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STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Case 14-M-0101 Proceeding on Motion of the Commission in
Regard to Reforming the Energy Vision

TECHNICAL CONFERENCE

Thursday, July 10, 2014
9:00 a.m.
Meeting Room 6
Empire State Plaza
Albany, New York

COMMISSIONERS:

AUDREY ZIBELMAN, Chair
DIANE X. BURMAN
GREGG C. SAYRE
PARTICIA L. ACAMPORA
GARRY BROWN

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2 (The technical conference
3 commenced at 9:07 a.m.)

4 CHAIR ZIBELMAN: Secretary
5 Burgess, do we need to call this Commission meeting
6 to order?

7 SECRETARY BURGESS: Yes, we do.

8 CHAIR ZIBELMAN: Okay. Well,
9 we're going to call the mission -- the meeting to
10 order. Are there any things that we need to add to
11 the agenda?

12 SECRETARY BURGESS: There are no
13 changes in the agenda this morning.

14 CHAIR ZIBELMAN: Thank you.

15 Well, first of all, I would like
16 to explain for my tardiness -- was a little bit, I
17 was explaining to my colleagues, that I got so wet
18 last night in the storm, it took me this long to
19 dry out. It was a rough night. I hope no one
20 else -- I hope you all -- no one -- no one had
21 problems getting here if you were traveling last
22 evening. Thank you to all the participants, and
23 for those who are traveling out of town. We
24 appreciate you coming for an earlier start.

25 Do we have a count approximately

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2 on how many people we have attending?

3 A.L.J. STEIN: We don't have a
4 count of how many people are here today, although I
5 think we ordered two hundred and fifty chairs and
6 we just sent out for an extra hundred.

7 CHAIR ZIBELMAN: Okay. So the
8 point of this and -- is that certainly our -- our
9 events regarding REV have broken all records. I
10 really appreciate everyone's attention to this
11 matter. The first collaborative meeting on May
12 12th and even the symposium at Albany Law School
13 had about two hundred and seventy-five people,
14 which is big even by New York's standards. So
15 thank you all for all your work.

16 I am really looking forward to
17 today. We're going to be hearing the reports from
18 the working groups and the committees that have
19 been working with us since May 12th on this -- on
20 this initiative. You know, for me, today is really
21 a great time. I -- we had an opportunity, I think
22 all of us, to review your presentations. There's
23 so much information and I think that the breadth
24 and the comprehensiveness of this initiative that
25 we're trying to undertake in New York is indicative

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2 of the information as laid out in the various
3 reports.

4 Just to, you know, be clear on
5 this is what we see as the thing -- is that the
6 items, that the collaboratives, the working groups,
7 and there are many, many more people who have been
8 involved in this have been doing is really helping
9 drill down, discovering the key information that we
10 need to know, trying to understand what we know
11 today, what we need to develop, so that as we move
12 forward with REV, we have a -- both a comprehensive
13 record to make our decisions and really a good path
14 so that we're -- we're setting ourselves on the
15 right direction with the understanding that, as we
16 transform this industry, this is going to be a
17 journey. And we're going to take some very, very
18 important steps and we will continue to develop
19 these markets as all markets are developed over
20 time where we start with the fundamentals and --
21 and we move on.

22 And so I -- I see this as a huge
23 opportunity to get many people from the industry
24 and -- and I, you know, remarked upon the fact that
25 the individuals who have been involved in -- in

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2 these collaboratives represent really what I would

3 say the full gamut of folks who are engaged in the
4 energy industry. That would include, obviously,
5 the utilities, the energy service providers, the
6 N.G.O.s and other folks who have particular
7 interest, the environmental community, folks
8 representing consumers, folks representing vendors.
9 And I think with all of that, with that wealth of
10 information, it enables us to make a much better
11 decision.

12 I've, you know, had an
13 opportunity to talk to other states about what
14 we're doing in New York. There's a lot of
15 interest, obviously, because folks are -- are -- a
16 lot across the country are looking at these issues
17 and trying to see how to navigate through, and so
18 they're looking at New York.

19 So I would like to say that the
20 Commission is sharing that responsibility with all
21 of you, because we really do have all eyes -- a lot
22 of eyes on New York and we want to get it right and
23 we want to do the right things by the consumers in
24 New York. But one of the things that I think we
25 should all be proud of is -- is the process we're

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2 using. A lot of folks have asked me, well, how do
3 you do this without litigation. And I said -- and

4 I keep responding, I can't imagine doing this in a
5 process that was around litigation as opposed to
6 issue development because, as a result -- because
7 what we're getting is the insights of a lot of
8 folks.

9 And one of the reasons the
10 Commission is interested in having these technical
11 conferences is that we -- we want to hear directly
12 around what the issues are, and we want to have the
13 collaboratives because we believe, through the
14 collaborative discussions, we have a much richer
15 ability to develop the facts and then a deeper
16 understanding, of course, of then what's the right
17 path forward is how do we proceed to make sure,
18 again, that the interests of New Yorkers are going
19 to be best served.

20 So, for that, I really appreciate
21 this. I know that there's a huge amount of
22 meetings going on. A lot of facts have to be
23 discovered. It's very difficult sometimes, because
24 we're all used to being advocates, to think about
25 how to do this as a way as factual development as

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2 opposed to advocacy for a position. And I think
3 from everything I have, I know there are some
4 bumps, but there are always going to be bumps. But

5 in -- in general, I think, it's -- it's gone
6 extremely well, and I think the discussion today
7 will prove that out.

8 I also want to, again, express my
9 appreciation. I think I could say this for all the
10 commissioners for RMI and for REV, for the
11 additional hands that you're providing to us as a
12 staff as navigating this. And, again, of course,
13 to staff who I know are doing a lot of others
14 things besides REV for all the extra effort. So
15 I'm looking forward to the discussion today, and I
16 hope that this is a discussion.

17 We're going to be able to hear
18 presentations, ask questions. I know there are
19 other folks who are part of the co-conveners of the
20 parties in the room that are also available if we
21 have particular questions. And, to me, this is
22 really part of our -- important part of our journey
23 and as the commissioners and -- and I know, we
24 all -- we all learn when we hear each other's
25 questions. And so that's an important part of --

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2 of why we wanted to do this in as very open and
3 transparent way, which is the way we like to run
4 this Commission.

5 So, with that, let me turn it

6 over to Judge Stein. And both Judge Stein and
7 Secretary Burgess are here to keep us all on task,
8 and I appreciate that as well.

9 A.L.J. STEIN: Thank you very
10 much.

11 So, first, our objective today is
12 to put before you the results of an extensive
13 fact-finding project as the Chair was explaining.
14 And this technical conference and the filing
15 yesterday by the four working groups of their full
16 reports, which are now available on the Commission
17 website, these mark the end of this particular
18 collaborative process.

19 Commissioners, the panelists are
20 here to answer your questions and engage in a
21 conversation with you. And this is a conversation
22 that they've been having with each other since
23 mid-May. With that in mind, we'd like to open the
24 floor for question and discussion after each
25 panelist speaks. And -- and we have plenty of time

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2 set aside for -- both for the presentations and the
3 discussions.

4 Kate and I will be keeping time
5 to ensure that we both cover the prepared material
6 and have ample time for a robust -- robust

7 conversation, both with the presenters and we also
8 have a resource table which is, from where I'm
9 sitting, fairly visible at the other end of the
10 room. And those are -- those will be the people
11 who are co-conveners of the working group who are
12 not giving a presentation, but who are also experts
13 and represent, you know, parties that have been
14 participating in the effort. And they'll be
15 available for your questions as well.

16 Second, I want to just call your
17 attention to the scale of participation in this
18 data gathering process. Early this morning, I was
19 discussing this with someone who's been an active
20 participant in one of the groups. And I told him
21 that I had counted six hundred and twelve
22 participants in the four working groups. Now some
23 of that is some double counting, because, believe
24 it or not, there are people who participated in
25 more than one group. But he said, it tells you

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2 something, doesn't it. And I think that it does.

3 So these groups and committees
4 met at least weekly, sometimes more. The meetings
5 I attended were at least three hours long. And
6 they did this over a nine-week period beginning on
7 May 12th. They also invested many additional

8 hours, both crafting questions to go out to the
9 members of the working groups and responding to
10 those questions, putting things in writing, all of
11 which will be available on the Commission website,
12 and will be part of the record of this proceeding.

13 So I've calculated this number of
14 participants, this many meetings at three hours
15 apiece over nine weeks, and I came up with my own
16 metric, which I am submitting for the record in
17 this proceeding, of six thousand five hundred and
18 twenty-four person-meeting hours, have contributed
19 to the work here today, the work-product today, and
20 to the file reports.

21 So, obviously, this represents a
22 tidal wave of interest and concern about the issues
23 under consideration, but it also was marked by an
24 extremely collegial and constructive spirit, even
25 though the interest at stake -- the issues at stake

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2 are -- are of tremendous importance for the
3 participants. And many of them, maybe most of
4 them, maybe all of them have a lot on the table in
5 terms of the outcome of stakes.

6 Third, just to say a word more
7 about the working group process. Each of these
8 working groups was led by a group of co-conveners

9 which included staff and participants from each of
10 the constituencies that the chair was mentioning
11 earlier, each of these sectors, as well as
12 government academia and many other experts who
13 brought their wisdom and creativity to bear on this
14 project.

15 So the presenters you'll be
16 speaking with today include many of these
17 co-conveners. And also some co-conveners will be
18 available, as I said, at the resource table to
19 answer questions. They'll be introduced by the
20 staff in each panel, and your briefing book
21 includes the brief biographies of all the
22 presenters.

23 So these working groups were
24 charged with data gathering in four general areas.
25 I'm not going to belabor it. It's on the agenda,

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2 but platform technologies, market and platform
3 issues, customer engagement, and microgrids.
4 The -- I would -- I can pick out two things that --
5 to -- in my view, emerge from this process, broad
6 themes. And the first is a theme of potential, the
7 enormous potential for harnessing the REV vision,
8 these new approaches, new technologies for more
9 engaged and active customer base and for

10 integrating new technologies and clean technologies
11 into our energy system.

12 And, second, the theme of
13 barriers, the obstacles that are present in our
14 current system that need to be addressed or
15 analyzed in order to move forward with the vision.

16 So, that said, these groups had
17 the charge of data gathering, not of reaching
18 consensus or agreement on these specific issues.
19 The issue agenda was too broad and the time period
20 was too short to try to reach agreement or
21 consensus in these groups. And you'll see the
22 tension and the areas of agreement and disagreement
23 in the presentations.

24 And, Commissioners, please, you
25 know, feel free to ask the panelists is this --

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2 does everybody agree on this, how did it work out,
3 how was this controversial. That's part of what
4 went into the process. And so you're seeing kind
5 of a raw data package, rather than a set of
6 recommendations for action today.

7 And in that spirit, the people
8 presenting today are not representing their own
9 organizations. They're speaking on behalf of the
10 working group as a whole. And all of the

11 presentations went through a very rigorous process
12 of review by their own working groups, and have
13 come out as, let's say, representing the tenor of
14 the working group as a whole.

15 Fourth, I just want to put
16 today's events in the context, a broader context of
17 the arc of the REV proceeding as a whole and just
18 mention what's coming next, just so that you can
19 place today in that context. So today, it
20 concludes the collaborative data gathering stage of
21 track one which concerns market platform and
22 customer engagement issues.

23 On Tuesday, July 8th, the four
24 groups filed the full reports of their work, which
25 are voluminous and include many attachments of the

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2 presentations, the data, the participants. They're
3 very full reports. And in your briefing books, you
4 have the executive summaries of each report at your
5 fingertips today. Those reports highlight the key
6 findings of each group, their summaries.

7 So the REV proceeding is now
8 going to move onto the key policy issues in track
9 one. The data gathering effort was not concerned
10 with issues of policy, although, of course, those
11 overlap. But on July 18th parties will be filing

12 responses to a series of policy questions that were
13 posed by the staff on issues such as the identity
14 of the distributive service provider platform,
15 utility ownership of distributed energy resources,
16 the benefit cost framework, and the integration of
17 climate change objectives, to just name a few.

18 From the data gathered and the
19 responses to the policy questions and numerous
20 other resources that staff has drawn on, staff will
21 create a straw proposal, which will be issued on
22 August 22nd, which for the first time will put
23 forward concrete recommendations for your
24 consideration. Parties will, of course, file
25 comments on the straw proposal by September 22nd.

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2 And we expect that there will be a further
3 discussion before you, similar to this, although
4 about the policy issues. So it will be probably in
5 a somewhat different format sometime in the fall,
6 although the date hasn't been set yet. And the
7 anticipation that was contained in the order
8 instituting this proceeding was a Commission
9 decision on these matters before the end of the
10 year.

11 As to track two, which concerns
12 regulatory and rate making matters, parties will

13 also be responding to comprehensive staff questions
14 on those issues on July 18th. And a schedule for
15 discussion of those issues for staff proposals and
16 preliminary sessions such as this before you will
17 be set shortly with a Commission decision
18 anticipated in the first quarter of next year.

19 Are there any questions for me on
20 any of this or clarification before we jump in?

21 CHAIR ZIBELMAN: No. Thank you.
22 I'm good.

23 A.L.J. STEIN: Okay.

24 CHAIR ZIBELMAN: Everybody?
25 We're good. Thank you.

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2 A.L.J. STEIN: Okay. So let me
3 present our first panel on platform technology,
4 which is conferring -- convened, and will be
5 chaired by Mike Rieder.

6 MR. RIEDER: Good morning, Chair.

7 Good morning, Commissioners.

8 My name is Mike Rieder and I'm
9 the staff co-convener for working group two,
10 Platform Technology. Presenting today for the
11 working group, to my immediate right, is Tom
12 Mimmagh from Consolidated Edison, Forrest Small
13 from Bridge Energy Group, David Lovelady from

14 Siemens PTI, John D'Aloia from staff, and Peggy --
15 Peggy Neville from staff. Also with us today are
16 two co-conveners, Brian Horton from Consolidated
17 Edison, and Jim Gallagher from the New York State
18 Smart Grid Consortium.

19 In addition to my -- in addition
20 to Jim, Brian, and myself as co-conveners, Peggy
21 and David were co-conveners for this working group.
22 And I want to say it's our pleasure for being here
23 to be able to present the findings of the working
24 group two, Platform Technology.

25 I will give an overview of the

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2 working group, highlighting its objectives,
3 structure, and the process we employed. I will
4 also briefly summarize our key findings to keep
5 those in mind as we go through our presentations.
6 After I speak, members of the subgroups will report
7 out in their subgroups' objectives, actions, and
8 key findings. Peggy will then tie everything that
9 you've heard back together.

10 Before I continue, I would like
11 to thank the working group members, especially the
12 co-conveners, the subgroup leads, and our staff
13 team, for the tireless efforts that they have made
14 to make this report possible on such a very limited

15 timeframe. As you will see, the platform
16 technology working group has developed a great deal
17 of pertinent information, but only a small portion
18 of our work will be highlighted here today.

19 A complete report, as Eleanor
20 mentioned, was filed on July 8th and contains much
21 more information and it will be used to form
22 staff's straw proposal, again, which is scheduled
23 to be filed on August 22nd.

24 Staff's April 24 REV report put
25 forth a vision which a distributed system platform

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2 provider, or DSPP, will actively manage and
3 coordinate distributed energy resources. The DSPP
4 will also provide a market from which customers are
5 able to optimize their priorities while providing
6 and being compensated for system benefits. The
7 objective of this working group was to identify the
8 infrastructure and technology needed to create and
9 enable that flexible platform.

10 As a starting point, the working
11 group developed these guiding principles, which are
12 on the slide, which tie directly to the
13 Commission's policy objectives to guide us in our
14 discussions and our work efforts. Our scope was
15 specifically focused on the technologies needed to

16 create the platform. We did not focus on end-use
17 technologies, and we purposefully remained agnostic
18 to who the -- the DSPP is, whether it be utility or
19 third party.

20 After developing our guiding
21 principles, we then structured our working group
22 into four subgroups. The first, which will be
23 presented by Tom Mimmagh, level set the working
24 group but by putting us all on the same page as to
25 the visibility and capabilities of the current

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2 distribution systems and, more importantly,
3 informed the working group of utility projects that
4 are underway, testing new technologies that may
5 support the DSPP of the future.

6 The platform functionality
7 subgroup, being presented by Forrest Small, turned
8 the DSPP concept into a working definition to give
9 it structure. It then defined its potential scope
10 and roles, again, based on Commission's policy
11 objectives, to allow the subgroup to then identify
12 high level functional requirements.

13 The standards and protocol
14 subgroup, being presented by David Lovelady,
15 identified the standards, protocols, and system
16 architecture requirements that should be considered

17 in the creation of the DSPP to ensure commonality
18 among service territories and to support the
19 wide-scale integration of various forms of
20 distributed energy resources.

21 John D'Aloia of staff will then
22 present, on behalf of the platform technology
23 subgroup, how they used the high level functional
24 and system architectural requirements to begin
25 identifying and mapping currently available

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2 technologies to the DSPP functions.

3 This slide is intended to give
4 you a visual representation of the working group's
5 process and how each subgroup tied in and fed off
6 the other. We began with the Commission's policy
7 objectives to identify the needed DSPP platform
8 functionality. We then identified the technology
9 needed to enable that functionality. At the same
10 time, we evaluated the technology's maturity and
11 readiness while maintaining a level of commonality
12 and interoperability.

13 This process led us to our
14 current key findings. However, as we move forward
15 and as the DSPP evolves over time, we will need to
16 tie our findings back to the policy goals to -- to
17 ensure we continue down the right path.

19 technologies do exist in various stages of
20 maturity; however, an off-the-shelf comprehensive
21 platform system does not.

22 Finally, we found that the common
23 approaches are needed to assess evolving
24 technologies to assure interoperability and
25 consistency throughout New York and to support

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2 DSPPs that are flexible and scalable. With that,
3 hopefully, I -- with a very brief introduction, I
4 would like to turn over to Tom Mimmagh of Con
5 Edison to present for the existing utility
6 distribution systems and capabilities subgroup.

7 Thank you.

8 CHAIR ZIBELMAN: Thank you,
9 Michael. And appreciate, in particular yours and
10 Peggy's, I know, work in keeping us going on this,
11 as well as John's. I know that you guys have put
12 in lots and lots of hours on this. Thank you.

13 Any questions? Good.

14 Tom?

15 SECRETARY BURGESS: May I --
16 before we begin, may I just -- I -- we neglected to
17 say what the lighting system is over here just to
18 keep our speakers on track. Just so you know, when
19 you see this yellow flashing light, all the

20 speakers have been apprised the amount of time that
21 they have. When you see the yellow flashing light,
22 you have a minute left. When you see the red
23 light, it means your time is up.

24 So we ask you just to kind of
25 keep on track just because we do have a lot of

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2 information to cover today, and we want to make
3 sure that all the speakers have time to speak. So
4 when you see the red light, if you can begin to
5 wrap up, that would be appreciated. Thank you.

6 CHAIR ZIBELMAN: Thank you.

7 COMMISSIONER SAYRE: I do have
8 one question.

9 CHAIR ZIBELMAN: Okay. Go ahead.

10 COMMISSIONER SAYRE: Was there
11 any significant disagreement with the overall
12 concept that the DSPP platform to integrate all of
13 these functions is a good idea for the future?

14 MR. RIEDER: I -- I think the
15 working group at large is excited about the future,
16 and they -- they -- they see this as -- as an
17 opportunity. And it -- it has to be done in a
18 manner that makes sense, is cost effective, and
19 they're -- that benefits are associated with it.
20 So there was no major disagreement that this

21 potential -- there's potential benefits out there
22 in moving forward with this.

23 As far as the technology piece,
24 it -- it's not there now, but it -- the -- the
25 difference pieces are, so this will be packaged

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2 together and it will evolve over time.

3 COMMISSIONER SAYRE: Thanks.

4

5 CHAIR ZIBELMAN: Welcome, Tom.

6 MR. MIMNAGH: Thank you, Mike,
7 for the introduction.

8 Good morning, Chair.

9 Good morning, Commissioners.

10 I was asked to combine the
11 utility information that was presented as part of
12 the working group. When the working group started,
13 the participants asked for a level setting. You
14 know, what -- what do we have today in our
15 platforms and what do you think is being done that
16 is tied to the REV goals, and to what extent is it
17 set to move forward?

18 So we took that as a challenge
19 and we spent a one-day webinar for the working
20 group to discuss a lot of detail. The detail is
21 going to be summarized this morning for you. So

22 I'm representing the NYSEG and RGE operating
23 companies of Iberdrola, National Grid, Central
24 Hudson, and Con Edison.

25 So what we laid out was the fact

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2 that the existing platform technologies tied to
3 predominantly a distribution system all stem from
4 asset management, the concept that we all have
5 databases that define our assets. We try to tie
6 them to geographic locations. And there -- there
7 are currently tied to our customer information
8 systems. Where our customer is, what loads do they
9 have, what needs do they have, and how we pull that
10 information together to be used in system planning?

11 So that's predominantly thinking
12 about our engineering workforce and a load flow
13 analysis that have to take place so that we can
14 effectively design the system.

15 In addition to that, feeding into
16 operating systems about what's happening in the
17 system. And our control centers have to have a
18 level of visibility. And to the extent that we had
19 systems industry today, our control centers have
20 that capability. It certainly will need to be
21 expanded as we look forward.

22 We all have energy management

23 systems that tie into our transmission rates, and
24 so system planning emanates from that. I think the
25 key element on the very high level take out of that

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2 from the existing systems is that the technologies
3 have evolved over time.

4 We have some newer technologies
5 that have some of the most recent protocols in
6 architecture. We also have legacy systems that
7 have to evolve to combine. Most of the systems
8 that we have integrated, they've all grown up in
9 separate environments, different companies
10 providing information to utilities and different
11 platforms, and we provided interfaces between them
12 to gain value.

13 And as we move forward, we
14 understand that that integration was critical. And
15 my colleagues on the panel will be talking a lot
16 about that criticality as we move forward.

17 Central Hudson first talked to
18 the group about what are the goals that are tied to
19 the platform technologies in REV and what are
20 the -- some of the strategic components that are
21 tied to those goals? Certainly, our distribution
22 management system play into that. And the concept
23 of having a strong information system that ties the

24 assets and the real-time status is critical to
25 improving great efficiency.

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2 Definitely the existing
3 utilization of assets are tied into that. If you
4 don't have the visibility and you don't understand
5 the health of your system, you certainly can't get
6 better utilization out of those assets.

7 We are all working currently and
8 see the strategic components of devices and sensors
9 on our system as critical to understanding what's
10 going on, not just at our substations and at
11 transmission substations, but in the street, at
12 transformers that are within a couple of hundred
13 foot of a customer, so that we can better
14 understand the system components. And that ties to
15 both resiliency and the ability to understand
16 what's happening locally so you can get better
17 penetration of DER.

18 The component here we need to
19 talk about is the communication system. And you're
20 going to hear that combined throughout this
21 discussion that the existing systems, while they do
22 provide us value, need to be taken forward and
23 provide more value in the local distribution
24 knowledge.

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2 for what they thought was a direction utilities
3 were currently taking. The intent here was to say
4 we are already thinking about things that tie into
5 the REV process. And to the extent that the -- the
6 panel and the subgroups were looking at the details
7 of the functionality and technology, we wanted to
8 show the vision that we thought was already in
9 place.

10 So they laid out a process for an
11 integrated control system. It has to be
12 integrated; it can't be piecemeal. There has to be
13 an alignment of global standards and practices, and
14 we should be learning from the rest of the world
15 about what are the best practices of how systems
16 can combine and integrate.

17 The components of the integration
18 are evolving. S.A.P. is an example of it and
19 their -- their vision of resource planning, that it
20 has to be on a new platform, an evolving platform.
21 So all of the utilities have seen this as something
22 that we have to move to. We have to tie in our
23 geographic information. Some of our systems are
24 digital mapping, but they may not have the full
25 geographic information components. We have to move

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2 were borne of an individual system, and we had to
3 figure out how to tie it to other processes. The
4 infrastructure upgrades are going to be part of
5 that, whether it's intelligent devices such as
6 switches on poles, that we understand power flow,
7 we understand open and closed status, we understand
8 fault analysis, or whether it's the ability to have
9 tie points so that we can provide added resiliency.
10 Many of these components have been done for quite
11 some time in the state and we'll just be looking to
12 take it forward.

13 We have to have better load flow
14 analysis. Most of the power flow analysis products
15 that have existed in the world, quite frankly, have
16 considered radial-type processes and not power flow
17 from multiple points on the distribution system.
18 So we think the evolutionary process for the load
19 flow analysis tools are going to have to change.

20 We are very interested and have
21 been interested in voltage optimization. It will
22 become more critical when we have more generating
23 assets and DER in the local distribution grid.

24 Collectively, the process is, if
25 we have a DER availability in the local pocket, the

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2 utilities believe there is an opportunity to defer
3 some of the potential larger infrastructure
4 transmission and capital expenditures that we have
5 planned in the five, ten, fifteen, twenty-year
6 window. And to the extent that we can leverage
7 those assets and understand the local system, we'll
8 be able to provide those solutions rather than a
9 central upgrade.

10 National Grid provided quite a
11 bit of information about some of the existing
12 projects that they have. The -- the working group
13 asked us not to just focus on what we had going on
14 in New York, but to the extent possible, if we had
15 information from other states, let's leverage that
16 and understand what's going on.

17 National Grid talked about a
18 project that they have going on in Worcester,
19 Massachusetts, and that's a smart area, town. And
20 what they're looking at is AMI, smart meters
21 located for customers, solid communication system
22 being built out in that local pocket, the
23 information from their localized substation and
24 feeders. They're putting sensors and new smart
25 device switches out on their circuits so that they

2 can understand power flows and voltage and
3 optimization.

4 What's important in the process
5 is they're tying a lot of customer knowledge base
6 into it. They have an extensive program. They
7 have a local support office that has some of the
8 tools and customers can come in and learn about
9 what's being attempted. They're going to look at
10 different customer programs. They have four
11 opportunities for different programs there. And
12 they're going to be able to look at time-of-use
13 concerns during the day and when are you using
14 power, and what is the most efficient use of it
15 based upon a rate that I'm on. So that's a
16 learning process, and the expectation is that we
17 will all learn from that as we move forward.

18 They're also working on the
19 anti-islanding protection scheme in Potsdam. And
20 what that is, they've got multiple synchronous
21 and -- and induction generators in a localized area
22 on one circuit. And when you do that, you've got
23 to be concerned about what happens when that
24 circuit goes out of power as to whether or not
25 those generators are, in fact, back-feeding other

2 customers.

3 And there are protection schemes
4 and some of the folks on the panel will talk a
5 little bit more about that. It's -- that's a
6 critical element that we understand the proper
7 isolation happens when it's supposed to. And so
8 what they're doing is using power line carrier.
9 That is, communication over the power lines to
10 transfer signals when something happens and opens,
11 that something else should open. Very simple view
12 of it, but they've got a demonstration project they
13 expect to complete by the end of this year.

14 They're also working on a -- a
15 project that's in currently in planning mode, which
16 involves microgrids in Potsdam area and they've got
17 multiple partners in it, Clarkson University, a
18 bank, a hotel, critical infrastructure for the
19 state and the area that are part of that.

20 And they're going to build an
21 underground environment. They have a lot of
22 overhead exposure to storm events, via ice or heavy
23 snow, and the concern is what can they do in the
24 event that they have that. What kind of microgrid
25 could be in place? So they're actually planning it

3 to put a lot of technical information into what
4 controllers might be necessary to make that a
5 viable environment and cost effective. And the --
6 the intent is to learn from that. And that ties
7 into many other agendas that are playing out in the
8 state and with NYSERDA. NYSERDA is -- is
9 definitely part of that process.

10 The key here is these play right
11 into the objectives of what we're looking at in
12 REV. We -- we're -- we're important to understand
13 the cost benefit analysis, the customer response
14 and the integration associated with that, and the
15 integration of DER and how it can be done in a
16 favorable manner.

17 The -- the other key elements are
18 these are going to help the -- the knowledge-based
19 tools that come out of the process. As it is now,
20 the microgrid process and knowledge base of it
21 is -- is not well known, and we need to make it a
22 simpler process so that folks understand what's
23 happening and that they can leverage that going
24 forward.

25 Con Edison also laid out some

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2 information on demonstration projects. We laid out
3 a process on distributed energy resource management

4 system where we had D.O.E. money and partnered with
5 several entities, Siemens, TIBCO, Gridity 39:12,
6 Innoventive, and Verizon. And we wanted to show
7 how we could integrate those assets in with our
8 control center functionality. What's the real-time
9 knowledge about what's happening and how are we, in
10 fact, working it into our power core programs?

11 Real time, so if an event
12 happens, if I need to utilize those assets I can
13 signal them and I can get them to play in and
14 de-load the local grid. So that was the benefit
15 that was trying to be achieved there.

16 In addition, Con Edison is
17 working on a demand response management system.
18 And the intent there is to make sure that we have
19 proper communications and understanding of the
20 assets that are in place, the customers, and the
21 payment schemes, and the verification of their
22 utilization when it's done and when it's asked for,
23 so that we can verify it and we can make timely
24 payments. That project is expected to end by the
25 end of the year. So both of these combined

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2 projects are, quite frankly, very much tied into
3 the penetration of DER and the tie to the utility
4 control center systems.

5 So -- well, we also have -- this
6 is just a drawing showing that there are secure
7 protocols as far as process. The Internet
8 protocols are critical here and that was what we
9 were testing, so that we can show that we can
10 communicate with devices throughout the system.

11 In -- in our key findings and
12 summary for the utilities, we've been working, as I
13 explained, on many processes already. We've
14 deployed technologies that we can improve in
15 visibility in our system. We've enhanced control
16 schemes, and we have a vision of how we can take
17 those systems and move them forward to create an
18 objective that REV is looking for. We have
19 advancements and the advanced grid and technology
20 will support DER, but we see it as an opportunity.
21 And so we look forward to the technology solutions,
22 as well as tying into customer needs.

23 Thank you.

24 CHAIR ZIBELMAN: Thank you, Tom.

25 COMMISSIONER BROWN: Can I ask a

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2 question?

3 CHAIR ZIBELMAN: Yes, go ahead.

4 COMMISSIONER BROWN: Okay. It's
5 a question I'm not really looking for an answer

6 yet, but I just want to listen during the
7 presentations. One of the frustrations of the
8 demand response community or -- and any -- any
9 distributed resource community has been that each
10 utility has a different set of rules, different set
11 of tariffs, different set of requirements, often a
12 different size limit, et cetera. And as they move
13 from one service territory to another, it's like
14 having to reinvent everything all over again.

15 On the other hand,
16 interconnecting in the middle of Queens and
17 interconnecting in Lowville, New York, at the end
18 of a -- a line can be quite different requirements
19 that are necessary. And I'm just curious as you
20 talk about the platform, the balance between
21 consistency and yet flexibility to understand that
22 Central Hudson is not exactly like Con Ed in many
23 of its networks.

24 So just something I'd like to
25 learn more about as we go along here, as we try to

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2 think of a -- a platform and is it one platform or
3 is it one and one A and one B and one C.

4 MR. RIEDER: I -- I think
5 you'll -- I think you'll hear that throughout the
6 course of this presentation, how we're looking for

7 commonality among the service territories and uses
8 of standards and protocols will really get us to
9 that level. So I -- and it's definite -- that was
10 definitely a focus of our working group in order
11 to -- to get that playing field somewhat as -- as
12 much in uniform as we could across the state.

13 CHAIR ZIBELMAN: That's good.

14 Thank you.

15 I know that -- I think that's an
16 important point because, you know, what we would
17 like, ideally, is that customers or -- or vendors
18 or participants throughout the state, that they can
19 go from one DSPP to another and they don't have to
20 rewrite their own systems in order to react to what
21 the utility would have. So I think issues of
22 interoperability and consistency will be really
23 important for us to make the market effective.

24 I -- I had a couple questions and
25 then I imagine others do, too. One is, Tom, and --

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2 and, again, if you need to defer, one of the
3 problems of going first is might get questions that
4 you wish somebody else got, but so you can feel
5 free to defer if you need to.

6 But one is, as you went through
7 the systems, was there any discussion in your group

8 about what would be the consistent building blocks?
9 I mean, if -- if you're saying that we can't go to
10 a big bang on day one, what would you say would be
11 some of the foundational elements that it seemed
12 like everybody agreed to would be essential if
13 we're going to put this in place?

14 MR. MIMNAGH: I can certainly --.

15 CHAIR ZIBELMAN: Or -- or was
16 there agreement, I should say?

17 MR. MIMNAGH: I can certainly
18 talk to that. I think one of the things that we
19 did identify is the fact that this was going to be
20 an evolution and there were going to be phases of
21 advancement, whether they're technology or
22 customer-based tools. I do think that we had
23 common agreement on a couple of key functions.

24 Number one is that we saw an
25 advanced distribution management system as key.

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2 Our systems are at different positions right now.
3 We had to get to a somewhat common platform on an
4 advanced distribution tool environment. Doesn't
5 have to be the same tool, but it has to have the
6 level of functionality that can do the load flow
7 analysis that I spoke about as new as you include
8 more DER in the system.

10 think, part of our mission.

11 CHAIR ZIBELMAN: And -- and in
12 your report, do you detail what's in an A.D.M.S.?
13 What kind of functionality? I mean, one is you had
14 mentioned with the situation awareness and then the
15 ability to do load flow analysis, would those two,
16 would you say, would be the key?

17 MR. MIMNAGH: The functional
18 technology group has a lot of detail on that --

19 CHAIR ZIBELMAN: Okay. Then
20 we'll let --

21 MR. MIMNAGH: -- as we move
22 forward.

23 CHAIR ZIBELMAN: -- them go
24 forward. The other thing that, you know, I'm
25 particularly concerned about and maybe I'd be

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2 interested if your group talked about, you know,
3 we've gotten a lot of information in industry about
4 the duck issue, in California, the issues in
5 Germany with respect to integration of wind. Was
6 there discussion about the need to -- as you build
7 out the system, around the ability to -- to be
8 flexible but also to be responsive in a millisecond
9 so that, you know, we don't run into issues around
10 system stability, voltage stability? Was that a --

11 a key component?

12 MR. MIMNAGH: Yeah, I don't know
13 that we mentioned it as the duck component, but we
14 did absolutely talk about it from a standpoint of
15 response, the ability to ramp up. Solar was talked
16 about from that perspective. And I think the
17 committee is going to be talking a lot about the
18 different elements of the communication system and
19 the timeliness and the latency requirements that
20 are part of that.

21 CHAIR ZIBELMAN: Then I have one
22 last question. It strikes me, and I'd be
23 interested if there -- you know, that one of the
24 things we should be thinking about in looking at
25 these early experiences is that, on a personnel

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2 basis, the -- the potential value of having some
3 demonstration project so that people in the control
4 room can actually get real-time experience before
5 we move to scale, was there -- I mean, my -- I
6 guess, my concern is -- is that every time you have
7 an experience you learn from it and you can build
8 from there.

9 I would hope that -- that we
10 could see, and maybe this is what you've
11 identified. Is there some things we can do early

12 on as we scale out the system that we can learn by
13 doing? Is that --

14 MR. MIMNAGH: Yeah.

15 CHAIR ZIBELMAN: -- would that be
16 fair from -- from some of the demonstrations?

17 MR. MIMNAGH: Yeah, so the
18 A.D.M.S. system would also provide better tools in
19 the control center and visibility. One-line
20 drawings, showing real-time status so that an
21 operator who gets alarm in can understand that
22 there's a constraint reached. Or the Con Edison
23 demonstration project is a good example.

24 We actually tied into our
25 existing control center platform so that the

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2 operator would have clear visibility into the
3 actual generator output in a localized pocket and
4 understand whether or not they could exercise
5 control or request control by the customer. So
6 part of that was to show the operators what the
7 tools might evolve to as we add more generation and
8 load management in the system.

9 CHAIR ZIBELMAN: I said I had one
10 the last question. When you -- when you talk about
11 visibility, are you -- you're not just so --
12 because everyone thinks that we're talking about

13 visibility of people -- of someone in a control
14 room in Con Ed or National Grid or Iberdrola
15 watching whether someone's refrigerator is on or
16 off. What -- what level of visibility are we --
17 are really talking about?

18 MR. MIMNAGH: So the level of
19 visibility that we've laid out is the fact that we
20 can see our assets, so we can see feeders in a
21 one-line drawing. We can see how much power flow
22 is going through them, and we see one point node on
23 that visual system that says what is the power flow
24 and the availability at the customer site?

25 So we are not looking down to

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2 that level, at least at this point. And to the
3 extent that it's necessary, we're -- we're not sure
4 that it is necessary to do that. As long as we
5 understand that we can ask for a reduction, and
6 this is the available reduction that is at that
7 site, and that it can be requested and triggered
8 through the control center scheme, we feel at this
9 point, that's a good start.

10 CHAIR ZIBELMAN: So you don't
11 really care how they achieve it. It's just if it's
12 achieved.

13 MR. MIMNAGH: It's achieved in

14 a -- in a manner in which it can balance the system
15 and keep the reliability and resiliency that we
16 expect.

17 CHAIR ZIBELMAN: Okay. Thanks.

18 Any other further questions? I
19 feel like I'm revealing my inner geek, but okay.
20 Thanks.

21 MR. MIMNAGH: Thank you.

22 CHAIR ZIBELMAN: Forrest?

23 MR. RIEDER: Thank you. Thank
24 you, Chair. Our next speaker is Forrest Small from
25 Bridge Energy Group. He is representing the

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2 platform functionality subgroup.

3 MR. SMALL: Good morning, Chair
4 and Commissioners. Thanks for the opportunity to
5 address you today.

6 We're going to spend a little bit
7 of time talking about functionality. And if you
8 think about the process that Mike laid out in the
9 beginning, functionality is really the way that you
10 go from your strategic objectives or your policy
11 outcomes to the technologies that will actually end
12 up deploying.

13 When we began this process, we
14 wanted to really build a framework and follow that

15 through to create a good line of sight, and we'll
16 talk about that a little bit more. Essentially, we
17 wanted to figure out what the DSPP is, what it
18 does, and how it fits. And we would begin that
19 process and then go into functionality from there.

20 So if you look at this
21 definition, it's our working definition of the DSPP
22 You'll see two things in it. One is the DSPP is an
23 entity that actually operates an intelligent
24 network platform. That's the grid part. But the
25 other thing the DSPP does is it really fosters the

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2 market by enabling all of the information and
3 products and services that customers and other
4 third parties will want to work with.

5 There's three primary areas that
6 the DSPP is working in. In the market operations
7 area, this is about lots of information for
8 customers and suppliers so that they can create a
9 diverse set of products and services with that. We
10 also want to make sure that there's a high degree
11 of transparency in the information, that it's
12 really flexible, and that it's very efficient. We
13 don't want to create a layer on here that's
14 inefficient and creates a lot of cost. But we want
15 it to be a very enabling and facilitating type of

16 thing.

17 Second area is grid operations.
18 First and foremost, we have to maintain a secure,
19 reliable, and resilient grid. Goes without saying.
20 But the second piece is, given all of the new
21 products and services and distributed resources
22 that we envision, we know that it has to be a lot
23 more flexible and dynamic. And I think this gets
24 to the point that you made before about the timing.
25 Again, though, we got to make sure that it's

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2 economical and energy efficient as we do it.

3 The third area that the DSPP
4 plays is in integrated planning. And as we'll see
5 in slides that follow, this is how it fits within
6 the new ecosystem. It's got to be able to
7 integrate its planning, both with what's happening
8 on the distribution system with customers and
9 suppliers, but also tie that into what goes on at
10 the New York ISO.

11 This diagram was built to help us
12 understand how the DSPP fits in the ecosystem.
13 It's not intended to describe how everything works,
14 but it's really intended to try to draw some lines
15 so we can see the differences. There's two
16 dimensions here. One is market operations and the

17 second one is grid operations. And you'll notice
18 that there are three general groups of stakeholders
19 here. We've got the New York ISO on the left.
20 We've got the DSPP in the middle, and we've got the
21 thing that we're calling customers and this is
22 where the third-party providers would also be.

23 But what you'll notice in the
24 market operations, essentially, the New York ISO
25 retains a wholesale point of view. Those types of

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2 products and services we envision as being the same
3 as they are today. The difference is that the DSPP
4 plugs into that and is able to do some aggregation
5 up into that market. What the DSPP focuses on is
6 what we would describe as more of a retail market,
7 focused on the distribution system with those
8 customers and third-party providers that are
9 playing at that level.

10 And then, finally, we envision
11 some customers wanting to directly access the DSPP,
12 perhaps work with products and services that the
13 DSPP provides itself, but we also envision a lot of
14 third party activity using the DSPP as an enabler
15 so that they can do their transactions in that way.

16 On the grid operation side, we're
17 looking at the ISO continuing to take a wide area

18 view, bulk transmission operations, one fifteen
19 K.V. and above, central station generation. The
20 DSPP, by contrast, is taking a more regional or
21 local view, focused primarily on the distribution
22 system. That part of the system below one fifteen
23 K.V., and also, from a generation point of view,
24 paying close attention to what's going on with DER
25 and being able to coordinate and manage it.

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2 The customers of the third
3 parties are looking with a premise view on that
4 side of the meter, if you will. Could be
5 microgrids, it could be DER. They would be
6 responsible for the operation of those systems.

7 The last piece that we talked
8 about was the integrated planning piece. And,
9 again, on the left-hand side of this figure, you
10 see the assets in orange that the -- that DSPP
11 really focuses on, substations, primary
12 distribution, secondary distribution, down to the
13 meter. Above and below that is where the New York
14 ISO would continue to focus, and then customers and
15 the -- the services providers would focus.

16 Drawing your attention to what's
17 happening on -- in the -- the planning diagram on
18 the right, what we're showing here is that there's

19 a lot of new information that needs to come in to
20 the DSPP so it can do its planning. I think for a
21 long time utilities have coordinated very well with
22 the ISO. But what's new here is that, on the
23 customer service provider side, there's lots of new
24 information that's flowing up in here.

25 And the DSPP is responsible for

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2 taking all of that information, doing supply and
3 demand planning on the distribution system,
4 accounting for DER, demand response, energy
5 efficiency, those sorts of things, planning their
6 upgrades, looking for new solutions from that
7 space, and also managing the maintenance and
8 operations of the network.

9 So with all of that backdrop, we
10 wanted to look at the functionality that's
11 necessary to achieve all of that outcome. There's
12 a long list of functions here. We grouped them
13 into three main categories. The grid things are
14 the functions that really focus on the distribution
15 system itself.

16 You'll probably recognize some
17 things here Tom talked about, voltage and VAR
18 optimization. We definitely need to be looking at
19 what's happening on the load side. We need to be

20 looking at power flow in the network. We need to
21 be able to understand dynamic ratings for
22 equipment. All of that is grid functionality.

23 In the middle, these are things
24 that we see as necessary from the DSPP's point of
25 view, for how it interacts with customers and DER

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2 and microgrids. So just to be clear, these are not
3 things that we're trying to say are functions of a
4 microgrid. That would be a decision that the
5 microgrid owner would make. These are things that
6 the DSPP wants to know about the microgrid or wants
7 to know about the DER, things like being able to
8 manage power coming out of DER or microgrid, power
9 factor, islanding, those kind of things. Again,
10 it's really a coordination function we're talking
11 about.

12 And, finally, on the market side,
13 it's a lot about facilitating the transfer of
14 information to customers and third parties. It's a
15 lot about the basics of signing up participants and
16 registering them and doing billing and making
17 payments and facilitating trading.

18 Once we went through this whole
19 process, we wanted to close the loop and go back
20 and make sure that, in fact, the DSPP and the

21 functionality that we described actually ties back
22 to the policy objectives. And what we found is
23 that it does, because if you think about the
24 flexibility, the information, the energy
25 efficiency, the integration of DER, all of that

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2 capability allows you to achieve the policy
3 objectives that were laid out in the REV paper.

4 So the big takeaways for this
5 part of the -- the group were creating this
6 framework and establishing a very clear line of
7 sight between the policy goals and the technology
8 was extremely useful, and it helped us stay lined
9 up as we went through the process.

10 The other thing we want to
11 recognize, though, is all of the functionality that
12 we're described and -- and the -- the scope and
13 roles that we've envisioned take more of an
14 end-state view on what the DSPP will eventually
15 become. And we need to recognize that there's an
16 evolution toward that. And we -- we need to do
17 that in a way that really creates the DSPP at the
18 face of value for the marketplace and the
19 customers. Thank you.

20 CHAIR ZIBELMAN: Thank you.

21 Question?

23 transactions is going to be faster for sure. With
24 regard to the market, I think there's a whole new
25 recognition of the different kinds of products and

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2 services that the DSPP would facilitate and enable
3 that the distribution utility may or may not do
4 today.

5 COMMISSIONER BROWN: So that's
6 really where the newness is; it's in the market
7 operations?

8 MR. SMALL: I think the market is
9 probably the -- the most different of all of this,
10 and then the degree of functionality and grid
11 operations is -- is, I think, pretty significant.

12 COMMISSIONER BROWN: And
13 customers, I assume, is a much more interactive
14 relationship with the DSPP than probably exists in
15 most cases today.

16 MR. SMALL: I would envision a
17 high degree of interaction, and then it also
18 facilitates the interaction between third parties
19 and customers, too.

20 CHAIR ZIBELMAN: Thank you.

21 Anything else? Any questions?

22 I have a question, I think.

23 When -- when you -- when you're talking about this

24 functionality, this is maybe question for others,
25 too, can you envision a situation where the market

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2 operations could be segregated from the grid
3 operations? Are we talking about this the same way
4 we talk about on the transmission side?

5 MR. SMALL: I think it depends on
6 what you intend to do between the operations and
7 the market. So I think one of the really important
8 things to -- that I recognize as we went through
9 this process is there's an opportunity for a lot of
10 efficiency here. And certainly, to the extent that
11 markets are tied tightly to operations, you can
12 gain a lot of asset utilization efficiency, a lot
13 of energy efficiency, and so we want to be careful
14 we don't add a lot of layering in there to make
15 that inefficient.

16 But in terms of the basic
17 operations, I think I would envision one. There's
18 a certain kind of job you do for market operations
19 and there's a certain kind of job you do for grid
20 operations, but you want to be sharing that
21 information.

22 CHAIR ZIBELMAN: Thank you.
23 Good. Thanks.

24 MR. RIEDER: Thank you, Forrest.

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2 Lovelady from Siemens PTI. He's also a co-convener
3 of the working group and he led the standards and
4 protocols subgroup. David?

5 MR. LOVELADY: Thank you, Mike --
6 thank you, Mike.

7 Good morning, Chair and good
8 morning, Commissioners. I'm excited to give you
9 this presentation today. So before we start the
10 presentation, I would like to highlight that I will
11 be referring to standards and protocols as S.P.,
12 mostly to save wearing my tongue out.

13 So the objectives for this
14 presentation are to identify relevant S.P., provide
15 some key considerations, and demonstrate the
16 relevance and importance of a DSPP architecture.

17 Firstly, a few definitions.
18 Interoperability is the ability of diverse systems
19 and their components to work together. The Holy
20 Grail is plug and play. Protocol is a series of
21 prescribed steps to be taken, usually in order to
22 allow for the coordinated action of multiple
23 parties. A standard is a guideline to be followed
24 when a new design is to be formulated.

25 So the information that's

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2 presented in this presentation is based on the
3 current knowledge of the working group members. It
4 will get a little techy at times, but I will walk
5 you through it.

6 Smart Grid S.P. can get a little
7 confusing. For example, not all protocols are
8 standards and not all standards are protocols,
9 I.E.C. sixty-one eight fifty dash seven dash four
10 two zero, I.E.C. six one nine sixty-eight, I.E.C.
11 six one nine seventy, IEEE fifteen forty-seven. I
12 think you get my point. Some overlap, some
13 compete, some are complementary, sometimes there
14 are gaps.

15 NIST are actively engaged in
16 identifying S.P. gaps, harmonization of S.P., and
17 the coordination between standards development
18 organizations. According to the history of S.P.
19 development, usually out of the sea of current
20 S.P., a subset take the lead and take full industry
21 adoption. Plus often there is a race between
22 vendor developed S.P. and SDO developed S.P.

23 The working group highlighted
24 multiple S.P. relevant to New York, and we show
25 just two examples in this slide. On the left, we

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2 have EDI, electronic data interchange, which is the
3 computer-to-computer exchange of customer usage and
4 billing information in a standardized format. EDI
5 was developed in New York and nationally and has
6 gained popularity due to its current
7 well-structured architecture that ultimately led to
8 a low-cost secure solution.

9 Over on the right, we have DERMS,
10 which is a secure interruptible platform to monitor
11 and control load and DER. And this is currently
12 housed at the Con Ed facility. So both of these
13 are great examples of where a good, methodical,
14 standardized architectural approach to complexity
15 can drive true interruptability and commonality
16 between multiple systems and organizations.

17 So five key benefits of the DSPP
18 architecture. One, an architecture helps to
19 identify gaps in technologies and S.P. Two, drives
20 interoperability. Three, provides commonality.
21 Four, can describe DSPP evolution. And, five, can
22 describe DSPP interactions.

23 The working group reviewed each
24 of the architecture standards shown in this slide.
25 The IET SGAM shown at the top right, the NIST and

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2 SGIP dot two dot zero, bottom right, NIST Three dot
3 zero in the middle, which is currently out for
4 approval, the IEEE P Twenty thirty which is the top
5 middle, the Intelli Grid two dot zero EPRI to the
6 left, and the GWAC Stack to the bottom left.

7 So though each of the
8 architecture standards shown here bring their own
9 strengths, NIST two dot zero and the IEEE P twenty
10 thirty were selected as they are both approved and
11 harmonized American National Standards and were the
12 most practical to use in the timeframe we had.

13 We kicked off the development of
14 the DSPP architecture purely to illustrate the
15 benefits, as you will see in the next few slides.
16 However, we would like to emphasize that, should
17 New York continue the development of the DSPP
18 architecture, we recommend a thorough review of all
19 available standard architectures to ensure the most
20 appropriate and up-to-date is selected.

21 So as I mentioned, NIST two dot
22 zero was used by the working group. It's useful in
23 identifying DSPP scope. The New York ISO, for
24 example, and likewise, the DSPP can be described by
25 identifying which of the seven domains, shown in

2 clouds, they play in. It is through the interfaces
3 between each of these domains, shown in the blue
4 lines, that the DSPP is described and is where the
5 architecture development is focused on.

6 And it's here that the
7 interoperability and standardization really starts.
8 The DSPP interfaces shown here are representative
9 and have yet to be fully defined. Taking the
10 architecture, then, one level down in detail, the
11 IEEE P twenty thirty architecture focuses on power
12 control, information technologies, and
13 communication layers. They are interconnected by
14 data, integration, and security.

15 The DSPP architecture is
16 essentially developed in three steps. Number one,
17 from the identified DSPP functionalities, as
18 described previously, we then generate the major

19 DSPP use cases. A use case is a
20 common technique used to describe a sequence of
21 events, the characteristics, and all of the actors
22 involved.

23 Number two, mark each use case
24 onto the Three P twenty thirty architecture layers,
25 identifying the domains, entities, and interfaces

3 Number three, overlay each use
4 case architecture and then combine to create the
5 final DSPP architecture. So the working group
6 obtained formal and legal approval from the IEEE to
7 distribute the P twenty thirty standard and allow
8 us to modify the diagrams for this proceeding.

9 The next slide presides --
10 provides a one use case to architecture example.
11 Of course, the technology working group is mostly
12 comprised of engineers, hence -- hence, the passion
13 for schematic diagrams. The seven NIST two dot
14 zero domains are shown in the large boxes. The
15 entities are the grey boxes and the lines are the
16 labeled interfaces.

17 This is one DSPP use case to
18 architecture for dynamic electricity conduction
19 forecasting that was described early on in the
20 presentation. This is used to plan the DER
21 participation in the day ahead market. This is one
22 of the three layers, the I.T. layer.

23 First of all, we start out with a
24 request for a next day ahead forecast. This all
25 starts from the distribution management entity. A

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2 command is issued to identify which DER is going to
3 participate. The DER entity within the customer

4 domain is highlighted.

5 Next, there is a request to
6 determine the geographic DER location, G.I.M.
7 system highlighted. Then the availability of the
8 DER, the geography, and the weather forecast data
9 are all combined in the distribution management
10 entity. That combined forecast is then issued to
11 the distribution automation entity within the
12 control and operations domain.

13 The DER dispatch is then checked
14 to make sure there were no problems on the grid,
15 thermal, voltage, stability, et cetera. And that
16 cleared DER forecast is then issued to the market.
17 The retail market then clears up DER for day ahead
18 participation.

19 So please note, this is an
20 example and is certainly subject to change and is
21 essentially used to illustrate the benefits of
22 architecture development. The communications and
23 power layers were also developed, but they're not
24 shown due to the time constraints.

25 Lastly, the DSPP boundaries can

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2 be identified, shown in the red dotted lines.
3 Through the use of NIST two dot zero, we were able
4 to mark the leading industry S.P. as applicable to

5 the DSPP. The working group provided a holistic
6 list of S.P.s that would likely cover the DSPP

7 And this slide shows the major
8 S.P. that the working groups identified and match
9 them to the NIST Two dot zero framework.

10 So, finally, to conclude our
11 findings are that there are many S.P. that
12 currently can support DSPP. Interoperability for
13 DSPP has essentially already begun with this
14 working group and should be continued followed --
15 following a structured architecture.

16 And this working group recommends
17 the Commission encourage, support, incentivize
18 interoperability, sustainability, and future
19 proofing to reduce the cost of DSPP implementation
20 and increase utility and customer uptake.

21 Thank you. That completes my
22 presentation.

23 CHAIR ZIBELMAN: Thank you.

24 Yes?

25 COMMISSIONER SAYRE: So to make

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2 this work does the Commission have to pick an
3 architecture and, if so, when would it be most
4 beneficial to do so in the process?

5 MR. LOVELADY: By being able

6 to -- to pick an architecture that is part of a
7 standard, in particular, a national standard has,
8 we believe, as a working group, many benefits and
9 we think should be done for New York to create this
10 DSPP. The question of when is as early as you can.
11 The earlier, the better. This is a starting point
12 and, through an architecture, it provides an
13 illustration for people to then discuss, argue,
14 modify, change how this DSPP is really going to
15 work and operate and who are the players in it.

16 Hope that answered your question.

17 CHAIR ZIBELMAN: Is -- if we pick
18 an architecture, and this is something that always
19 befuddles me, so let's -- let's say we pick a
20 particular S.P., is there a threat to us or to the
21 state that if someone comes up with a different
22 requirement, then we're going to have to have all
23 our -- all our utilities and all the vendors change
24 their standard? And -- and maybe -- maybe it works
25 that way; maybe it doesn't. I'm just curious.

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2 MR. LOVELADY: No; that's --
3 that's a good question. Actually, in -- in our
4 discussion with the -- with IEEE, in requesting
5 legal permission to access the standard, one thing
6 we -- we were going to provide is feedback to IEEE

7 about what we found with the standard, what
8 problems we identified, what things that we felt
9 didn't fit in necessarily with the DSPP. And so,
10 yes, I think there is the opportunity to provide
11 feedback to the national standard and have
12 modifications made potentially.

13 CHAIR ZIBELMAN: So -- so,
14 actually, maybe by leading, we can effect the
15 standard as opposed to follow it?

16 MR. LOVELADY: Correct.

17 CHAIR ZIBELMAN: And then I have
18 one more -- more question. ADR, automatic --
19 automated demand response, do you see that as a key
20 component of the functionality? And I -- I'll put
21 that to everybody else on the panel.

22 MR. MIMNAGH: Yeah -- yes.

23 CHAIR ZIBELMAN: Is that a yes?

24 MR. SMALL: Yeah, I think that's
25 definitely part of it. It's -- it's one of the

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2 functions that we certainly envision.

3 CHAIR ZIBELMAN: We haven't --
4 yeah, go ahead.

5 MR. MIMNAGH: I -- I just wanted
6 to make one comment. You had asked about the
7 standards and protocols, the architecture. I -- I

8 think what the utilities presented was that we had
9 already taken some direction on not necessarily a
10 standardization, but an understanding of the
11 standards in architecture that are out there that
12 are viable that we think that have longevity over
13 time. So we thought that that was already started.

14 CHAIR ZIBELMAN: And would -- I
15 don't know -- would that architecture and
16 standardization go down to the building management
17 systems or would you expect the interoperability to
18 occur at that level? Is that the way it works?

19 MR. LOVELADY: I think from the
20 architecture perspective, we show two -- two levels
21 in this presentation, starting from NIST two dot
22 zero and then taking it one level down to the P
23 twenty thirty. In reality, there are going to be
24 multiple levels. We just show the top two, so I
25 think as you build this out there is the

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2 opportunity to create several sublevels and
3 increase the detail of architecture. But still,
4 the architectures can rollover and they all follow
5 the same characteristics, the same descriptions,
6 the same terminology, for example. And that could
7 lead down to --.

8 A.L.J. STEIN: Could you speak

9 close to the microphone, please. It's a little
10 hard to hear you. Six inches.

11 CHAIR ZIBELMAN: It's his strong
12 Brooklyn accent that we're having trouble with.

13 MR. LOVELADY: So you could
14 envision that the architecture could lead down all
15 the way to a building management system
16 potentially.

17 CHAIR ZIBELMAN: Okay. Yes?

18 COMMISSIONER BURMAN: So if I
19 understand, Mr. Lovelady, you're saying that it's
20 important that the Commission make a decision to
21 pick an architecture. Is that correct? The
22 Commission has to make that decision?

23 MR. RIEDER: No, that's not the
24 case. It's the case that the Commission has to
25 make a policy direction that we want to -- to pick

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2 that policy where those overriding guiding
3 principles are the interoperability, the
4 commonality. And then the utilities or whoever
5 DSPPs -- future DSPPs, whoever's creating the
6 system will have to use a standard -- you know, a
7 standard in order to make -- to make that happen.
8 So you don't have to pick a standard yet.

9 COMMISSIONER BURMAN: Okay.

10 MR. RIEDER: You have to issue
11 your -- your objectives and then the utilities can
12 go up to that.

13 COMMISSIONER BURMAN: Okay. And
14 then the -- and then who would make the decision on
15 what that is then?

16 MR. RIEDER: It would be
17 whoever's implementing the DSPP functions.

18 COMMISSIONER BURMAN: Okay. But
19 that is a critical piece, though?

20 MR. RIEDER: Absolutely.

21 MR. LOVELADY: Yeah, I agree with
22 that and we -- we have discussed that in the
23 working groups, that that was our recommendation.

24 COMMISSIONER ACAMPORA: So
25 amongst the working group, was there a consensus as

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2 to what direction to go to, or was it one that
3 there's a lot of push and pull going on?

4 MR. LOVELADY: In terms of which
5 standard architecture to pick?

6 COMMISSIONER ACAMPORA: Yes.

7 MR. LOVELADY: Yes, there's
8 certainly a lot of push and pull and there was a
9 lot of debate about that. Hence, our suggestion is
10 that this should be fully investigated, and most

11 appropriate, the most recent of up to date should
12 be the standard that's followed for architecture.

13 COMMISSIONER ACAMPORA: Thank
14 you.

15 MR. RIEDER: And the intent of
16 the working group was just to give the Commission
17 and to give everybody a flavor of what -- what will
18 have to be done in the future in order to get this
19 vision realized.

20 CHAIR ZIBELMAN: So I'm a little
21 confused. I mean, it seems to me that what we
22 should do then is -- is -- as Commissioner Burman
23 said, we'll -- we'll identify what we would want
24 the objectives to be in terms of the standard
25 that's adopted would hear back maybe from the

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2 utilities as well as others as to what particular
3 protocol seems to fit -- best fit our objectives.
4 And then we would want to standardize against that
5 protocol?

6 I mean, at some point it seems we
7 would have to identify; otherwise, everybody would
8 interpret it their own way. Is that the way you
9 envision it working?

10 MR. RIEDER: No. The way I
11 envision it working is you set your objectives, and

12 then the parties, utilities, and other parties
13 determine how best to meet those, using the
14 standards that are available and the standards that
15 are being developed, and then implement their --
16 the DSPP using those standards as protocols.

17 COMMISSIONER BROWN: I think that
18 goes to my original comment, how do we achieve the
19 balance between consistency that we don't end up
20 with six different sets of protocols and six
21 different architectures?

22 MR. RIEDER: I think -- I think
23 it's the point the -- the -- you don't send the --
24 each utility off on their own. You do it in a --
25 in a process by which --

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2 COMMISSIONER BROWN: Okay.

3 MR. RIEDER: -- communicating and
4 their -- and their -- with each other and with
5 other stakeholders in order to get the best
6 standard available to meet the objectives --

7 COMMISSIONER BROWN: Once, again,
8 it may not be the utilities --

9 MR. RIEDER: -- overall.

10 COMMISSIONER BROWN: -- it maybe
11 independent DSPP --

12 MR. RIEDER: Yes, Sir.

13 COMMISSIONER BROWN: -- depending
14 on how bad the situation?
15 MR. RIEDER: Right. Exactly.
16 MR. MIMNAGH: Part of that
17 process also is the fact that you might recommend
18 national protocols, a consideration for open
19 protocols. The utilities had an existing systems
20 and some of these are going to be key components
21 phasing REV process. And some of those protocols
22 will have to stay in place if we want to leverage
23 those assets, and they may be phased in over time.
24 So that -- that flexibility is going to be required
25 as we move forward.

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2 CHAIR ZIBELMAN: It's clear as
3 mud.
4 COMMISSIONER SAYRE: Is this --
5 working groups continuing to meet now?
6 MR. RIEDER: No.
7 COMMISSIONER SAYRE: Should it?
8 MR. RIEDER: There's a lot of
9 work to be done, we're only scratching the surface.
10 CHAIR ZIBELMAN: Thank you.
11 MR. RIEDER: Thank you, David.
12 Our next presenter, is John D'Aloia of staff will
13 be presenting for the platform technologies

14 subgroup.

15 MR. D'ALOIA: Thanks, Mike.

16 Good morning, Chair.

17 Good morning, Commissioners.

18 Happy to be here this morning and
19 update you on the work of the platform technologies
20 subgroup. In that regard, I'd first like to,
21 again, acknowledge the parties and the individuals
22 that have worked very hard and collaboratively on
23 this DSPP platform technology effort. We've had
24 the involvement of some of the most wonderful
25 industry minds and work horses and it is been

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2 exciting to work on.

3 So to start, I think we would all
4 agree that there are many -- and what we found is
5 that there are many enabling platform technologies
6 in the marketplace today and the pace of innovation
7 and capabilities is clearly increasing.

8 A.D.M.S., many of the -- the
9 things that were discussed in the earlier
10 presentations, those technologies are commercially
11 available by firms. They're being worked on as
12 described by Tom and the utilities. So there is
13 certainly fertile ground and things will continue
14 to advance technologically. And so we believe the

15 situation presents both opportunities and
16 challenges as we're discussing today, and
17 underscores the need for an understanding of
18 technology development that maintains, again, our
19 line of sight back to our policy goals.

20 So with regard to the -- this
21 subgroup's objectives, when the group formed it
22 quickly realized that given the complexities of a
23 dynamic world of current and emerging technologies
24 that a common approach, again, would be needed to
25 assess the -- the available technologies. And, in

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2 fact, an approach that defines and maps enabling
3 technologies to the required functions is critical,
4 as our assessments of the technology's maturity
5 which can help identify technology or functional
6 gaps.

7 So what we did is we -- we
8 developed a matrix mapping tool, designed to
9 provide a common approach or understanding to those
10 relationships, again, between the technology
11 readiness, its maturity level, and mapped across
12 the functionalities that are required.

13 So, the technology subgroup built
14 upon the efforts of the other subgroups you just
15 heard from. And, in fact, we worked very closely.

16 Many of the members, and Eleanor mentioned this,
17 worked on overlapping teams. It truly became a --
18 a super collaborative, in fact. A key efforts at
19 the technology subgroup built on were the
20 development of the required functionalities and the
21 recognition of use -- recognition and use of the
22 IEEE P twenty thirty standardized architecture on
23 the framework to understands these things.

24 So the subgroup recognized early
25 on that enabling technologies are in a wide range

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2 of commercialization and development stages and
3 have a sense of technical maturity as needed. So
4 in this area the -- we discussed and we decided on
5 using what is a fairly common assessment tool that
6 some of you may have heard about in your past,
7 Gartner The Technology Hype Cycle.

8 It's a five-stage scale, one to
9 five, that characterizes maturity, adoption of
10 social application of technologies where one is
11 considered very early concept stage, characterized
12 by innovation and R and D, early R and D, while
13 five is the plateau of productivity that was --
14 that's their word, Gartner's, not mine, where
15 technology is very mature, ubiquitous, and widely
16 adopted.

17 In addition to a maturity level,
18 subgroup -- the subgroup also added a dimension to
19 rank at what temporal stage or phase that enabling
20 technology would be needed to be implemented. The
21 group decided on a three-stage phasing rank. And,
22 again, these are -- this is rough, obviously. An
23 initial five-year phase one, one to five, a phase
24 two from years six to ten, and then a final phase
25 three, roughly ten years and out, just to give

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2 an -- a lens or an understanding of where things
3 are at and -- and when they will be needed in terms
4 of functionality.

5 So in the next slide I'll explain
6 the structure of the mapping matrix tool and how it
7 pulls together these parameters in a useful format
8 and how it will map the enabling technologies to
9 the required functions. And, again, just to -- to
10 rehash what David said, us engineers love to get
11 into the weeds on stuff.

12 So this is our screen shot of our
13 mapping tools. Across the top right are the
14 required platform functionalities that you heard
15 described earlier by Forrest, broken down by the
16 grid customer and market functions. The
17 technologies -- the technologies list column is

18 simply a list of identified enabling technologies.
19 The left column, labeled architecture layers,
20 groups -- the technologies by those twenty thirty
21 standard architecture layers you heard about,
22 communications, I.T. systems, and power systems.

23 The phase column -- DSPP phase
24 column is the indicator of what phase technology is
25 needed and, again, one indicating years one to

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2 five, two, six to ten, and, three, ten years and
3 out. This maturity column ranks the technology
4 with a five point guard or hype cycle scale, again,
5 one indicating early concept and five indicating
6 most mature.

7 And lastly, each technology list
8 is mapped against each functionality in the
9 right-hand area, noting whether that technology is
10 required for the function or whether there are
11 alternatives available to satisfy a functionality
12 requirement.

13 And, again, this is -- we feel
14 this is a real good framework for understanding the
15 technologies, getting a sense of their maturity,
16 the phase that they'll be needed and given the
17 functionalities they have to satisfy. But this is
18 very preliminary. And, in fact, the group would

19 have to -- someone would have to do much more work
20 to flush this out. We really didn't have a lot of
21 time to have extensive discussions, for example, to
22 really get into the fine definitions of the -- the
23 technologies and the mapping. So what you see and
24 what you'll see in your work papers is really a
25 first cut that really needs much more input from --

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2 from all of us.

3 So how can this tool, once
4 properly populated, then assist in our efforts? To
5 understand better, let's look at an example of
6 technology evolution. And, again, this -- these
7 concepts are very familiar to all of us. The
8 bullets at the top relate to the arrows going
9 across the middle of the page. And, in this case,
10 we're looking at, for example, HVAC monitoring and
11 control. And we'll look how technologies typically
12 mature and are adopted given a DSPP entity and
13 third-party providers for these services.

14 So early on, we see custom
15 solutions. R and D innovation stage, technologies
16 are still being proven. In this phase, there are
17 typically custom HVAC solutions in our
18 demonstration projects offered by perhaps DSPS or
19 third parties. As the technology matures, more

20 demonstrations are completed successfully, early
21 adopters start to jump in. A market develops and
22 third-party providers will begin to offer premium
23 services.

24 In this example, third-party HVAC
25 services may be provided at this point to high-end

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2 residential customers, as well as commercial
3 customers, for example. Follow --this is followed
4 by a period when products and services become
5 commoditized with fast following customers'
6 increasing demand for the technology.

7 DSPPs may begin to offer value
8 and HVAC services to its commercial customers.
9 Third parties may begin or would be pushing the
10 envelope selling advanced differentiated premium
11 services. And, meanwhile, the technologies are
12 maturing more, they're getting more widespread,
13 market acceptance.

14 And in the last stage, these
15 technologies become ubiquitous, low cost, and
16 scalable. In our example, HVAC monitoring and
17 control becomes a low-cost basic service offered by
18 the DSPP and differentiated in advanced systems of
19 value are -- are offered prominently via third
20 parties.

21 So moving on to the key findings,
22 it's clear a number of technologies exist today
23 that can support DSPP functionality. And as you've
24 heard, there are, in fact, many ongoing efforts by
25 the utilities, original equipment manufacturers,

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2 new players, in particular, that are making great
3 strides in advanced distribution monitoring and
4 control technologies.

5 The flip side of this is that
6 there are no off-the-shelf one-size-fits-all
7 systems right now, which underscores the need for a
8 common approach coupled with the ability to scale
9 up. In fact, DSPP development will necessarily
10 depend on and leverage existing utility
11 distribution systems and capabilities which are
12 going to be integral to all of these efforts.

13 So to sum up, the platform
14 technology working group has developed a standard
15 architecture -- standard architecture approach and
16 tool kit that can help us wade through the dizzying
17 array of current and emerging technologies. And it
18 is dizzying. By defining mapping -- in a good
19 way -- by defining mapping and understanding these
20 technologies across functions, understanding their
21 maturity, we can identify what technologies are

22 available today, what gaps exist and better
23 understand what efforts over time will be needed to
24 enable the DSPP platform functionality.

25 That concludes my talk. Thank

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2 you. And I'll -- and us -- will be happy to answer
3 any questions.

4 CHAIR ZIBELMAN: Yes?

5 COMMISSIONER SAYRE: So you got
6 started on the busy chart. How much more work is
7 there to populate it?

8 MR. D'ALOIA: A good amount. I
9 think we need -- we need the input, certainly, of
10 the utilities and their distribution engineering
11 folks. Companies like Siemens, BRIDGE and -- and
12 others, the Smart Grid consortium folks. I think
13 we need all the -- all the players that can bring
14 their -- their best thinking and expertise to the
15 table.

16 It would take several and -- and,
17 again, we just ran out of time. We -- we were
18 going to plan on some extensively long meetings to
19 hash these things out. When you look through the
20 work papers, you'll see many of the definitions.
21 They're not completed yet. And people started
22 sending in comments and discussing them. We

23 just -- we just didn't have time to really flesh it
24 out properly.

25 I feel the framework is

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2 fantastic, but, again, I -- I just think, you know,
3 if we had more resources or as we get more
4 resources and -- and can approach these tasks, it
5 will greatly aide our understanding of how we can
6 roll this stuff out, you know, here.

7 MR. RIEDER: I think what -- I
8 think what we've heard from -- from our working
9 group is it -- it's an evolution. It's a process.
10 We're not going to get there overnight. Give us
11 six more weeks maybe, but it -- it will take some
12 time.

13 CHAIR ZIBELMAN: My -- my
14 experience on -- on all of these things and putting
15 in new systems is that you -- you have a starting
16 point where you make a decision of the kind of
17 functionality that you -- you -- you're going to
18 want to need on -- on day one. And then as the
19 market matures or new products get developed or you
20 identify areas of improvement, the technology
21 continues to evolve. And that -- we've moved away
22 from sort of the waterfall approach of designing
23 systems to meet an end, but more of a agile

24 development so that we're meeting needs as we go
25 forward.

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2 And I guess, you know, to me, for
3 us, is the issue is not so much as what do we need
4 for the final vision, but what are the critical
5 components that we need to begin? I mean, I -- I
6 think that's from a -- I -- because -- you know, we
7 could design this forever. And by the time we get
8 to our decision, the world will have moved on,
9 so -- so it's an issue of how to start.

10 Do you feel, from that
11 standpoint, based on where you are, and I know that
12 there's more work to be done, that within the next
13 several months we could be in a position that
14 there's comfort on to what are going to be the
15 critical functional components that we'll need for
16 the next, at least, two, three years to get this
17 all going? And I could -- I'll put that to the
18 panel and just -- on that.

19 MR. MIMNAGH: So, yeah, from a
20 utility perspective I think that it's clear that
21 the foundational elements that the chair spoke
22 about earlier have to be decided. And to the -- to
23 the extent that our working group and the
24 information we provide and the customer engagement

25 working group, the markets and pricing, combined

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2 together to a functional element of what we think
3 is kick off, then the -- the technology portion can
4 be better defined. And I think that we struggled
5 with what if you want it all?

6 CHAIR ZIBELMAN: What are you
7 designing to?

8 MR. MIMNAGH: And if you're
9 trying to design it all, yeah, it's very detailed.
10 So -- so I think that's where we could come back
11 into better defining the functionality and then --
12 and then really getting the right people into the
13 room to make those decisions on -- on
14 implementation plans.

15 CHAIR ZIBELMAN: Anyone else?
16 Jim and Denny.

17 MR. GALLAGHER: Just a -- you
18 know, a quick reaction, you know, listening to the
19 presentations, you know, I think in -- in my
20 opinion, the Commission needs to focus on what its
21 expectations are regarding the capabilities of the
22 system. You know, perhaps stay away from
23 specifying architecture. But what are the
24 capabilities realistically that you would expect in
25 say phase one or phase two or phase three, but at

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2 the same time, you know, encouraging these
3 discussions to continue.

4 You know, there's no way the work
5 is done. You know, as Mike said, the surface has
6 just been scratched. And I think the Commission
7 should also set expectations regarding pilots and
8 research and development work and so forth so to
9 have this continue.

10 COMMISSIONER BROWN: You know,
11 I'm all reminded a little bit of the joke about the
12 French revolution, the guillotine and the engineer,
13 but I'll tell that later.

14 MR. D'ALOIA: I would -- I would
15 just mention and build on Jim's point, perhaps, and
16 give a comparison to the EDI analogy, again, when
17 we did that process back fifteen years ago -- and
18 LuAnn can speak to it, too. Maybe she will later
19 in her remarks. The Commission really left it to
20 the working groups once it set its expectations on
21 the retail market and the functions it wanted to
22 do.

23 The EDI and the -- the retail
24 access working groups that developed those business
25 processes really worked from the vision of the

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2 Commission. The Commission, at -- in that example,
3 did not specify standards at the outset or
4 protocols. It let the working groups decide, work
5 it out and come back, it affirmed them and, you
6 know, work went on from there. But -- you know, it
7 provided a -- you know, a good model for how things
8 could work out.

9 Granted, this is much more
10 dynamic. The retail access was a piece of cake
11 compared to this. You were dealing with
12 non-dynamic system, the C.I.S. consumption history,
13 meter, databases. Here we're talking sensitive
14 control telemetry of the distribution systems. But
15 in terms of the model, the -- it was the vision of
16 the Commission that -- that really got it going and
17 the working groups did the horsepower. They
18 developed the standards, the protocols, the common
19 architecture, the business rules and processes and
20 it came together. Although this is, again, in
21 orders of magnitude more complex.

22 MR. LOVELADY: This is David
23 Lovelady with a -- a response on the focus of the
24 near term versus the long term. And I agree,
25 definitely, we need to -- we need to do both in

1
2 some respects. We need to be able to look at the
3 long term and -- albeit at a high level, and then
4 over the next few months, if possible, we need to
5 look at -- in more detail the near term but whilst
6 considering where we want to go.

7 For example, you can build a
8 communications infrastructure that meets the needs
9 of the next two, three years, but you know in the
10 long term plan we want to apply additional
11 technologies. So you want to make sure that you do
12 make an investment and build in technology that
13 just sort of future proof and scaleable,
14 considering that long term view.

15 CHAIR ZIBELMAN: We're fine.

16 MR. RIEDER: You're all set?

17 CHAIR ZIBELMAN: Yes.

18 MR. RIEDER: All right. Thank
19 you very much. And to wrap everything up is Peggy
20 Neville of staff, also a co-convener for working
21 group.

22 MS. NEVILLE: Thank you.

23 Good morning, Chair Zibelman.

24 Good morning, Commissioners.

25 As you can see, the platform

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2 technology working group covered a tremendous
3 amount of ground in our short time together. To
4 close, I'd like to provide a high level summary of
5 our approach and key findings.

6 Our working group found that the
7 process we took, in some ways, was as informative
8 as the content, itself. As Michael presented
9 earlier, we were charged with identifying the
10 technology and infrastructure needed to enable the
11 DSPP. In order to answer that question, we needed
12 to start with the overall goals of REV and
13 incorporate input from our working group in order
14 to identify the needed functionalities of the DSPP.

15 That work allowed us to group the
16 anticipated functionalities into three key areas,
17 grid, customer DER microgrids, and the market.
18 Through the lens of the structured architecture
19 that David spoke to earlier, we organized our task
20 by looking at each area from three distinct system
21 perspectives. Power systems, communications, and
22 information technology.

23 At that point we were then able
24 to begin identifying specific tangible
25 technologies. Throughout our working group

2 discussions, and as we talked about here today, the
3 concept of a staged approach and evolution of the
4 DSPP kept reoccurring. We believe the technology
5 discussion benefited from an assessment of maturity
6 level.

7 In the next few slides, I will
8 again highlight our key findings. The New York
9 utilities have been planning and deploying
10 technologies that can help achieve the REV
11 objective. Most importantly, we can build upon the
12 work done here in New York and more broadly in
13 support of rolling out REV. REV provides a context
14 in which to align this ongoing activity with a
15 larger vision for New York.

16 The working group followed a
17 process that had a clear line of sight from one
18 subgroup into the next. Due to the complexities of
19 the REV process and its many moving parts, it is
20 very important to maintain that line of sight
21 between policy goals, functionalities, and the
22 investments that will be needed to support various
23 platform technologies.

24 DSPP 1.0 will look different
25 than, say, DSPP 3.0. As such, the functionalities

3 will the technology necessary to support it.

4 Standards and protocols can truly
5 support the efforts that REV seeks. A number of
6 well-defined standards and protocols exist that can
7 be called upon. The rigor of a structured
8 architecture can support New York in achieving
9 interoperability and consistency among the DSPPs.
10 Many technologies exist in various stages of
11 maturity to support the DSPP. However, we need to
12 be mindful that there's not one off-the-shelf
13 one-size-fits-all product that will meet all the
14 needs of each DSPP. Each DSPP will need to
15 consider the existing utility distribution system
16 and capabilities currently in place in determining
17 how it will be implemented and evolve over time.

18 Again, mapping technologies to
19 functions using a common approach can be a useful
20 tool for the DSPP, as well as for staff in
21 assessing implementation plans and identifying gaps
22 that may exist. Throughout the work of the
23 subgroups, a few themes emerged that we share with
24 you now. Designing in cyber security, this cannot
25 be an afterthought in the world we live in today.

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2 Assure interoperability and consistency across
3 DSPPs in order to truly animate the markets in New

4 York. And while there is an interest in moving
5 ahead quickly, we need to be cognizant in this
6 initial phase that we can support future
7 flexibility and scalability.

8 Thank you for the opportunity to
9 highlight the work of the platform technology
10 working group. As was stated earlier, the full
11 body of work has been filed on the case and has
12 even more detail than we were able to cover today.

13 I too would like to thank my
14 fellow co-conveners, subgroup leads, staff team,
15 and the entire working group for a very productive
16 few weeks, and on a personal note, full
17 appreciation for all for bringing this non-engineer
18 along in this topic area. We will now take any
19 additional questions you may have.

20 CHAIR ZIBELMAN: Thank you. You
21 could have fooled me, Peggy, but appreciate it.

22 And I think your last comment --
23 I -- I actually think the -- the issue of cyber
24 security didn't come up, but obviously was part of
25 your thought process.

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2 MR. RIEDER: It's absolutely
3 embedded in the standards and protocols group.

4 CHAIR ZIBELMAN: So that's almost

5 a -- a given?

6 Questions? Comments?

7 Okay. Thank you guys did a
8 tremendous job. You certainly, I think, covered
9 the waterfront. What I'm particularly amazed about
10 is -- is how you were able to get these working
11 groups lined up without total confusion about who
12 was doing what. So I think that that, in itself,
13 was tremendous organization. So thank you.

14 And I guess we're on to the next
15 or we have a break?

16 A.L.J. STEIN: We have a
17 fifteen-minute break.

18 CHAIR ZIBELMAN: Okay.

19 A.L.J. STEIN: We'll reconvene at
20 eleven fifteen.

21 CHAIR ZIBELMAN: Great. Thank
22 you.

23 (Off the record)

24 (The technical conference
25 resumed.)

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2 MS. MITCHELL: Good morning,
3 Chair and Commissioners.

4 CHAIR ZIBELMAN: Good morning.

5 MS. MITCHELL: This panel will be

6 presenting the work and findings of working group
7 one, the DSPP markets committee.

8 So, this slide is just a little
9 disclaimer, and I think we heard this earlier, that
10 while this presentation includes input from many
11 sectors and parties, the presentation does not, nor
12 was it intended to represent the consensus view.
13 And I think we also heard from Judge Stein that
14 there -- although this was sort of a fact-finding
15 mission, we quickly realized that there was some
16 overlap between facts and policies and opinions in
17 here. So there is some of that, you know, a little
18 bit in here.

19 So, I'll quickly go over the
20 agenda. First, I will provide an overview of the
21 committee, its make-up, its objectives and key
22 findings. Then David Gahl from the Pace Energy and
23 Climate Center will cover products and services
24 that may be transacted under the new REV construct.
25 Next, Bill Acker from the New York Battery and

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2 Energy Storage Consortium will discuss challenges
3 and pathways to increase distributed energy
4 resources penetration. And just for your
5 information, from here on out, I'll probably call
6 that DER, distributing energy resources.

8 a steering committee was formed, with
9 representatives from each of the sectors and the
10 steering committee was tasked with soliciting and
11 compiling information from all of the members.
12 There were weekly working meetings of the steering
13 committee, as well as weekly reports to and
14 requests for information from the full committee.
15 And there was also a separate subgroup that worked
16 on issues related to the interaction with wholesale
17 markets.

18 Moving on to the scope of the
19 committee, the scope and the objectives of the
20 market committee was to identify potential
21 products, services, and transactions between
22 various parties, including but not limited to the
23 DSPP under the new REV construct, to develop
24 information on the value of potential products and
25 services, both to the electrical system, as well as

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2 other societal benefits. The group set out to
3 define challenges and pathways to further
4 proliferation of DER provision of products and
5 services.

6 We also developed recommendations
7 for a potential initial model for procurement
8 structure to facilitate DERs, essentially focusing

9 on the near term, or the initial stage of REV. I
10 think you've heard a little bit earlier, with the
11 platform technology group, talking about how they
12 more focused on the end state and -- and our group
13 sort of looked at the beginning stages and what the
14 first steps would be, generally looking at the
15 first three- to five-year timeframe. And then
16 finally, the group looked at interactions of the
17 DSPP and other parties with the New York ISO
18 wholesale markets.

19 The following are some of the key
20 takeaways from the efforts of the committee. The
21 committee found that there are numerous potential
22 products and services that DER can provide. Some
23 exist today, but it is expected that new and
24 innovative products will develop in the future.
25 The group wrestled with some definitional issues,

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2 as they related to potential products or services,
3 such as whether energy or capacity are products
4 that the DSPP would buy. So, one takeaway, and I
5 think you also heard this earlier, was that precise
6 definitions will be of great importance under the
7 REV construct.

8 Also, while a number of
9 distributed energy resources exist today as a

10 result of programs and initiatives by the P.S.C.,
11 NYSERDA, utilities, ESCOs, the New York ISO and
12 others, some of these resources may be
13 underutilized and more resources may need -- may be
14 needed to optimize efficiency and to achieve the
15 goals of REV. However, the committee identified a
16 number of challenges to further proliferation and
17 utilization of DER. Focusing on the near term, the
18 committee suggested an initial stage of REV,
19 whereby the utilities would play a key role in
20 further developing DER.

21 Finally, the committee identified
22 a number of actions that could be taken by
23 utilities, DER providers, and others, as well as
24 potential regulatory reforms and -- and potential
25 need to align New York ISO markets to help

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2 facilitate DER development and the achievement of
3 the REV objectives.

4 Are there any questions on that,
5 before I turn it over to David?

6 CHAIR ZIBELMAN: Questions, no.

7 There -- well, I have one
8 question and maybe -- I think you -- I saw it in
9 the presentation. Was there discussion on the
10 committee about jurisdictional limits?

11 I know with the seven forty-five
12 reversal -- and maybe Mollie, you -- you want to
13 just -- it -- or -- but it seems to me that
14 that's -- at some point we're going to have to
15 address how all this fits within our federalists
16 framework.

17 MS. MITCHELL: Yes. And you did
18 see in a presentation and it will be Mollie who is
19 addressing that.

20 CHAIR ZIBELMAN: Okay. Great.
21 Thanks.

22 MS. MITCHELL: So, if there are
23 no other questions, I'll turn it over to Dave Gahl.

24 MR. GAHL: Okay. Thanks, Tammy.
25 I'm David Gahl for Pace Energy and Climate Center.

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2 Good morning, Commissioner Zibelman. I will move
3 that a little closer.

4 Good morning, Commissioner --
5 Commissioners.

6 So, as Tammy said, I'm a -- a --
7 I help represent the environmental sector on the
8 steering committee with some co-representatives and
9 my job today is to quickly review the committee's
10 work identifying the distributed energy resource
11 products and services that could be available on

12 this new market. So we're going to put a lot of
13 material pretty quickly.

14 A.L.J. STEIN: David, could you
15 tip your microphone up a little bit?

16 (Off-the-record discussion)

17 MR. GAHL: Okay. So, let's set
18 up the exercise a little bit first. We can -- I'll
19 start with some of the definitions. So, the
20 committee broadly defined distributed energy
21 resources and we have identified a number of
22 categories. The distributed generation, including
23 fuel cells, solar P.V., C.H.P., et cetera. We had
24 an energy storage demand response, energy
25 efficiency, and microgrids.

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2 And as Tammy said at the outset,
3 one of the key findings of the committee was that
4 although we have these categories and DER
5 resources, there are new and innovative resources
6 that we're expecting to come online and so we have
7 to be mindful of constructing the REV framework,
8 with a -- an eye towards their new resources
9 that -- that will be developed over time.

10 For the -- for the -- the actual
11 exercise, we sort of looked at products and
12 services from two perspectives. First, we looked

13 at DER products that would be bought by the
14 distributed system platform provider, for the
15 benefit of the distribution systems. That was
16 one -- one exercise that we engaged in.

17 The second exercise that we
18 engaged in was products that would be bought by
19 customers and ESCOs and DER providers, potentially
20 within the -- the framework of the DSPP
21 marketplace, but also potentially outside of that
22 marketplace. So, we looked at some of those
23 transactions and some of those products that would
24 be available, as well.

25 All right. So, what I'm going to

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2 do is quickly talk about the first exercise.
3 Again, this is the -- the products that were bought
4 by the distributed system -- that would be bought
5 by the distributed system platform provider, for
6 the benefit of the system. And so this table, what
7 it does is it walks you through some of the
8 categories of products and services and then some
9 of the anticipated benefits that those products and
10 services would bring to the system.

11 And so, let me -- I'll just kind
12 of walk through. On the left-hand side, we have
13 our categories. And our first major category that

14 we identified was base-load modifications, which
15 include local energy production and supply side
16 increases and then permanent load shift in
17 production. So, my -- my example here is energy
18 efficiency and we can talk about some of the
19 benefits that energy efficiency brings to the
20 system on the other side of the table. So, that's
21 obviously avoided and deferred transmission and
22 distribution investments. That's reduced operating
23 costs and overall air pollution emissions
24 reductions, which is a key goal of the REV
25 proceeding as well.

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2 Let's move on to the second
3 category on the table, is peak load modifications.
4 So, there -- there, we're talking distributed
5 energy resource outputs that could be off-setting
6 central station generation. Demand response is
7 another category. And flexible capacity ramp rate
8 activities is another piece of that.
9 We use -- quickly talk about
10 demand response. Again, some of the same benefits
11 that we have seen. We have improved system
12 stability. We have lower energy and capacity costs
13 that result in demand response and ultimately, some
14 better utilization of the system. So, those are

15 some of the benefits that we have identified on
16 those first two categories.

17 Moving on, we have a couple of
18 other categories of benefits as well. Non-bulk and
19 ancillary services was a category. And this is
20 with the grid support section of the -- the
21 products and services that were identified.
22 Voltage support as an example. Voltage support
23 improves the -- the power quality and -- which is
24 important to many customers in New York State. So
25 that's a -- a -- a very important anticipated

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2 benefit.

3 Also, another category of --
4 of -- of products and services that we identified
5 was contingency planning and that could be black
6 start, emergency power, islanding, we talked a
7 little bit about microgrids and the benefits
8 that -- that microgrids could bring to the system.
9 And those are -- clearly improve resiliency,
10 improve system -- bringing the system back online,
11 and then obviously, the public health and safety
12 benefits, as there are critical services that need
13 to be provided by microgrids as well. So, that's
14 another piece.

15 The note at the bottom of this

16 slide, there's a little footnote that -- that
17 recognizes a -- a vigorous debate that we have
18 within the committee on whether energy and capacity
19 are products that the distributed system platform
20 provider would buy and what kind of value they
21 bring to the system. As Tammy said at the
22 beginning, I think there were some definitional
23 issues that -- that cause debate -- and at a high
24 level, I think the real question here was how
25 exactly do we handle the value that some of these

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2 DER resources bring into the system and how -- how
3 to account for the value of a void in investment in
4 the transmission distribution infrastructure. So,
5 that was a -- a -- a -- a source of debate within
6 the committee, but I think it ultimately speaks to
7 some greater need for precision on some of these
8 terms.

9 One of the other key findings of
10 the committee involved identifying the value of the
11 benefits of DER products. And -- and the -- the
12 key -- the notion here is that the -- there are a
13 number of specific conditions that are going to
14 drive the value of those -- of those products,
15 including the location of the resource, the nature
16 of the resource, whether it's a zero emission

17 resource, as in the case of solar, whether it's for
18 a fossil generation unit, the time of -- time of
19 day the resource is used. And the -- the
20 committee's finding here is ultimately that -- that
21 all of these factors are going to address the value
22 of that resource and need to be considered going
23 forward.

24 All right. So, now let's move on
25 to the second category of the exercise, which was

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2 looking at those other transactions, the -- the
3 transactions that would be bought by other
4 customers, either ESCOs or the DER providers,
5 potentially, within the -- the mark -- the DSPP
6 market place or potentially outside of it,
7 through -- through just bilateral transactions.
8 And so, what we've done here is we've identified,
9 again, some -- some categories of products and
10 services and then some specific examples of what
11 those products and services can be.

12 So, quickly, we have delivery
13 services. And then the examples of that would be
14 to value added services and DG or DER interconnect
15 services. Move on to the second category which was
16 end use customer services. And a good example of
17 this would be again, energy efficiency. This could

18 be energy efficiency services that an ESCO provides
19 to a group of clients or a group of customers. And
20 that could potentially happen outside the DSPP
21 model -- marketplace, I should say.

22 Pricing and billing services, and
23 there's a whole host of different products
24 available there. But there could be aggregation of
25 transactions that a firm would engage in and bring

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2 those -- bring those aggregated transactions to the
3 DSPP.

4 And then we have metering and
5 information services as well and that could include
6 post-customer billing data, analysis of that data,
7 and further analytic work, using some of that
8 information to help provide value to customers.

9 The last thing I'm going to
10 cover, quickly, will be the -- the -- the funding
11 mechanisms that would support all of these
12 activities and these products. I think the -- the
13 top two on this slide, bilateral -- bilateral
14 agreements and the DSPP tariffs are probably the
15 most -- will be the -- the funding mechanisms
16 that -- that the committee agreed would be the most
17 likely ones to be used, but we also identified a --
18 a whole host of other potential funding mechanisms.

19 So for instance, the DSPP for
20 the -- for those products and services that it
21 would buy and bring to the distribution system,
22 that the tariff -- the tariff structure is probably
23 the way that that would be -- probably the
24 mechanism that that would be used to fund those
25 products, purchase of those products. But there

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2 could also be bilateral agreements between third
3 parties as well, as I've mentioned.

4 And just to mention a couple of
5 the other potential funding mechanisms, we have
6 distributed energy resource funding, based
7 potentially on future energy savings from those --
8 that those resources bring, and then potentially on
9 bill financing, as well.

10 And that completes the products
11 and services overview. There's a lot of detailed
12 material in the reports, detailed appendices that
13 describe many of these products in -- in great,
14 excruciating detail for your -- for your review and
15 pleasure.

16 I'll take any questions.

17 CHAIR ZIBELMAN: First of all,
18 David, thank you.

19 And Tammy, thank you. I don't

20 think we introduced you as Tammy Mitchell, as chief
21 of our electric division.

22 I'm going to -- first of all, do
23 you have -- anyone have any questions --

24 COMMISSIONER BROWN: Nothing now.

25 CHAIR ZIBELMAN: -- to begin

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2 with?

3 Just -- just a couple things,
4 when I was looking at it. When you -- when you
5 talk about your product and services, such as
6 pricing and billing services, is -- was there
7 discussion as to whether or not they could be third
8 party provided and -- or whether they had to be
9 DSPP? Did you get into debates on -- on what was
10 sort of a must -- must do versus can do?

11 MR. GAHL: I'll start and maybe
12 Tammy can fill in. I think that yes, there were
13 some discussions about which entities would perform
14 those services and whether they would happen within
15 the DSPP marketplace or outside of it. I don't
16 think the committee reached any real consensus on
17 what would be a -- a -- a must-do arrangements
18 versus the -- you know, other kinds of
19 arrangements. And I'll pass -- Tammy?

20 MS. MITCHELL: Sure. No; I -- I

21 agree. I -- I -- I think a lot of the discussion
22 went around the fact that we had -- we had a number
23 of parties represented, as we talked about, and
24 there are currently businesses out there that
25 provide some of these services.

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2 I think there was a concern that
3 if we are creating this new DSPP model, regardless
4 of who the DSPP is, are we somehow stepping on the
5 toes of others that may be able to provide those
6 services. So, I -- so, I think there are -- there
7 were those that wanted to be able to maintain the
8 ability to provide services, not just billing, but
9 a lot of these different services, and again, as
10 David said, either through the DSPP, directly with
11 customers, directly with the ISO. So --.

12 CHAIR ZIBELMAN: We're -- and
13 then, I -- I guess if I would get this -- or sort
14 of making this up on the fly, which is always
15 dangerous, but it seems that there are some
16 products and services that we're going to -- we
17 have to identify that we're going to want the DSPP
18 to provide, to animate the market that would be --
19 I would put in the category of everyone must do.

20 Secondly, though, there's a
21 category of services that the -- we might say that

22 the DSPP has to provide in order to enable the
23 market, that -- so that third parties can come in,
24 but could be non-monopoly type services, that third
25 parties can also offer; right?

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2 MS. MITCHELL: Right. I -- I
3 agree.

4 CHAIR ZIBELMAN: And -- and
5 then -- I mean, and so that -- and then the third,
6 potentially another category could be services that
7 anyone can offer, and we might want the DSPP not to
8 offer in order to ensure a competitive market.
9 Would that sort of be a -- sort of potential
10 category that we haven't listed here, but something
11 we should be looking at?

12 MS. MITCHELL: Yes. I -- I agree
13 with that and -- and in addition to that, I think,
14 as time goes on, and the model changes, that those
15 decisions that we make now, I would -- the DSPP has
16 to or can provide and what others, you know, can
17 provide, may actually change as well.

18 Either way, I think -- and we'll
19 talk about a little bit when we talk about the
20 initial model, but I think there was sort of a
21 recognition that in the beginning the utilities, in
22 particular, may need to be more involved in getting

23 the market going and increasing the DER
24 penetration. But as that happens, in the future,
25 we may be able to look at a different model, more

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2 of a -- you know, sort of akin to the New York ISO
3 market model, where maybe the utilities are less
4 involved.

5 CHAIR ZIBELMAN: Or maybe even a
6 little bit like we've done with telecom, as we've
7 evolved those services.

8 Okay. Any follow-up?

9 Good. Thank you.

10 Welcome, Bill.

11 MR. ACKER: Thank you.

12 Good morning, Chair Zibelman,
13 Commissioners.

14 I'm Bill Acker, with the New York
15 Battery and Energy Storage Consortium. I've been
16 asked to talk about the challenges of pathways for
17 increasing DER penetration and utilization this
18 morning.

19 And as David just talked about,
20 the working group spent a lot of time talking about
21 products and what the benefits were associated with
22 those products. And that led to discussions about
23 what are the near-term barriers and how can we

24 increase the penetration of DERs in the
25 marketplace.

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2 And we all recognize, and I think
3 there certainly is a lot of debate about what the
4 end state of this marketplace looks like in the REV
5 process. But we all recognize that there's a great
6 opportunity to create a transactive energy market
7 out of this process that's truly a competitive
8 market, that eventually could have bidirectional
9 flow for consumers and the ability to unbundle
10 products and services so that you could take
11 advantage of all of that these devices and new
12 technologies offer.

13 A.L.J. STEIN: I -- I'm sorry to
14 interrupt, but could you -- you need to speak a
15 little closer to the microphone.

16 (Off-the-record discussion)

17 MR. ACKER: So -- so there is a
18 great opportunity to create a truly transactive
19 energy market in the -- in the long run.

20 We also recognize though, that
21 DER penetration is not currently at the levels that
22 would support all of the visions for a truly
23 transactive market at this point. And so, the
24 graph here is showing that we have phases that are

25 occurring, where we're building a massive base,

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2 which is the phase we're in right now. We need to
3 establish the markets and then we need to
4 eventually adapt to improve those markets.

5 And of course, we want to move
6 quickly in this, but we also want to make sure
7 that, as we establish these markets, we do
8 effectively value the -- the products and services
9 that are -- that are -- that are involved here.
10 So, we do need to identify and remove the
11 challenges of entering. I'll talk a little bit
12 about those in a minute. We also need to make sure
13 we have the appropriate structures as the -- as I
14 just said.

15 So, moving to the next slide,
16 when we look at the challenges and pathways here,
17 a -- a great deal of the challenges associated with
18 the penetration of DERs in the marketplace comes
19 around properly valuing the benefits associated
20 with those products and monetizing those benefits.
21 And I think everyone recognizes that -- that
22 distributed energy and resources can create a wide
23 variety of benefits that -- that are not presently
24 valued in the marketplace. These benefits
25 particularly involve the location, the level and

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2 timing of the -- the -- the system needs they're --
3 they're offsetting or providing services for.
4 And -- and we need to take into account the
5 resource performance associated with those, in --
6 in valuing them.

7 So, as we look at that, there are
8 numerous examples where the -- these DERs can
9 provide a wide variety of benefits at the same
10 time. So, an example of an energy storage device,
11 for instance, can be doing load reduction at a
12 site. It also could be putting that energy onto
13 the grid as opposed to doing it behind the meter
14 and, therefore, providing energy capacity services,
15 which, as David just pointed out, was a point of
16 contention in the discussions that we -- we had.

17 It also could mean performing
18 voltage, VAR support, other very effective things
19 for root support services. And it also could be
20 performing ramp-rate services to -- to stabilize
21 and help offset the -- the effects of other DERs
22 and other things on -- on the grid. In order to do
23 this, we need to monetize those -- those multiple
24 benefits.

25 Additionally, the -- these

2 devices will perform other benefits that were
3 listed in the working-group report. So, in the --
4 in the section on products and services, there's a
5 spreadsheet that was put together that looked at
6 policy benefits and other benefits associated.
7 These -- those -- those benefits need to be
8 monetized in a -- way, as well, as we move forward
9 with these -- with this program.

10 Now, in developing structures
11 that -- that provide appropriate pricing signals
12 for services, it's recognized that in long term,
13 you're going to have a transactive marketplace that
14 has the market to providing all these signals that
15 create and value all of these benefits. It's also
16 recognized that in the near term, the market's not
17 ready to perform all of that.

18 It's also recognized that in many
19 cases, for penetration of the DER, multiple
20 benefits do need to be valued. So, for instance,
21 if you had a situation where you are valuing a
22 device that's putting out power for -- for -- for
23 VAR support and for voltage support, but you're not
24 valuing other components that it can do, then it
25 may not be cost effective. So, it's important that

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2 as we look at the steps that we take in creating
3 this marketplace, we do make sure we take steps
4 that -- that -- that value the multiple benefits of
5 the products.

6 The last point around that is the
7 unbundling aspect of these services and benefits.
8 It -- it was recognized that a lot -- there are --
9 those are a lot of services and benefits.
10 Frequently, they are bundled together and in long
11 term, unbundling them can be -- can be particularly
12 valuable.

13 The second large area of -- that
14 was talked about with regard to the challenges and
15 pathways is information availability. The --
16 and -- and we broke this into three categories.
17 The -- the first category is the information about
18 the distribution systems needs and capabilities.
19 Clearly, distributed energy resources can have much
20 more impact locationally on the grid, in certain
21 areas than other areas. And the ability to -- to
22 understand that is suggested that this can be built
23 off some existing programs, but the ability to
24 fully understand that again, eventually that can be
25 market driven. But near term, we need to

2 understand that in order to drive the -- the
3 locations of the DERs and understand the benefits.

4 Secondly, DER performance and
5 commitments, a point made by many of the utilities
6 and other people, are -- are that there's a -- in
7 many cases, there's a -- a section of a lack of
8 information around the performance of DERs and the
9 commitment to provide the services in order to both
10 effectuate planning and also to -- to ensure that
11 the services are there when you need them.

12 The third area, an informational
13 area, is customer account usage information, which
14 I would talk to here, but the next group you're
15 going to hear from, the consumer engagement group,
16 will be talking about it intensively. This is an
17 area that of course will be valuable in -- in being
18 able to deploy products.

19 The next broad area of the
20 challenges to introduction is involved in the
21 standardization of metering and verification and
22 reporting requirements. Currently, you -- can be
23 in a situation where ISO and utility programs
24 differ in such a way that the -- the same event
25 would be treated differently between -- between

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2 those. So, in -- in having the ability to make

3 sure that we are standardizing -- and of course,
4 we've heard a lot about that a moment ago, with
5 regard to the techniques that do standards and
6 protocols, but this is more associated with how
7 you're monitoring, how you're metering, how you're
8 verifying, and how you're reporting, with respect
9 to the individual performance of the DERs in the
10 programs.

11 Now, the last two areas that I'll
12 touch upon are, first technical, which a major
13 barrier to -- to a -- a lot of DER implementation,
14 actually are the interconnect rules, the time that
15 it takes to achieve a standard connection, the --
16 the number of people talking about reporting wait
17 times, having deadlines and ways to -- to establish
18 ways to streamline the interconnection rules. And
19 also, the coordination between electric, gas, and
20 steam operations, especially as you get into some
21 of the DERs that engage multiple ones of those, to
22 be able to effect the interconnect rules
23 efficiently.

24 The -- again, establishing
25 monitoring control and verification for the -- for

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2 the interaction, for the installations. And this
3 particularly gets to the ability to integrate DERs

4 into resource planning as -- as we're moving
5 forward. And the deployment of communication
6 instructures -- infrastructures, which I won't go
7 into because we talked about that extensively in
8 the last panel, but obviously a critical aspect in
9 moving forward.

10 The last area I will talk about
11 is in this general category of other, but includes
12 quite a bit. And the first is addressing cost and
13 financing of -- of DERs. There -- there are a
14 number of -- of suggestions and -- and pathways to
15 be looked at, associated with that, that were put
16 onto the matrix that's in your packet, for -- for
17 suggestions that came forward. These included
18 increasing on-bill financing and property tax
19 financing, the work that Green Bank's doing,
20 revenue certainty for financing. And so, building
21 confidence in the market, for -- for -- for the
22 revenue models for these devices.

23 The next area is incentivizing
24 utilities to consider DER alternatives to T and D
25 investments. And this is a situation where,

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2 occasionally, we -- or, in fact, maybe frequently,
3 DER resources are not necessarily considered as
4 alternatives to -- to T and D investments. So,

5 requiring evaluation of non-transmission
6 alternatives and -- and potentially also looking at
7 the financial incentives to make sure that the --
8 that it's -- that utilities are incentivized to
9 these -- these devices.

10 We believe it's important that
11 all the existing programs that are in place
12 continue. As we indicated, the markets don't
13 necessarily kick off on day one and we need to --
14 we need to grow the resource base to start with.
15 Revisiting standby rates, standby rates can be a
16 deterrent to DER, so there's tariff structures and
17 cost allocation issues. Clarifying the future of
18 net metering, desire for long-term policies in that
19 regard.

20 It was also pointed out that
21 improved the -- the load servicing entity customer
22 data submission to the ISO, that better reflect
23 what the customers are actually doing. So that
24 load serving entities can get credit for what --
25 what customer changes behaviors actually occur.

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2 Revising the cost benefit
3 analysis framework to include societal benefits and
4 costs, particularly environmental. And I'll finish
5 up, since I'm out of time here, with the last point

6 of ensuring that the -- that use of the DER
7 maintains reliability of the T and D system.

8 And this is a double-edged sword,
9 because obviously, DERs can -- can enhance
10 resiliency and can have many benefits in this
11 regard. But we also do have duct curves and
12 other -- other things that we look at, that -- that
13 require analysis of how DER penetrations work and
14 how multiple DERs can maybe offset the effects of
15 other ones and -- and help to create a better
16 system overall.

17 So, with that, I will wrap up and
18 we can take questions as a group.

19 CHAIR ZIBELMAN: Thank you.
20 Commissioner Brown?

21 COMMISSIONER BROWN: I have one
22 comment slash question.

23 You kind of lay out a lot of the
24 challenges and the connection standby rates, which
25 we -- I think we all recognize need to -- need to

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2 be worked on. But while we're overcoming those
3 challenges, I just want to kind of keep in mind
4 some basics.

5 We've mentioned already cyber
6 security, that no matter what we do here, we're

7 going to have to keep that in mind. You said more
8 information about the system would be very useful
9 to the providers, absolutely true. More
10 information about the system can also be very
11 useful to other people, as well, that perhaps want
12 to threaten the physical security of -- of the
13 system.

14 I had -- somebody in the audience
15 mentioned to me earlier, and I think it's a very
16 good point, employee safety has to be maintained by
17 having more and more of these remote sources
18 with -- just got to maintain that safety
19 requirement. And then I think we'll probably get
20 into in the markets, there is concern about privacy
21 of information. So, while we take a look at the
22 one set of challenges, which I think is absolutely
23 necessary to do what we're trying to accomplish
24 here, we can't lose sight or gloss over these basic
25 things that have to be maintained while we make

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2 those changes. So, if you want to comment, fine,
3 but it was more of a speech than a question.

4 MR. ACKER: All right. Well,
5 I -- I will indicate that that was discussed. I
6 mean, I think I -- people recognize some of the
7 points you're making.

8 CHAIR ZIBELMAN: I would guess
9 that we would add public safety to that mix.
10 MS. MITCHELL: Uh-huh.
11 CHAIR ZIBELMAN: As well.
12 COMMISSIONER BROWN: Public
13 safety, employee safety absolutley.
14 MS. MITCHELL: Yeah.
15 COMMISSIONER BROWN: Absolutely.
16 MS. MITCHELL: Right.
17 CHAIR ZIBELMAN: I am curious,
18 and I -- I'm sort of weighing in, I know, on a
19 complex issue. I mean, we're -- we're at a point
20 where we're trying to transition from one
21 methodology to incenting distributed resources, to
22 integrating it to a -- more of a market
23 environment. And the other piece of this that --
24 you know, the Commission is always concerned about
25 is affordability. And so, in a sense, we're

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2 building a bridge. And I think our challenge is
3 going to be is how do we -- is building that bridge
4 in a way, so that we end up with more than we have
5 today, not less, but in the meantime, that means
6 some model of change. We can't -- we sort of -- we
7 can't proceed on both tracks at once, right.

8 And was there any discussion in

9 the group -- I'm sure there wasn't consensus, but a
10 discussion on how you -- you know, and I know this
11 is something that Colleen Gurwitz loses sleep about
12 all the time. How do we make that transition
13 without disrupting the market? And that's also
14 maybe more of a speech than a question, but it --
15 there is a question in there.
16 Where -- was there discussion, debate, a
17 recognition of that? How -- how did you guys talk
18 about that?

19 And that could be to anyone,
20 but --

21 MR. ACKER: Right.

22 CHAIR ZIBELMAN: -- Bill, you
23 could start.

24 MR. ACKER: So -- so we got
25 started, I'm certainly -- welcome everyone to chime

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2 in here. I think in -- in -- in the -- in the
3 little bit of time the working group had -- and the
4 working group, I think they had an incredible
5 wealth of information and input from -- from many
6 members and it was a great process. But in the
7 limited time the working group had, we began
8 with -- with more of a longer term vision, and then
9 zeroed in on near-term. So, you're going to hear

10 some near-term models coming forward here.

11 I think there is still a fair
12 amount of work to be done in how that transition
13 occurs because it's recognized that the existing
14 programs need to continue for continuity's sake in
15 the marketplace so we can -- you know we can't
16 market shock associated with it just stops the
17 whole process as we're going through it.

18 Now, and we also recognize that
19 the -- the -- the -- the end goal is -- is a --
20 quite the correct one and that -- and -- and that
21 you can get there. So, the -- the challenge is
22 going to be to continue with the appropriate
23 incentivization programs, while we're creating a
24 marketplace that -- that that can pick up where
25 these incentivization programs leave off. And

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2 that's where the jury's still out and there really
3 wasn't a lot of discussion on how that actually
4 occurs. And maybe that's a discussion that can
5 occur in the near future.

6 CHAIR ZIBELMAN: This could be
7 like one of my kids' stories, and then I woke up.

8 All right. Anyone else on -- on
9 this? It's a complex issue.

10 MS. MITCHELL: Yeah, I just

11 wanted to add one thing. And I -- and I think
12 we're looking at this, again, looking at the
13 initial stage and how do we get from here to the --
14 the final stage. And -- and one thing that we
15 recognize is that what we want to do here is to
16 complement and supplement existing markets and
17 programs that we have now. And in doing so, I -- I
18 think, although we recognize that we have to
19 monetize some of these -- these values and these
20 benefits of some of these resources, I think we're
21 going to have to give guidance as to what sort of
22 cost benefit methodology needs to be considered, in
23 these programs, as we move forward.

24 So, I think there is more
25 guidance that's needed, but certainly we don't want

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2 to do something that the cost exceed the benefits.
3 That -- that framework is still -- there's still
4 more that needs to be developed that we just
5 couldn't get to in this time.

6 CHAIR ZIBELMAN: Okay. The other
7 thing that I -- I observed and then you identified
8 it -- and I don't know if that was by example or --
9 or something that -- that the group sort of
10 solidified around, this issue of building the asset
11 base, a sort of day one -- you know, it's sort of

12 reminiscent. Of course, in a wholesale market, we
13 talked about day one being the energy market and
14 then moved on to ancillaries and -- and other types
15 of things.

16 Was there consensus around
17 that -- that -- that the focal point needs to be in
18 the -- in the immediate future, just getting the --
19 getting the assets in, or is that sort of by way of
20 example, as sort of what should be our focus for
21 the next -- for the first day, let's say,
22 generation of this evolution or transformation?

23 MS. MITCHELL: So, I think there
24 was a -- a general agreement that more -- more
25 resources are certainly going to be needed,

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2 especially if we want to get to this fully
3 transacted market. You need more resources for
4 more efficiency.

5 But there was also recognition --
6 we've -- we've had programs in place. There are a
7 lot of resources out there. They may or may not be
8 used as fully as they could be. The values may not
9 be fully recognized. But certainly, in -- there
10 are certain areas of the state where more resources
11 exist, but when you get down to the distribution
12 system and you're looking for alternatives to your

13 traditional T and D investment, you're going to
14 need resources and you're going to need them in
15 those locations. So, I really do think you need to
16 grow that resource base so that you have those
17 available as alternatives.

18 CHAIR ZIBELMAN: Anyone else?

19 So -- so, it'd be a -- what I'm
20 hearing is to both. We have to figure -- we have
21 to monetize them and then we need to -- and we also
22 have to attract them. It's not an either/or. As
23 you see it, it's the first stage.

24 Is that --

25 MR. ACKER: Now, I --

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2 CHAIR ZIBELMAN: -- is it --

3 fair --?

4 MR. ACKER: -- I -- I would agree
5 with that. I don't know if we ever actually put
6 that as a point of contention -- agreement, but I
7 certainly would agree with that.

8 CHAIR ZIBELMAN: Bart did, too.

9 You're nodding.

10 MR. FRANEY: Yeah. And I -- I
11 think that a lot of these questions that you're
12 asking are probably going to be addressed --

13 CHAIR ZIBELMAN: Oh, okay.

14 MR. FRANEY: -- through my
15 presentation.

16 CHAIR ZIBELMAN: All right.
17 Good. Yeah. Which is next. Yeah.
18 Good. Thank you.

19 MR. FRANEY: I'm going to guess
20 here if I did my math right, but I -- I don't have
21 a clock, that it's afternoon. So, good afternoon
22 Chair Zibelman and Commissioners. My name is Bart
23 Franey. I work for National Grid. It's an honor
24 to be presenting here today on behalf of the DSPP
25 market committee, but just a quick disclaimer, I

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2 am -- I mean, on behalf of the committee, and
3 nothing I say should be misrepresented representing
4 National Grid's position.

5 What you have before you here is
6 a high-level schematic of, largely, relationships
7 between DSPP's customers and third parties. What
8 the committee had agreed to is that the DSPP would
9 facilitate and agree to resource planning, maintain
10 customer engagement, provide services such as
11 metering and financing options, and aggregate
12 transactional services between the DERs and the
13 ISO.

14 Last but not least, the DSPP

15 working group spent a lot of time on identifying
16 products that would benefit customers and the
17 distribution system. Critical to the initial model
18 will be product valuation and pricing, through
19 regulated tariffs.

20 And just a quick nod to
21 Commissioner Brown's observation, that this looks a
22 lot like what we have today, but if you peel back
23 the onion, which we'll get into in later slides,
24 we'll see that it's a -- it -- it is a scope issue
25 and it is very much a change in the paradigm from

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2 what we have today.

3 So, the initial model is a
4 utility role. Committee largely agrees that the --
5 that entering into a market-based system in the
6 near term is unrealistic. As an initial matter,
7 the utility should be the DSPP or was mentioned, I
8 like the phrase that was mentioned on a prior
9 panel, DSPP 1.0, that that should be the utility.

10 DSPPs would identify areas where
11 DERs have near-term value. This information is
12 necessary to develop sufficient price signals that
13 reflect distribution system needs in planning of
14 real-time operations. DSPP should explore DER
15 opportunities as alternatives to T and D

16 investments through targeted R.F.P.s, or regulated
17 rates.

18 In addition to product valuation,
19 the DSPP would need to establish visibility into
20 the performance of new and existing resources, in
21 order to reliably -- reliably account for
22 performance and planning. And so DERs have an
23 expectation of what their revenue would be based on
24 whatever technology that they would like to pursue.

25 So, where -- where feasible,

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2 utilities should work towards standardizing
3 products and protocols so DER providers and service
4 providers can operate seamlessly between DSPP I
5 think that's been a reoccurring theme that I've
6 heard on a prior panel as well, was that seamless
7 operation between DSPP and region A and B, we
8 should try to uniform that. And I -- and I know
9 that the utilities recognize that as -- as a task
10 and a need that they -- they need to focus in on
11 that. Not to say that, as Commissioner Brown again
12 noted, that the difference between, say a Con Ed
13 service territory, distribution system and, say,
14 the National Grid service territory, are not always
15 going to be aligned, so there will be practical
16 differences.

17 So, the initial model, potential
18 regular -- potential regulatory action, obviously
19 one of the reasons why we're here today is because
20 regulatory action is needed to help facilitate DSPP
21 procurement of DERs. This is going to be a
22 regulatory journey, I would say, that takes us to
23 the end state of REV.

24 Some near-term regulatory
25 actions, identified by the committee, include

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2 guidance on -- oh, I should change this -- guidance
3 on products or values, to be monetized and develop
4 appropriate metrics, adopt cost-benefit value --
5 valuation methodologies for DERs as a potential
6 alternative to T and D investment, leverage and
7 expand existing programs as a bridge to sufficient
8 DER penetration. And I believe that the Commission
9 is doing that in other cases, as well.

10 In order to successfully
11 integrate DERs into the system, so that the
12 benefits to customers and network operators can be
13 realized, it is essential that the utilities ready
14 their systems and create platforms such as
15 communication, monitoring, and dispatch of
16 distribution level DER.

17 And that was the primary focus

18 and objective of the -- the prior panel.

19 In order to achieve a critical
20 mass of DERs that would be necessary to have
21 established markets, the Commission would need to
22 revise utility tariffs and policies. And given
23 that the enactment of new rates for DERs, where we
24 can monetize those values and attributes that they
25 provide, it would only make sense that the

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2 Commission also review existing rates and policies
3 and look at it more holistically and ensure that
4 we're doing the right thing in an economical
5 fashion for customers and that the whole package
6 hangs together.

7 I should note that the examples
8 given here and -- and prior were also -- we didn't
9 achieve consensus on some of these issues. You
10 know, some folks very strongly believe that they
11 don't go far enough. Others believe that they --
12 they went too far, in -- particularly in terms of
13 cost allocation for -- for power assurance and --
14 and network service.

15 But we're not -- fortunately, we
16 don't have to deal with those today, but just to
17 say we all agree that they need to be looked at in
18 the future.

21 utilities should identify locations where the DERs
22 would provide the most benefit. A lot of people
23 refer to that as hosting capacity. And, you know,
24 what we have in terms of hosting capacity on lines
25 today versus maybe some lines are maxed out and

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2 would require to be developed further in terms of
3 infrastructure hardening.

4 So, I think that there largely is
5 consensus around getting going on what we need to
6 do, but we have to -- obviously, there's a next
7 step.

8 MR. ACKER: I guess -- if I could
9 just add to that, I agree with what Bart said. I
10 just want to make one more point to it, though,
11 with respect to the -- the various products,
12 because there are some products, particularly and
13 before storage falls into this, where the -- if you
14 value half of its benefits, you may not get the
15 penetration you want.

16 So the challenge that came out in
17 some of these discussions, which particularly got
18 to the -- that kind of good healthy battle the Bart
19 and I and others have been having about capacity
20 and energy. But those -- those pieces play into
21 things that need to be looked at and evaluated

22 because what ends up happening is that if you take
23 a large energy storage system in New York City, for
24 instance, and it gives you ten benefits or five
25 benefits and you say, I'm going to pay for two of

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2 them, you may not get that energy storage system in
3 New York City.

4 So in some cases you will, but in
5 some cases you won't and so we encourage that, we
6 look at the -- we look at the suite of products and
7 be very careful as to how we do this step-wise
8 progression.

9 CHAIR ZIBELMAN: So on that, I
10 mean, I -- you know, I think that the point that
11 you made, Bart, and certainly Commissioner Brown
12 made about there -- there's obviously a
13 differentiation in terms of the type of systems we
14 have in this state, but it does seem that there's
15 going to be some commonality around product
16 definition so that you would say, for example, we
17 all need or are going to need products that can
18 respond within a five-minute notification and can
19 provide a reactive service and that that each
20 utility should have or each DSPP should have a
21 product definition around that because that -- that
22 unpacks the value proposition and that that is

23 consistent. With how much they need and where they
24 need it obviously would vary based on the actual
25 configuration of a system, but there is

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2 electricity -- is a -- works the same as far as I
3 know, everywhere in the world. And so you would --
4 that would be helpful to get that. Is that what
5 you're saying in terms of the commonality versus --

6 MR. ACKER: Yes, but --.

7 CHAIR ZIBELMAN: --
8 differentiation?

9 MR. ACKER: Right, but in that
10 case for instance, if you have a system that's
11 providing that reactive power, but then you say
12 that system cannot provide capacity or it cannot
13 put energy onto the grid, you may not -- it may not
14 be economical just to provide the reactive power.
15 So this is the challenge with doing it in -- I'm
16 going to do one product at a time, when the same
17 device can do three products. And that's where I
18 think it's a little trickier and we need to look at
19 this.

20 And I'm not saying that's a
21 barrier to entry completely, but it's something I
22 think we need to look as we're -- as we're
23 constructing the system.

24 CHAIR ZIBELMAN: David, did you
25 have something to add?

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2 MR. GAHL: I just wanted to
3 unpack that a little bit on the environmental side,
4 too. I mean I think that's an important component
5 of the discussion that we had that there are
6 some -- specifically on the environmental values,
7 there are some universal benefits to society for
8 reducing carbon, for instance, but there are also
9 some very specific benefits to a local community
10 related to reducing other kinds of emissions, socks
11 and knocks and that sort of thing.

12 So I think unpacking those
13 values, as we've discussed them and as the
14 committee agreed, is a critical next step. But
15 that's just another piece of it that needs to be
16 considered when we're monetizing this going
17 forward.

18 MR. FRANEY: And those public
19 policy benefits, I'll just add onto what David's
20 saying. Utilities are good at determining costs of
21 infrastructure, avoided costs, and tangible
22 benefits, but not to say that public policy isn't
23 tangible, but how to monetize those values is
24 something that definitely is going to be a

25 challenge and what would be required from you all.

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2 CHAIR ZIBELMAN: That's why we
3 get paid the big bucks.

4 MR. FRANEY: That's right.

5 COMMISSIONER BROWN: Somebody
6 mentioned interconnection costs, I think, as kind
7 of is a barrier to entry, et cetera. Was there
8 much discussion about changing the paradigm? I
9 mean, the traditional paradigm today is that it's a
10 causal affect. If somebody wants to interconnect
11 with a system and it requires huge system upgrades,
12 they got to pay for the huge system upgrades.

13 Back in the old ISO days, you'd
14 be the straw that broke the camel's back
15 eventually, the one guy got hit with a four billion
16 dollar bill because he happened to be the guy that
17 took you over limit. I know working with people
18 with anaerobic digesters, they sit in bad places.
19 Sometimes the cost of the interconnection ended up
20 being as much as the cost of the equipment.

21 Was there any discussion at
22 all -- I mean I know we could try to make it
23 quicker, but I think sometimes the cost is just as
24 important as the quick. Was there any discussion
25 of that at all?

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2 MS. MITCHELL: I think generally
3 there was discussion about costs overall for these
4 resources, interconnection costs being one of those
5 costs.

6 You know, Bill, if you want
7 to --.

8 MR. ACKER: Yeah, not -- not to
9 the level, Commissioner Brown, that you -- you
10 would desire. I think it was noted and people put
11 an input about it, but given the timeframe, I don't
12 think there was a lot of discussion about the
13 actual cost. It was -- I think most of the
14 comments that we received were more around time
15 than costs, but there -- but certainly that's an
16 important factor.

17 COMMISSIONER BROWN: A quick
18 answer that's twenty-seven billion dollars,
19 probably isn't that useful so --.

20 MR. FRANEY: I think it was also
21 brought up in the context of valuation that if --
22 if you're maxed out on your hosting capacity,
23 obviously the one more that breaks the camel's
24 back, you're probably at the point where the
25 revenue screen that would be associated to that new

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2 resource isn't going to be as great as it was when,
3 say, there was a need there.

4 CHAIR ZIBELMAN: Is -- isn't
5 that -- I thought, you know, by doing the
6 integrated planning and having the DSPP identify
7 where a resource could be beneficial on a system
8 versus a cost to the system is actually something
9 that was missing in the wholesale market.

10 MR. FRANEY: Right.

11 CHAIR ZIBELMAN: And
12 consequently, people didn't know where to put their
13 generators. And we ended up with systems behind
14 constraints, rather than helping solve constraints.
15 So hopefully, we'll have learned a little bit from
16 that experience.

17 MR. FRANEY: Yeah. The
18 deliverability -- deliverability rules that we've
19 now developed in the ISOs.

20 CHAIR ZIBELMAN: Right. And
21 our -- I mean, the other thing that I think we'll
22 have to deal with on a policy basis, because it's
23 different, is if we start looking at these
24 resources as resources to help support the grid, it
25 actually changes as to whether these

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2 interconnections are private resources or, frankly,
3 used and useful and therefore baked into the
4 traditional rate base. So that changes the dynamic
5 as well.

6 MS. MITCHELL: And there were
7 comments about sort of partnering, you know, if you
8 can share the costs if it's a benefit to the
9 distribution system, as well as a benefit to DER
10 provider.

11 CHAIR ZIBELMAN: Right. And I
12 guess then in part issue is sometimes something
13 looks like it costs and turns into a benefit and
14 vice versa. So it'll be -- but, good. Thank you.

15 Ms. Lampi, welcome.

16 MS. LAMPI: Thank you Chair
17 Zibelman and good morn -- good afternoon now,
18 Commissioners. My name is Mollie Lampi. I am an
19 assistant general counsel with the New York ISO
20 And I am happy to be here today to share with you
21 the thoughts and concerns of the subgroup on
22 wholesale market integration.

23 I'd like to take a minute to
24 thank the -- the participants on this subgroup for
25 the time they devoted to these issues. There was

2 lively debate and there was a lot of real honest
3 back-and-forth, which I appreciated.

4 I think, as I go through some of
5 the thoughts that the subgroup had on integration,
6 that you'll hear some common themes that you've
7 heard, both from other members of this panel and
8 from, frankly, the technology folks that you heard
9 from this morning.

10 As this slide indicates, we
11 thought we'd give you a very, very broad brush
12 overview of the markets that the NYISO currently
13 operates. We operate a capacity market and
14 co-optimized energy and ancillary service markets.
15 Demand side resources can participate in the day
16 ahead energy market, the capacity market, and as an
17 ancillary services provider in both the day ahead
18 and real-time markets.

19 The ISO also uses demand response
20 resources as emergency resources for reliability.
21 A description of the NYISO's markets and how demand
22 response can fit into those markets is available in
23 the commissioners' packets and it is also on the
24 Web.

25 This slide provides examples that

2 the group came up with on interactions among
3 distributed resources, the DSPP, and the wholesale
4 market. As a retail load provider, the DSPP will
5 be buying energy in the wholesale market. DSPP's
6 use of distributed resources could increase the
7 efficiency of these energy purchases by flattening
8 the DSPP's wholesale demand curve, particularly
9 during high priced periods.

10 The DSPP, I think, has already
11 been mentioned, could also act as an aggregator of
12 its customer's demand response and sell it into the
13 wholesale market. Visibility and control of
14 distributed resources to the DSPP is vital and here
15 you hear that word again, visibility. Some
16 distributed resources are intended to change
17 customer elasticities by altering their electric
18 consumption in reaction to price. Others, are
19 visible to and controllable by the DSPP The more
20 visibility and control the DSPP takes over these
21 distributed resources that are not in the ISO
22 markets, the more it can enhance market efficiency
23 and operational control. Operational control also
24 provides reliability benefits.

25 At the wholesale level, resource

3 and coordination help maintain reliable service and
4 efficient markets. The DSPP's use of these tools
5 would provide it with similar benefits. Where
6 visibility and control will be limited for solar
7 P.V., for instance, forecasting methodologies will
8 need to be developed and refined to minimize any
9 negative impacts on reliability or market
10 efficiencies that may be associated with these
11 variable resources.

12 Increased use of distributed
13 resources and offering energy and load reduction to
14 both the wholesale market and to purchasers at the
15 distribution level will require close alignment of
16 the rules for participating in each of these
17 arenas. Aligned market rules will ensure that
18 distributed resource participation is efficient,
19 appropriately valued, and properly paid. Poor
20 alignment could actually impact reliability. Let
21 me give you an example.

22 If the same megawatts of load
23 reduction are offered to the wholesale market and
24 also to provide a local benefit, like a voided
25 distribution investment, coordinating its

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2 participation for each purpose is vital. If, for
3 instance, the load reduction is called upon to

4 provide the local benefit, perhaps during a short
5 timeframe over a series of hours on particular
6 days, it would need to withdraw its offer to the
7 wholesale market for the same period. Otherwise,
8 the wholesale market would be expecting to be able
9 to call upon that load reduction and it would not
10 be available.

11 The working group also felt that
12 revisions to the NYISO's market rules may also be
13 necessary in this effort. The group agreed,
14 however, that formal discussion changes to
15 wholesale market rules really belongs in the NYISO
16 stakeholder process.

17 As this slide shows, assessing
18 the short-term impact on the wholesale market of an
19 increase in distributed resources, is key to
20 maximizing the benefits of the DSPP's interaction
21 with the NYISO. Understanding short-term impacts
22 is particularly important to help avoid
23 unanticipated adverse outcomes. The working group
24 wanted to share its cautionary notes on this issue.
25 In the working group's mind, the impacts of an

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2 increased penetration of distributed resources,
3 particularly on the NYISO's resource commitment
4 process, its real time operations, and its ability

5 to satisfy all reliability rules and requirements,
6 need to be anticipated in advance and managed.

7 An example of a potential adverse
8 outcome that can be avoided is the impact of
9 distributed resources on the NYISO's unit
10 commitment process. Distributed resources that are
11 utilized and known by the DSPP, but not reflected
12 in the day ahead commitment could result in an
13 over-commitment of wholesale generation and present
14 higher costs to consumers. The working group also
15 suggests that when new market rules are being
16 introduced, time needs to be spent looking ahead
17 for potential consequences. Unintended outcomes
18 can require extensive redesign.

19 This slide explains that a good
20 understanding of the impacts of an increase in
21 distributed resources is particularly important for
22 retail and wholesale utility planners. DSPPs need
23 to be aware of where distributed resources are
24 being installed in order to appropriately account
25 for the value they provide and the reliability

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2 impacts they may create. DSPPs will need this data
3 to accurately forecast their wholesale energy needs
4 hour by hour and to maintain the reliability of the
5 distribution network.

6 Programs to involve more
7 distributed resources and distribution system
8 operations must be designed with visibility,
9 measurement, and verification systems in place to
10 allow load forecasters and system planners to
11 appropriately account for their presence on the
12 system. Aligning measurement and verification
13 rules and metrics between the wholesale and
14 distribution programs will facilitate this job.

15 Finally, as noted in the first
16 bullet on this slide, there was broad debate in the
17 working group on the need for an expansive review
18 of long-term impacts of distributed resource
19 penetrations on the wholesale market and the bulk
20 electric system.

21 Areas of concern include impacts
22 on reliability, the potential need to increase
23 regulation in other ancillary services, and impacts
24 on the amount of capacity New York needs to procure
25 to meet future peak loads and necessary reserves.

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2 Impacts on production costs could also be studied.
3 The working group, though, purposefully avoided
4 describing a responsible entity or a timetable for
5 this study. Everyone agreed it needed to be done,
6 though.

8 use of distributed resources for this purpose could
9 continue if the DSPP's designed programs to provide
10 load reduction at the NYISO's request with a
11 payment stream that would come from the DSPP Of
12 course, that would require timely and transparent
13 compensation to the DSPP for the reliability
14 benefits its customers provide through its
15 activities and, therefore, for its administrative
16 costs.

17 That concludes my presentation.

18 Are there any questions?

19 CHAIR ZIBELMAN: Thank you.

20 For obvious reasons, I'm going to
21 avoid the double payment issue, but I'd like to
22 actually talk a little bit about whether there was
23 any discussion about what I think is really part
24 and parcel of why we're doing it this way, as
25 opposed to other ways. And that -- there was a

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2 comment about increasing regulation and reactive
3 service.

4 It strikes me that the way we are
5 actually pursuing this in New York is actually to
6 avoid the problems that we see in other states and
7 other countries, where they've ignored the
8 potential value of using distributed resources to

9 solve the problem really at the edge of the system.
10 So that, rather than having to procure reactive
11 power and regulation services from the wholesale
12 market, that the distribution utilities end up
13 helping manage that, because those are procurely
14 issues that are closest to load and can often be
15 provided most inexpensively when provided by load.

16 So I would hope that as we're
17 pursuing this, when we think about impacts, we're
18 actually thinking about the positive impacts that
19 can be created to the system by making load more
20 dynamic and controllable, rather than thinking
21 about it as a problem that the wholesale system
22 needs to solve.

23 I think that -- that, you know,
24 to me, is the debate that we're having on a
25 national front, is the management of demand, which

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2 is really the management of -- that the retail
3 entities and, therefore, the retail regulators care
4 about, rather than seeing it as a problem for the
5 wholesale market, it is really a solution to the
6 wholesale market, and that one of the things that
7 maybe wasn't picked up, but I hope is picked up
8 somewhere, that we're really talking about then
9 defining products so that we can actually integrate

10 wind, solar, and other intermittent technologies
11 much more efficiently and effectively in New York
12 because we're recognizing that there's a whole
13 value stream, really at the edge of the system,
14 that could be used to accommodate a much more
15 dynamic system.

16 And I think, you know, maybe when
17 we think about the products, we also need to think
18 about the products that the DSPP, and maybe your
19 last bullet picks up on this, can start providing
20 to the wholesale market so we don't have problems
21 that other regions have about how do we integrate
22 wind, how do we integrate solar, because we're
23 actually thinking about this as we model out the
24 DSPP

25 You're shaking your head, so I

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2 assume -- I hope that was part of the discussion.

3 MS. LAMPI: No; those are very
4 good points and the opportunity for DSPP is to
5 provide ancillary services was definitely
6 discussed. And there were various opinions on how
7 that -- how that can do. I appreciate your -- your
8 note, though, about the opportunities that loads
9 may have to offload some of the otherwise necessary
10 obligations at the wholesale level.

11 MR. ACKER: The way we were
12 structured, that discussion occurred in two
13 locations. It occurred in the location of the main
14 group with the products part that David presented
15 when you look in the spreadsheets, as there's more
16 details about some of those services that could be
17 considered there.

18 And then the separate group that
19 looked at the interaction with the ISO, where there
20 were also thoughts. So there's two places that
21 this works into the report.

22 CHAIR ZIBELMAN: Thanks.

23 COMMISSIONER SAYRE: One of the
24 things that concerns me, and I wonder if the group
25 considered, is a possible severe disconnect between

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2 how we do retail pricing and how wholesale prices
3 are set. Along the lines of if we take the full
4 value of DER at the retail level and we consider
5 the social benefits, the lower emissions, economic
6 benefits, jobs, what have you, and put those into
7 retail rates, but that's not being done on the
8 wholesale side, yet you have central generating
9 stations that actually provide many of these same
10 benefits, low emissions, no carbon, lots of jobs.
11 Are we potentially causing some uneconomic --

12 unintended, uneconomic results and maybe even
13 pushing out some otherwise good plants from the
14 market that we shouldn't be pushing out? And how
15 do we avoid that?

16 MS. LAMPI: Let me just say that
17 I don't think the wholesale subgroup really got
18 into that kind of detail. I think those are
19 absolutely fascinating questions that need to be
20 reviewed. I do think the wholesale subgroup did
21 understand, though, that when a DSPP is looking at
22 a choice of using a distributed resource as an
23 energy supplier for its load, that it has, you
24 know, locally available, as opposed to buying
25 energy from the wholesale market, there will be a

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2 price differentiation between those two resources.
3 And at least at the ISO, the difference in which
4 resource you use is generally price based.

5 So that may be where those two
6 markets come together. But it wasn't a broadly
7 discussed issue, although I think it was
8 acknowledged that it's there.

9 MR. FRANEY: I would just say
10 that I think that you touch upon a very legitimate
11 concern, as well, that from a customer perspective,
12 that the whole thing should be, you know, what

13 works and what benefits them. Not to say that,
14 well, you know, there can't be price separation
15 between the two resources, particularly if you get
16 down to granular benefits, which Chair Zibelman
17 noted, you know, if there's more benefits due to
18 location here and versus what you need to deliver
19 into that locality from a centralized network, then
20 it should be priced out accordingly. But I think
21 that where we might -- where we need to stay away
22 from is assigning value to attributes or impacts
23 that aren't captured elsewhere, probably for very
24 good reasons as well.

25 COMMISSIONER ACAMPORA: When you

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2 mentioned aligning measurement and verification,
3 was there a consensus on that?

4 MS. LAMPI: There was consensus
5 on the need to have alignment, but I don't believe
6 we intended that that mean that they be exactly
7 alike.

8 CHAIR ZIBELMAN: It's -- you
9 know, I think, Commissioner Sayre brings up a good
10 point, but it's -- it does -- my question is -- is
11 that there's sort of two functionalities that
12 it's -- I know that we're sort of confronted here.
13 One is how do you integrate and accelerate DER

14 resources where appropriate and where it can
15 provide value? And I think that the value
16 statements that the Commission needs to look at are
17 going to be independent of whether it comes from
18 customer based resources or the grid, itself.

19 So things like that we identified
20 when we set up this docket, fuel diversity,
21 emission reduction, jobs, economic development,
22 those types of things that we are interested in, I
23 don't think we would ever expect that the wholesale
24 market, the FERC, would identify those because
25 those are really subject to state regulation, not

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2 federal regulation. But from the standpoint of how
3 we regulate utilities and incent utilities, if we
4 get it right, they'll choose the most efficient
5 resources, whether they come from the wholesale
6 grid or from DER resources. So the objective will
7 remain the same.

8 What we're trying to deal with
9 now, obviously, is a recognition that there's never
10 been a market for distributed resources at all.
11 And so we need to think about how we'd do both.
12 But I don't think we're really going to be setting
13 up -- if it comes from inside the distribution
14 utility, it provides more -- or different types of

15 values than if it comes from the bulk power grid.
16 Just what are we going to value in terms of our
17 economic outcomes that we want the distribution
18 utilities to achieve, which is, I think, our
19 difficulty is in a restructured environment, we --
20 on some hand, we've restructured. On the other
21 hand, we have things like one eleven D confronting
22 us that provide obligations to the state that we
23 have to meet on a much more holistic version.
24 So a complicated issue, but I
25 think that we're trying to do both.

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2 Thank you. That was more of a
3 comment than a question.
4 Any other questions?
5 MS. MITCHELL: So before I
6 summarize, I'd just like to ask my co-conveners out
7 there in Siberia, if you want to add anything more
8 to the presentation? No?
9 Okay. So I'll just go through,
10 quickly, some of the points that you heard.
11 So while we recognize that DER
12 products and services exist today, under the REV
13 constructs, it's expected that new and innovative
14 products and services will develop in the future.
15 And I think we've heard a few times today that we

16 need to design markets, platforms, and rules to
17 allow flexibility for that to happen. In order to
18 fully achieve the goals of the REV initiative,
19 including more efficient use of the distribution
20 and bulk power systems, additional resources and
21 better utilization of existing resources is likely
22 needed.

23 There are a number of challenges
24 to further integration of DER. And in the initial
25 stages, the utilities will likely play a key role

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2 in further developing and utilizing DER. DER
3 providers will also have a key role. For example,
4 we heard about the need for more information
5 sharing between both the utilities and the DER,
6 keeping in mind what Commissioner Brown alluded to
7 with respect to privacy issues and cyber security.

8 There are regulatory actions that
9 can help facilitate DER development. We heard
10 examples of performance based regulatory design and
11 tariffs in pricing. The New York ISO market rules
12 also need to be aligned to ensure efficient use of
13 DER products. And finally, approaches to
14 increasing penetration of DER should occur
15 systematically, reliably, and, as we heard, safely,
16 but again, with as much flexibility and as much

17 standardization as appropriate.

18 So in closing, I'd like to thank
19 all of the participants in the committee for their
20 time and input. I especially want to thank the
21 steering committee members, my co-conveners, and
22 other staff committee members who dedicate many
23 hours to this effort. The interest in this effort
24 was overwhelming, to say the least. I believe the
25 information gathered through this process will be

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2 very useful information and guidance to the
3 Commission as it proceeds with the REV initiative.

4 And with that, if there's no
5 other questions --.

6 CHAIR ZIBELMAN: Thank you and
7 again, our appreciation. It's a lot of hard work
8 and as this -- probably -- probably more so than
9 any working group, it was probably really
10 impossible to differentiate between policy issues
11 versus fact finding. And I know we really
12 appreciate the fact that you tried to get to where
13 you could get consensus, but we recognize that
14 there are differences in policies. So thank you
15 for that.

16 MS. MITCHELL: Thank you.

17 MS. STEIN: I think we'll now,

18 adjourn for lunch. We're going to reconvene at one
19 thirty. Thank you.

20 (A luncheon recess was taken at
21 12:41 p.m.)

22 (The technical conference resumed
23 at 1:38 p.m.)

24 A.L.J. STEIN: We're now going to
25 recommence with the panel on customer engagement

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2 issues, which will be led by LuAnn Scherer. Thank
3 you very much.

4 MS. SCHERER: Is this -- okay.
5 Good afternoon, Chair Zibelman and Commissioners.
6 Thank you for the opportunity to report on the work
7 of the customer engagement committee of working
8 group one.

9 I want to first thank my
10 co-chairs who are at the resource table, Alana
11 Mikhalevsky from Central Hudson and John Williams
12 from NYSERDA. I also want to thank RMI for sharing
13 their insights and helping us make contact with the
14 right -- right people to discuss customer
15 engagement.

16 I must thank the committee, which
17 is comprised of a hundred and fifty-eight
18 individuals from ninety organizations representing

19 utilities, ESCOs, government, customers,
20 aggregators, behavioral science experts,
21 business -- business consumer environmental
22 advocates, energy efficiency providers, energy
23 demand response and smart grid trade associations,
24 non-profit research institutions, real estate
25 boards, and companies in solar and technology

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2 providers.

3 Finally, I especially want to
4 thank the staff team who has done a tremendous job.
5 And they haven't gotten the judge's memo because
6 they refused to stop working on this. They're
7 continuing to do research and schedule -- and
8 scheduling meetings with experts on specific topics
9 regarding customer engagement.

10 The CEC's first task was to
11 create an objective, which is to identify barriers
12 to participation by all customer groups in the new
13 markets and opportunities created by the REV
14 initiative, and to identify and recommend solutions
15 where appropriate. The committee spent a great
16 deal of time identifying and discussing barriers --
17 discussing barriers. A list of over a hundred
18 barriers is included in the report that was filed
19 in the REV case on Tuesday.

20 I want to note that not all of
21 the CEC members agreed that all the barriers were
22 barriers. Jay Brew, the managing director of
23 Brickfield, Burchette, Ritts, and Stone, P.C., is
24 here today to talk about barriers to customer
25 participation, and Chris Kallaher, Senior Director,

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2 Government and Regulatory Affairs for Direct
3 Energy, will talk about barriers to ESCO
4 participation.

5 The staff arm of the CEC also
6 requested that the members provide any reports,
7 studies, or documents that provide examples of
8 effective customer engagement. We received many
9 documents. Some were summarized in the report.
10 Others are -- we are still going through. Cameron
11 Brooks, President of Tolerable Planet Enterprises
12 will present on customer engagement.

13 Most recently the CEC spent time
14 in conversations with experts in community choice
15 aggregation or CCA. CCA is an energy procurement
16 model that enables local governments to aggregate
17 the electric and/or gas load of their residents,
18 businesses, and institutions in order to purchase
19 electricity and/or gas on their behalf. Brian
20 Murphy, President and Co-founder of Colonial Power

21 Group, Inc., is here to talk about CCA

22 With that, I would like to
23 introduce Jay Brew.

24 MR. BREW: Thank you, LuAnn.

25 Good afternoon, Madam Chair,

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2 Commissioners. I would like to congratulate
3 everybody for making it back from lunch.

4 I am Jay Brew. I'm here for all
5 customers, but I represent NUCOR Steel, Auburn.
6 And I'd like to offer the usual disclaimer, these
7 presentation materials don't rep-represent NUCOR's
8 views or any customers in particular or is
9 necessarily a consensus of stakeholders, but
10 represent sort of the current state of a work in
11 progress.

12 A.L.J. STEIN: If you could just
13 get the microphone more directly in front of you.

14 MR. BREW: In front of me?

15 A.L.J. STEIN: You only have
16 about four inches to work with, so --.

17 MR. BREW: Is that better?

18 A.L.J. STEIN: Much better.

19 MR. BREW: Thank you.

20 First I would like to start very
21 briefly with NUCOR because NUCOR is the most

22 motivated DER customer you would hope to find on
23 the system. NUCOR recycles about a billion pounds
24 of steel a year and, like our friends outside of
25 Syracuse, we use hundreds of millions of kilowatt

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2 hours a year and we're propelled by international
3 competitive forces for our products.

4 That means from an energy
5 efficiency standpoint, every member of the NUCOR
6 team is working to do as much as we can to improve
7 the process. From a distributed generation
8 perspective, we often consider C.H.P. and other
9 options that people proposed...for us and we would
10 consider anything and everything up to a battalion
11 of squirrels on treadmills if we thought it would
12 be cost effective.

13 Moving on here, while NUCOR's
14 very strongly motivated and there are other large
15 commercial industrial -- industrial customers that
16 are also motivated for their own reasons for DER,
17 we recognize that there are barriers to things that
18 they could do additionally, as well as the
19 challenge of motivating customers that aren't
20 driven by their own internal pressures. And that's
21 really what we want to talk about.

22 The discussion that follows

23 really focuses primarily on barriers, but we
24 thought we'd start with some constructive
25 principles going forward. And I don't want to

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2 spend a lot of time on it, but first, in order to
3 get the animation in markets and customer
4 participation that you want, which is really
5 ultimately what this is all about, you need to
6 offer products that customers want. We have to
7 address the basic pricing problems, cost
8 allocation, and those are certainly brought up in
9 marketing and pricing in the other -- other group.
10 I don't want to spend time on them.

11 But the basics are that for
12 customers to really embrace this initiative, they
13 have to see the value of the proposition. It's got
14 to make sense for them. And along those lines, I
15 wanted to offer two quick examples of things that
16 have worked and things that haven't from the
17 historic practice.

18 NUCOR, like many large
19 industrials, operates under uninterruptible rates.
20 They have been negotiated between the utilities and
21 the user that reflects a -- a meeting of the minds
22 over what the utility wanted and what the customer
23 could do. And from -- and those arrangements,

24 because they've aligned the customers with the
25 utilities' interests have been -- many of them have

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2 been in place for many years. They've been
3 sustainable.

4 In -- in contrast, and I want to
5 take an example that did not pick on anybody from
6 New York. In the 1990s, Florida Power and Light
7 introduced a real time pricing rate that had a
8 baseline that was designed to be revenue neutral
9 for the utility. And to the extent the customer
10 made modifications to its load shape in response to
11 real time prices, they had to ratchet what they
12 would adjust the baseline to recapture it.

13 The result was over six years or
14 thereabouts, one customer signed up for it, quickly
15 realized it was a mistake, and got off as quickly
16 as they could. So to the extent that you're --
17 you're trying to animate the markets and get
18 customers engaged, you have to actually come up
19 with products and services that they would want.

20 Moving on. In the interest of
21 violating almost every rule on PowerPoint
22 presentations, we've put most of the barriers on
23 one slide. The --.

24 CHAIR ZIBELMAN: This is all

25 about breaking rules --

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2 MR. BREW: That's right.

3 CHAIR ZIBELMAN: -- so that's
4 okay.

5 MR. BREW: Changing the way
6 things are done.

7 The first is an obvious one,
8 which is we are talking about product innovation
9 and services that assume smart phones when you are
10 looking at metering and billing that predates eight
11 track tapes. And so certainly, a basic function
12 here is, from the customer's perspective, of better
13 access to the information that is expected to drive
14 their behavior, compared to what you have now,
15 which are meter reads for many customers that are
16 not only not monthly, but might be bimonthly or --
17 or worse.

18 You have the whole problem of
19 understanding the electric system and -- and
20 electric tariffs. While everybody understands that
21 when your parents yell at you to turn off the light
22 in your room, you are saving energy, it -- it is
23 certainly more complicated than that and -- and
24 understanding how the process works in a way that
25 is -- is makes sense to consumers is important.

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2 From the regulatory perspective
3 and we will talk in a minute about demand response
4 program and the NYISO and product flexibility, but
5 that is certainly one of the things that should be
6 focused on most directly. The cost of
7 participating with the -- in DSPP and value-added
8 product and services has to be addressed. It is
9 certainly no surprise that the cost of metering,
10 developing platforms, and so forth are going to --
11 are going to cost money that the ratepayer is going
12 to be asked to share the burden to carry on
13 forward.

14 Also difficulty in -- in
15 understanding time-of-use rates, which vary widely
16 all over the place, is -- is important. And on the
17 distributed generation side, certainly the current
18 state of standby tariffs -- and this does not
19 represent by any means a consensus among the group
20 because there was certainly as many members that
21 felt the standby rates are fine as those that felt
22 that they needed to be changed substantially and
23 updated as well as emissions, particularly in urban
24 areas where the permitting requirements may be an
25 important factor.

2 And then you have a whole set of
3 equity and fairness considerations, low income,
4 social justice issues, all of which to me comes
5 back to basic appropriate cost allocation of rate
6 making.

7 There are many customers like
8 NUCOR that are highly motivated. There are other
9 folks, maybe neighborhoods in Slingerlands that
10 might want to do a microgrid. But you are going to
11 have customers that for economic, logistical, or
12 practical reasons, are -- are not going to be
13 implementing many of the DR measures that you'll
14 be -- be considering. And making sure that the
15 folks that really cannot take advantage of DR
16 opportunities are being asked to bear an unfair
17 burden is going to be a basic discussion all the
18 way through this process.

19 With respect to demand response
20 specifically, and I know you talked briefly with --
21 with Mollie Lampi about where things are with order
22 seven forty-five and the demand response
23 compensation rule, but I -- I would want to point
24 out that in -- in 2001, this Commission told its
25 utilities to cancel its interruptible rates and

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2 adopt the demand response programs implemented by
3 NYISO. Those programs are primarily reliability
4 driven and are designed for demand response to try
5 to mimic the operating characteristics of
6 generators where most loads don't have load shapes
7 that mimic the operating characteristics of
8 generators.

9 And that was really one of the
10 things that we think is -- is important, which is
11 response of demand is not the same as demand
12 response. A quick example on the industrial
13 interruptible side is that I've seen through the
14 years in the different states all manner of
15 arrangements to mitigate peaks. Customers that
16 agreed to shut down on Tuesdays in the summertime,
17 do their maintenance then. Customers that -- that
18 were predominately off-peak and committed to
19 maintaining a certain off-peak ratio. Customers
20 that look like generators and agreed to curtail on
21 five minutes' notice for less than an hour, to the
22 extent that the utility had a contingency event.

23 The point simply is that there
24 are all kinds of opportunities for different
25 product differentiation that -- where the customer

2 can look at its load shape and what it's capable of
3 doing, as opposed to trying to simply work within
4 the confines of -- of the NYISO generated products.

5 There was a lot of discussion
6 within the committee on -- on the NYISO's DR
7 program. And my point is not to critique that so
8 much as to say that from the -- the DSPP
9 perspective to the extent that one of your core
10 objectives is addressing system efficiency and load
11 factors, it can be addressed in many, many
12 different ways than simply those identified as to
13 the ancillary services and energy products.

14 And with that, that concludes my
15 remarks.

16 CHAIR ZIBELMAN: Thank you. Jay

17 Let me just -- I just have one
18 question to -- to begin with and I -- and maybe
19 Chris is going to address this as well, so I'll
20 just lay it out there. I mean one of the things
21 that, you know, in thinking about this issue that
22 we've been -- and I think it's reflected in the
23 staff's report as well. We are in a position that
24 unlike the unbundling of the wholesale market, the
25 success of what we do in REV is largely dependent

3 the industry, i.e. the consumer. And I think, for
4 the most part, when we think about these, one is --
5 I think you just brought this up -- is we're
6 thinking a lot in terms of the mass market because,
7 as the Commission has identified in its ESCO
8 proceeding, we're seeing that there is a lag in the
9 mass market compared to the commercial industrial.
10 So I guess one -- one is a point.

11 I'm appreciative of you bringing
12 it up because I think that the commercial
13 industrial market has a lot to offer and a lot of
14 value that can be driven by recognizing how they
15 can participate and assist the system in making it
16 more resilient, also making it more efficient. And
17 I think one is I do think it's important that we
18 keep in mind that the sectors, that there may not
19 be a need for much animation, but maybe more
20 recognition and a value add. And that's I sort of
21 take as your statement there?

22 MR. BREW: That and the fact that
23 there are all-- all kinds of product opportunities
24 that can be defined differently.

25 CHAIR ZIBELMAN: Right. But --

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2 but the other point I guess is what you're draw --
3 you're making. And that's a question that I have

4 for the -- for the group and you can answer it and
5 maybe others can answer it, too. You know, part of
6 the issue is that if we, you know, do the Steve
7 Jobs type of analogy and we say well, nobody really
8 wanted an iPhone until I created an iPhone, is that
9 how much of this is like how do we get a pull
10 because, you know, if you ask most mass marketing
11 and you want to be somewhat jaded in your utility
12 view most times, you know, people will say all
13 customers really want is cost effective reliable
14 electric service, they don't -- cold beer and warm
15 cookies or something, but -- but I -- I -- I think
16 that that -- you know, while I think that's true
17 that there's a sense, but I don't think there's
18 sense -- isn't it that actually in offered
19 products, if somebody offered you something that
20 you -- you as an industrial consumer said hey, I
21 will value this, wouldn't you change your
22 methodology to get there? I mean there is an
23 element of how do we create a pull, as opposed to
24 thinking about it always as a push; right?

25 MR. BREW: Well, strictly from

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2 our perspective -- from my personal perspective,
3 working with large energy intensive loads, that
4 discussion happens all the time. You can ask, for

5 example, a steel mill, can you -- can you run at
6 lower levels during peak, you know, can you -- can
7 you do one thing or can you set lower cap settings
8 and basically melt less steel during the day and
9 more at night. And you have those kinds of
10 discussions.

11 The problem, and this has been
12 debated endlessly in the mass market, is to the
13 extent there's information out there. A large
14 customer like NUCOR has that information. In
15 contrast to the remark earlier this morning about
16 not knowing when the refrigerator is unplugged,
17 they know when we turn off the furnace.

18 CHAIR ZIBELMAN: Right.

19 MR. BREW: And so that is
20 different. But essential to that is actually
21 metering and -- and getting the information. It's
22 hard to mass market things if people don't have the
23 information to care about it in the first place.

24 MR. KALLAHER: Can I take a shot
25 at that?

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2 CHAIR ZIBELMAN: Yes.

3 MR. KALLAHER: I know what to do
4 with a microphone, so -- Chris Kallaher from Direct
5 Energy. I agree completely that -- with the Steve

6 Jobs comment. I also think of it in terms of
7 Doritos. Before they had Doritos, there was no
8 actual need for Doritos. They invented --.

9 CHAIR ZIBELMAN: And we were all
10 a lot thinner.

11 MR. KALLAHER: I know. And they
12 invented the -- the -- the desire for Doritos by
13 coming up with that particular flavor combination.

14 And I think what we've seen in
15 other -- in other states and other countries, where
16 information is available, is that the market is
17 much more animated. And I think the -- the
18 committee members, among the ESCO committee in
19 particular, believe that if you give us a couple of
20 things, one is as close to real time data as
21 possible from smart meters and the other is the
22 supplier consolidated billing platform, it's up to
23 us to come up with the -- the innovative products
24 and services. And I think we have demonstrated
25 that where we have that capability, that the

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2 market's able to do it.

3 And one, you know, one example I
4 would use is something that I don't think anybody
5 really would have thought before it was being done,
6 that this was something that would really catch

7 customers' imagination, is in Texas there are a
8 number of providers who offer prepaid products.

9 Now, up here, I think that
10 remains almost an anathema. But actually, what we
11 found in Texas is that customers love it. They
12 love it for a couple of reasons. One, they don't
13 have -- they don't have to pay a deposit, but
14 really the thing they like about it, they get
15 information daily about their usage.

16 And even with just a simple text
17 message telling them you used X kilowatt hours
18 between now and the previous message, you have this
19 much left on your -- your account, we find it not
20 only lets customers manage their customer --
21 their -- their energy usage almost in real time,
22 but they actually use less than they would without
23 those kinds of -- of messages.

24 So it's a fairly simple thing.
25 You're just telling people this is what you used,

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2 this is how much you have left on your account.
3 But you can't do that without the data essentially
4 in -- in real time. So, that's really -- to us,
5 it's kind of the key to all this, the data and then
6 the billing platform to be able to reach customers
7 with new products and services.

8 CHAIR ZIBELMAN: Any other
9 questions for Jay?
10 Okay. Thank you. So we will go
11 on.
12 MS. SCHERER: So we'll turn it
13 over to Chris.
14 MR. KALLAHER: Thank you.
15 Once again, it's Chris Kallaher
16 from Direct Energy, representing the -- the
17 committee with respect to barriers to mass market
18 engagement from the ESCO perspective.
19 Oh, I went too far.
20 So, we identified five key
21 barriers. Three of them are really kind of related
22 to the same thing, which is the availability of --
23 of advance metering infrastructure. First is just
24 the absence of full smart meter deployment. The
25 second is lack of real time access to data from the

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2 meter, including from existing interval meters. So
3 it has to be accurate data. That's the other key
4 point.
5 The next is real time access
6 to -- to two-way functionality, the ability to
7 communicate with the customer. The next is limited
8 billing options. And then there are a couple of

9 other regulatory and ratemaking issues that I'll
10 mention at the end.

11 With respect to the meter
12 functionality, I think, you know, Jay -- Jay
13 certainly got into this a bit, it's -- it's an
14 issue with C and I customers as well. Most DER
15 really works optimally with smart meters. You
16 know, to really monetize the value of taking
17 certain behaviors with respect to your energy
18 consumption, you need to get real time credit for
19 that. If you're -- if you're shaving the peak or
20 shifting a load, you really need to be able to
21 respond to the -- to the hourly price.

22 Now obviously, traditional energy
23 efficiency is an exception to that, but in general
24 if we're going to reach all the customers, I think
25 the preferred end state among the members of the

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2 committee, the ESCO community, is a full
3 deployment. We certainly recognize there's a lot
4 of healthy debate about this, that not all
5 stakeholders agree that a one hundred percent
6 deployment is cost justified, and that there are
7 material concerns about data privacy and
8 confidentiality and -- and possible health impacts.

9 Some related issues -- oops, I

10 went past it again -- have to do with meter
11 functionality and access to data. We also
12 recognize that you really want to build a case for
13 longer term solutions. I think everybody
14 recognizes we can't do all this at once. We can't
15 have a full smart meter deployment in the next six
16 months. We have to use a flexible approach early
17 on, to really make the case for -- for these longer
18 term solutions. And there are some possible
19 near-term solutions related to smart meter roll-out
20 and some of the data issues. There's certainly the
21 idea of voluntary deployment that if, for example,
22 an ESCO or some other third party could identify
23 customers who wanted to use some of these products,
24 then the utility would install smart meters in
25 their homes. And then you -- you can run a little

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2 pilot, in fact, that way.
3 There's also the possibility of
4 third party deployment, which I think theoretically
5 is possible now, but may well be somewhat cost
6 prohibitive. It doesn't even have to necessarily
7 be a smart meter, itself. There are alternatives.
8 There are other devices that one could place in the
9 homes or small businesses of potential customers,
10 but the key there again would be you'd have to

11 qualify the data for settlement purposes with the
12 utility and the ISO to be able to get full credit.

13 There's also the alternative that
14 National Energy Marketers has come up with for
15 retail demand response load profiles, which would
16 be load profile specific to certain kinds of -- of
17 either voluntary or involuntary demand responsive
18 behavior for customers without smart meters. And
19 this would let ESCOs and their customers monetize
20 some of the value of that -- of that behavior
21 without necessarily having smart meters.

22 We also think there are some
23 possible early wins from the work being done right
24 now with data validation and the EDI work streams,
25 which I believe have been reported on separately.

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2 I think the key point here is that even where you
3 don't have the possibility yet you have to fully
4 monetize the value of behavior, you can, in fact,
5 change people's behavior by giving them the data
6 even if they can't get full credit for acting upon
7 it. It's sort of the -- it's related to the
8 example of the -- of the -- the prepaid products.
9 If you just tell people -- even if they weren't
10 getting -- they're not -- they're not necessarily
11 changing their behavior because they know that

12 they're going to get credit in the real time
13 market, it's like you change what you measure. And
14 so we think there's a lot of benefit from giving
15 people this information as quickly as possible.

16 Certainly, the ESCO community
17 represented on the committee felt very strongly
18 that the lack of a comprehensive billing
19 relationship is a key barrier to engagement. And
20 we would really like to have the ability to provide
21 an ESCO consolidated bill in a very efficient
22 manner. You know, it certainly gives us the
23 ability to bill an unlimited number, essentially,
24 of products and services and to create that
25 one-to-one relationship with the customer.

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2 There's lots of debate about the
3 continuation of other -- other options. A number
4 of ESCOs, themselves, would like to continue to
5 have the option of utility billing. And there's
6 also the existing option, which many C and I
7 customers and an increasing number of even mass
8 market customers and ESCOs serving them use, which
9 is dual billing which is certainly a bridge option
10 that could get us to some of these other products
11 and services.

12 So, there's also the -- within

13 the utility bill -- billing platform, there's the
14 possibility of more flexible bill ready utility
15 billing, as opposed to rate ready, which would
16 allow us to offer new and multiple products and
17 innovative price plans.

18 A couple of other things quickly.
19 The net metering protocol certainly -- and I think
20 this has been -- this is discussed well in the
21 report, it really limits the ability -- ESCOs'
22 ability without being able to get those net
23 generation credits, we can't really incorporate a
24 lot of behind-the-meter generation into our
25 portfolio, which limits the value of it to us.

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2 And there are also some rules
3 that limit the ESCO customer relationship, the
4 inability to do an apples-to-apples comparison with
5 utility commodity price, I think, is frequently
6 cited by members of the committee. The need to
7 have an account number to switch suppliers, you
8 know, I don't want to over analogize to the telecom
9 industry, but you know, you can walk around with
10 your smart phone and go into any store and change
11 your service, with just what you have right there
12 on you. You can't really do that with your -- with
13 your electric account.

14 And while we certainly recognize
15 and everybody recognizes that there's a customer
16 protection aspect to the existing system, if there
17 is any way to sort of get more of that portability
18 that you have on the telecom side, it would be very
19 helpful.

20 And then finally, customer
21 inertia itself can be a barrier. This -- you know,
22 we can talk about this all day. The decision way
23 back when, you know, to really make the utilities
24 the default commodity provider, the commodity
25 remains kind of a lead product for -- for ESCOs.

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2 And so if there were any way to move customers
3 around at scale to sort of break that inertia with
4 the utility, that could -- that could be helpful in
5 customer engagement.

6 So, just to sum up, I think the
7 ESCOs on the committee felt very strongly that, you
8 know, we can improve customer engagement with the
9 right market structure and that the existing
10 barriers mostly relate to some kind of interference
11 or in the directness of our relationship with our
12 customers, again especially with respect to data
13 and the ability to build innovative products and
14 services, and that if we could get those barriers

15 resolved or lowered, even with some of these
16 shorter-term measures, I think the ESCO community's
17 pretty confident that they can provide the products
18 and services that customers want and also that will
19 meet a lot of the goals that you are seeking here
20 in the REV proceeding.

21 So I see I've actually
22 uncharacteristically finished early, meaning expect
23 pigs to fly soon. And I would be happy to take
24 your -- your questions.

25 CHAIR ZIBELMAN: Thank you.

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2 Questions for Chris? Garry?

3 COMMISSIONER BROWN: You used the
4 phrase ESCO products and services. I'm pretty
5 familiar with the ESCO products and pricing
6 provisions. Can you just give me some examples of
7 services, especially in the context of -- of REV
8 that you would envision?

9 MR. KALLAHER: Well, there's --
10 there are a number of things. And I guess the --
11 the products and services, it's -- it can be a fine
12 line between the two. There are a number of
13 things --.

14 COMMISSIONER BROWN: Products I'm
15 thinking -- I'm thinking prices.

16 MR. KALLAHER: Oh, sure. Okay.

17 COMMISSIONER BROWN: So non-price
18 things that you're providing to the customers and
19 how that relates to REV?

20 MR. KALLAHER: Well, some of them
21 actually relate to -- can at least relate
22 indirectly to -- to price. For example, you can --
23 we offer and a number of other ESCOs offer smart
24 thermostats. And so you can have -- we're doing
25 our own -- in fact, we're doing our own, I guess

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2 it's like a critical peak pricing program with --
3 with Nest thermostats. We've rolled it out in
4 Alberta where, you know, customers -- it's called
5 rush hour award, so it's like the critical peak.
6 Again it's related to price, but it's more like --
7 it's a demand response service, essentially. But
8 it's kind of bundled up and marketed in something
9 that I think is -- is meant to engage customers.
10 That's one example.

11 Other things that we're -- we're
12 definitely looking at partnerships with -- and a
13 number of ESCOs are doing this, rooftop solar is
14 the focus of a number of -- of -- of a number of
15 ESCOs. In fact, I was telling my colleague John
16 Holt (phonetic spelling) I saw an ad for NRG Solar

17 when I was in the -- the Berkshires last -- last
18 weekend.

19 So other behind the -- the meter
20 technologies, I think are becoming increasingly the
21 focus of -- of ESCOs. We've even been looking at
22 energy storage technologies, micro C.H.P., a number
23 of the behind-the-meter -- the distributed
24 generation technologies are increasingly the focus
25 of ESCO activity.

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2 There are also things that are a
3 little bit sort of off the -- the pure energy
4 consumption or energy commodity topic that I think
5 still fit in with what you're trying to do. For
6 example, home warranties or home protection plans,
7 they typically come -- if you're talking about the
8 H.V.A.C. system, with annual inspections or -- or
9 semiannual inspections, which, you know, have been
10 shown to increase the performance and decrease the
11 overall consumption of -- of -- of that equipment.

12 And then there are other --
13 there's -- there's other functionality that you can
14 get with specific pieces of equipment, again, in
15 the home that you can use a sensor that will give
16 you the data feed of -- of a particular piece of
17 equipment. And if you have communication with --

18 with a customer, there are all sorts of things you
19 can do with -- with actually turning down or
20 turning off or monitoring just for sort of home
21 management purposes, oh, I left the stove on, if
22 it's an electric stove, then you can control that.
23 But then there are also demand response
24 possibilities for those -- for those appliances.
25 Hot water heaters, that's actually -- electric hot

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2 water heaters are a big potential source, easy low
3 hanging fruit of demand response. Same with
4 refrigerators with the defrost cycle. So we're
5 trying to figure out all of these different things,
6 but there are products out there now and services
7 that ESCOs are offering that -- that make use of --
8 of -- of those -- those functionalities.

9 CHAIR ZIBELMAN: Chris, I have a
10 follow-up because I mean your -- your job, I mean
11 what -- what retailers do, ESCOs do, is obviously
12 provide services to -- to end use customers. When
13 you see things, do you -- do you from -- from the
14 perspective of value, if you are able to get the
15 value of a demand reduction from a -- a DSPP, would
16 you then necessarily reflect that in a real-time
17 price or would you be -- do something such as a
18 pre-pay or a discount?

19 Do you see -- I am just kind of
20 curious, from your construct and experience with
21 consumers, is it necessary for the consumers to
22 necessarily see the real-time price or can they do
23 it in other terms like a credit or something else
24 on a bill that you could then pass the value on
25 back to them, but provide it as a service?

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2 MR. KALLAHER: No; that's --
3 that's a great question. I -- I think the number
4 of customers who want and can tolerate real time is
5 probably pretty narrow. And within the mass market
6 space, I think it's very narrow. Obviously, larger
7 customers are much better able to do that. But
8 then within the mass market, I think you have two
9 basic ways to go. There are still going to be
10 customers who want a fixed price, but with these
11 kinds of technologies, you can offer a lower fixed
12 price.

13 And if you're communicating to
14 the customer that you're getting a lower fixed
15 price by agreeing to do X, Y, and Z, which we will
16 make it seamless for you to do, then it's a fixed
17 priced product. That doesn't totally divorce the
18 customer from the kind of engagement that you're
19 trying to get, because that's -- that's always been

20 a knock on fixed price or average pricing, is it
21 doesn't send those price signals.

22 CHAIR ZIBELMAN: Right.

23 MR. KALLAHER: Well, if -- if you
24 have the ability to make use of load shifting, then
25 you can -- you should be able to offer a lower

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2 fixed price and still, as long as it's communicated
3 and sold to the customer properly, engage them by
4 making that kind of demand responsive behavior a
5 requirement for that lower price.

6 But I think the rebate option is
7 an excellent one because it's -- it's a similar
8 thing, but instead of just getting, you know, an
9 overall lower fixed price, you might have a fixed
10 price again with the rebate. And I think that's
11 actually how the rush hour rewards program that we
12 rolled out in Alberta works, because customers
13 do -- and there's different -- there are different
14 preferences from different customers. Some would
15 like to have the certainty of a lower fixed price,
16 but others, because they're not sure if they're
17 going to be able to, you know, conform their
18 behavior, they might prefer to get the money back
19 when they're able to actually respond to the -- the
20 price signal.

21 But I think certainly both work
22 and I think that's one of the -- one of the
23 messages from the ESCO community is it's a big
24 market out there, and relatively small pieces of --
25 of customer engagement can get you lots of -- of

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2 benefit in the -- in the wholesale market. So
3 we -- we need all of it, basically.

4 CHAIR ZIBELMAN: So, I mean one
5 of the -- one of our takeaways, I think from the
6 meeting we had in Albany, was that not all
7 retail -- not all mass market consumers are alike.
8 There are different -- different folks, different
9 demographics, different ages. And what I'm hearing
10 is -- I don't want to put words in your mouth -- is
11 you -- you want the latitude to be able to offer
12 and design products to attract load, but what
13 you -- really what you need is the credit then for
14 the products -- for the value of providing back to
15 the DSPP to be real time?

16 MR. KALLAHER: That's -- that's
17 exactly right.

18 CHAIR ZIBELMAN: So -- so for
19 you, then the standardization would be making
20 certain that if you're able to reduce demand at
21 certain times with your consumers, that that's

22 credited for those hours that you're actually
23 producing the demand and you don't have this
24 two-month lag that we have today?

25 MR. KALLAHER: That's exactly

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2 right, yes.

3 CHAIR ZIBELMAN: And I would go
4 back to Jay. I think from what I understood,
5 you're saying the same -- essentially the same
6 thing?

7 MR. BREW: That's right, yes.

8 CHAIR ZIBELMAN: So then the
9 question is -- and we've had an earlier panel talk
10 about this, I know we have integral meter at the --
11 you know, at certainly the large consumer level,
12 but as far as you're concerned, Chris, if we can
13 get there without getting AMI, it's okay? I -- I
14 saw that slide. It's just an issue of the how;
15 right?

16 MR. KALLAHER: Well, there's the
17 how and then there's the how much --

18 CHAIR ZIBELMAN: Okay.

19 MR. KALLAHER: -- how much it's
20 going to cost because there are definitely -- there
21 are other devices. But certainly if you're going
22 to go through the process of qualifying those other

23 devices to be able to use settlement quality -- to
24 get settlement quality data from those devices that
25 the ISO and the utility will use, and then you have

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2 to -- to include the cost of the device in
3 whatever -- whatever bundled product or service
4 you're offering to the customer, that certainly
5 changes the -- the financial characteristics of
6 that -- of that product.

7 And I think, you know, it's --
8 the -- the big question now is does it narrow it --
9 how much does it narrow it. I mean I think my --
10 my gut feeling is that it probably narrows it
11 considerably. And unfortunately, it probably
12 narrows it to a fairly small number of relatively
13 affluent large consuming customers, whereas if you
14 had a full smart meter deployment, obviously it
15 opens up, you know, from an economic perspective,
16 the possibility of similar products based on load
17 shifting and load shaving to a much -- a much
18 broader range of socioeconomic classes and
19 consumption classes, as well.

20 CHAIR ZIBELMAN: Could you --
21 just as a matter of curiosity, could you envision,
22 though, that there could be a variety of solutions
23 based on customer class? So on some classes, for

24 example, you might say apartment dwellers, you
25 could do more of a algorithmic methodology, as

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2 opposed to certain users who might be able to
3 individualize their use because at -- at a certain
4 level, there is -- gets to be -- does everyone need
5 to be metered at the same level or can you say that
6 for -- for smaller users of electricity, that that
7 seems to be overkill based on, you know, how much
8 they could actually affect the system?

9 MR. KALLAHER: Right. Oh,
10 absolutely, and that's one of the things that's
11 very interesting about NEMA proposal --

12 CHAIR ZIBELMAN: Right.

13 MR. KALLAHER: -- is that you
14 might be able to reach, you know, a large number
15 of -- of -- of customers that, you know, aggregated
16 together -- even aggregated together, you might --
17 you might not be able to justify a smart meter
18 deployment for that particular sector, but you
19 could still get -- I don't know what percentage of
20 the value you could get, but you know, you would
21 certainly be able to derive much more value from
22 that group of customers with something like that,
23 without -- without smart meters.

24 And like you say, it's -- it's

25 quite possible that -- that deployment to them

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2 might -- you know, it might never be cost justified
3 or -- or at some point far in the future.

4 CHAIR ZIBELMAN: Any further
5 questions?

6 I -- I have one more. Just, you
7 know, it might be helpful I think to, as we're
8 going on, you have -- I know you guys have
9 experience in Texas and other markets. And they --
10 and I think in your report you might list some of
11 these, but it is good, I think, for us as part of
12 our docket or proceeding to get as much information
13 as we can as to products and services that are
14 being offered elsewhere that maybe, to -- to
15 Commissioner Brown's point, are just not being
16 offered here today and what it would take to get
17 some of the things that you're doing like free
18 Fridays, and critical pricing and the value you're
19 seeing.

20 And I would offer that to all the
21 ESCOs, as well as the commercial industrial
22 classes. You know, we don't -- we don't
23 necessarily need to invent everything in New York,
24 just ninety percent of things. So it would be good
25 to get the other information.

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2 COMMISSIONER SAYRE: We just need
3 the credit.

4 CHAIR ZIBELMAN: Yeah, we just
5 want the credit.

6 COMMISSIONER ACAMPORA: I just
7 want to follow up on what the Chair was talking
8 about.

9 Your company is a large company.
10 We have a lot of smaller ESCOs. So is there a
11 consensus amongst the big versus the small and the
12 direction that you want to proceed in?

13 MR. KALLAHER: Absolutely not.

14 COMMISSIONER ACAMPORA: That's
15 what I thought.

16 MR. KALLAHER: Right. And
17 that's -- and that is a -- you know, there's
18 definitely a divide there. On -- on the billing
19 issue, for example, a number of -- of smaller ESCOs
20 and -- and not even that small ESCOs sometimes
21 don't particularly want to take on the billing
22 function because, as it's typically envisioned, you
23 also take on, at least to some extent, the credit
24 risk of the delivery portion of the bill.

25 So from a financial perspective,

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2 it's -- it's a much different burden than it is
3 using the utility platform. And -- and many ESCOs
4 would prefer to just continue to use the -- you
5 know, the utility platform. So that's -- that's --
6 that's a clear example.

7 But even some of the other issues
8 that, you know, the -- the ability or the desire
9 to -- to make use of smart meter data and interval
10 data to do innovative products and services, I
11 think there are probably a number of ESCOs who
12 believe that, you know, there's a perfectly good
13 market for commodity only sales and that's really
14 all they have an interest in pursuing. So there's
15 probably a difference of opinion about -- about --
16 I guess what I'm saying is there's a difference of
17 opinion about the two most fundamental things from
18 the -- from the ESCO perspective. So that -- given
19 the diversity in the group, I guess that shouldn't
20 surprise us.

21 COMMISSIONER ACAMPORA: Okay.
22 Thank you.

23 MS. SCHERER: I -- I think it's
24 fair to say that this committee, there wasn't a
25 fair amount of consensus on anything. Right?

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2 I'm going to now introduce
3 Cameron Brooks, who's going to talk about effective
4 customer engagement.

5 MR. BROOKS: Great. Well, good
6 afternoon. My name is Cameron Brooks and it's an
7 honor to be here on behalf of the consumer
8 engagement committee.

9 My firm, Tolerable Planet
10 Enterprises, serves as an advisor to many companies
11 with device, platform, and software solutions for
12 consumer engagement. We also track regulatory
13 proceedings, addressing demand side management
14 issues and distributed generation across the fifty
15 states. So with that in mind, I've been asked to
16 address the committee's discussions and findings
17 from the perspective of those companies operating
18 primarily in the consumer, as distinct from the
19 utility market channels.

20 I'd be hardly the first one to
21 observe that this marketplace has blossomed in the
22 past few years. Consumers today have a range of
23 off-the-shelf options for intelligent thermostats,
24 control devices, auditing and diagnostic software.
25 Similarly, data driven solutions are providing

2 micro targeting of customers to increase the
3 effectiveness of both regulated programs and
4 services offered -- offered competitively at the
5 system level.

6 Now consumer engagement covers a
7 wide range of activities, so the committee
8 established a taxonomy that organize consumer
9 engagement activities into four classes, which you
10 see listed here. The first two categories, general
11 education and regulated demand side management
12 programs, were deployed with approved budgets and
13 system benefit charges, although we recognize that
14 may change in the future as a result of this
15 proceeding.

16 The third category, consumer
17 products and services, presents New York, frankly,
18 with a unique opportunity to supplement the success
19 of these traditional utility channels with products
20 and services available and soon to be available in
21 the consumer marketplace.

22 I guess I got ahead of myself.

23 I'll just briefly characterize
24 each of the four classes. General education and
25 outreach refers to efforts to educate the consumer

2 about broad public policy goals and market changes.
3 A simple example from recent history would include
4 efforts by New York and other states to educate the
5 consumer about restructuring and the introduction
6 of retail competition.

7 The second category encompasses
8 the broad class of regulated programs administered
9 both by utilities and by independent agencies and
10 where independent measures drive some kind of
11 energy efficiency or develop a demand response
12 resource. Their successful history has been
13 expanded in recent years with improvements,
14 including behavior based programs and the
15 bring-your-own thermostat programs for residential
16 demand response.

17 Further programs that were
18 discussed within the committee could include things
19 like a hosted marketplace to facilitate commerce
20 between consumers and products and services perhaps
21 as a transition strategy.

22 The third category, as discussed
23 previously, presents a tremendous opportunity to
24 yield even greater innovations in the years ahead.
25 Consumers may not be particularly interested in

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2 their energy use, per se, and we've noted that

3 multiple times as a barrier, but they are currently
4 purchasing energy efficiency and load control
5 capabilities embedded within home security,
6 entertainment and connected lifestyle solutions.
7 So a key question that this committee tried to look
8 at was how do we leverage these capabilities to
9 achieve some of the market animation goals.

10 And finally, we discussed a
11 variety of financing tools that New York is
12 developing as customer engagement tools in and of
13 themselves. Barriers identified include incentive
14 structures that only consider the consumer and not
15 the platform provider, which leave demand response
16 potential under developed. And similarly, private
17 or public private investment mechanisms in
18 essential facilities like metering infrastructure,
19 that I think Chris was alluding to before, could
20 enhance the market, addressing a barrier presented
21 by the cost effectiveness screens applied to
22 universal deployment scenarios.

23 We don't need to really spend
24 much time on this slide, but we put it together
25 just as a reference to highlight some of the

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2 examples in each category.

3 So in closing, I'd just highlight

4 a few of the fundamental observations from the
5 staff report that's consistent with the discussions
6 within the committee about how to engage consumers
7 and how to animate the marketplace. At its most
8 basic level, the reformed energy vision that you've
9 described is really similar to the old energy
10 vision. I see it as having four pieces. One,
11 there is an engaged and informed customer buying,
12 two, products and services that, three, engage the
13 system effectively, and four, encourage investments
14 that improve the system.

15 As the Commission noted in its
16 initiating order, it's really only the context, not
17 the fundamental vision that's changed. But in this
18 new context, each of these four pieces have a
19 barrier that's essential to address if the goal is
20 to address market animation through this consumer
21 channel.

22 So first, and this has been
23 touched on before, consumers have to be informed
24 and able to engage in the marketplace, which begins
25 with access to their own usage, pricing, and

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2 account information. These have been consistently
3 identified as barriers across all market segments
4 and they prevent consumers from being able to

5 engage in the market in the first place.

6 Seemingly simple transactions
7 like entering in your account number have been
8 shown to be existential barriers to enrolling in
9 programs or signing up for competitive services.

10 Similarly, innovative services
11 like building profiling, load disaggregation,
12 thermostat optimization, energy auditing software
13 that are available today now are starved of
14 information which provide them the basic component.
15 And it should be a basic component of all customer
16 service across all customer classes.

17 So second would be products and
18 services. And here, I would say that tariff
19 structure and product innovation have been
20 highlighted as barriers to effective consumer
21 engagement multiple times. And to me, that
22 suggests that if the DSPP is going to be a platform
23 provider, then it has to be designed to engage with
24 other platforms that are being offered in the
25 marketplace through -- and again, through this

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2 non-utility channel.

3 So what that might mean is the
4 tariffs designed not only at the customer level,
5 but also at the aggregator level will more

6 effectively allow neighborhoods of homes with
7 intelligent thermostats to provide demand response
8 services just as an example.

9 Third, addressing system
10 efficiency. The effective use of the system, and
11 again this has been highlighted on a couple of the
12 different panels, requires some kind of basic
13 profile information for the distribution system as
14 it exists today. Feeder level profile information
15 with corresponding tariffs will ensure that
16 distributed energy resources of all kinds are
17 appropriately located and supported financially.

18 California is pursuing just such
19 a distribution level planning scheme and they have
20 an implementing proceeding that's anticipated to
21 open up earlier this year. So that may serve both
22 as precedent and a model to look at.

23 Fourth, I would address
24 investment. And the consumer marketplace is a
25 tremendous resource for needed infrastructure

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2 investments. And addressing barriers to individual
3 consumer investments in, for example, advanced
4 meters, as we've discussed, or service provider
5 investment and network upgrades, can bring benefits
6 both to the consumer and to the system as a whole.

7 So those are just a few
8 observations coming from this consumer products
9 channel. And I really appreciate the opportunity
10 to represent both the committee and the notable
11 class of its members and look forward to our
12 discussion about the best way to achieve the market
13 animation goals that you've outlined.

14 COMMISSIONER BROWN: Who -- who
15 is supposed to be educating in this new world of
16 DSPP? Who should be the entity that educates and
17 informs the consumer of these various choices and
18 options?

19 MR. BROOKS: Well, I think
20 precisely the reason that we laid out a taxonomy of
21 different kinds of activities would suggest that
22 there are different parties that might engage in
23 different kinds of outreach programs. So if you
24 look at some of the traditional programs like the
25 general education and outreach, that might be a

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2 Commission led effort or it might be a Commission
3 directed effort to say we wanted to educate the
4 consumer about the kinds of changes that have just
5 happened in the marketplace.

6 For things like demand-side
7 management programs that traditionally the utility

8 has run and presumably the DSPP might continue, it
9 seems that they would be the ones that would be
10 both targeting and educating consumers about the
11 programs that would be available to them through
12 that channel.

13 But I think fundamentally in the
14 consumer channel, it would be the companies
15 offering products and services. We generally don't
16 think about it as being called education. We think
17 of it as being called marketing, but there's a
18 tremendous amount of education. And if we go back
19 to the telecom model or analogy, there was no
20 government program that informed the customer about
21 how to use their telephone and what their rate
22 options were. They went out into the marketplaces,
23 informed and engaged consumers, and -- and they
24 started to -- to work in that market.

25 So I think the same thing would

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2 happen here. And I think that's fundamentally the
3 principal or -- or a base assumption of what you've
4 described as market animation. So I don't think
5 there is a who. I think it's several whos, doing
6 different kinds of activities.

7 COMMISSIONER BROWN: Do companies
8 like Direct, at this point in time, kind of --

9 let's go to Texas where I think you're a big
10 player. Are -- are you doing what the long
11 distance companies did in -- what year would that
12 be, Gregg, 1995 or '91 or something?

13 CHAIR ZIBELMAN: I think Gregg
14 wasn't born yet.

15 COMMISSIONER BROWN: When they
16 started offering all these free weekends and
17 started marketing all the various things? Is that
18 happening?

19 MR. KALLAHER: Absolutely.
20 And -- and what you find in places like Texas, and
21 certainly I -- I can't forget the U.K. either
22 because the U.K. has been -- has had that market
23 structure for much longer than Texas has, but you
24 know, people advertise. I mean there's -- there --
25 as -- as Cameron said, there are traditional -- the

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2 traditional consumer education channels that --
3 that you would expect in a market that, at this
4 point, is -- is relatively mature.

5 So it's -- it's -- and -- and we
6 absolutely agree with the view that, you know, for
7 a large portion of -- of these distributed energy
8 resources, if they are really going to make sense
9 for customers, then third parties are going to come

10 in and they're going to -- they're going to --
11 they're going to do those things that -- that are
12 needed to engage customers, which means doing
13 marketing activities that, at the same time,
14 educate customers.

15 CHAIR ZIBELMAN: So as a -- I
16 guess, as a follow-up on that, both in -- in Texas
17 and in the U.K., they're not -- there was certainly
18 more latitude around billing and things like that,
19 but they also impose more requirements on the
20 retailers. And I know you're speaking for a large
21 retailer, but it -- it seems to me, part and parcel
22 with allowing the market to kind of get generated,
23 we, as regulators, always have a -- have a concern
24 about also the -- the natural protections. And we
25 have that in the telecom market as well. So it

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2 seems to me that -- I'd be interested in your
3 reaction to that -- there's a discipline. It may
4 be -- it may not be a pricing discipline, but there
5 certainly needs to be some discipline around how
6 consumers are interfaced, so that we don't have
7 things like slamming and cramming and all the
8 various things that we've suffered through.

9 Is that fair?

10 MR. KALLAHER: Absolutely. And

11 I -- I will say that I think Texas gets a bit of a
12 bad rap. I think people think it's -- not that
13 they -- not that they do anything to encourage
14 this -- this view of themselves, that they're all
15 cowboys, but there are some surprising and robust
16 consumer protections in Texas. They have -- they
17 have -- theirs, of course, is the summer shut-off
18 moratorium whereas ours is the winter shut-off
19 moratorium, but it is -- it is absolutely a
20 critical part of -- of the market.

21 To work, you have to have
22 credibility with customers. Customers have to know
23 that they can -- you know, that they -- that they
24 can reliably go out into the market and -- and
25 engage and be animated without suffering negative

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2 consequences. So it's -- it's -- it's absolutely a
3 critical part of -- of what you're doing.

4 MR. BROOKS: And I would just add
5 to that. I mean I agree that it's absolutely
6 critical. It -- it seems to me that that falls
7 naturally into the domain of the regulated
8 programs, to both look at customer protections that
9 might be needed, but also services or extra support
10 for disadvantaged classes that, you know, in
11 shorthand might need --

12 CHAIR ZIBELMAN: Right.

13 MR. BROOKS: -- might fall
14 through the cracks and be left behind. But I'm not
15 sure that it's -- that that is the critical
16 question. Or a critical question to ask would be
17 how much of the market can be served and leveraged
18 using non-utility consumer market channels.

19 And I think the answer is that if
20 you set up the rules right, you provide incentives
21 that allow aggregators to actually engage with the
22 DSPP directly and serve as that intermediary to the
23 customer, you're going to see a vast majority of
24 the market be able to adopt new products and
25 services that are available off the shelf today,

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2 many of -- many new ones that have not yet been --
3 been announced or discovered or developed.

4 And so I guess the question would
5 be if that covers eighty -- ninety percent of the
6 market then you need to address that other ten or
7 twenty percent through some kind of dedicated
8 program, isn't that a great success and isn't that
9 the goal of the REV proceeding?

10 CHAIR ZIBELMAN: Cameron, just a
11 couple questions I have for you and then -- one --
12 one is just you've referenced a hosted market.

13 Could you explain what that is?

14 MR. BROOKS: Well, it's -- it's a
15 model that I'm not sure has necessarily been
16 deployed, but it was certainly discussed. And the
17 idea would be, especially as a transition strategy,
18 there may be an opportunity for the utility or the
19 DSPP to help motivated customers get connected to
20 the service providers that can help them, for
21 example, implement the measures that are
22 recommended from an energy audit, whether that's
23 putting them in touch with contractors or being
24 able to look for example at equipment that might
25 need servicing and being able to connect them to

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2 those service providers.

3 In a -- in a marketplace exchange
4 setup, where there might be revenue opportunities
5 that flow, savings level to the consumer, obviously
6 directly to that service provider, and maybe by
7 Commission or finder's fee or something like that
8 to support the platform that the DSPP is providing.

9 CHAIR ZIBELMAN: Just in terms
10 of, also, products, one of the things that I think
11 that, you know, at least my observation we suffer
12 through in the electric sector is that from our
13 consumers, you know, it's really -- there's -- it's

14 very difficult. The market's really opaque now.
15 You know, if you were to get a -- sort of an offer
16 from three different providers, there's no way you
17 can go and say well, how does that compare because
18 they're so different.

19 And just from your experience, is
20 there some value in order in animating the market
21 just to get some level of consistency and then also
22 allow for some level of innovation? Just I'm --
23 I'm just thinking about these consumers and they
24 get cards in the mail, but they -- how do they
25 know? And that's certainly been our struggle on

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2 the ESCO proceeding is figuring out how to get
3 consumers informed so that they feel like they're
4 an informed buyer, not just about price, but who's
5 offering a value?

6 MR. BROOKS: Well, certainly I
7 think there is a place for that. And I think that
8 that kind of apples-to-apples comparison, you know,
9 is something that the Commission can help direct
10 and -- and have the DSPP provide. And that was an
11 objective in many states related to retail
12 competition, was to be able to set up those kinds
13 of calculators.

14 It may also be worth noting that

15 consumers and, as has been discussed many times, at
16 a certain level they're fundamentally disinterested
17 with their energy use. And -- and there's
18 emotional reasons why that might exist and there's
19 purely rational reasons why that should be
20 twentieth on the priority list of most American
21 families. And so I think there's a -- there --
22 there has long been a discussion within the
23 regulatory community about how to educate and drive
24 prices down with the consumer.

25 I think that actually what you

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2 are proposing here in this proceeding is a better
3 approach, which is how do you start to bring
4 transparency to that pricing structure and allow
5 intermediary structures, so that loads can be
6 aggregated and engaged at the system level and
7 there can be innovation provided by companies like
8 Direct Energy or other energy service providers or
9 device manufacturers, to be able to build that kind
10 of risk of what the energy price is going to look
11 at into their business model so that the consumer
12 doesn't have to.

13 But clearly, I do think there's a
14 role for bringing transparency, unbundling the
15 prices, and establishing some kind of mechanism

16 that allows that apples-to-apples comparison.

17 CHAIR ZIBELMAN: Thank you,
18 Cameron.

19 MR. BROOKS: Thank you.

20 MS. SCHERER: So I'd like to now
21 introduce Brian Murphy, who's going to talk about
22 community choice aggregation.

23 MR. MURPHY: Thank you very much.

24 CHAIR ZIBELMAN: Welcome, Brian.

25 MR. MURPHY: Madam Chairman,

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2 Members of the Commission, thank you for having me
3 here today.

4 I'd like to thank LuAnn Scherer
5 for the invitation to speak on behalf of the
6 committee. And I'd also like to thank the over one
7 hundred and fifty other members of the committee,
8 who offered lots of thoughtful and constructive
9 feedback, not only on the broader topic of
10 community choice aggregation, but specifically on
11 the content of the slides you're about to see.

12 We'll do a brief overview and
13 then actually get into some of the details of what
14 community choice aggregation is. It is one
15 additional model for engaging customers, which was
16 the purpose of the committee's work here in the

17 last several months. And it's used with varying
18 degrees of success in several other states,
19 including California, Ohio, Illinois, New Jersey,
20 and Massachusetts.

21 It's an optional buying group.
22 It's something that's organized at the municipal
23 level. The municipal corporation, itself, whether
24 it be a city or town or village, enters into an
25 electricity supply contract on behalf of customers

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2 who remain on default service with -- with the
3 distribution company. And of course in order to
4 work effectively, it's an opt-out program, so all
5 customers are automatically enrolled unless they
6 opt out. And they are given adequate notice by
7 their local municipality of the new program.

8 And one of the things they can do
9 is to offer long-term fixed rates or even greener
10 power supply options. And it's -- our research
11 suggests that successful CCAs are those in which
12 the customers identify the program with their
13 municipality, so there's a strong local connection
14 between the government and the end user.

15 What are some of the potential
16 benefits for a CCA? Well, the experience of other
17 states suggests that it's yet another way of

19 Generally speaking, there are no penalties for
20 consumers. Most states allow there to be some
21 penalty if the consumer wants to leave the program
22 after a defined period of time. But in practice,
23 most municipalities create a completely open-ended
24 option for consumers to leave and choose any other
25 provider or default service that they wish. And

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2 furthermore, the buying group creates leverage that
3 an individual consumer is likely not able to do on
4 his or her own.

5 Some other potential benefits of
6 community choice are that the terms and conditions
7 of the energy supply contract can be designed in a
8 way that's very favorable to the consumer. And
9 this is particularly true with respect to data
10 management.

11 The program also has public
12 oversight. Local officials are ultimately in
13 charge of managing either the ESCO or the
14 consultant that works with them to manage the
15 program. And almost every CCA in all the states
16 that I mentioned usually has retained a
17 professional consultant to help them manage the
18 program.

19 Some of the CCAs have also, you

20 know, including for example the City of Chicago and
21 the City of Lowell, Massachusetts have -- have
22 greened up their entire supply portfolio through
23 the community choice aggregation. And furthermore,
24 it offers a way to keep the public educated and
25 engaged. I know that's been the subject of many of

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2 the questions that have already been asked here.
3 And it's -- you know, we'd like to note that, as I
4 said before, successful CCAs are ones in which
5 there's a strong identification between the
6 consumer and -- and the local government, that they
7 believe that the local government is out there,
8 looking out for them, offering them a supply
9 contract that they don't have the obligation to
10 accept, but that they have the opportunity to if
11 they'd like to.

12 However, the committee did note
13 there are some concerns. The key thing as -- as a
14 non-starter is that this -- this can't happen
15 without a policy change. You know, that would
16 require a change to the uniform business practices
17 code that the Commission currently has. And that
18 that opt out exemption could be specifically carved
19 out just for CCAs. It's -- it's been our
20 experience, both as consultants to these programs

21 in Massachusetts, and in our research about CCAs
22 across the country, is that these programs need to
23 be authorized by the local governing authority.
24 Again, that's usually a city council or a town
25 board with the approval of the mayor or town or

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2 city manager.

3 Contracts need to have
4 safeguards. And this is particularly true, again,
5 as I mentioned before, with regard to data
6 management. The town has access to consumer data,
7 the ESCO has access to consumer data, and of course
8 the utility does, too. And so the contract needs
9 to button down those obligations fairly
10 specifically. In nearly every case, local
11 governments have outsourced the management of these
12 programs because of the technical nature of much of
13 what goes on with these things.

14 ESCOs are not prevented from
15 marketing to people who take energy through a
16 CCA. So there's no, you know, ban on marketing. So
17 just as consumers currently get marketed to by
18 ESCOs, they can continue, whether they're getting
19 power through a CCA or not and any consumers that
20 are currently with an ESCO stay with the ESCO.
21 It's only consumers who are still on default

22 service that would be initially eligible to
23 participate in these programs.

24 In other states, the opt-out
25 aggregation model has historically attracted large

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2 ESCOs, not small ones. I know, you know, Chris had
3 already mentioned that there's some -- a bit of
4 divide between the two, but with -- in a state like
5 New York that has a purchase of receivables
6 program, that should go some distance to mitigate
7 the limitation that other states have experienced
8 when it comes to who's bidding on aggregations.

9 Others have expressed concern
10 about government involvement in retail markets
11 generally. And there's fear that CCAs would, you
12 know, pick winners and losers through its
13 intervention in the market and that it would
14 give -- confer an unfair advantage on an ESCO who
15 has the ability to participate through this
16 opt-out, whereas everybody else has to participate
17 through an opt-in.

18 And while I can't say this
19 definitively, it's my belief that New York -- that
20 other states that have done this all have
21 longer-term default rates, either six months or one
22 year, utility default rates, unlike New York which

23 has the one-month-more-market base pricing.

24 These are some case studies that
25 have, you know, I think have some instruction for

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2 us here today. The first is the City of Lowell,
3 Massachusetts, a population of about a hundred
4 thousand. And this city was able to -- the ESCO
5 was directed by the city, I should say, to cover
6 one hundred percent of the power supply portfolio
7 needs through RECs, renewable energy credits, from
8 Maine Hydropower Resources. And even after that
9 was factored in, the initial price was twenty
10 percent lower than the default price. And in
11 Massachusetts the default prices last for six
12 months.

13 The second case study is from
14 Lancaster. This is a much smaller community, but
15 the town owned a -- or still owns a solar farm that
16 it owed a bond on. And so it used revenue rates by
17 selling the solar renewable energy credits to
18 aggregation participants to help pay down the bond.

19 And another example is the city
20 of Marlborough, Massachusetts, which used its
21 aggregation purely to -- to beat the utility
22 prices. So at one point after its own aggregation
23 price went upside down with regard to the utility

24 price, the town elected to suspend the program.
25 And that was exactly -- it worked exactly as they

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2 designed it. You know, when it didn't work, they
3 put the brakes on it. So that's another thing that
4 aggregation can do. It's not something that has to
5 continue simply because it starts.

6 I won't get into too much detail
7 with the next couple of slides, but here are some
8 elements of what an aggregation plan should look
9 like. And our research suggests that in other
10 states, the general model is to have the local
11 governing authority design and publicly review a
12 very detailed plan so that every consumer has the
13 opportunity to participate in its design and
14 review, but also have the opportunity to read and
15 understand what may happen to them if, in fact, the
16 town or city that they live in effects one of these
17 contracts.

18 And this next slide suggests the
19 various roles that the different parties can take.
20 And you'll note that on the municipality side,
21 you're looking at lots of authorization, approval,
22 and oversight, but most of the hard work, so to
23 speak, is done by the consultant in conjunction
24 with the ESCO. So that's where the town can

25 benefit by outsourcing most of the labor to

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2 qualified consultants. And the utilities continue
3 to do the billing and providing the delivery
4 service.

5 And finally, there are really
6 three steps that almost every community who's
7 designed a CCA has taken. And that is they have to
8 pass a referendum, an ordinance, some sort of
9 initial process in which the public has the right
10 to participate to authorize aggregation. And then
11 they generally, through an open public bidding
12 process, find a consultant to help them design and
13 manage these things. And then with the consultant,
14 they -- they publish the aggregation plan and
15 supporting documents for public review. And that's
16 well before they even dip their toe in the market.
17 Those are the three steps that towns need to take
18 before they start.

19 Thank you very much and I'm happy
20 to take questions if you have any.

21 CHAIR ZIBELMAN: Thank you.

22 Questions? Garry?

23 COMMISSIONER BROWN: I'm curious,
24 just an experience we had in New York State this
25 last year, school districts, in essence, do this

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2 for their districts. And I heard complaints
3 because this year their bills went up two
4 hundred -- three hundred percent. And I asked some
5 of them if they had the opportunity to fix their
6 price beforehand. They said well, sure, but that
7 would have cost us money the last four years. And
8 when you describe this, it sounds like it was
9 twenty percent less, probably because the predicted
10 price ended up being higher than what the natural
11 gas prices were, which were going like that for a
12 long time. Now we've seen the opposite effect and
13 I'm just wondering about your experience in
14 Massachusetts, where I'm sure that some of the
15 areas must have had that same exact phenomena this
16 year.

17 MR. MURPHY: Well, actually the
18 City of Lowell's case, where the -- the price was
19 twenty percent less than the default rate, that
20 just -- just -- that deal was just struck in
21 February of this year, so in a period of extreme
22 volatility and rapidly rising prices.

23 The utility in Massachusetts
24 procures twice a year for -- for fifty percent of
25 its load, so the price is generally a blend of a

2 couple of historical purchases. And -- and so a
3 community that wants to initiate one of these
4 programs generally needs to deliver some savings
5 relative to the utility, at least initially. But
6 after that, they are free to set whatever goals
7 they want.

8 And you know, we know what's
9 going to happen in New England this winter is that
10 we have relatively mild pricing now in the summer
11 at the real or short-term level and extremely high
12 prices next winter. And so we're looking -- you
13 know, our clients are asking us to help them smooth
14 out those peaks. And it does mean yeah, they're a
15 little higher than the valley, but it's -- it's,
16 you know, a risk that they're willing to take in
17 order to offer stability to their residents who can
18 always opt out. In -- you know, in January,
19 they're going to be saving three or four cents a
20 kilowatt hour. If they're losing a couple cents in
21 the summer, they can opt out if they want. And
22 so --.

23 COMMISSIONER BROWN: Do you think
24 the municipalities understand that this is not
25 always a win-win? You don't win every time unless

2 you perfectly predict -- can predict the future.

3 MR. MURPHY: That's correct. You
4 know, it does take education. You know, I know
5 that's one of the themes here today. And that
6 includes -- educating the mass market is tough
7 enough, but you know, in our case we do -- we
8 target, you know, mayors and city councilors and we
9 talk with them and help them, because they're also
10 homeowners, as well, and they're energy consumers
11 and so they do need to understand that it's not a
12 I'm always going to beat the utility rates
13 scenario. That's just not -- not possible.

14 CHAIR ZIBELMAN: Diane?

15 COMMISSIONER BURMAN: So it seems
16 like the structure of the utility default rate is
17 critical to providing customers the ability to make
18 an informed and rational choice under any
19 competitive program. And, therefore, is it even
20 possible to make real progress without dealing with
21 the structure of the default choice? And was that
22 discussed among the working group?

23 MR. MURPHY: I don't recall
24 potential changes to the way default service is
25 priced as being one of the topics. I would defer

2 to LuAnn on that.

3 MS. SCHERER: Yeah, we talked
4 about the difficulty in understanding the utility
5 default price, but we didn't talk about it in the
6 context of community choice aggregation.

7 COMMISSIONER BURMAN: Okay.

8 MS. SCHERER: I think one of the
9 things that Brian maybe touched on a little bit was
10 just the -- the volume. So -- so in an opt-out
11 program where ninety percent or so of the residents
12 decide to take service from the ESCO, the ESCO is
13 going to be able to offer better prices. So I
14 think that's -- that's one of the reasons why
15 cities -- the City of Lowell was able to do better
16 because there was the buying power of that ESCO.

17 COMMISSIONER BURMAN: Thank you.

18 COMMISSIONER SAYRE: Is there
19 anything other than our uniform business practices
20 and the opt-in rules that would keep a municipality
21 in New York from doing something like this under
22 our existing regime?

23 MR. MURPHY: Not to my knowledge.

24 MS. SCHERER: So I'm -- I'm going
25 to Ted -- Kelly's over at the resource table and

3 MR. KELLY: Hi. So the answer is
4 no, not directly. The uniform business practices
5 have several provisions that would prevent the
6 opt-out. It also prevents certain transfers of
7 customer data, so there would also need to be
8 provisions to the uniform business practices to
9 permit those transfers.

10 Also our understanding is that,
11 under the provisions of the general municipal law
12 that would allow municipalities to do this, they
13 would need to have -- hold referendums in order to
14 initiate programs, so have votes by their citizens,
15 which would need to pass by fifty percent.

16 That's also a requirement in
17 Illinois, which is seemed very -- a very successful
18 up-take of -- of community choice aggregation,
19 since it was initiated, I think -- I believe in
20 2010. And they've seen hundreds of municipalities
21 join even though they did have to hold these
22 referendums as New York would under current law.

23 COMMISSIONER SAYRE: Thank you.

24 CHAIR ZIBELMAN: Several --
25 several questions. Under the typical programs,

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2 once an individual opts out, can they get -- can
3 they then opt in?

4 MR. MURPHY: Can they get back in
5 if they --

6 CHAIR ZIBELMAN: Opt out?

7 MR. MURPHY: -- feel they made a
8 mistake by leaving?

9 CHAIR ZIBELMAN: Right.

10 MR. MURPHY: Our experience is
11 yes. And when a resident migrates, either in or
12 out, it generally doesn't affect the load that
13 greatly. Suppliers or ESCOs are generally very
14 concerned about industrial customers who, under at
15 least --

16 CHAIR ZIBELMAN: Right.

17 MR. MURPHY: -- most state laws,
18 are required to the extent that they're -- we have
19 to invite them to join, you know, and that they opt
20 out. And if they do join, it does worry the ESCOs
21 that they might migrate if they get a better offer
22 sometime later. So the price for that class can
23 often vary dramatically from the price offered
24 residential and small commercial classes.

25 CHAIR ZIBELMAN: So the other --

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2 the other question I have is I was looking at the
3 size of the communities. I mean it does strike me
4 and -- and maybe others want to answer this, too,

5 that for smaller, more rural communities, this
6 becomes a great way to reduce the transaction
7 expense, maybe for all sized communities, for ESCOs
8 to get into the -- to the mass market. Because
9 essentially the municipality is sort of
10 sub-aggregating for the benefit of the retailer or
11 the ESCO to aggregate that load and get to that --
12 get to that demand.

13 And so do you see -- I mean, this
14 is something we deal with, certainly, in telephone
15 is thinking about how rural communities or cable
16 can get access to some of the same benefits that
17 more congested -- more urban communities get just
18 because of sheer volumes. Have you -- is that been
19 some of your experience for smaller municipalities?

20 MR. MURPHY: In our -- our
21 particular experience, yes, because it's easier to
22 market our services to -- to communities within --
23 within a certain population range.

24 CHAIR ZIBELMAN: Right.

25 MR. MURPHY: The fact that the

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2 City of Chicago did conduct a municipal opt-out
3 aggregation is either, you know, a harbinger of the
4 future or an outlier. I don't know; it's hard to
5 say, but you know, our experience it -- it is

6 easier to -- to deal with smaller communities, but
7 maybe it's an open question still.

8 CHAIR ZIBELMAN: Is -- and is
9 there any reason why this would be limited to
10 commodities? Could you see, in addition to green
11 power, demand management services being provided
12 this way?

13 MR. MURPHY: Well, yeah. You
14 know, I listened to -- to Chris mention that there
15 are some programs that allow, you know, prepayment
16 and they -- they trade fixed rates for incentives
17 to drive down customer usage. Those are all things
18 that I think would be great to offer at the
19 municipal level. And you know, could -- I could
20 envision, at least, you know, every community
21 having its own particular flavor and really driving
22 innovation in this area by almost creating any
23 number of what we could call pilot programs where
24 these different products and services are -- are --
25 are rolled out.

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2 CHAIR ZIBELMAN: Chris?

3 MR. KALLAHER: I think that's
4 really more the -- the -- the model that the
5 California communities were -- were attempting to
6 get. It was not just a commodity only. You --.

7 CHAIR ZIBELMAN: That was like --
8 like Marin County?

9 MR. KALLAHER: Exactly. And --
10 and Sonoma County, I -- I believe, as well, did
11 that. In a lot of ways it's really what ties this
12 together with the REV.

13 CHAIR ZIBELMAN: Right.

14 MR. KALLAHER: Because
15 certainly -- I think a number of -- of us have seen
16 that at the municipal level, there's a lot of
17 engagement. There are a lot of communities that
18 are very concerned about the very things that you
19 are talking about and that are, themselves,
20 investigating microgrids and such. And this
21 really, I think, represents the ability to sort of
22 tie all those things together and also establish a
23 longer-term relationship between an ESCO and a
24 community that would allow you to do things like
25 ultimately perhaps even put in iron in the ground,

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2 you know, grid -- grid scale solar, for example, if
3 a municipality wanted -- wanted to do that. So
4 it's -- it's -- it's very much something that I
5 know a lot of -- a lot of companies like -- like
6 mine are thinking about.

7 CHAIR ZIBELMAN: And is it -- so

8 this is inviting all sorts of questions, but is it
9 possible to have multiple retailers provide
10 services in one community or is part of this is
11 that there's a winner and they get the whole --
12 whole enchilada, as -- as Raj likes to say?

13 MR. MURPHY: I don't think it's
14 outside the -- the realm of possibility. We've had
15 some suppliers or ESCOs approach us about serving
16 particular classes, you know, that they would
17 prefer to serve these classes and not those. And
18 so we would find another supplier to serve that
19 class. It's -- to my experience -- in my
20 experience, it hasn't happened yet, but it's been
21 suggested.

22 CHAIR ZIBELMAN: And one more
23 question for you and then another one for the
24 group. And then for -- in these programs, are the
25 municipal buildings part and parcel of the mix,

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2 because the schools and -- you know, it just
3 strikes me that anything you can do to create
4 diversified load helps you manage the price better.
5 Are you seeing that happen?

6 MR. MURPHY: It varies. You
7 know, one of the -- one of the things that led a
8 lot of municipal officials to look at CCA was the

9 fact that they had what they considered success on
10 their own in the marketplace with their municipal
11 buildings. And so to the extent that those
12 buildings were already, you know, carved out or
13 under separate contract, they'd go ahead with the
14 CCA for the residents and small commercial anyway.
15 But if they were, in fact, eligible to participate
16 like, either coming off of a contract, remaining on
17 default for some particular reason, then yes, they
18 are -- they're pulled in with the -- with the other
19 customers.

20 CHAIR ZIBELMAN: Okay. And one
21 question actually for the group. You -- you were
22 here for the beginning panel, talking about
23 technology. If you were to go back and advise that
24 panel as to what they've identified as sort of some
25 of the roadmap issues, from your perspective of

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2 animating the market, were there things that you
3 would say actually need to be considered? I know
4 one of them would -- you know, we talked about AMI,
5 but you're saying wait a minute, this -- this has
6 to happen or else the market won't happen. Do you
7 have anything off -- I'm just curious?

8 MR. BROOKS: I'll take a stab at
9 answering at least part of that question. One of

10 the things that strikes me, both in the
11 presentation this morning and in -- in discussions
12 largely about the smart grid over the last few
13 years, there is a very widely held belief that
14 somehow all of the communications and connectivity
15 services need to run through one single platform.
16 I don't understand the rationale that -- that
17 drives -- sits behind that.

18 And so one of the things that I
19 would suggest for the Commission to consider and
20 for that committee to, you know, reexamine is if
21 communications is a function that is needed, is it
22 required that there's one single communications
23 platform or are there multiple platforms by which
24 you can engage consumers, be able to do things like
25 load control, device management, and be able to

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2 aggregate again the services, whether it's energy
3 efficiency or demand response or load management,
4 and be able to deliver that to a tariff that the
5 DSPP would provide.

6 CHAIR ZIBELMAN: And would those
7 be -- and would you see platforms could be operated
8 by multiple entities or that there would be
9 different platforms that would be made available?
10 I'm not -- when you say one communication?

11 MR. BROOKS: Well, I guess the --
12 the question that I would ask is it fundamentally
13 what one of -- if -- if the DSPP is providing some
14 basic enabling functions --

15 CHAIR ZIBELMAN: Uh-huh.

16 MR. BROOKS: -- like access to
17 usage and pricing information, is it necessary that
18 they also provide all of the controlling platform
19 functions. And I think the answer that I would
20 lead you to believe would be no, that -- that --

21 CHAIR ZIBELMAN: So --?

22 MR. BROOKS: -- if the question
23 is about market animation, then that -- the market
24 transaction is really at the tariff level. And how
25 the load gets dropped, as long as it's reliably and

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2 verifiably dropped, I don't know that it needs to
3 go through the communications for that kind of
4 signaling, need to go through a platform that is
5 managed by the DSPP

6 CHAIR ZIBELMAN: Chris?

7 MR. KALLAHER: I -- I really do
8 think the -- the question of smart metering
9 deployment is a threshold issue in terms of
10 technology. And you know, it's -- it's possible
11 that -- that there's an alternative. I think

12 you're going to wait a long time, frankly, you
13 know, and especially if it's an alternative that
14 will have to be qualified for settlement purposes
15 with the ISO and -- and the utility.

16 And I think it just puts you a
17 long -- a long way off in terms of doing the things
18 that -- that you really want to do in a way that's
19 truly an animated market. You know, I think
20 what -- what a lot of -- a lot of us worry about on
21 the -- on the ESCO side of things is that with --
22 without the -- and it is the data we want, so if
23 there were some magical way to get the data with --
24 without a smart meter, I think, you know, we would
25 certainly be very -- very interested that -- in

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2 that.

3 But I think what we worry is
4 that, without the ability to get the kind of data
5 that the -- the smart meter provides that, you
6 know, we're going to be, sort of, for a very
7 extended period of time, in this interim period
8 where what you really have is the DSPP which will
9 be the utility, it sounds like, essentially putting
10 out R.F.P.s for things they want as part of their
11 planning process.

12 That's interesting, but I don't

13 think that's really what you're talking about in --
14 in -- in the end state. I mean I think it's --
15 it's an alternative to the existing approach to
16 doing distribution utility planning, but I don't
17 think it's the kind of animated fully-engaged,
18 customer-driven market that -- that you're talking
19 about. So I think it probably is a consistent --
20 even among the differences that we have on the
21 other topics among the ESCO community, I think
22 it's -- it's fair to say it's a consistent -- a
23 consensus that that's -- that's a real threshold
24 question that you're going to face on the
25 technology side.

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2 CHAIR ZIBELMAN: I'm sorry; are
3 you two disagreeing or are you --?
4 MR. KALLAHER: No -- no; I -- I
5 don't think that we are.
6 CHAIR ZIBELMAN: Okay.
7 MR. BROOKS: And in fact, I was
8 going to pile on Dave's comment. I do agree that
9 some kind of AMI smart metering functionality feels
10 like a threshold issue and just such a fundamental
11 ingredient to the innovation that you're looking
12 for, that I -- I struggle a little bit to
13 understand the rationale of why you would not move

14 forward, trying to create that kind of visibility
15 at the consumer level. So, I don't think we're
16 disagreeing. I think we're -- we're agreeing.

17 CHAIR ZIBELMAN: Would that be
18 AMI subject to the -- the idea that there may be
19 certain levels of load that you could do an R.E.M.
20 type methodology or would you say -- because before
21 you -- I thought you said -- Chris, you were
22 indicating that there may be cost benefits that you
23 could identify below which an AMI meter may not be
24 necessary?

25 MR. KALLAHER: It could be,

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2 although I think -- I think it's possible to over
3 bake that, frankly.

4 CHAIR ZIBELMAN: Okay.

5 MR. KALLAHER: And I guess there
6 are certainly -- there are distribution level, you
7 know, benefits to having that -- to having that
8 information, in -- in addition to what you might
9 look at from the -- the DER perspective, but
10 because of the -- at some point the transaction
11 cost in identifying who's too small to get a smart
12 meter might start to overwhelm whatever savings you
13 might get from -- from a more limited deployment.

14 It's -- it's entirely possible,

15 but I -- I also admit I could be dead wrong about
16 that. I mean it might be a relatively -- it might
17 be a relatively simple exercise to say well below
18 some -- some threshold, you don't -- you don't get
19 one. But my caution is that if you're doing -- if
20 you're doing that based on some type of cost
21 benefit analysis, on the benefit side of things, I
22 think the things we're talking about today are very
23 difficult to quantify. And I think that's one of
24 the things we've seen in some of these other cost
25 benefit analyses.

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2 I think this was -- I remember
3 that in Connecticut, you know, their scenarios were
4 mostly unfavorable to smart meter rollout, but they
5 were really looking on the benefit side pretty
6 narrowly at what you could do through utility
7 programs. So I think we're talking about things
8 potentially on the benefit side that are much
9 broader than that.

10 MR. BROOKS: And maybe I can also
11 offer one other point to maybe clarify the
12 confusion that I think I hear in your questioning.
13 AMI has often been put forward as both a metering
14 platform and a control platform for connecting into
15 the home to devices. I think what we've seen in

16 the market is that that control function has not
17 been realized for a number of different reasons.

18 So when I talk about and I think
19 when Chris talks about the metering infrastructure
20 being a fundamental ingredient, it's about that
21 usage, perhaps pricing information.

22 CHAIR ZIBELMAN: So it's --?

23 MR. BROOKS: It's not about the
24 single gateway into the home by which the consumer
25 should receive information messages or control

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2 signals because the -- the -- that has not been
3 proven to be a very effective channel for those
4 kinds of signals.

5 CHAIR ZIBELMAN: Thank you. And
6 I thank -- I just got the red -- red light.

7 A.L.J. STEIN: You're getting the
8 red light.

9 MR. BROOKS: We're getting the
10 hook.

11 CHAIR ZIBELMAN: We'll be meeting
12 after.

13 A.L.J. STEIN: Yes, to be
14 continued.

15 MS. SCHERER: So, thank you, Jay,
16 Chris, Cameron, and Brian.

17 I just wanted to take a few
18 minutes to identify a few of the many findings of
19 the CEC, some of which we haven't discussed today.
20 First, as you've heard, there are many effective
21 ways to engage customers. Engagement models that
22 include established community organizations such as
23 faith-based organizations, schools, rotary clubs,
24 door to door, and friend-to-friend marketing models
25 have been successful in the solar industry because

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2 peer pressure, competition, and previously
3 established modes of communications bring issues
4 into the public domain.

5 Second, a major barrier to
6 customer engagement is a simple lack of awareness
7 and understanding on the part of the customers.
8 While informing customers of their options and the
9 availability of products and services has typically
10 been the responsibility of the provider of these
11 products, various committee members believe that
12 it's everybody's job, all market participants,
13 including utilities, ESCOs, and the Department of
14 Public Service. Further, an online marketplace
15 could provide a single location to shop for
16 products and -- and services of multiple third
17 parties.

18 The incentive issue, which we
19 didn't talk about at all today, and I just want
20 to -- I'm raising it because I just want to remind
21 everybody that there's four hundred thousand
22 unmetered customers in New York City alone. And I
23 just -- I'll also point out that -- that sub-meters
24 are smart meters, so that might be something that
25 we need to think a little bit more about.

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2 Many of the participants
3 highlight the absence of sufficient data because of
4 the lack of AMI We talked about that. That said,
5 incorporating behavioral psychology principles in
6 the absence of smart metering such as Power's Home
7 Energy Reports have demonstrated that benchmarking
8 in households' energy usage against that of their
9 neighbors and peers is an effective strategy for
10 engaging customers.

11 The Green Button Initiative is
12 something we didn't talk about. It's -- all of
13 this is in the report that we submitted. I think
14 the Green Button program is a method for customers
15 to get their data out to providers to solicit the
16 products.

17 Some of the utilities -- the New
18 York utilities have already agreed to implement the

19 green button. Many of the committee members concur
20 that the current billing and payment processes for
21 third parties is an issue. We probably need to
22 spend some more time thinking about ESCO
23 consolidated billing.

24 That's pretty much it. Thank you
25 very much for the opportunity to present to you.

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2 CHAIR ZIBELMAN: Thank you very
3 much and thanks to everyone.

4 (Off the record)

5 A.L.J. STEIN: I'd like to ask
6 the previous panelists to clear the decks and the
7 new panelists to step forward, please.

8 (Off-the-record discussion)

9 A.L.J. STEIN: This is the
10 subcommittee on microgrids and community grids with
11 Matt Wallace and Walter Levesque.

12 CHAIR ZIBELMAN: Since we just
13 have -- since we just have two, can we get them all
14 together? Since we only have two folks here and we
15 have four chairs --

16 A.L.J. STEIN: Oh, sure.

17 CHAIR ZIBELMAN: -- we'll invite
18 you in from Siberia.

19 (Off-the-record discussion)

20 CHAIR ZIBELMAN: But we'll get
21 started, I guess.

22 Matt?

23 MR. WALLACE: Good afternoon,
24 Chair and Commissioners. My name is Matt Wallace.
25 I'm an electric distribution systems engineer with

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2 the Office of Electric, Gas, and Water. I'm joined
3 by Walter Levesque, Senior Principal Consultant for
4 Distributed Energy Resources and Microgrids at
5 D.N.V. G.L. Energy Advisory. It is our pleasure to
6 appear before you this afternoon and before this
7 audience.

8 Joining us also at the table are
9 Tom Mimmagh from Consolidated Edison -- I'm
10 sorry -- excuse my nerves -- Consolidated Edison
11 Company of New York, and Andrea Cerbin from Pace
12 Energy and Climate Center.

13 Today we'll be presenting the
14 findings of working group two's subcommittee on
15 microgrids and community grids. We'd like to
16 proceed by describing the work and organization of
17 this committee, add some background information and
18 speak to the issues we found regarding microgrids.
19 The committee also identified the next steps we
20 feel are appropriate for moving forward.

22 identify the value of microgrids and their social,
23 environmental, and community implications.

24 To ensure consistency when
25 identifying the issues associated with microgrids,

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2 we first had to answer the question what is a
3 microgrid. So we decided that the U.S. Department
4 of Energy's definition was a good starting point as
5 this definition has traction in the industry.
6 Beyond the definition, the committee looks for
7 examples of various types of microgrids.

8 The single customer microgrid is
9 the most common type in New York State. Each of
10 these microgrids serves only one entity. I think
11 that for New Yorkers the most well-known example is
12 New York University, whose 13.4 megawatt combined
13 heat and power unit kept the lights on for dozens
14 of buildings at their campus in Manhattan's
15 Washington Square at a time when Super Storm Sandy
16 forced the rest of Lower Manhattan into darkness.

17 The multi-customer microgrid is
18 another type, although they are not as prevalent.
19 The C.H.P. unit at Burrstone Energy Center in
20 Utica, New York is owned and operated by Cogen
21 Power Technologies and provides energy to Faxton
22 St. Luke's Healthcare Facility, St. Luke's Nursing

23 Home, and Utica College. The New York P.S.C.
24 granted this project exemption from Public Service
25 Law in 2007, permitting it to serve multiple

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2 customers.

3 Community microgrids are a type
4 of multi-customer microgrid where the community is
5 actively engaged in its design and implementation.
6 An example of a community microgrid is the New York
7 prize competition announced by Governor Cuomo in
8 January and Secretary Kauffman at the REV
9 symposium.

10 There are other types of
11 microgrids that do not fall within the D.O.E.'s
12 definition, including standalone microgrids, which
13 are not interconnected with the utility grid,
14 dynamic microgrids, the conceptual model that is
15 able to adjust its boundaries depending on the
16 availability of its distributed energy resources,
17 and the regional microgrids, a concept where an
18 entire region would be able to isolate itself from
19 the rest of the grid.

20 MR. LEVESQUE: Chair,
21 Commissioners, microgrids potentially offer a
22 number of benefits to facilities --.

23 UNIDENTIFIED SPEAKER: Your mic's

24 not working.

25 (Off-the-record discussion)

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2 MR. LEVESQUE: Chair,
3 Commissioners, microgrids can potentially offer a
4 number of benefits to facilities within its
5 boundaries and to the larger grid. For example,
6 enhanced energy efficiency results because there
7 are no transmission line losses due to the local
8 generation. Microgrid can optimize the efficiency
9 of multiple diverse energy assets by controlling
10 load, controlling generation, and engaging with
11 storage, both thermal as well as electric.

12 Reliability and resiliency can be
13 improved, lower cost distributed energy resources,
14 and the dual use of fuel can result in lower cost
15 energy and increased environmental sustainability.
16 Microgrids can be a versatile asset to the grid by
17 offering a more elastic demand, providing
18 additional capacity to export to the grid, and the
19 potential to offer ancillary services such as
20 voltage support at the distribution level.

21 While resiliency alone might
22 justify a single user microgrid, it often may not
23 justify the business case from multi-user
24 microgrid. Microgrid development -- this is

25 because it is difficult to include in the business

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2 case avoided costs due to potential outage. In the
3 event of a grid emergency, a microgrid may ease the
4 hardship of a community and provide uninterrupted
5 energy to critical infrastructures such as water
6 and waste treatment facilities, as well as other
7 critical facilities located within the microgrid.
8 After the fact, we recognized the impact and the
9 cost of the outage, but the value to the common
10 good is hard to quantify before the fact.

11 Further, a microgrid can be an
12 avenue for private investments and new technologies
13 and solution demonstrations without a risk to
14 ratepayers. Within the committee's subgroups, many
15 issues were identified and included in the report.
16 From these issues, the following four common themes
17 were identified with economics leading the way.
18 These are the most important issues affecting
19 microgrid development.

20 Outside of those cases where
21 reliability is paramount, generally improving
22 reliability alone will not make a microgrid
23 economically feasible. There are significant
24 challenges to achieving financial feasibility.
25 Microgrids with significant local generation can

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2 offer the grid, and to the community, values that
3 are not presently monetized. Additionally, market
4 penetration can improve the economics.

5 Distributed energy resource
6 participation in robust markets may improve the
7 feasibility of microgrids. Standby rates and
8 demand charges were designed to reflect the cost to
9 the distribution system. These rates weren't
10 designed to reflect the benefits of distributed
11 energy resources and microgrids to supplement the
12 energy needs of the larger grid.

13 Another factor affecting economic
14 feasibility is the perceived risk by financiers. A
15 microgrid can include fuel cells, solar storage,
16 demand response technology. Those diverse energy
17 assets introduce complexity to assess the value of
18 the microgrid's portfolio energy assets. To
19 financier, complexity increases risks and results
20 in higher finance costs.

21 MR. WALLACE: All aspects of the
22 microgrid development process need to be reexamined
23 holistically. There are elements of New York State
24 Law, market rules, including ISO rules, and utility
25 practices that need to be reexamined to make

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2 microgrid development a win-win, benefiting
3 customers, the utilities, and developers. At this
4 time, microgrids are seen as impediments instead of
5 assets. This must be changed if we are to move
6 forward with the REV objectives of animating robust
7 distribution level markets.

8 Developers have identified
9 uncertainty regarding microgrid interconnection
10 approval procedures which results in increased time
11 and cost. At the -- at the same time, utilities
12 must ensure that the system is safe, secure, and
13 reliable. We think that the microgrid
14 interconnection process should be reexamined with
15 the goal of improving efficiency by reducing the
16 associated time and costs and standardizing
17 procedures where it is reasonable to do so.

18 MR. LEVESQUE: If you read the
19 press, a microgrid may appear to be a panacea, but
20 the truth is a microgrid can malfunction.
21 Participants in a microgrid need to be educated
22 about what it takes to operate a stable microgrid,
23 particularly when it operates in isolation from the
24 larger grid. Microgrid infrastructure can have
25 similar vulnerabilities as grid infrastructure.

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2 Wires can be cut and areas flooded. Expectations
3 and benefits need to be properly set and achieved.

4 MR. WALLACE: I'd like to take a
5 moment to thank all of the members of the working
6 group for their attention -- their attention,
7 patience, and dedication. Without their knowledge
8 and experience, this work would not have been
9 possible. I'd specifically like to thank Mike
10 Rieder and Peggie Neville for their leadership and
11 the co-conveners of this committee, Tom Mimmagh,
12 Andrea Cerbin, my fellow panelist, Walter Levesque.
13 Their support and contributions were essential on
14 this effort.

15 Moving forward, staff needs to
16 continue the work of the committee by addressing
17 the regulatory issues I've mentioned.
18 Specifically, we believe an alternative could be
19 developed through the case-by-case exemption
20 process presently required to develop a
21 multi-customer microgrid.

22 Thank you for your attention and
23 we'd be happy to answer any questions.

24 COMMISSIONER BROWN: Yeah, I want
25 to start out with kind of a technical question. On

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2 the feasibility of the microgrid, but this goes all
3 the way to solar, the feasibility that when the
4 lights go out on the general grid, the ability for
5 the existing microgrid to safely continue
6 operation. I know originally, the original design
7 was if the system went down, usually these
8 distributed generation sources had to shut down in
9 order to maintain the safety of the system.

10 I understand there may be
11 mechanisms or there are mechanisms that allow you
12 to maintain the grid -- microgrid while the larger
13 grid is gone. Is that generally accepted? Is it
14 expensive? What's -- what's the kind of status of
15 those technologies right now?

16 MR. WALLACE: I'll take a shot at
17 that. It can be expensive and standards are in
18 development. And if anyone else would like to add
19 to that?

20 MR. MIMNAGH: So yeah, from --
21 I -- I think one size doesn't fit all. The
22 interconnections are going to be different for many
23 different microgrids. There are cases where the
24 generation that's within the microgrid zone isn't
25 capable of supporting the all of the load in the

2 zone. Technical implications are that the
3 generation that's attempting to support it, when
4 the grid goes down, trips. And so those are the
5 technical components. I'll keep it at a very high
6 level. There are controllers and there are schemes
7 that have to be put in place to see.

8 The closer the load is to the
9 generation, the more you'll have the feasibility.
10 N.Y.U. is a great example. Matt talked about it.
11 When Sandy was coming in, they matched their load
12 to their generation on the what-if. And so when
13 they swapped over, their generation didn't have to
14 see a significant hit. And so one size doesn't fit
15 all, I think is the easiest way to look at it.

16 COMMISSIONER BROWN: But another
17 way of looking at it, the resiliency during
18 blackouts --.

19 CHAIR ZIBELMAN: Very good,
20 Garry.

21 COMMISSIONER BROWN: So what
22 happens is that fairly quickly it goes dark, but it
23 comes back on again.

24 MR. MIMNAGH: Not so easy to come
25 back on, necessarily. And I think that's part of

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2 that controller and the makeup of the generation

3 assets. In some cases, they'll need black star
4 generation to support the controller and the
5 environment of bringing other generation back on.

6 COMMISSIONER BROWN: I'm afraid
7 to ask any more questions.

8 MR. BROOKS: I just want to
9 add -- to add one thing to what he said, is he
10 described New York University which is a single
11 user microgrid with multiple facilities. It gets
12 much more complex when you say it's them plus three
13 other entities that may or may not be able to alter
14 the schedule or to match generation with needs.
15 And so -- so it does become more complex.

16 CHAIR ZIBELMAN: I saw in your --
17 in your literature that one of the things that you
18 said is that having a microgrid controller, that's
19 one of the technologies that you've identified as
20 sort of evolving, as opposed to ready for prime
21 time. Was that what would help?

22 MR. LEVESQUE: It would help.
23 The Department of Energy recently had a financial
24 opportunity announcement for -- called nine nine
25 seven. And what they're attempting to do is fund

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2 four projects -- four to six projects to measure
3 the effectiveness of a microgrid controller, both

4 to keep the system stable for multiple user, to
5 community microgrid that they're actually trying to
6 test, and also to impact and reduce carbon
7 emissions. So they're trying to accomplish both
8 goals, reliability as well as energy
9 sustainability.

10 CHAIR ZIBELMAN: Any further
11 questions for this group?

12 Okay. Great. Thank you and we
13 appreciate all of this. I think -- are we done?

14 A.L.J. STEIN: I'd just like to
15 echo the Chair and Matt's words to thank all the
16 participants, the co-conveners, all the
17 participants of the working group who were the
18 laboring oars that made all of this possible. And
19 I wish you all well. Thank you all for joining us
20 today.

21 CHAIR ZIBELMAN: Thank you.
22 Thank you everybody.

23 (The technical conference
24 adjourned at 3:32 p.m.)
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hereof; that the foregoing typewritten transcription consisting of pages 1 through 263, is a true record of all proceedings had at the hearing.

IN WITNESS WHEREOF, I have hereunto subscribed my name, this the 17th day of July, 2014.

Jamie-Lee Greene, Reporter