10 the business, we don't expect to have any problems
11 this summer and, on the Illinois service territory,
12 we expect to have not to exceed normal ratings of
13 our system; however, if there is a situation that
14 causes the problem, we do have a number of tools,
15 one of them obviously MISO is a congestion
16 management tool and re-dispatching, calling
17 transmission loading relief, calling on our
18 interruptible customers, and so forth.

19 And you mentioned a question about
20 Seattle. We obviously saw that. I agree with ComEd
21 -- ComEd folks about as a utility what we do we do,
22 constantly look at our system, design it to handle

1 those kinds of contingency events. We do drill. We
2 do practice.

3 Another thing that I would note is
4 human performance. Sometimes it's just a mistake
5 that happens that may have caused a certain outage.
6 We focus on human performance and look to improve
7 our human performance, especially in areas like the
8 control center or the substation where human
9 performance problems could cause an outage, so I
10 would just add that as another thing that we are
11 constantly looking to improve.

12 We have adequate transmission
13 capability. We don't expect any limitations on our
14 ability to serve customers or -- ARES or RES
15 customers this summer.

16 We do continue to experience what I
17 would say is a significant amount of flows from west
18 to east across our system and where that ends up
19 potential problems is Quad Cities to Galesburg part
20 of our system. We do sometimes see that as a
21 limiting factor that will cause congestion and
22 causing re-dispatch on our system.

1 I would just note though that last
2 year the Commission did approve one of our
3 transmission projects. We call it our Oak Grove to
4 Sandberg 245 Line Project. We are working with
5 Ameren on that project. They have the remaining
6 piece of that project.

7 Since your approval last year, we have
8 obtained 100 percent voluntary easements so we
9 didn't have to condemn anyone. We selected a
10 contractor, and they have already started work on
11 that line, sort of tree clearing, and we will
12 actually start the line construction this summer as
13 we get our outages, planning, and so forth. We do
14 expect that project to be completed sometime
15 early-to-mid next year, so that's going on.

16 On our storm preparation we do believe
17 storm -- weather storms are our biggest risk this
18 summer and whether we are going to have outages or
19 not for our customers, so we monitor -- obviously,
20 we monitor, like our other colleagues, weather on a
21 24/7 basis.

22 We use many different services to do

1 that. We do hold pre-storm calls. We talk about
2 risk and appropriate measures. We have crews on
3 standby in remote areas of our system. If we see a
4 storm coming, we, you know, implement storm
5 resources.

6 In fact, this morning I got called on
7 a storm, part of our system in Iowa which is
8 experiencing some outages on some storms from late
9 last night, so constantly we are working through
10 storm issues in the summertime.

11 A little more about our storm
12 response, you know, we use, like I said, field
13 resources both internally and contact resources.

14 Using mutual assistance, as mentioned
15 by colleagues at ComEd, we are also part of
16 Berkshire Hathaway Energy, our sister utility out
17 west, that we can call on quickly if we need help
18 from them also so just constantly trying to improve
19 on that.

20 After a storm, we do review lessons
21 learned and try to get better. One of the outcomes
22 of that we are looking at adding additional

1 technology on improving our efficiency during a
2 storm response.

3 You know, in a certain area,
4 obviously, a number of customers calling in, work
5 can get backed up, so we are using this new
6 technology of computer-aided dispatch to help to get
7 through the lumpiness of the work during a storm and
8 hope to improve on getting customers back quickly.

9 COMMISSIONER ROSALES: Is that proprietary?

10 MR. GUST: I'm sorry?

11 COMMISSIONER ROSALES: Is that proprietary?

12 MR. GUST: No. I think this is a system that
13 many utilities, especially here in Illinois, use.
14 It's not a new technology, but we definitely have
15 seen the benefits from our other colleagues and have
16 implemented it in our company, too.

17 Our communication also is very
18 important. We use, obviously, the normal -- the
19 traditional sources. Social media now has become a
20 big part of how we communicate to our customers
21 through Facebook or Twitter. People like to get
22 information on their phones, and so forth. We do

1 use a website. We just recently tried to improve
2 our website on how to get information about outages
3 and so forth.

4 Again, we'll buy advertising time if
5 there's a large area that's impacted by a storm to
6 warn about the safety of down lines and who to call
7 if they do see a line down and so forth.

8 Vegetation management is another key
9 risk on customer outages. We are on a three-year
10 trim cycle for the distribution system. We do
11 annual inspections and we communicate to our
12 customers both in the spring and fall about safety
13 issues of trees that contact our lines, and so
14 forth. We did have a little uptick last year in
15 customer outages related to tree contacts.

16 We think part of that is just -- even
17 though we are on a three-year cycle on a circuit
18 cycle, we may not hit the fastest growing trees in
19 that cycle, so we are working through those, I would
20 say, troubled areas this year and hope to improve on
21 that going forward.

22 So, again, vegetation management is a

1 key part of how we manage some of our risk to
2 customer outages.

3 So, in conclusion, we think we have
4 our -- we're prepared for this summer to serve our
5 customers peak load. Again, we're a hybrid system,
6 and on IPA through the auction, we are pleased with
7 the results of obtaining energy and capacity from
8 that auction, and then on the transmission side, the
9 delivery side, we think we are well prepared for the
10 summer.

11 With that, I'll take any other
12 questions you may have.

13 COMMISSIONER ROSALES: When you referenced
14 Seattle, one thing you brought up was sometimes
15 employee mishaps, so what type of training do you do
16 to minimize those types of mishaps?

17 MR. GUST: Sure. Obviously, at our control
18 centers with our operators and dispatchers, they go
19 through rigorous training, you know, switching
20 training, making sure they understand when they have
21 a switching process that everyone understands where
22 they're at in the process.

1 We do training in the field about
2 understanding the type of equipment we have, and how
3 it interacts with our control centers, and what are
4 the steps they need to take.

5 Safety is also a very key part of our
6 training making sure they're following our
7 procedures and they're doing it safely.

8 COMMISSIONER ROSALES: So when you say "training
9 is rigorous," so this -- do you have this where it's
10 in a timely manner in that you have specific dates
11 and times when training occurs?

12 MR. GUST: Yes, absolutely. The system operators
13 must maintain their accreditation, so I don't think
14 that's on an annual basis. I think that's more of a
15 -- I'm not sure if it's a three year or four-year
16 cycle, but as far as field folks and how they
17 get the type of training through either where
18 they're -- I can't think of the word -- working with
19 our unions, and where they're at as far as a lineman
20 or, you know, training to become a lineman that go
21 through that type of training again, and then we
22 also require certain training on our procedures,

1 that's done -- some of that's done on an annual
2 basis, others are done as they get to a certain
3 level of where they're at as a union employee and
4 such, so I can get that information for you.

5 COMMISSIONER ROSALES: I appreciate that.

6 MR. GUST: Sure.

7 COMMISSIONER ROSALES: Anything else?

8 (No response.)

9 Thank you.

10 MR. GUST: Thank you.

11 COMMISSIONER ROSALES: Next up Ameren Illinois.
12 Ron Pate's Senior Vice President of Operating and
13 Technical Services; Brice Sheriff, Director of
14 Regulatory Affairs; and Shawn Schukar is Senior Vice
15 President of Transmission and Development.

16 Welcome, gentlemen. Thank you for
17 being here.

18 PRESENTATION

19 BY

20 MR. SHERIFF:

21 Good morning, Commissioners. We
22 appreciate the opportunity to come before you today

1 and talk about our summer preparedness. We have
2 three of us presenting today, and we have 20 slides
3 to go through. We'll try to keep it somewhat of a
4 high level, but, obviously, if you have questions,
5 please feel free to intervene at any time.

6 (slide presentation.)

7 To get started, Slide 1 or 2 actually
8 is basically just an overview of the topics we'll be
9 covering again today, topics and issues surrounding
10 transmission and resource adequacy, as well as
11 Ameren Illinois' readiness.

12 Slide 3 is a snapshot of Ameren
13 Illinois as a company, 1.2 million electric
14 customers, roughly 46,000 miles of distribution
15 lines. Similarly, we have obviously no generation.
16 We purchase all of our electricity similar to our
17 816,000 customers on our natural gas side and
18 roughly 18,000 miles of pipeline.

19 I think Slide 4 is the heart of why we
20 are here today to assure the Commission that Ameren
21 Illinois has verified that sufficient generation
22 resources are committed to serve the Illinois load.

1 In addition, transmission and
2 distribution capability is adequate to provide
3 reliable electric service to our Illinois customers
4 during 2016.

5 This next slide is simply a little
6 breakout of our summer peak loads as of the year
7 2015 actual, 2016 expected, and 2016 worse case
8 scenario broken out in megawatt load.

9 The next slide is essentially a
10 breakout between our supply customers, Ameren
11 Illinois supply customers and our RES supply load.

12
13 As you see, a large number of Ameren
14 Illinois customers are receiving their supply load
15 from a retail electric supplier, and this is a
16 further breakout of our peak load purchases,
17 fixed-time price load versus real-time price load,
18 and this also shows on the right, as you can see,
19 the capacity acquired built in -- built in the MISO
20 7.6 required reserved margin within our supply load.

21 And my last load or last slide is a
22 lot of information on here. This is our demand

1 response resources. It breaks things out such as
2 interruptible load for RESs, as well as real-time
3 pricing for both residential, small commercial and
4 industrial, large customers, and a further break
5 down of large customers and small customers of power
6 smart pricing programs.

7 With that, I will turn it over to
8 Shawn.

9 PRESENTATION

10 BY

11 MR. SCHUKAR:

12 Thank you. Thank you, Commissioners.

13 On the transmission side of business, we spent a
14 significant investment this year making sure our
15 transmission system is prepared, and, as you can see
16 on Slide 9, we do not anticipate any type of
17 constraints on the system that would limit our
18 ability to bring in adequate supply.

19 We've also confirmed both through MISO
20 processing and checking with the folks who bring in
21 power that their designations are acceptable so that
22 we're assured that their supply has been identified

1 as one that can be deliverable.

2 And then on the next slide is just an
3 overview of our system. We have upgraded several
4 substations. We have 12 new upgraded substations
5 and then we've upgraded several of our 345 and 138
6 lines to ensure that we have adequate
7 deliverability.

8 We have worked with the MISO and
9 internally done studies to ensure that we're
10 prepared both from our footprint, and think about
11 our footprint, working with the companies around us
12 to ensure that the system is prepared for whatever
13 may happen on the system.

14 Then, finally, on Slide 11 on the
15 transmission side with vegetation management, we do
16 circuit patrols of all of our 100kV and above at
17 least annually and then 230 and 345 we do twice a
18 year, and then target trimming schedules to ensure
19 that we don't have any preventable tree accidents
20 that would fall in the streets.

21 With that, I will turn it over to Ron
22 to discuss distribution.

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PRESENTATION

BY

MR. PATE:

Good morning, Chairman and Commissioners. I promise not to read the slides, but this is one I do want to read because of the many years I've been doing this this is the first time that I can actually say this.

"All sub-transmission feeders, substations, and distribution feeders are expected to be loaded within applicable ratings for expected and worst case summer peak scenarios on the Ameren Illinois Company Distribution System."

Over the years we have had different criteria, because of the companies we brought in, a couple of companies lagging. We need to make the criteria more stringent and it's been a number of years that we can bring it up, so we are quite proud of that to make that statement this year.

These next two slides are just some questions asked on the EIMA, and particularly what's being done there. Again, what we all see is a lot

1 of work being done or completed under the EIMA,
2 putting a lot more automation on our distribution
3 system, which has been beneficial to our customers,
4 and upgrading electro-mechanical relays with
5 microprocessor-based relays to make sure that our
6 system is more reliable than it has been in the
7 past.

8 The next slide, again just a
9 continuation of system-type projects. Commissioner,
10 you asked what projects put in place so we could
11 avoid Seattle on the system, and stuff like that,
12 and Mr. Donnelly talked about where you have got one
13 source you have no choice but to feed back to back.

14 COMMISSIONER ROSALES: When you talk about
15 Seattle, for instance, when the substation went
16 down, there was a number of repercussions that
17 traveled throughout the city. The elevators stopped
18 working. The tech receivers were not working. It
19 was all major, so it was surprising the amounts of
20 damage that it did for one substation. I found it
21 somewhat surprising, and that's why we are here
22 today.

1 MR. PATE: Absolutely. I think, you know, a
2 critical part of that -- and Terry made mention of
3 this, too -- is when we look at relay schemes, when
4 you have a failure -- when you have a source that's
5 lost like that, it automatically kicks over to
6 another source to handle that load, so we do testing
7 on that on a regular annual basis for that stuff,
8 too, so a lot of things that come into play not only
9 redundancy but to make sure the equipment you have
10 in place to keep that from happening.

11 The next slide we talk about
12 vegetation management. We continue to meet all our
13 legal and regulatory compliance requirements there.
14 As you can see that fourth bullet is definitely
15 showing a drop in the frequency of outages. We are
16 also being more aggressive with take downs, so you
17 don't have to go back, as mentioned earlier by our
18 friends at ComEd educating the public to adopt a
19 tree and then come back the next year and plant
20 another one, so that education is important as well.

21 The next slide is just some more
22 additional on-going reliability improvements. We

1 have a circuit inspection and repair program,
2 storm-line hardening we talked about earlier, again,
3 inspections on reclosers, and capacitors, and
4 regulators, to make sure that that equipment was
5 operating out there.

6 Our the distribution, this is actually
7 our dispatch office of system operation control.
8 We practice the load shed drill with transmission on
9 a monthly basis, then, of course, we are
10 instrumental in making sure that our work -- the
11 critical work they talked about to make sure that
12 everything's in place before the peak summer hits,
13 then monitor that, make sure we get outages
14 scheduled for good reliability of our customers.

15 The Emergency Operations Center you
16 can see that's been activated several times and what
17 we have done in the past, but also activated several
18 times this year, and that's what we stand on. Any
19 time we have even a threatening letter, we will
20 activate EOC to be prepared for that.

21 It's also talking about the estimated
22 safe restoration times. We understand that's so

1 critical to our customers. They need to know as
2 early as they can. They also need to be accurate.
3 We need to understand the gaps as early and accurate
4 as possible. We try to put ourselves in the
5 customers' shoes. They really want to know the
6 amount of power, high power, low power, what caused
7 it.

8 Our contact centers and
9 communications, of course, we have three contact
10 centers. They're all integrated, so we get calls
11 from the state saying please open all phones, they
12 can answer that.

13 During major outages, we make sure
14 that we are staffed in the local community, that
15 they have activated their emergency center. They
16 need to have someone there face-on to report that
17 information.

18 We also have drills and keep constant
19 communication throughout the year, and not just in
20 emergency times, but for that so we can become
21 familiar with that process.

22 Social media has become so important,

1 you know, we're using that as a tool to get our
2 story out. It's hard for somebody to understand
3 perhaps on one side of town that hadn't been
4 impacted why they have no lights, and they can see
5 pictures of those that we post on our website to say
6 this is the story. This is the substation feed.
7 This is why it's out. It really helps folks to
8 understand that. It's become more important to
9 satisfy the needs of the customers.

10 So, in summary, Ameren Illinois has
11 acquired generation capacity and has the
12 transmission and distribution capability to provide
13 reliable electric service to our customers, working
14 to complete our critical maintenance and system
15 upgrades and, as I reported earlier, and, as always,
16 simply reported by management company, and ways to
17 improve -- to dramatically improve our reliability
18 and customer satisfaction.

19 So with that, I'm happy to answer any
20 questions.

21 COMMISSIONER ROSALES: The on-going training and
22 exercise, number of hours 2015, you wrote down just

1 six operations in EOC. 2016 is that year to date?

2 Is that calendar?

3 MR. PATE: Yes, year to date 2016.

4 COMMISSIONER ROSALES: Is the accounting year a
5 calendar or fiscal year?

6 MR. PATE: It's a calendar year.

7 COMMISSIONER ROSALES: Any other questions?

8 COMMISSIONER McCABE: ComEd's mentioned doing
9 some work in anticipation of coal plant closures.
10 Is Ameren experiencing some of the same
11 preparations?

12 MR. PATE: We certainly are. There's some work
13 ongoing and some planning work being done as well as
14 we can't tell what the impact is going to be. On
15 the transmission side, it's pretty much we can't get
16 inside. We can't get an impact of what we have done
17 so far. Probably the biggest impact is just some
18 switch gears inside those stations and plans that we
19 need to relocate so we have access to those switches
20 is probably the biggest issue that we have, not so
21 much capacity though.

22 COMMISSIONER ROSALES: Thank you, gentlemen.

1 Now we are transitioning to the
2 Regional Transmission Organization presentation.

3 First, we have MISO. With us today is
4 Robert Benbow, who's the Senior Director of
5 System-Wide Operations. Thank you for being here.

6 PRESENTATION

7 BY

8 MR. BENBOW:

9 Good morning. I apologize. I'm
10 getting over a little bit of a cold, so I'm horse
11 this morning. Good morning to everyone, and we are
12 glad to be here to give our status update on Summer
13 Readiness for 2016.

14 (slide presentation.)

15 MISO is one of the first RTOs in the
16 United States, and our headquarters are in Carmel,
17 Indiana, with a primary backup control center in
18 Carmel, Indiana, as well as data centers that are
19 used for business continuity needs for MISO
20 operations.

21 We also have two other control
22 centers, one located in Eagan, Minnesota, and Little

1 Rock, Arkansas, that we use for business continuity,
2 and, also, local operations that work with our
3 members in those areas.

4 We serve 15 states within our
5 footprint and we also have in those states our
6 22 million customers in the states that we provide
7 services to through our members.

8 Our services that we provide we talk
9 about reliability coordination and we talk about the
10 Seattle event being prepared for that.

11 MISO runs a contingency analysis
12 looking at those kinds of conditions and, minus one,
13 it would also include multiple outages like that.
14 We look at that every five minutes.

15 We can also run a quick CA, or a quick
16 contingency analysis on that to identify what the
17 impacts are going to be on the transmission system,
18 and then we can take action by either through our
19 markets or through our emergency procedures
20 depending on the state of the system conditions at
21 that time.

22 COMMISSIONER ROSALES: We all agree that at times

1 there's going to be equipment that goes out. We are
2 here today to find out what happens when the
3 equipment goes out and what we're prepared to do in
4 terms of meeting that forward, so thank you.

5 MR. BENBOW: Thank you.

6 Our services that we provide we talk
7 about reliability, coordination, scheduling, and
8 transmission services, planning, balancing
9 authority, balancing load and generalization and
10 market operations and energy markets and also
11 ancillary service in markets, we do all that.

12 We focus on reliability first and then
13 we focus on efficient value-created operations with
14 our members and market participants. All that good
15 stuff is with teamwork, building relationships,
16 partnerships with our members, our neighboring RTOs,
17 our adjacent balancing authority, and transmission
18 operators as well.

19 That prepares us for things like heat
20 domes where you get sustained heat across our
21 system, forced outages from tornados, extreme
22 thunderstorms, high winds; winter operations also

1 include polar vortex, and ice storms and wind shear.
2 We also think about earthquakes. We think about
3 cyber storms or attacks and how we prepare for those
4 and how we ensure resilient operations on those
5 events.

6 Forecast for this summer, we're
7 expecting above normal temperatures for our
8 footprint and that will lead to a similar load
9 forecast that we had last year. We expect higher
10 than above normal temperature as well.

11 For this summer, we have adequate
12 reserves to meet our demand. For this summer, we
13 are expecting to see about 127,000 megawatts a load
14 in our footprint but about 18 percent margin above
15 that for reserves, and that was very similar to last
16 year as well.

17 This slide right here shows the
18 comparison from last year 2015 to 2016. So for
19 2016, we have slightly less reserves for generation
20 resources that cleared our auctions for this summer
21 due to retirements and then our load forecast for
22 the summer is slightly less across our whole system

1 than it was last year leaving us with a similar
2 reserve margin that we had last year looking at 22.9
3 megawatts of reserve. Those are broke down by
4 looking at peak conditions.

5 There's some additional resources out
6 there that are in our footprint that we would have
7 access to and that would increase our reserve
8 margin, and then also forced outages were taken for
9 a probabilistic scenario another 7.2 megawatts of
10 generation outages, leaving us with about
11 17 gigawatts worth of reserves there.

12 When you break that down from those
13 forced outages, what we see is for demand response
14 we see that demand response makes up about almost
15 10 gigawatts, 2.4 gigawatts worth of operating
16 reserves that are meant for contingencies, so a loss
17 of a generator, also about 40 megawatts out of 2.4
18 is used in regulations and excess changes that
19 occurs on the system on a regular interval.

20 So that leaves us with about
21 5 gigawatts worth of reserves there that are
22 available under normal conditions. The other 10 to

1 12 gigawatts that's available when we get into our
2 emergency procedures and we have access through our
3 demand responses and meter generation.

4 So we would have to declare a max gen
5 or a capacity shortage emergency to get access to
6 those reserves and also out emergency alerts to the
7 demand-side management, so that's just part of our
8 procedures that we have in place to get access to
9 those resources to meet our obligations.

10 COMMISSIONER ROSALES: Can you explain
11 beyond-the-meter generation?

12 MR. BENBOW: To be beyond-the-meter generation is
13 a small generation that is available to us. It is
14 not part of our market so we wouldn't see the output
15 of those resources, but they would be available to
16 us through our members, through our market
17 participants, and they would tell us what's
18 available, and how much, and then we can actually
19 input those megawatts through them, so it's all part
20 of the meter. We have them in our estimated model,
21 but we don't have real-time data for it, so we
22 estimate it based on the status of that through our

1 members.

2 COMMISSIONER ROSALES: So in an emergency, you
3 could have access?

4 MR. BENBOW: Yes. We have a whole process for
5 what we call the "load modified resources
6 behind-the-meter demand response." They would tell
7 us how much is available to us all through our
8 communications system that we have for an
9 application that we use for our members. They tell
10 us how much is available, what the notification time
11 is for those resources. They have to be less than
12 12 hours and they can be as much as four hours
13 across our peak, so it's in our tariff for that and
14 we deploy them based on system conditions and needs
15 that we would have for those peak hours, and that's
16 done prorata for those -- we have to provide those
17 resources across our footprint or our subarea that
18 we are in active emergency for.

19 I think for summer what we see and
20 what seems to be key drivers that would put us in
21 the emergency conditions, if we end up with
22 sustained heat across our entire footprint,

1 something like what we had in 2012 with the heat
2 dome, not only for our footprint, but it's also
3 throughout the United States for a good chunk of it,
4 and our neighbors were in similar conditions that we
5 were, so we all experienced that heat at the same
6 time.

7 We believe some of that diversity --
8 for MISO we have a large footprint with 15 states,
9 so some of that diversity we have with load peak at
10 different times using that generation to meet
11 different needs, once we use some of that diversity
12 if you get a large heat dome across that entire
13 footprint.

14 Last year, as I said earlier, we hit a
15 peaked about 120 gigawatts. Our south region
16 actually set an all-time peak down there about 33
17 gigawatts, that was an all-time peak for that area,
18 but we do not expect those same conditions in the
19 northern central part of our footprint.

20 So some of that diversity allowed us
21 to transfer generation to that area to help meet
22 those needs in the south. We have that flexibility

1 across our system with a large footprint.

2 Heat domes that come in there and they
3 last for three or four days and build up across our
4 entire footprint and then we start to seeing where
5 we get into tight operating conditions and we get
6 into those emergency procedures.

7 That also affects transfers in and out
8 of our market with our neighbors as well if they
9 need those resources, then they'll be utilizing
10 those resources at their region to maintain balance
11 of generation when we might not be able to get that
12 scheduled interchange from them based on our
13 markets.

14 The other thing is tornados, severe
15 weather, lightning storms, MISO has now had a large
16 footprint, so we even talked about hurricane
17 readiness as well, be ready for summer that starts
18 in June, actually in the middle of June, and
19 hurricane season should get all the way up to here
20 (indicating), but it doesn't have the impact on all
21 our operations.

22 Some of the things that we do to be

1 prepared with our members and our neighbors, we do a
2 lot of coordination, a lot of planning, so in
3 real-time or in operations we're always looking out
4 seven days with our forward reliability assessment.

5 We have a daily meeting every day at
6 8:30 to look at yesterday's performance, any lessons
7 learned there that would be applied going forward,
8 and then we also look out the next three to five
9 days on what's coming up and then we can use our
10 processes as tools to increase situational awareness
11 with our members by calling severe weather alerts,
12 hot weather alerts for those future days to put
13 members on notice that we are expecting high
14 conditions.

15 We can even go into conservative
16 operations which basically tightens up the
17 operations on the system by not allowing outages or
18 any outages on our infrastructure or monitoring and
19 maintaining reliability, so exchanging data with
20 your neighbors or your members, doing maintenance on
21 your infrastructure or energy management systems,
22 your market application, we suspend all that during

1 conservative operations so that we are ready for
2 anything that might come at us.

3 We also will see some of this through
4 our day ahead markets, our forward reliability
5 assessment as it rolls into real-time. All that
6 goes towards situational awareness in our
7 procedures.

8 We focus a lot on situational
9 awareness, being aware of your surroundings and what
10 might impact you, making sure that we're prepared
11 for those kinds of conditions.

12 Tools, procedures, our markets we,
13 like I said earlier, we run a security exchange
14 dynamic dispatch. That takes into consideration all
15 congestion on our system and then try to also make
16 sure we have efficiency for dispatch and generation
17 to meet the load, and that is done every five
18 minutes, our input data for that through our state
19 estimator, and that runs every minute.

20 I'm looking at all of our members'
21 data that they provide to us so that we have a good
22 awareness of what's on the system, and that runs on

1 contingency data analysis every five minutes.

2 You identify constraints in that. You
3 activate it into our market, and then our market
4 dispatches around like normal procedures, and
5 emergency procedures that might come out of forced
6 outages, we would automatically re-dispatch or
7 emergency re-dispatch generation to respond to the
8 constraint, so our operators have access to tools or
9 distribution factors for all of the constraints and
10 they could actually have access which impact --
11 which constrains and actually manually dispatch them
12 to get the system back working at a normal rate.

13 We also run one-line voltage stability
14 analysis, we use that, and also change the security
15 analysis every 15 minutes to look at changing
16 conditions on the system that might have voltage or
17 reactor feeds that are out there.

18 We look at certain load pockets within
19 our footprint, too, that have been identified
20 through our transmission assessments, and we have
21 processes and procedures around those that are
22 operating and have been identified.

1 Our transmission assessment for
2 this summer is not showing congestion outside of
3 what we expect for the normal system operations, so
4 we don't see any concerns from a transmission
5 perspective for this summer.

6 We have an internal communications
7 system that we use for our members to provide
8 declarations for all emergencies, abnormal
9 conditions, and we do that on a regular basis with
10 them.

11 We also communicate with our neighbors
12 through that tool as well. That includes also state
13 commissioners, FERC, and NERC that are on some
14 distribution capacity, emergency conservative ops so
15 that person's situational awareness as well as
16 what's going on within their state or within certain
17 regions, and also to our neighbors as well.

18 Training. We talked a little bit
19 about training, drills, workshops. We hold
20 emergency operating workshops every year on an
21 annual basis to go over our emergency procedures
22 with our members, our neighbors.

1 We also have a summer and winter
2 readiness workshop that goes over projections for
3 those seasons and what our conditions are and
4 expectations for resources. We share that with
5 them, and we also go over the appropriate procedures
6 for that system.

7 Training, we train our operators for
8 -- all the operators on a six-person schedule,
9 allowing them to train every six weeks and we
10 conduct four-cycle training events per year that are
11 a six-week program to allow all the operators to go
12 through that training, and not only on the NERC
13 Standard Operating Guide, but our procedures as
14 well, so that they're familiar with them, and also
15 conduct tabletop exercises in abnormal conditions so
16 loss of data or loss of applications.

17 There's a little bit of talk about
18 human performance. We also train on that and we
19 look at the human performance for reducing errors,
20 so examples of that are looking at displays, making
21 sure displays are all created with a systematic
22 approach for color coordination, so during an

1 emergency condition on one display, you might show
2 that in red, so we make sure that red is on all
3 displays in the control room. That means that you
4 need to take action to respond to it, so you get a
5 lot of alarms in the control room.

6 So you need to make sure you have
7 consistent processes around that, consistent
8 displays and color coding, so the operators are
9 aware of that which means all displays you don't
10 have different conditions on different displays
11 showing that.

12 So visualization is extremely
13 important with the amount of data that MISO needs to
14 give the operators to have situational awareness.
15 You do that with dynamic map ports or displays that
16 show our transmission system, shows our generation
17 overloaded facilities. If they are overloaded, it
18 will give them an indication of voltage problems on
19 there seeing from a big picture perspective, and
20 there is different scenarios where certain areas are
21 being impacted that gives situational awareness of
22 the system.

1 We do -- once a year we hold a
2 six-week program with our members and our neighbors
3 where we all participate in capacity emergency
4 conditions, so if we were to experience capacity
5 shortages for the summer, we'd walk through our
6 emergency procedures with our operators, and we have
7 about 125 operators that participate not only
8 internal to MISO but with our neighbors as well
9 adjacent to reliability coordinators.

10 We go over conservative operations,
11 hot weather alerts, three-way communications, and
12 that is extremely important to make sure that you
13 communicate effectively, and that's a requirement to
14 ensure safety and to ensure reliable operations.

15 Also, hurricane readiness is just
16 something that we are -- a part of our footprint
17 that's expanded to the south, so we have included
18 that as part of our readiness, so that starts here
19 in June of this year. So we work with our members
20 down in the south region as part of the tabletop
21 exercises around that, and also drill on that so
22 that we understand what our communication protocols

1 are, our staffing needs are. That's for hurricane
2 readiness specifically that could be applied to any
3 other large event that might occur on our system
4 that would require additional staff and
5 communications with everybody that's involved.

6 State officials -- so we do -- as
7 part of our communications protocol for summer
8 readiness when we go over communications protocols,
9 we participate in the -- Illinois has a
10 communications program that reaches out, and we get
11 those messages every week for a test.

12 We do something very similar with
13 state officials across our footprint. We make sure
14 we have a program that test the program once a week
15 as a drill. They get the message if we see where
16 people are. You know, people will change jobs, and
17 we would upgrade our contact lists, and then to make
18 sure they get the communications.

19 If we would get into a load-shed type
20 of event, then we would get ahold of the appropriate
21 Commissioners for that impact areas, a conference
22 call, explain to them what is going on, where the

1 issues are, and just go over the system conditions
2 at that time.

3 We do that with internal blast calls
4 as well to management, to circuit groups, and we
5 test those regularly on a weekly basis.

6 Transmission system emergencies,
7 forced treatment, transmission outages, we require
8 front-load shed and also a requirement to notify
9 state officials. We would do that on-line and on a
10 one-on-one basis through our procedures and through
11 our test customer reps in that region, and then also
12 if there's any terrorist attack, natural disaster
13 out there, like hurricanes, earthquakes, or other
14 situations, we would also use blast calls to
15 communicate with our states, So I think lessons
16 learned, when you look at a lot of lessons learned,
17 lessons learned from a lot of different events,
18 communication always hit hard, and so that's
19 something that I try to focus on to make sure that
20 we have good communications under adverse
21 conditions.

22 So, in summary, MISO projects to have

1 adequate reserves through this summer of
2 18.2 percent with a demand of 125.9 gigawatts. On
3 our transmission system, and this is outside what we
4 would consider normal.

5 We have a communications protocol in
6 our state, members market participants that prepares
7 for any loss of load or adverse conditions, and it's
8 important that MISO can't do it by itself. We have
9 to have partners with our members to ensure
10 readiness for the summer, and we spend six weeks to
11 do that through workshops.

12 Any questions?

13 COMMISSIONER ROSALES: Just a clarification.
14 Your terminology of neighbors, are you speaking of
15 other states? Are you talking of other RTOs? Are
16 you talking about the guy down the street?

17 MR. BENBOW: Neighbors?

18 COMMISSIONER ROSALES: Yes.

19 MR. BENBOW: So my neighbors that would include
20 other RTOs, such as PJM. We have a daily conference
21 call with PJM, also with our other neighbors to the
22 south, SVP, Southern Company, TVA, those would be

1 our neighbors. ISO in Canada we have daily calls
2 that they can all participate in going over the
3 system conditions on a daily basis, and any time
4 there's an emergency, we would use that conference
5 call to go over that part of our emergency
6 procedures as well, so that would also include
7 working with neighbor balancing authorities.

8 If we got into capacity emergency and we
9 needed to call for resources that they may have
10 available for us to meet our needs as part of our
11 procedures, we have a process in place to talk to
12 our neighbor balancing authority and also
13 transmission operators to ensure reliable operation
14 across the seas.

15 COMMISSIONER ROSALES: You mentioned one of the
16 first things that goes down in a storm in any type
17 of outage is communications. So how do you -- how
18 do you resolve that when communications first go
19 down, yet, you are responsible for communicating to
20 neighbors and everybody that's involved in the
21 process?

22 MR. BENBOW: Loss of communication or primary

1 communications is what you are asking?

2 COMMISSIONER ROSALES: Correct.

3 MR. BENBOW: So we do have -- we have procedures
4 for contingencies around communications, so our
5 primary is through our satellite phones that we
6 have, basically our phones that we have in the
7 control rooms that back up with cell phones. It's
8 also backed up with satellite phones to talk to our
9 members. We can also talk to our members through
10 the web, through the internet, through our MISO
11 communication system, and also with a reliability
12 coordination information system that also goes
13 across to our adjacent reliability coordinators, so
14 there's protocols around lots of primary
15 communications.

16 So even our regular phones that we
17 have in the control room we have a primary and then
18 there's a totally isolated backup system, different
19 phones that we use for primary and secondary, and
20 then there are cell phones, satellites and internet
21 connections.

22 COMMISSIONER ROSALES: Any other questions?

1 (No response.)

2 Thank you.

3 MR. BENBOW: All right. Thank you.

4 COMMISSIONER ROSALES: Last, but certainly not
5 least, is the former ICC Chairman, Mr. Richard
6 Mathias, who's senior consultant to
7 PJM Interconnection, and thank you, former Chairman.

8 PRESENTATION

9 BY

10 MR. MATHIAS:

11 Thank you. Good morning, Mr. Chairman,
12 Commissioners. My name is Richard Mathias. I am
13 here today representing PJM Interconnection, which
14 is a Regional Transmission Organization that
15 operates in 13 -- in parts of 13 states and District
16 of Columbia. PJM manages the transmission system
17 owned by Commonwealth Edison. I'm here this morning
18 to discuss the summer preparedness of PJM and its
19 member companies.

20 (slide presentation.)

21 PJM expects to be able to reliably
22 serve expected loads during this coming summer.

1 Peak loads are expected to be somewhat higher this
2 summer than the prior summer of 2015, because, as
3 you recall, that was a relatively mild summer in
4 2015.

5 We also expect our target reserve
6 margin to exceed the -- excuse me -- that are
7 actually reserve margin to exceed the target reserve
8 margin for the summer.

9 The load forecasts that we had in prior
10 years, although greater than what we had last year,
11 coupled with demand response and emergency
12 efficiency programs, should help offset the impact
13 that generation retirements and we expect the
14 transmission system to be able to perform
15 adequately.

16 This is the infomercial where PJM has
17 seen this before in an info-commercial.

18 Terry Donnelly mentioned the peak load
19 that ComEd has, which would be about 22 to 24,000
20 megawatts of total peak load and PJM of basically
21 165,000. So ComEd is a significant member of
22 PJM and also a very constructive member.

1 There are a couple of characteristics
2 that you heard this morning concerning the lay of
3 the land with regard to what's happening in the
4 energy business.

5 Two very important characteristics
6 are, number one, the declining rates of growth --
7 the declining rates of growth with regard to use of
8 energy and then the dramatic change in fuel mix.

9 This slide shows that each year when
10 we make a projection of a peak demand going forward
11 for subsequent years, for 15 years out, we have a
12 load of demand for the following, so for the
13 subsequent years than we did the year before.

14 The blue line indicates the demand
15 that we thought would be available in 2013, the load
16 forecast. We made the same forecast for, I should
17 say, forecasts were made the same year as in 2014,
18 and we saw a lower demand.

19 Likewise, when we did the 2015 load
20 forecast, we saw a lower forecast going forward, so
21 you see a declining rate of increase in the growth
22 through load for the next 15 years.

1 One of the other dramatic changes is
2 the change in fuel mix. This slide shows the actual
3 production of electricity in the PJM footprint and
4 shows the type of fuel that is used to operate the
5 generations.

6 You see that the use of natural gas
7 has significantly increased from basically 5 percent
8 in 2005 to almost 20 percent in 2015. At the same
9 time, the use of coal to produce electricity, to
10 produce energy has diminished by almost the same
11 amount while nuclear facilities have provided a
12 continuing percentage of production for energy, and
13 renewables a much lesser extent.

14 In prior meetings, I noticed a
15 difference -- I noted the difference in the peaks
16 between summer and winter. I noted that in the
17 summer we usually have one peak during the day.
18 That's usually from 4 to 6 or 7 p.m., in the
19 afternoon; whereas, in the winter there's
20 traditionally been a double peak, a peak in the
21 morning around 6, or 7, or 8 when individuals are
22 getting up and going to work or going to school, the

1 summer peak being at the higher peak, and this slide
2 dramatically shows the peak -- the all-time summer
3 and winter peaks within PJM and note that the winter
4 peak is actually a morning peak. That's the highest
5 winter peak in the PJM system; whereas, in the
6 summertime, of course, it was evening peak.

7 These next two slides you've seen
8 before. They show that PJM load have adequate
9 reserve margins to meet the targets of a reserve
10 margin of 16.4 percent this year. We have a reserve
11 margin available to us of over 28 percent.

12 This next slide gives you more detail,
13 the slide which I just mentioned, again I noted that
14 you will see these two slides I believe the best of
15 several years.

16 Just, as noted by MidCon and ISOs,
17 PJM also has intensive summer preparation activity
18 in getting ready for the summer, and this slide
19 lists those activities.

20 We are in close cooperation with a
21 number of companies, such as Commonwealth Edison.
22 We also are in close cooperation with MISO and our

1 other neighbors at PJM. These are very active
2 preparations getting ready for the summer.

3 We have other oversight entities aside
4 from your interested public utility commissions,
5 such as ICC. We have various regional coordinating
6 councils which oversee and mandate performance by
7 PJM, and other RTOs, and other entities.

8 We also noted that I think Gene Beyer
9 and Mike said got early telephone calls on May 10th
10 when we had our PJM emergency procedure drill. We
11 have local calls and e-mails which go to public
12 utility commissions across the PJM footprint, which,
13 as I mentioned before, operates 13 states -- parts
14 of 13 states and the District of Columbia.

15 It's just interesting to see what we
16 project will happen this next couple of days. We
17 see today a peak load within PJM of 108,000
18 megawatts. We expect that to go up as the heat
19 increases by about 8 or 10,000 megawatts in the next
20 two or three days.

21 We noted it would have been higher,
22 except that this is the same holiday weekend, and,

1 therefore, the demand for the weekend will be lower
2 than anticipated. We have our holiday and always we
3 usually see a lower demand on Friday than we do on
4 Thursday, all things being equal.

5 Another interesting thing to note is
6 that we have almost 600 planned transmission outages
7 today, 600 transmission outages, and these are for
8 maintenance and other reasons.

9 This is the maintenance season, and so
10 the so-called "shoulder months," March, April, May,
11 September, October, transmission owners will take
12 the transmission facilities out of service so that
13 they can be maintained.

14 This is all managed by PJM to make
15 certain the system remains reliable, and some of
16 those outages are generation facilities. We have
17 probably 30,000 megawatts of generation also out,
18 either for maintenance or to help with coordinating
19 outages on the transmission system.

20 So that's an activity that PJM does,
21 and MISO does as well, that it's to coordinate the
22 planned outages on the transmission system and on

1 generators so that the system will remain reliable.

2 Commissioner Rosales, at the front of
3 this discussion mentioned that we may be asked about
4 threats and challenges, and I would note that this
5 -- I note some of the threats, challenges, and
6 opportunities for PJM, as well as for its member
7 companies and other RTOs or ISOs.

8 We note the changing load profiles,
9 and we may not have as many steel mills, but we have
10 data centers which also have a huge need for
11 electric activity.

12 We also see the changing profiles due
13 to renewable distributed generation, which are noted
14 on the slide, energy resource integration, and other
15 relatively new activities, many of which actually
16 occur at the distribution level, at the level that
17 we regulate.

18 We also note the change in fuel mix
19 which I've noted earlier, coal nuclear, and gas.
20 The clean power plants seem to be on hold at the
21 present time, and we don't know where it will go,
22 but we have done a tremendous amount of

1 modernization within PJM, and we met with members of
2 the Commission and Staff recently to discuss what
3 was occurring or what we think could occur if the
4 clean power plant was quoted and what the impact
5 might be on in the State of Illinois.

6 I also noted, and I haven't asked the
7 Commission, and that would be that you continue the
8 coordination that you have had with the Illinois EPA
9 and the other state agencies that are involved with
10 modeling for a clean power plant and be responsive
11 for implementing.

12 Another challenge, or threat, or
13 opportunity is the gas electric coordination, as you
14 know, and you saw from the prior slide, we had a
15 tremendous increase in natural gas that would be
16 used to fire generation facilities.

17 We have had extensive communication
18 with natural gas companies, such as Peoples, or
19 Northern Illinois Gas, or the actual pipelines
20 themselves. We have -- I think we had a very
21 constructive relationship developed between the
22 natural gas companies, as well as the energy

1 companies, and RTOs, and ISOs.

2 I, again, haven't asked of the
3 Commission, that is we do not know -- we do not see
4 the contracts that are so-called behind-the-city
5 gate. This means that a generator will be receiving
6 electricity -- excuse me -- be receiving natural gas
7 not from the pipeline, not directly off the
8 pipeline, but rather they'll be receiving from the
9 natural gas distribution companies, such as Peoples
10 or Northern Illinois Gas.

11 We don't -- the parties would say
12 these contracts are confidential, but it's very
13 important for us to be able to understand what the
14 conditions are for delivering natural gas to
15 gas-fired generators, and we would appreciate the
16 coordination which we have received in the past,
17 I might add, but continue coordination and
18 cooperation from the Illinois Commerce Commission
19 with regard to these contracts which supply natural
20 gas behind the city gate.

21 I'd also note another challenge,
22 again, or opportunity has to do with renewable and

1 distributed energy resources. We would note also
2 the active participation by PJM, and other RTOs, and
3 Homeland Security, and so forth, with cyber and
4 physical security systems.

5 It's PJM's goal, and I believe the
6 goal of many electric utilities and others, to have
7 fewer and fewer critical infrastructure -- critical
8 parts of infrastructure, in other words, you don't
9 want to have one substation that serves only the
10 city.

11 We may have had only one substation
12 that's in Seattle that would serve the downtown
13 area, but you would rather have a couple so no one
14 of those would be the most critical or the only
15 critical infrastructure that's available.

16 I would also note, as far as the
17 Illinois Commerce Commission is concerned, are we
18 talking about resiliency? That also could be termed
19 redundancy, and redundancy could also be added cost,
20 and so I think you'll be prevailed upon or requested
21 by a number of entities to allow the construction of
22 perhaps another substation, so that the first

1 substation is not the only critical infrastructure
2 in the particular area which is served by the
3 infrastructure.

4 Again, as I noted earlier, PJM is
5 expects to be able to serve peaks load this summer.
6 We see this with the summer being somewhat higher
7 than last year because last year was a relatively
8 mild summer.

9 We expect to have active use of demand
10 response, and I might add that Commonwealth Edison
11 was even before PJM, a leader in demand response
12 and for demand response for the ComEd service
13 territory.

14 We also expect to be able to use
15 energy efficiency programs to help offset the
16 retiring of generation, and we expect to have the
17 transmission to be able to adequately serve that
18 load within the PJM footprint.

19 If there's any questions, I would be
20 glad to respond.

21 COMMISSIONER ROSALES: You asked a lot, Chairman.
22 We appreciate the questions and appreciate the

1 discussion.

2 Any questions for the last time?

3 CHAIRMAN SHEAHAN: I have a question, Rich, not
4 only within Illinois but within the entire
5 PJM footprint. There are a number of nuclear plants
6 at risk as well, I think, even according to your own
7 projections.

8 Have you guys modeled the impact on
9 reliability from -- I'm not interested particularly
10 here in Illinois, but systemwide, what the impact
11 might be of losing that baseload generation?

12 MR. MATHIAS: The number one job at PJM is for
13 reliability, make sure the lights stay on, and we
14 value nuclear plants. We value other plants that
15 have a high availability.

16 We did a study I think a
17 year-and-a-half ago that was asked by the Illinois
18 Commerce Commission with regard to retirements of
19 various nuclear plants, and we know that in that
20 study that at the polar vortex 30 years ago, the
21 nuclear plants that we were interested in they were
22 there a hundred percent of the time and 98 percent

1 of the time extremely reliable.

2 So from PJM's perspective, if you are
3 looking at one of our goals, which is reliable
4 operation of transmission systems, obviously we
5 value reliable resources.

6 So we have not -- we are modeling what
7 occurs with the carbon rules if there are resources
8 retired. Obviously, if any low carbon and no carbon
9 resources retire, we wonder what's going to replace
10 it and whether you would be able to meet the new
11 carbon requirements that are contained in the power
12 plants or other plants that may be put forward, so
13 reliability organization we value nuclear plants,
14 but that's because we were interested I remember in
15 reliability.

16 There's other considerations we
17 recognize as well, and when I evaluate the value
18 nuclear facilities, and as far as your comments, we
19 see a reduction in the coal resources. I don't know
20 that we have seen an elimination of coal resources,
21 but we see a reduction in the number of coal
22 resources that was shown by one of the slides which

1 I put up on the screen.

2 CHAIRMAN SHEAHAN: Thank you.

3 COMMISSIONER ROSALES: Anyone else?

4 (No response.)

5 We would like to thank Commonwealth
6 Edison, MidAmerican Energy, and Ameren Illinois for
7 their presentations today along with MISO and PJM.
8 I also would like to thank Chairman Sheahan,
9 Commissioner McCabe, and Commissioner del Valle, for
10 budgeting their time in putting this together so we
11 can have this policy session. Finally, I want to
12 thank Bettina Stanford and Martha Reeves for
13 coordinating everything on today's policy session.
14 They did a hell of a good job.

15 (Applause.)

16 They did a hell of good job. We are
17 adjourned. Thank you so much.

18 (Whereupon, the above
19 matter was adjourned.)

20

21

22