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BEFORE THE
ILLINOIS COMMERCE COMMISSION
NextGrid Illinois
STUDY UPDATE AND
PUBLIC COMMENT SESSION
Thursday, June 14, 2018
Chicago, Illinois

Met pursuant to notice at 1:00 P.M., at
160 North LaSalle Street, Chicago, Illinois.

- PRESENT:
- BRIEN J. SHEAHAN, Chairman
 - SADZI M. OLIVA, Commissioner
 - JOHN R. ROSALES, Commissioner
 - D. ETHAN KIMBREL, Commissioner
 - ANASTASIA PALIVOS, Acting Commissioner
-
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Brien J. Sheahan, Chairman, Illinois Commerce
2 Commission
- 3 II. Introduction of NextGrid Lead Facilitator
Dr. George Cross, Lead Facilitator, University
4 of Illinois
- 5 III. Introduction of NextGrid Working Group Leaders
Pete Sauer, Lead Facilitator, University of
6 Illinois
- 7 IV. Overview of Working Groups 1, 2, and 3
- 8 a) WG1: New Technology Deployment and Grid
Integration, presented by Marty
9 Cohen, NextGrid Senior Study
Consultant
- 10 b) WG2: Metering, Communication, and Data,
11 presented by Matt Olson, Director of
Electrical Engineering, Burns &
12 McDonnell.
- 13 c) WG3: Reliability, Resiliency & Security,
14 presented by Mr. Dominic Saebeler,
Director of Cyber Security and Risk
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5 SPEAKERS:
Mr. Kevin George Miller, Director of Public
Safety, ChargePoint
6
7 Mr. Warren Lavey, Adjunct Professor, University
of Illinois
8
9 Mr. Chris Townsend, CEO, WindyCitySDR
10
11 Mr. Larry Crittenden, Consultant, Carbon Cash
and arbnco
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14 Brien Sheahan, Chairman, Illinois Commerce
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1 CHAIRMAN SHEAHAN: Good afternoon. Welcome.

2 My name is Brien Sheahan. I'm Chairman of the
3 Illinois Commerce Commission. This is our first
4 public update on the NextGrid process.

5 Just a couple housekeeping items
6 before we begin, Commissioners Rosales, Oliva, and
7 Kimbrel, and Acting Commissioner Palivos are also in
8 attendance. A court reporter is also present, and a
9 transcript of this session will be available on the
10 Commission's web site. As a courtesy, if you're
11 speaking, please identify yourself and speak slowly
12 and clearly.

13 Initiating Illinois' Utility of the
14 Future Study was a recommendation of Governor
15 Rauner's Transitioning Committee. And we join a
16 number of other states and academic institutions that
17 have undertaken similar reviews of grid
18 modernization. The purpose of NextGrid is to
19 identify trends and critical issues facing Illinois'
20 electric utility industry in the coming decades, and
21 the effects of those changes on consumers. The study
22 is divided into seven Working Groups, including New

1 Technology Deployment and Grid Integration; Metering,
2 Communications, and Data; Reliability, Resiliency and
3 Cyber Security; Customer and Community Participation;
4 Electricity Markets; Regulatory and Environmental
5 Policy Issues; and Ratemaking.

6 Today, we'll hear brief presentations
7 from the leaders of the first three Working Groups.
8 Information concerning the Working Group's agendas,
9 presentations, and meeting summaries can also be
10 found on the Commission's web site.

11 Today is the first of three public
12 comment sessions. Two additional sessions will be
13 held in Urbana/Champaign and Carbondale later this
14 summer. Our intention is to release the final report
15 later this year.

16 With that, please let me introduce our
17 lead facilitators, Dr. George Gross and Pete Sauer
18 from the Electrical and Computer Engineering
19 Department at the University of Illinois. Please
20 join me in a warm welcome to Professors Gross and
21 Sauer.

22 (Applause.)

1 DR. GROSS: Good afternoon, everybody, and
2 thank you very much, Commissioner Sheahan. Do I have
3 juice? Okay. I guess my voice usually carries okay.
4 So I'm going to talk a little bit
5 about the role that the commissioner -- that the
6 Commission had given us in terms of this NextGrid
7 process. And I have a bunch of slides, because as an
8 engineer, we need slides to lean on to know exactly
9 what we have to say. I think that there is a --
10 yeah.

11 So as Commissioner Sheahan has very
12 articulately stated, we have two -- basically two
13 goals in mind in terms of this study project. One is
14 to identify and address the critical issues, the
15 challenges and the opportunities associated with them
16 in the deployment of new technologies; how to
17 formulate the appropriate policies, development of
18 analytical tools and implementation practices so as
19 to increase customer choice at possibly -- at lower
20 prices to produce cleaner, resilient electricity.
21 And resilience is very, very important because we're
22 facing greater and greater issues in terms of weather

1 and climate change.

2 And the second goal is to pave the
3 road towards implementation of the modernized
4 Illinois grid.

5 Just to bring to the force some of the
6 impressive achievements that they've done in terms of
7 renewable electricity, I cite various instances in
8 the world where renewables really played an important
9 role. I'm not going to go through all of them, but
10 we can see that, for example, in a neighboring entity
11 here, the Southwest Power Pool, 52 percent of the
12 wind was produced on February 13th. When we look at
13 Australia, for example, at the end of 2014, 61
14 percent of the electricity in South Australia came
15 from solar wind projects, so there have been numerous
16 of this.

17 But as an industry, we are faced with
18 many, many disturbance events -- what I call
19 disturbance events -- and primarily, in terms of
20 what's happening in the area of technology and what's
21 happening with the prices. We've seen dramatic
22 decrease of solar price, and I'll show a chart in a

1 minute. We have far deeper penetration of wind and
2 solar at really low prices, and I'll give some
3 results. And we have implemented demand response on
4 a very broad basis. We have battery resources and
5 storage being a very, very promising technology with
6 the prices coming down, not yet cheap enough, but
7 we're getting there.

8 We have the widespread use of
9 distributed energy resources, which are changing the
10 way we operate the system. And then we have started
11 implementing microgrids all over as a system,
12 primarily as a distribution network. And then
13 electric vehicles which are bound to come out sooner
14 or later, and that's going to be a big onslaught and
15 big impact on the system.

16 So here are the prices. And what
17 costs about \$76 in 1977 was less than 24 cents in
18 2017, so dramatic decrease in terms of solar panel
19 prices that we have seen.

20 In terms of the deeper penetration, I
21 want to give some results from some recent
22 competitive auctions in this area. For example,

1 October 2016, we saw in Mexico solar selling at 2.7
2 cents per kilowatt hour, so basically, \$27 per
3 megawatt hour. Xcel Energy did their solicitation
4 last year. It got solar + battery at the median
5 price of 3.6 cents per kilowatt hour. Wind did even
6 better, 2.1 cents, so \$21 per megawatt hour.

7 When we look more recently, for
8 example in October of this year, the third Mexican
9 energy auction produced prices of \$20.57 per megawatt
10 hour, very, very low prices. Chile got solar off at
11 21.48, and in Saudi Arabia, we have the lowest
12 recorded price so far of solar at \$17.86. Okay?

13 Just to show you the excitement that
14 we had when Tesla 3 was announced, we had,
15 essentially 168 hours after the announcement, 325,000
16 reservations were made. So I think the interest is
17 there in electric vehicles. It's a little bit of a
18 chicken-and-egg question: When will we have the
19 energy grids, the energy infrastructure, to charge
20 those vehicle, then we will have more vehicles being
21 bought. But there is interest, and so I think that's
22 going to be coming.

1 In terms of the responsibilities that
2 we were given, we -- our task is to work closely with
3 the utility companies and the Illinois Commerce
4 Commission. We are asked to solicit input from
5 stakeholders, and I'll come back to this again, very,
6 important. We are working on the identification of
7 opportunities and challenges. And then we're going
8 to be using our technical expertise in terms of
9 constructing the final report and working together
10 with the various Working Groups.

11 So since you heard "Working Groups,"
12 we have the seven Working Groups here that have been
13 established. I'm not going to spend much time on
14 this slide because my colleague, Pete Sauer, is going
15 to talk and introduce the Working Group leaders.

16 Our basic mode of working with the
17 Working Group leaders is that we're providing
18 guidelines, we are participating in the Working Group
19 meetings, and we are very carefully looking at the
20 scenes -- area in terms of overlap between two or
21 more Working Groups to make sure that those issues
22 also get addressed.

1 In terms of the final report
2 preparation, we'll be adding the linkages between the
3 chapters, and we'll be vouching for the overall
4 technical quality of the Working Group.

5 One thing I'd like to stress, this is
6 very much a consumer-focused study, that the input of
7 the stakeholders is very, very important. And
8 consequently, we would like every stage where it's
9 possible -- to all the people over here to continue
10 feeding in because that's very important in getting a
11 good, complete picture of what's going on and what
12 are issues of interest added to the system. We've
13 developed a Web-based input mechanism, so that's
14 helping. And we are really treading along very well,
15 making progress in all areas of the seven groups that
16 we are working with.

17 So we have asked, very carefully, each
18 Working Group leader to work with a group to state
19 and define what are the key elements of the scope,
20 and also those elements just -- which are outside the
21 scope so we know that they are going to be looked at
22 by some other people. So that's a key issue that we

1 started out with. And we're going to address
2 overlapping issues, of course, by all the groups that
3 are involved in it.

4 Our final product is going to be as a
5 report that we're producing for the ICC; we're going
6 to talk more about it. And we are going to go make
7 sure that that report includes everything in terms of
8 the thrust that were stated at the various meetings
9 of the Working Groups. And also, it's going to give
10 a very good reading material to anybody who is
11 interested in this area. It's going to be written in
12 a very understandable way.

13 So in terms of wrapping up, before I
14 get thrown off the stage, I just want to leave you
15 with a few key messages. I think our process will
16 produce better-educated electricity consumers. We
17 are going to have a user-friendly platform that we
18 have developed in terms of putting to view, for
19 anybody who's interested, the new technology options,
20 and certain storage deployment procedures,
21 implementable options for cyber security, and
22 metering applications. We are going to be looking at

1 development of practical approaches to establish
2 workable transactive energy markets in local
3 distribution areas; doesn't exist yet.

4 We will be looking at the landscape
5 for outage detection so that no consumer has to call,
6 anymore, the utility companies, because the meter is
7 going to be talking directly with the utilities'
8 information center. And we're very much looking at
9 optimized deployment of both existing and new
10 resources technologies to improve customer
11 experience, possibly at lower prices.

12 So the view I will leave you is this
13 one: In terms of beyond this smart grid, we will be
14 working to get these things in Illinois and to
15 maintain Illinois' preeminent position in the grid
16 Modernization area.

17 So I'll ask my colleague, Pete, to
18 come in and talk a little bit about the Working
19 Groups what we're doing in the final report.

20 DR. SAUER: Thank you, George.

21 We can take questions, if you want,
22 while you're still up there --

1 COMMISSIONER ROSALES: A quick question.

2 DR. SAUER: -- or we can wait.

3 DR. GROSS: Yes, sir?

4 COMMISSIONER ROSALES: On the solar panels,
5 what's the reason behind devolving so rapidly from
6 \$76.00 to 4 cents?

7 DR. GROSS: To 24 cents?

8 COMMISSIONER ROSALES: 24.

9 DR. GROSS: So the main reason for the price
10 decline is essentially because China came in in terms
11 of the manufacturing, and they came in to really
12 bring down the prices. Essentially, the demand was
13 there, and they could manufacture it in such large
14 quantities the supply chain that became very, very
15 efficient.

16 COMMISSIONER ROSALES: Okay.

17 DR. SAUER: Okay. Any other questions for
18 George?

19 (No response.)

20 DR. SAUER: We can have more later.

21 Okay. I am pleased to introduce the
22 people that are really leading the effort to extract

1 ideas and come up with the new NextGrid ideas that we
2 will be implementing somehow. And it may take years
3 for this kind of thing, but having them documented is
4 a valuable -- a valuable thing to do.

5 So let me start with Working Group
6 No. 1. This is new technology. There is so much
7 happening that we decided to make one Working Group
8 just to look at the opportunities and the challenges
9 that new technology bring us. That's being led by
10 Professor Mohammad Shahidehpour from here in IIT
11 Chicago, and he's got a really strong group there.
12 All these Working Group leaders were picked because
13 they are experts on the topics that we have
14 identified here.

15 Metering and Communications, Working
16 Group No. 2: I'm sitting right next to Matt Olson
17 here of Burns & McDonnell, and -- there's Matt, not
18 you -- and he'll be talking about that.

19 Reliability, Resiliency, and Cyber
20 Security is jointly led by Professor Manimaran
21 Govindarasu at Iowa State. And the reason we went to
22 Iowa to do this is that Manimaran is the chair of the

1 IEEE Working Group on cyber security for power grid.
2 And so he has access to all of the talent and all of
3 the electrical engineering professors and industry
4 engineers. And he's co-leading that with Dominic
5 Saebeler over there, working out of the Commerce
6 Commission on Cyber Security.

7 Now, should we stop with those three,
8 Katharine, and do the overviews? Or I could go ahead
9 and introduce all of them.

10 MS. KATHARINE McERLEAN: You can introduce all
11 of them.

12 DR. SAUER: Okay. I'll do the others.

13 Those three have been in existence and
14 been meeting, I would say, for the entire spring up
15 till today.

16 But also Working Group No. 4 is
17 monitoring consumer and the commun- -- the customers
18 and the community. Marty Cohen, on my right here, is
19 the Working Group chair. He's the head of Cohen &
20 Associates.

21 And No. 5, Electricity Markets, these
22 are reasonably new ideas. What used to be the

1 entirely regulated utilities now have certain
2 competitions, and Lynne Kiesling from Purdue -- I
3 don't know if Lynne is here -- she is leading that
4 Working Group.

5 Mary Gade is leading Working Group
6 No. 6, which is on regulatory, environmental policy
7 issues. These are things that our commissioners
8 might be struggling with and being asked to implement
9 some ideas that come out of that Working Group.

10 And finally, Working Group No. 7 is a
11 very critical one, ratemaking. How are the finances
12 going to work? Who's going to pay for the SmartGrid,
13 the NextGrid? And so the ideas for ratemaking, Carl
14 Pechman and Ken Costello from a NARUC. NARUC is
15 the...

16 DR. GROSS: National Association of
17 Regulatory --

18 DR. SAUER: National Association of Regulatory
19 Utility --

20 DR. GROSS: "C," Commissioners.

21 DR. SAUER: Commissioners. Okay.

22 And I don't think either Carl or Ken

1 are here, but we can talk about -- their Working
2 Group just recently started, and will be the last one
3 to discuss the rates. So I think that's it.

4 And our process that we submitted and
5 asked for people to follow is that we will receive
6 the draft -- we will receive the draft chapters from
7 the ICC staff, and the ICC staff is working with
8 those Working Group chairs and coordinating the
9 submission of that. We will then look at those draft
10 chapters.

11 And we have a team of -- a total of
12 five people: George and myself. We have a cyber
13 security who happens to be the Electrical & Computer
14 Engineering Department; he's a computer engineer,
15 Bill Sanders. We have two faculty in the power area
16 that we work in: Subhonmesh Bose, who is an
17 optimization person, a markets expert, and Alejandro
18 Dominguez-Garcia who is reliability and system
19 analysis.

20 And then, finally, we wanted a key
21 person. Illinois is known to be the -- one of the
22 biggest and, perhaps, the largest nuclear utility

1 industry in the United States. And so there are
2 questions about what should happen with nuclear and
3 what are the possible opportunities for that or the
4 problems that might occur when we go that way.

5 So we have a -- the head of the
6 Nuclear Engineering Department at the University of
7 Illinois who is a part of that our evaluation team.
8 And we'll be looking at, really, all of the Working
9 Groups. Nuclear is not a specific Working Group,
10 but every Working Group in there could probably have
11 something to say about nuclear and how it should be
12 utilized.

13 After we receive the chapters and we
14 have evaluated them, we will look for any possible
15 linkages between other chapters that need to be
16 smoothed over; identify the gaps, things that were
17 left out of the report. We had provided all the
18 Working Group chairs with core questions that we call
19 them, which are things that they should be looking at
20 in particular, and we will examine the product that
21 we get from them in light of those questions that we
22 gave to them earlier.

1 We will finally, then, identify and
2 give the final report document draft to the Illinois
3 Commerce Commission Staff for revision, if necessary,
4 by the Working Group chairs. Or if it's clear, we
5 will focus to ensure that there's an understanding of
6 the opportunities and challenges that are provided,
7 and we will submit a draft final report for public
8 comments.

9 So this is the first public comment
10 event that we're scheduling. The second one will be,
11 I believe it's in Urbana/Champaign, and the third in
12 Southern Illinois, Metro East or Carbondale. And
13 those three public opportunities are media -- are
14 mechanisms for everybody to give input to this
15 process for the next two or three months, finishing
16 probably in October or September.

17 And at the point of putting in the
18 draft to the Commission, the Commission will be
19 posting the draft final report for public comment on
20 the Web. So anyone can have access to it and ask
21 questions, make suggestions to change.

22 We follow the thing, it's called

1 Chatham House Rules here, Ryan. I think that's what
2 it is. Which means we do not associate ideas or
3 texts with individual names of people or companies.
4 So that takes the entire process to a good, open
5 level where people are not worried about commenting
6 and being labeled with what they commented on.

7 So that public draft will be of that
8 type, and that will be approved by the Commission for
9 final report in November and released in December,
10 and that's it.

11 Are there any questions about the
12 Working Groups or the process?

13 (No response.)

14 MR. SAUER: I'll take them at the end. Okay.

15 MR. COHEN: I think I'm next here. Am I right
16 about that, Katharine? Okay.

17 Let me introduce myself. I'm Marty
18 Cohen. You may have noticed I'm not Dr. Mohammad
19 Shahidehpour, but I am reporting on Working Group 1,
20 first of the 7 Working Groups.

21 By way of introduction, let me say
22 that NextGrid is a customer-focused process, and

1 ultimately what we do, broadly speaking, will be
2 judged on the value that it provides to customers
3 down the road.

4 So what does that mean? I can speak
5 from the point of view from a small customer, myself,
6 a residential customer. Down the road, I think a lot
7 of us will have solar panels on the roof. We'll have
8 battery storage in the basement or in the closet.
9 We'll have an electric vehicle in the garage. We may
10 have electric thermal storage for heating or
11 air-conditioning as electrification moves forward.

12 We'll be participating in demand
13 response programs to change our usage patterns in
14 real time. We'll be transacting, buying and selling
15 energy and other services perhaps. None of these
16 things, or very few of them we do today. All of
17 these will operate seamlessly and automatically, and
18 will be done invisibly to us to optimize, both for
19 the system and for own costs and our own behaviors.

20 So when is that going to happen?

21 Well, my mother would say, You should live so long.

22 But we know that it will happen; at least I firmly

1 believe it will. The vectors are all pointing that
2 way. That's the direction we're heading, and we're
3 already seeing, as George described, some significant
4 moves in that direction.

5 So where does that leave us? We have
6 to look first under the hood. That's what Working
7 Group 1 did or is still doing, looking at it from
8 the point of view of all customers and -- large and
9 small. We spent some time on the large customer
10 view, not just the small customer view that I just
11 described to you, but there will be big changes for
12 everybody.

13 So we have tried to address, in
14 Working Group 1, a whole set of questions about
15 technology and deployment and its integration into
16 the grid. There are all sorts of opportunities and
17 challenges posed by new technologies. We tried to
18 describe what they are, to look under the hood and
19 see the way it all works. So with that, we have 15
20 questions, and I'll quickly run through what they
21 are.

22 The first one we tried to address is,

1 How does the grid operate today? The second, Does
2 Illinois need a modern grid? What are the key
3 elements of a modern grid? How are customers' needs
4 changing over time? What values are provided by
5 distributed energy resources to the electric service
6 network? Looking at it historically, how has
7 restructuring of the industry in Illinois affected
8 the way the system is working for customers and also
9 physically? How has the oversight and operation of
10 the electricity supply chain evolved and continued to
11 evolve over time? What are the emerging technologies
12 that are affecting the distribution system; if I
13 could list them and describe them? What are the
14 opportunities and challenges of distributed resource
15 integration? What are the opportunities and
16 challenges of microgrids? What is a smart city? How
17 will transportation electrification affect the grid
18 and its users? How is distribution system planning
19 affected by the growth of distributed resources?
20 What are the determinants of distributed resource
21 value to the distribution system? And what is the
22 distribution platform concept; how might it be

1 valuable?

2 A whole range of issues that we tried
3 to look at, some in greater depth than others. But
4 before NextGrid is over, I think these will all be
5 looked at, not just by Working Group 1, but by other
6 Working Groups, where there's a lot of overlap in
7 content, and there'll be a thorough vetting of these
8 issues.

9 They're going to provide a whole range
10 of opportunities that these new technologies can
11 provide to the grid and people who use the grid:
12 more efficient asset utilization; improved
13 reliability, resilience, power quality; improved load
14 shape; better integration of distributed resources.
15 And we hope downward pressure on per unit costs as we
16 get a more efficient system with higher volumes due
17 to electrification spread out over a greater number
18 of units, fixed costs spread over a greater number of
19 kilowatt hours.

20 The prosumer facilitation, that is a
21 newer word, which I'm sure you've heard: producer and
22 consumer combine as one entity. We all may be

1 prosumers eventually, and we would want to transact
2 with our resources through a network.

3 Enhanced customer experiences:
4 Obviously, a key, huge opportunity that we certainly
5 will all make sure that NextGrid provides.

6 And of course, environmental and
7 social benefits of all these new technologies and
8 other opportunities that we've been identifying and
9 working on as a group.

10 At the same time, there are all sorts
11 of challenges. Let me enumerate those quickly. The
12 system planning in the face of uncertainty, as to
13 what will be on the system and where, is a big, new
14 challenge. Operations of running that system are
15 more complex due to the two-way power flows that we
16 didn't use to have.

17 The need for visibility and perhaps
18 control on some of the behind-the-meter assets are
19 going to be important in the distributed resource
20 world.

21 Siting of DER where it's most needed
22 because it's valuable some places, not so valuable

1 other places.

2 We don't know what the cost of grid
3 modernization is going to be. We have to make sure
4 that they are exceeded by the benefits and we make
5 sure also that the -- those who benefit, that is
6 everybody benefits. The entire customer base of the
7 utilities, all residents have to benefit from the new
8 technologies for this to be successful.

9 But people don't understand that.
10 There's limited access to and understanding of DER
11 technology right now, and there's also issues with
12 accurate and fair allocation and recovery of system
13 costs. And of course, there are other challenges as
14 well that we're working through and discussing.

15 So let me quickly just run through, to
16 you, our process. We've had six meetings with
17 Working Group 1, and there were 21 presentations by
18 experts of various fields. There is an initial draft
19 report that is underway, based on presentations and
20 discussion among the members, that is still being
21 worked on. And there have been a lot of
22 back-and-forth among the group members, both in

1 discussions and on paper or over the Internet, with
2 edits, comments, suggestions and a lot of good
3 information exchanged. And the final draft will be
4 ready soon of the Working Group 1 report, and that
5 will be distributed to the members and provided to
6 the U of I facilitators.

7 So with that, I will end so we can get
8 on to the public comments, which I'm looking forward
9 to.

10 DR. SAUER: Okay. Second, we have Matt Olson.

11 MR. OLSON: Good afternoon. Matt Olson, I'm
12 the director of electrical engineering at Burns &
13 McDonnell, in our networks information and automation
14 department. So I spent most of my time thinking
15 about the topics that we have in Working Group 2.

16 So in Working Group 2, we were asked
17 to look at metering, communications, and data. And
18 we spent our time discussing what are the
19 opportunities that we have with the future grid that
20 we're going to have, and what capabilities does that
21 allow us to enable in the marketplace.

22 And a key aspect of that is there's a

1 lot of uncertainty around what these technologies
2 will be, but making sure that we are developing an
3 open, flexible communication metering platform that
4 can support whatever technologies come about.
5 Because to think that today we will be able to predict
6 what those might look like over the next 20 years, I
7 think would find us leaving ourselves short. And we
8 want to build -- or have the systems and capabilities
9 to support any of these capabilities.

10 So I wanted to go through a few of
11 those key findings. And in the space of metering,
12 one of the key themes that was discussed was what is
13 a meter. Today, we all know what a revenue meter
14 looks like: under the glass, on the side of the
15 structure or in your basement or near your property.
16 But with all of these additional aspects, there's a
17 key need to understand what each one of them are
18 doing. We need to understand what your distributed
19 energy assets are producing, consuming, storing. How
20 are we going to sense that? And that may not be with
21 installing a dedicated device for each one of those
22 assets. We're probably going to trust the

1 information that those may share.

2 Now, we don't see the meter
3 necessarily leaving the side of the house anytime
4 soon. That might be the final settlement point. But
5 we're going to offer innovative time-of-use rates or
6 varying rates for, say, EV charging, then will that
7 rate bear the cost of having a dedicated meter
8 installed when we have smart electronics that have
9 those capabilities and have the ability to
10 communicate over some communication network.

11 We're already seeing that pressure
12 with dimmable streetlight controls, now that we have
13 the ability to individually control them. The
14 entities that own them would like to benefit from the
15 reduced energy consumption they have, and, you know,
16 many of the lights are not directly metered. So
17 we're starting to be asked those questions.

18 Another key thing in the metering
19 section was what frequency should we be collecting
20 information. And the conclusion was that more
21 frequently than we probably are today. And we need
22 to be prepared to collect it down to, potentially,

1 even a second-by-second interval.

2 But it's not necessarily going to be
3 something that every meter in the system does all the
4 time. There's not a need to collect detailed
5 information from every meter at all times and rates
6 during the day, depending on the rates that that
7 customer's participating in, the equipment that they
8 have in their home or business might change, the
9 frequency at which we talk to meters. And some
10 meters will probably be looked at as rollover meters
11 or a device that the grid is monitoring to establish
12 an operational liability, looking at voltage or
13 energy flow, and more specifically, on a more
14 frequent time period.

15 We then discussed data, and we are
16 gathering a lot of data today. And from the
17 discussions, it was clear that we need to come up
18 with ways for consumers to utilize that data in a
19 more efficient way. People -- the novelty of getting
20 access to new data, you will probably go look at it a
21 few times as a consumer.

22 We've looked at the usage statistics.

1 We're seeing a small fraction of all of the consumers
2 regularly look at their energy utilization on their
3 customer accounts. We think where data will become
4 most valuable is when there's automatic systems out
5 there that are consuming that data. For instance,
6 your car, your HVAC system automatically going out
7 and acquiring that information, and doing something
8 with it automatically on your behalf.

9 In doing that, we're going to be need
10 flexible APIs, or ways to access that information,
11 and to think that the information's all going to
12 monolithically flow through one communications
13 network. We're already seeing where you might buy a
14 smart thermostat and you communicate with it via your
15 smart phone via the Internet today. There is a
16 point, though, as we add more and more devices, that
17 we have to talk about the reliability of the
18 communication system.

19 So to transition into communications,
20 this is where a lot of the time in the Working Group
21 was consumed because there are many different facets
22 of this to consider. So to highlight a few of those,

1 well, it was clear that we're going to talk through
2 multiple different paths. Consumers will be able to
3 access some information over the Internet, but there
4 is a concern at some point if we're benefiting and
5 utilizing all of the aspects of distributed energy
6 assets, the control of those assets, at least the
7 communication about the grid state of those assets is
8 going to become critical to the stability of the
9 power system itself. And so we need a communications
10 infrastructure that is reliable enough to support
11 grid operations in the future.

12 Utilities already have a communication
13 system at the transmission level for this, and we are
14 now pushing that out to the individual metering
15 endpoints with AMI networks. But as we talk about
16 adding more and more data and having access to it at
17 higher and higher frequencies, it is imaginable, you
18 know, although the time frame is not clear, that we
19 will need higher bandwidth, lower latency networks to
20 communicate to all of the devices that are sharing
21 information in this smart grid.

22 We need it to be based on open

1 standards and protocols. The deployment of
2 technology over the grid goes fastest when it is
3 standardized. And we talked about the need for the
4 industry to make those standards not only statewide
5 in the state of Illinois, but countrywide for the
6 deployment of these assets. We don't want to -- we
7 want to be able to go to a store and buy a product
8 today. If you buy a smart thermostat and you wanted
9 to connect to your Wi-Fi network, you trust that'll
10 work because of the standardization process. We want
11 the same thing for smart inverters and EV chargers
12 communicating on to the utility infrastructure.

13 One area, from a regulatory
14 standpoint, that was identified that is going to be a
15 barrier to this is there will be need to be wireless
16 networks to make this communication possible. There
17 will definitely be an investment in fiber and high
18 bandwidth applications, but to talk to every device
19 at the edge of the grid, wireless will be a key
20 component to that.

21 And we do not have a nationwide policy
22 on the allocation of radio spectrum for the utility

1 grid. Again, an area if we can standardize, it will
2 make universal access. We talked about devices being
3 able to leave. Maybe be mobile and you take your EV
4 into another community, and it'd be able to talk to
5 your meter to find out what the real-time price of
6 electricity is and be able to charge.

7 Today, we have that capability over
8 the Internet, but we want to make sure that when we
9 have to be able to control those devices, we have the
10 same ability over the controls network. And
11 standardizing on spectrum and communication protocols
12 will be a key aspect of that.

13 Lastly was Segmentation and Security.
14 We want one converged communication architecture to
15 meet all of our needs for metering controls, data and
16 information sharing. But that has to be done in a
17 secure way so that we know who's being allowed to
18 access these networks and what they're participating
19 and doing on those networks, as well as being able to
20 segment the network into different pieces for
21 different applications. We want potentially critical
22 control messages to be segmented away from maybe

1 pricing signals or information sharing.

2 And one of the things we identified is
3 there is an opportunity in making the investment in
4 this critical infrastructure for a control of the
5 power grid to benefit other aspects of society,
6 either via public safety or facilitating broadband in
7 communities that don't have access to it. And so
8 marketing the excess capacity and the policies around
9 how excess capacity would be sold, it was the key
10 aspect, but then how, also, is that going to be
11 secured. How is information going to be prioritized
12 and segmented on the network.

13 A little bit from a process
14 standpoint, we've had four meetings, robust
15 discussion in all of them, and we have now concluded
16 with writing our chapter. And the final draft -- the
17 first proposed final draft was posted this week for
18 the Working Group to comment on. So within the next
19 couple of weeks, we will be wrapping up our work and
20 turning our work over to the ICC.

21 Thank you.

22 DR. SAUER: Okay. Thank you, Matt.

1 And any quick burning questions for
2 Matt?

3 COMMISSIONER ROSALES: Quick burning question.

4 DR. SAUER: Yeah.

5 COMMISSIONER ROSALES: Did you answer a
6 question about protection of the data?

7 MR. OLSON: We did talk about how the data is
8 being secured today and how you access the data, and
9 what the need is for providing easy access for that
10 data. We did not directly address the question of
11 specifically how the data's going to be encrypted,
12 today or -- I guess today it is being encrypted and
13 there wasn't a feeling that it wasn't sufficiently
14 not being protected, but we didn't talk about how
15 that would be changed going forward.

16 There was a long discussion, though,
17 about how many steps and the clicks it takes to get
18 access to the information and how that can be
19 facilitated in the future.

20 DR. SAUER: Great introduction to the Working
21 Group No. 3, Dominic Saebeler on Reliability,
22 Resiliency, and Security.

1 I meant to ask in the beginning, How
2 many people here have had a blackout in the last two
3 days?

4 CHAIRMAN SHEAHAN: Last two days?

5 DR. SAUER: Yeah, the last two days. Storms
6 and -- storms in Champaign/Urbana.

7 Okay. Go ahead.

8 DR. GROSS: Mostly in Urbana.

9 DR. SAUER: Mostly in Urbana, a 10-hour
10 blackout.

11 All right. Dominic?

12 MR. SAEBELER: Good afternoon. Good afternoon.
13 I got nothing. Oh.

14 CHAIRMAN SHEAHAN: Speak up. It's on. You
15 have to push it.

16 MR. SAEBELER: It's on. I've pushed it; it's
17 on. Hello? That's better. Okay. Do I get an extra
18 30 seconds? All right. Good.

19 All right. Good afternoon. I'm
20 Dominic Saebeler. I'm the director of Cyber Security
21 and Risk Management for the Illinois Commerce
22 Commission. I'm happy to be here today. Professor

1 Govindarasu had a family commitment with his
2 daughter, so he wasn't able to make it. So I'm going
3 to present on both of our behalves today.

4 I'm going to take a few minutes and
5 walk you through how we arrived at the place we are
6 today from April 11th, and then in the last half, I'm
7 going to talk a little bit, substantively, about some
8 of the things we've done in the different meetings.

9 There's Professor Govindarasu.

10 Okay. So we have a pretty large
11 group, about 32 different members representing many
12 different areas, disciplines, and expertise; it's a
13 great group. We've got a lot of feedback from the
14 group, and all of our discussions have been very
15 productive so far moving forward, including one we
16 had this morning at 10:00 o'clock.

17 So we were challenged with looking at
18 a very broad topic: Reliability, Resiliency, and
19 Security. Professor just mentioned the blackout,
20 and, you know, a lot of what we're looking at is kind
21 of the underpinning of what all the other Working
22 Groups are studying and making sure that's all

1 possible and continues to work. You know, that it's
2 available; that it's, you know, able to recover
3 quickly from events that happen; and that it's, you
4 know, secure in many different capacities. So we'll
5 talk a little bit more about that as we move forward.

6 So obviously resiliency is a bio
7 thing, and this diagram just shows how many
8 billion-plus-dollar, impactful-climate related events
9 have happened just in 2017. So it happens a lot
10 unfortunately. And being able to recover quickly
11 from it and move forward and allow the economy to
12 proceed, it minimizes those negative impact costs.

13 A liability -- obviously, the systems
14 have to be able to withstand an impact and not go
15 down. Some events, like Professor Sauer mentioned,
16 you can't avoid a blackout. Sometimes it's going to
17 happen just because Mother Nature exerts its will.
18 But we're trying to, you know, talk about activities
19 that can try to prevent that from happening as much
20 as possible, as well unfortunately, today,
21 intentional acts by people who are trying to do
22 things to disrupt the environment, which brings us to

1 Security.

2 One of the key elements that we're
3 talking about in our discussion are activities and
4 actions that can be done to put the grid itself, the
5 utilities, and then different players in the industry
6 that keep the grid up and functioning, moving forward
7 and avoiding unnecessary disruptions that are
8 intentional or man-made.

9 We decided to break this topic down
10 into four categories. It's a pretty broad topic, and
11 if you started just having a general discussion, you
12 can kind of bounce around a little bit. So we broke
13 it down into four categories: Technology, People,
14 Process, and Regulation and Compliance.

15 We've had five meetings to date. Our
16 first meeting was on April 11th in this room, we
17 started. We've had four subsequent meetings, the
18 last this morning. And in each of those meetings, we
19 had very productive discussions over a three-hour
20 period of time.

21 In each meeting, we had presentations.
22 Professor Govindarasu and myself as well as the

1 chairman and -- from the ICC made opening
2 presentations. And then we had industry players,
3 Ameren, ComEd, MISO, and PJM, give their perspectives
4 on the direction they're going in.

5 In our second meeting, we focused on
6 Technology. Again, we had some really good
7 presentations from different members of the industry,
8 digging into technology specifically.

9 And then we had a meeting on People &
10 Process. Again, we had three very good presentations
11 focused on those elements.

12 And then finally, we had a meeting at
13 the end of May to focus on Regulation and Compliance,
14 and again, there were three more presentations. Our
15 format was we started the meeting with an hour of
16 presentations, and then we spent two hours just
17 digging in and discussing the topics, and making sure
18 that we're focusing on the right things.

19 So in the last half of my 10 minutes,
20 I'm going to talk a little bit about the substantive
21 elements that we talked in our meetings. The first
22 area, Technology, I'm not going to read this to you.

1 This is more illustrative of how we approached the
2 process.

3 The first column vertically is
4 Challenges; the second is Opportunities. Then we
5 have a Solutions, Education, and Potential Action
6 Items buckets. And what we try to do is tee up
7 Challenges and then talk about what we could do in
8 the way of opportunities to address those, and then
9 potential solutions, et cetera. And like I said, the
10 conversations were very productive, a lot of
11 participation from the group.

12 We came away with a few key elements.
13 Internet thinks, obviously, is a pretty important
14 factor, a lot moving parts, a lot of extension of
15 contact and interaction with the grid that's
16 happening, a lot of new technologies, obviously,
17 being implemented in the region. The possibilities
18 are endless, which creates a lot of issues with
19 security, obviously, and the potential for impactful
20 things happening. So we spent a lot of time talking
21 about that.

22 And then we moved on to People in the

1 second meeting, and again, we followed the same
2 format, and started to flush out -- this information
3 is all on the web page, our presentations are all on
4 the web page and those presentations contain this
5 content. So if you want to read this on your own,
6 feel free to do so. I didn't want to take the time
7 today to read it to you.

8 But from a people standpoint, we
9 really focused a lot on the talent gap in the cyber
10 area. There's definitely a need for more talented
11 people in that space. You know, as the intentional
12 actions of countries and individuals increases and
13 potential for threat on the grid is very real, we
14 recognize that this is an area of significant focus.

15 What -- we also focused on
16 collaboration within the industry and the players
17 working together as well with the government to try
18 to prevent things from happening, and keep the grid
19 up and running and resilient as possible.

20 And then just training employees, you
21 know, from being the source of the problem. You
22 know, the more educated they are, the less likely

1 they are to create an issue unintentionally, or
2 sometimes intentionally.

3 The fourth area is Process. There's a
4 lot of different things you can do to address these
5 complex issues. You know, metrics are important;
6 doing risk assessments, both internally and
7 externally, bringing players in to help you with
8 that; following approaches like defense indepth;
9 approaches to cyber security, following standards
10 like NIST, and then just, you know, creatively coming
11 up with ways to implement a very intelligent and
12 expanding grid from a technology standpoint.

13 Finally, we focused on Regulation and
14 Compliance, and in that area, we've seen that the
15 grid has evolved from a very voluntary, self-policing
16 environment to one that's much more prescriptive over
17 time with a series blackouts. And then at the end of
18 the 20th Century and the beginning of the 21st
19 Century, we've seen, you know, more input from the
20 government, the creation of FERC and NERC, and
21 regulations like NERC CIP that focus on the
22 transmission and generation side of it.

1 The distribution side of it is still
2 somewhat voluntary, but a lot of the companies are
3 adopting some of the best practices that are being
4 implemented in the other areas and focusing them on a
5 distribution side because they work, and while
6 they're not required, they make a lot of sense.

7 We also talked about, you know,
8 potential for audits and third-party impact and just
9 heightening compliance. And then we want to make
10 sure compliance isn't done ahead of security, but in
11 combination with it. Being secure should also make
12 you compliant instead of being compliant just for the
13 sake of being compliant.

14 So we're at the stage right now where
15 we're drafting. We had a meeting this morning; we
16 started talking a little bit our content. And
17 Professor Govindarasu and myself, and the chairman
18 works with me, are doing some preliminary drafting.
19 We received some white papers from the members.
20 We're looking at the presentations and coalescing all
21 that material. And over the next week or so, we're
22 going to be coming up with the first draft, sharing

1 that with the group, and then hopefully get that over
2 to the university so that they can look at it and
3 follow the process that the professors earlier
4 described to you.

5 So we're making good progress. We'll
6 have another meeting in two weeks to talk about the
7 draft, and in the next two or three weeks, start to
8 wrap up.

9 That's it. Thank you.

10 DR. SAUER: Okay. Thank you, Dominic.

11 Any quick question for the security
12 people?

13 (No response.)

14 CHAIRMAN SHEAHAN: No questions? Okay.

15 I think we're going to take a
16 10-minute break and we'll be back about five minutes
17 after 2:00.

18 Thanks.

19 (After a short recess, the
20 session resumed as
21 follows:)

22

1 CHAIRMAN SHEAHAN: Commissioner Palivos is
2 going to highlight a few areas that we think deserve
3 to be underscored, and then we're going to get into
4 the Public Comment section.

5 So Commissioner Palivos?

6 ACTING COMMISSIONER PALIVOS: Well, first I
7 want to turn your attention to the NextGrid calendar,
8 which isn't available for display right now, but it
9 is available on the NextGrid website at
10 www.nextgrid.illinois.gov.

11 Stakeholders who would like to weigh
12 in, but are not Working Group members, are encouraged
13 to submit academic research reports, white papers,
14 case studies, and comments to the NextGrid meeting
15 agendas, presentations, meeting summaries, and draft
16 working group reports. Please visit the web site for
17 instructions on where to submit these materials. All
18 Working Group agendas, presentations, and summaries
19 will be published online so that all stakeholders can
20 submit comments and participate in the dialogue.

21 As Chairman Sheahan mentioned in his
22 Opening Remarks, the ICC will host two more NextGrid

1 public meetings and update and comment sections later
2 this summer. These meetings will be held in
3 Urbana/Champaign and Carbondale, respectively, later
4 this summer, and will feature updates from the
5 remaining Working Groups. Dates and agendas for
6 those meetings will be posted on the NextGrid web
7 site once they are confirmed.

8 Please be sure to visit and subscribe
9 to the NextGrid web site for additional information
10 and updates. And on behalf of the Commission, thank
11 you for your time and being here with all of us.

12 CHAIRMAN SHEAHAN: Thank you, Commissioner.

13 Annette Beitel is our -- one of our
14 senior consultants on the project and is going to
15 facilitate the Public Comment Session.

16 Annette?

17 MS. BEITEL: Thank you, Mr. Chairman.

18 At this time, we would like to open
19 the floor for public comment. We will first
20 recognize those who registered in advance to speak.
21 I will call your name in the order in which the
22 registration was received. We will then open up to

1 those who are in the room in Chicago and Springfield.
2 If you would like to speak and did not indicate so
3 beforehand, please fill out a speaker card and you
4 will be recognized in the order in which it was
5 received.

6 I will alternate between speakers in
7 Chicago and Springfield as time --

8 MR. SAEBELER: Switch -- that's my broken one.

9 MS. BEITEL: -- permits.

10 MR. SAEBELER: Right.

11 MS. BEITEL: Thanks.

12 In order to accommodate as many
13 speakers as possible, each speaker will have two
14 minutes to provide comments. Timecards will be
15 displayed for your reference. Should time run out,
16 or as a supplement to a comment, we invite you to
17 provide written comments of any length, which will be
18 shared with a study leaders. Please do so by
19 e-mailing icc.nextgrid.illinois.gov. All the contact
20 information we mentioned here is also available on
21 the NextGrid web site.

22 If you have a question, please

1 understand that the questions may not be answered in
2 today's session, but will be considered by the
3 Working Groups in their deliberations.

4 To help facilitate free and open
5 discussion and the unrestricted exchange of
6 information and ideas, stakeholders and participants
7 in the NextGrid study agree that statements made,
8 positions taken, and documents and papers provided by
9 a stakeholder or a participant will not be used in a
10 manner adverse to the proponent, to the speaker by
11 other stakeholders or participants in any subsequent
12 proceeding or litigation including matters before the
13 Illinois Commerce Commission or the Federal Energy
14 Regulatory Commission, or before any other federal,
15 state, or local governmental court, tribunal, or
16 authority.

17 Finally, as required by the Open
18 Meetings Act and Commission rules, a court reporter
19 is present. Your comments will be made part of the
20 record. However, the Commission cannot rely on them
21 to resolve any disputed issues of fact in any
22 contested cases currently before the Commission.

1 I want to thank you again for being
2 here to offer comment on this important study for the
3 State of Illinois.

4 Our first speaker will be Professor
5 Pete Sauer from the University of Illinois.

6 DR. SAUER: Thank you, Annette. It's good to
7 know the senior consultant and to sit next to her,
8 then I get to speak first.

9 I wanted to start by thanking all of
10 you that went to the trouble of coming to this
11 particular meeting. It's nontrivial and requires a
12 real dedication on your parts, so thank you for
13 coming.

14 If anybody wants to make comments in
15 addition to visiting the web site, I'm happy to take
16 e-mails or phone calls down in my office at the
17 University of Illinois. You can find me, just look
18 up sauerkraut without the "Kraut," and you'll find me
19 there.

20 And finally, I wanted -- there may not
21 be time; we'll forget -- that the ICC staff is the
22 one that is making all this happen. You can imagine

1 those seven Working Groups, each of them involving
2 maybe 50 people or more in person on the meetings --
3 okay, Katharine.

4 (Laughter.)

5 DR. SAUER: I wanted to recognize Katharine and
6 Terrence. They are the ones that have made this
7 happen. We have reaped the benefits of their
8 organizational skills, and we have not had to get
9 involved in the scheduling. We can devote our entire
10 time to the preparation of the Report, and that's a
11 huge benefit and value.

12 So thank you, Terrence, thank you
13 Katharine.

14 (Applause.)

15 MS. BEITEL: Our second speaker is Mr. Kevin
16 George Miller, who's the director of public policy at
17 ChargePoint.

18 MR. KEVIN GEORGE MILLER: Thank you very much.

19 Kevin Miller from ChargePoint; I'm the
20 director of public policy. I wanted to thank the ICC
21 staff and all the folks in the Working Group. I have
22 participated, so far, in two. I'm looking forward to

1 round that out with a hat trick with Working Group 7.

2 ChargePoint is the nation's largest
3 network of electric vehicle charging stations. We've
4 got 50,000 EV charging stations in our network, over
5 1,400 of which are in Illinois.

6 Even though we're a Silicon Valley
7 company, all those stations are Illinois owned and
8 operated. We design and manufacture the stations,
9 and we sell them to the independent site hosts.

10 EVs are leading too paradigm shift in
11 transportation when the folks are refueling their
12 vehicles on -- when they arrive at a destination
13 rather than on their way to a destination, which
14 presents an opportunity to manage that long-term
15 charging to take place in a way that's beneficial to
16 the grid.

17 There is a dynamic and growing market
18 in Illinois as for EVs as well as for EV charging
19 hardware and software. So as we consider the
20 opportunities moving forward, we should think about
21 what are the ways in which that support can be
22 sustainable.

1 Around the country, regulated
2 utilities and competitive EV charging industry
3 stakeholders are collaborating to catalyze growth.
4 And those most successful partnerships have been ones
5 in which a wide range of hardware and software
6 solutions are provided. And site hosts themselves
7 can have control over pricing and access to the
8 stations deployment and premises.

9 Thank you all very much for your
10 continued effort on this issue and for considering
11 transportation electrification in the NextGrid
12 proceeding.

13 MS. BEITEL: Thank you.

14 Our next speaker is Mr. Jonathan
15 Roberts, Director of Development, Soltage.

16 MR. JONATHAN ROBERTS: I have no comment.

17 MR. SAEBELER: He said "no comment."

18 MS. BEITEL: Oh. No comment. I'm sorry. I
19 didn't hear. Okay. Thank you.

20 All right. Mr. Craig Shuttenberg,
21 Senior Consultant, Satori Energy.

22 (No response.)

1 MS. BEITEL: Dr. Timothy Gerrity, Principal,
2 ACT.

3 (No response.)

4 MS. BEITEL: Christopher Villarreal, president
5 of Plugged In Strategies.

6 MR. CHRISTOPHER VILLARREAL: No comments.
7 Thank you.

8 MS. BEITEL: Layton Olson, Facilitator,
9 Internet Public Trust.

10 (No response.)

11 MS. BEITEL: James Gignac, Lead Midwestern --
12 Midwest Energy Analyst, Union of Concerned
13 Scientists.

14 MR. JAMES GIGNAC: No. Nothing. Thank you.
15 Pass.

16 MS. BEITEL: Mr. Warren Lavey, adjunct
17 professor, University of Illinois.

18 MR. WARREN LAVEY: Thank you. I'll still stick
19 to two minutes. I'm not assuming that I have any
20 more time. I do have a statement that I'll submit
21 for the record.

22 To address Illinois' opportunities and

1 reforms for emerging electric grids, I offer two
2 lessons from my work as a member of the Illinois
3 Commerce Commission's Blue Ribbon Telecommunications
4 Task Force in 1990 and 1991. We were similarly
5 tasked to provide guidance on transformative
6 regulatory models, technologies, and markets.

7 For telecom networks, I recommended
8 expanding cost-based pricing options for customers.
9 Off peak discounts help avoid expensive peak-load
10 capacity and incentivize efficient actions by
11 customers. Also, I supported integrating into
12 networks, storage capacity for data and information
13 processing from various providers. These
14 capabilities facilitate innovative offerings and
15 efficiencies.

16 Now, NextGrid should endorse these two
17 same principles. Time-varying electricity pricing
18 will take advantage of Illinois's investment in over
19 5 million smart meters. Build on the savings for
20 customers and networks from early experience with
21 peak-time incentives and improve human health and the
22 environment.

1 Also, adding storage to electricity
2 grids would save costs and enhance reliability. They
3 would facilitate renewable power systems and protect
4 human health and the environment.

5 My statement goes into further
6 analysis and support for these points on time-varying
7 rates and storage.

8 Thank you.

9 MS. BEITEL: Martin O'Shield, CEO, WindyCitySDR

10 (No response.)

11 MS. BEITEL: Chris Townsend, Energy Attorney,
12 NextGrid Coalition.

13 MR. CHRIS TOWNSEND: Chairman, Commissioners,
14 thank you very much for the opportunity to address
15 the Commission in this setting.

16 Chris Townsend, on behalf of the
17 NextGrid Coalition, which includes some of the
18 largest commercial and industrial energy users in
19 northern Illinois as well as members of the
20 competitive supply community, agents, brokers, and
21 consultants, and the energy project developers.

22 The NextGrid Coalition approaches

1 these energy issues from the perspective of the large
2 energy users looking at procompetitive market and
3 perspective. NextGrid represents an opportunity to
4 build upon the success of the competitive market in
5 Illinois. They've empowered consumers and saved
6 Illinois customers billions of dollars.

7 The NextGrid Coalition has been very
8 active in the NextGrid process. Their members are
9 on, actually, four of the seven Working Groups, and
10 we've been monitoring the other Working Groups to the
11 extent possible. I'm pleased to say that there have
12 been a number of very good conversations. The number
13 of topics, as you can hear, has been very diverse,
14 and it's been robust participation within those
15 Working Groups.

16 Most recently, a NextGrid Coalition
17 member of a large manufacturer, I gave a presentation
18 to the Working Group 4 Working Group meeting and it
19 was very well received, giving the perspective of an
20 actual user out there in the community, a voice that
21 is sometimes passed up when we're talking about the
22 utility of the future, thinking about that

1 large-energy-user perspective and how they can
2 engage.

3 The NextGrid Coalition appreciates the
4 work of the Commission, of the staff, of the Working
5 Group facilitators, and all of the stakeholders who
6 have been participating in those Working Group
7 sessions, and we look forward to working with you to
8 continue to build on the success of the Illinois
9 market.

10 Thank you.

11 MS. BEITEL: Toba Pearlman, Staff Attorney,
12 NRDC.

13 MS. TOBA PEARLMAN: No comment.

14 MS. BEITEL: My final speaker card is Larry
15 Crittenden, Carbon Cash, Consultant.

16 MR. LARRY CRITTENDEN: Thank you for the
17 opportunity to speak for just a moment. I'll try to
18 be brief.

19 First of all, I'd like to express
20 thanks to the Commission and to everybody working on
21 NextGrid for all the work that you have done. I'm
22 someone, obviously, who was late to the party, but

1 hope to learn quite a bit as a result of attending
2 here today and following the work of the group.

3 I'm a consultant based in Michigan. I
4 represent, today, arbnco, which is a company in the
5 United Kingdom that has, for the past several years,
6 been involved heavily in building-performance
7 modeling and also measuring building performance of
8 commercial buildings in order to meet strict
9 standards, regulatory standards that they have in the
10 UK.

11 I'm also here today to represent
12 Carbon Cash, which is a fairly new idea that
13 organizes and encourages both reduction of carbon
14 emissions and peak demand on utility systems. Carbon
15 Cash actually has a little bit of a presence already
16 here in Illinois. We'll be starting a small
17 proof-of-concept pilot with the folks at ComEd coming
18 up here in just a few days.

19 So with that, I will stop the pitch,
20 and if anybody has questions, I'd certainly be happy
21 to answer them. Again, I appreciate very much the
22 chance to be here and all the work that has been done

1 so far.

2 Thank you very much.

3 MS. BEITEL: Thank you.

4 So I have no additional speakers.

5 CHAIRMAN SHEAHAN: Great. I think that
6 concludes our program.

7 Before we adjourn, I just wanted to
8 add one more thanks to our ICC staff, the U of I, the
9 facilitators of our Working Groups, the Working Group
10 members, the audience, and the public speakers for
11 being here today. It's been an informative update.

12 We want to reiterate our interest in
13 hearing from all stakeholders, as Professor Sauer
14 volunteered. You can send your comments either
15 through the ICC staff, on our web portal, or reach
16 out directly if you prefer. We really want to
17 encourage participation if you have drafts or white
18 papers. We'd love to see them.

19 So if you would just join me in a
20 quick round of applause for all of our participants.

21 (Applause.)

22 CHAIRMAN SHEAHAN: And with that, we're

1 adjourned.

2 Thank you.

3 (Whereupon the above
4 session was adjourned.)

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