

Non-Emitting Resource Subcommittee (NER-SC)

December 7th, 2017

Minutes of Meeting

Date held: December 7 th 2017	Time held: 12:00 - 4:00pm	Location held: Vantage Venues
Company	Name	Attendance Status (A)ttended; (WebEx) attended through WebEx
Alectra Utilities	Carr, Daniel	A
AMP Energy	Luukkonen, Paul	WebEx
APPrO	Butters, David	A
Brookfield	Wu, Julien	WebEx
Bruce Power	Dalzell, Pat	A
Bullfrog Power Inc.	Drygas, Sean	WebEx
CanSIA	Johnston, Wes	A
CanWEA	Giannetta, Brandy	A
Capstone Infrastructure Corporation	Kausel, Andrea	A
Customized Energy Resources	Withrow, David	WebEx
EDF EN Canada	Thornton, David	A
Enbridge	Macrobbie, Ian	WebEx
Energy Storage Canada	Phillips, Patricia	A
Energy Storage Canada	Wright, John	WebEx
EnerNOC, Inc.	Griffiths, Sarah	WebEx
ENGIE Canada Inc.	Langelan, Deborah	A
GE Power	Peever, Scott	WebEx
Great Circle Solar	Wharton, Karen	A
Hydro Quebec	Belanger, Frederic	A
Kruger Energy Inc.	Davis, JJ	A
Ministry of Energy	King, Anna	WebEx
NextEra Energy Canada	Tuck, Jennifer	A
Ontario Citizens' Coalition for Clean Affordable Energy	Fortin, Michel	A
Ontario Power Generation	Wizniak, Lynn	A
Ontario Waterpower Association	Norris, Paul	A
Power Advisory LLC	Blagbrough, Margaret	WebEx

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Public

Non-Emitting Resource Subcommittee

Committee Chair: Tom Chapman

Tom.chapman@ieso.ca

Power Advisory LLC	Chee-Aloy, Jason	A
Power Advisory LLC	Cumming, Alison	WebEx
Powerful Solutions	Inman, Peter	A
Rankin Construction Inc.	Beekhuis, Jordan	A
Rayonier Advanced Materials	Laflamme, Serge	A
Sussex Strategy Group	Hiltz, Bonnie	A
Sussex Strategy Group	Timm, David	A
TransCanada Energy	Ford, Nathan	A
University of Windsor	Carriveau, Rupp	A
University of Windsor	Miller, Lindsay	A
IESO	Chapman, Tom	A
IESO	Ellard, Barbara	A
IESO	Fox, Conrad	A
IESO	Hartland, Mark	A
IESO	King, Ryan	A
IESO	Louw, Brennan	A
IESO	Zhao, Serena	A
Scribe: Mark Hartland Please report any corrections, additions or deletions e-mail to scribe.		

All meeting material is available on the IESO web site at: <http://www.ieso.ca/en/sector-participants/market-renewal/non-emitting-resources-subcommittee>

Introduction

Ryan King of the IESO welcomed stakeholders to the second NER-SC meeting. Stakeholders were given the opportunity to address the subcommittee with any immediate thoughts or concerns before the meeting got underway.

Member Questions and Comments, with the IESO's response in italics:

Rupp Carriveau of the University of Windsor informed the sub-committee that they are currently putting together a network of interested parties to model interconnected energy systems, and offered to present this work at the next meeting.

The IESO thanked Mr. Carriveau for this offer and committed to reach out to learn more of this work and add it to the agenda for a subcommittee meeting in 2018.

Following the introduction, Tom Chapman from the IESO provided an update on some outstanding action items from the previous meeting. Regarding the process for selecting a Co-Chair for the subcommittee; stakeholders were informed that in light of the Auditor General's report, the IESO will be going through an internal review process on the role of Chairs and Co-Chairs. Stakeholders will receive more information on this in early 2018.

At the inaugural NER-SC meeting in November, stakeholders had requested that the IESO provide further details on the projections for the LTEP demand forecast. To address this interest, stakeholders were provided two slides covering the period 2017-2035. The multi-year outlook showed several demand scenarios, ranging from an expected summer peak demand in 2035 from approximately 27,000 MW's to 34,000 MW's. The charts showed that based on the most likely scenarios existing resources currently under contract or rate regulation will meet the majority of Ontario's expected capacity needs during the planning horizon. Upgrades to existing resources could also compete with new entrants, imports and DR to meet Ontario's incremental capacity needs.

Member Questions and Comments, with the IESO's response in italics:

A stakeholder commented that the LTEP demand outlook figures do not appear to align with the three scenarios presented by the IESO. Further to this, the stakeholder asked which of the IESO's scenarios was used as the basis for the LTEP demand outlook.

LTEP 2017 demand outlook has different assumptions embedded in its forecast compared to the 4 outlooks in the Ontario Planning Outlook (OPO), which is why figures will not exactly align.

OPO Outlook B formed the basis for LTEP 2017 outlook; however the major difference between the two forecasts is the assumptions for electric vehicle uptake. LTEP 2017 reflects an accelerated increase in electric vehicles and projects 2.4 million electric vehicles (a load of 8 TWh) by the year 2035 which is consistent with Outlook C and Outlook D in the OPO, however Outlook B has a projection of 1 million electric vehicles (a load of 3 TWh). Other than that, LTEP 2017 demand outlook and OPO outlook B demand forecast are consistent.

A stakeholder asked whether the IESO should also provide charts showing Ontario's energy needs and whether this could influence Ontario's capacity needs.

The IESO responded that, barring major market or policy decisions, existing assets are also likely sufficient to meet Ontario's energy needs. However, under more extreme scenarios, such as a high carbon price, further reductions in use of fossil fuels, or very aggressive electrification of the heating and transportation sectors then there could be an associated impact on the supply mix. Understanding the potential impact of these types of changes is one of the drivers behind the analysis and modelling work the IESO expects to undertake with the NER-SC during Q2, 2018.

A stakeholder asked whether conservation considerations were captured in the IESO's demand forecast.

The IESO confirmed that each of the demand outlook scenarios account for conservation targets.

Terms of Reference

Mark Hartland from the IESO provided an update on the draft Terms of Reference (TOR), which has been published on the IESO website and is available for stakeholder comment. The format of the TOR is similar to the document used for the MRWG with the biggest differences being around the scope and objectives of the NER-SC. Stakeholders were asked to provide written feedback on the TOR by December 21st 2017.

Member Questions and Comments, with the IESO's response in italics:

A stakeholder made a general comment that the wording of the document should be reflective of the language used by the IESO's CEO, Peter Gregg, and that the IESO should consider all options available to meet future needs at lowest cost. A stakeholder followed up by commenting that the scope of the TOR should include out of market options as well as in market options.

The IESO agreed that there is a need to consider the right tool for the job. The recent regulation RFP is one example where the IESO used a competitive procurement to achieve a cost effective outcome. In general terms an open market approach should elicit the greatest competition and the best price for the consumer. However, in some cases (for example if the need is small or is to test new resources) an RFP or other procurement approach may make the most sense. Market Renewal is focused on meeting bulk system energy and capacity needs with market mechanisms which have proven highly effective at delivering cost effective outcomes. The scope of the TOR reflects that reality but does not preclude using all available options if there is sufficient justification to do so. The IESO agreed to add wording to the TOR indicating that the scope of discussion would not be limited to market based mechanisms.

Information Gathering

Tom Chapman discussed the subcommittee's role of gathering information to assist the MRWG with strategic decision making. Together with support from consultants, the NER-SC will seek to better understand the barriers to participation for NERs, the impacts to market efficiency

with a greater number of NERs, and incentive mechanisms that could be considered to deliver on government policy.

Several stakeholders were supportive of using the NER-SC as a forum to gather information, but asked for clarity on the type of information that the IESO will be looking for stakeholders to provide.

The IESO responded that they will be looking to stakeholders to provide information around the technical characteristics of existing or future resources, as well as their operational capabilities.

A stakeholder encouraged other stakeholders from emerging technologies to review the scope and objectives as laid out in the TOR, so as to ensure that their needs will be captured in the subcommittee's research and analysis.

A stakeholder asked if the IESO is looking to acquire this information on a more general basis, or through a formal process.

The IESO informed that information pertaining to barriers to participation, and the potential opportunities for NERs to participate in the future market will be explored further at a proposed Technical Conference in the spring. The Technical Conference will aim to bring together a broader audience to discuss and better understand the characteristics of NERs today, and their role in the future market. The IESO also indicated that other formal means of gathering this feedback would be considered.

Work Plan

Brennan Louw presented stakeholders with a preliminary work plan for 2018, highlighting some of the key discussions envisioned within the subcommittee at subsequent meetings. The work plan itself has been divided into three phases to reflect the scope and objectives laid out in the TOR; barriers to participation, market efficiencies with increased NER's, and commercial mechanisms. Another important element of the work plan is a future markets modelling exercise that will be tasked to a consultant to show the potential role of NERs in Ontario under different scenarios. Finally, an indicative timeline of the work plan was presented, illustrating that the information gathering work of the subcommittee will result in a final technical report for the MRWG in Q3/4 2018.

Member Questions and Comments, with the IESO's response in italics:

A stakeholder asked how the participation, market efficiency, and commercial mechanisms phases of the work plan align with the MR work streams in their HLD's?

The IESO responded that phase 1 (participation) aligns with the Market Renewal work stream HLD's, and will look at the design discussions needed for consideration within the individual stakeholder engagements. Phases 2 and 3 (market efficiency and commercial mechanisms will also move alongside the work of Market Renewal, but are more aligned with future enhancements that can build upon the foundation set by Market Renewal.

Two stakeholders commented that the subcommittee should endeavour to complete the information gathering exercise earlier rather than later, so as to ensure that stakeholder input can be captured in the respective HLD's. One of the stakeholders emphasised that failing to do this could revert in an out of market solution.

The IESO responded that the very first focus area for 2018 will be to look at the most important elements of Market Renewal for NER-SC stakeholder consideration and to help ensure that feedback is received from NERs on a timely basis and through the appropriate forums. Moreover, this will align with the participation phase of information gathering, where any barriers to participation for NERs will be addressed leading up to the technical conference.

A stakeholder asked if the jurisdictional scans proposed in the work plan will all be complete during the first phase of information gathering in Q1.

The IESO informed that there will be a jurisdictional scan at the beginning of each phase of the work plan, meaning that these will be delivered on a cascading basis throughout Q1, Q2 and Q3.

A stakeholder asked if the IESO plans to publish written stakeholder feedback publicly on the IESO's website.

The IESO responded that they do plan on publishing written comments submitted by stakeholders, but will of course seek stakeholder permission before doing so.

Stakeholder Presentation

Jason Chee-Aloy from Power Advisory presented an overview of the challenges markets with a high level of zero marginal cost resources face, as well the areas of the current Market Renewal initiatives that could benefit from further discussion with the non-emitting community.

To examine the challenges faced by markets, Mr. Chee-Aloy began by presenting an outlook for ISOs and RTOs across the US and Alberta. It was noted that the jurisdictions highlighted in the presentation continue to be dominated by emitting resources such as gas, despite the large influx of grid connected wind and solar in recent years. Mr. Chee-Aloy indicated that markets in the east have operated on the basis of open, competitive wholesale markets, whereas markets further west have relied on an independent power producer (IPP) model, integrating across large utilities. Whichever market structure they have in place, there are common challenges across the ISOs and RTOs such as flexibility, with jurisdictions taking different approaches to address this, from introducing ramping products in CAISO and MISO, to increasing headroom in PJM.

In addition to the jurisdictional scan, Power Advisory discussed some of the potential barriers for NERs in the current Market Renewal design. On Capacity they spoke of the intermittent nature of NERs and stressed the importance of reviewing the length of commitment periods and how capacity is calculated. With regards to Energy, Chee-Aloy identified a number of potential barriers ranging from the market rules, a lack of definition on the multiple attributes

of NERs, resources in zones that may be fuel constrained, to properly integrating intermittent resources to provide system flexibility.

Tom Chapman noted as an aside that in working through solutions, the IESO and stakeholders should be mindful of the cost to the ratepayers.

Member Questions and Comments, with Power Advisory/IESO response in italics:

A stakeholder asked Power Advisory if they see any trends in terms of Demand Response and how they are able to participate in other markets.

Power Advisory informed that the attributes of Demand Response would need to be further explored to relate this back to what the system needs.

Tom Chapman from the IESO asked Power Advisory whether they are aware of any low hanging fruit in terms of market development from other jurisdictions.

Power Advisory commented that it's still too soon to tell, however, other markets are looking at the types of resources that could potentially provide ancillary services and are more flexible with how to acquire these ancillary services.

A stakeholder commented that it would be valuable to the subcommittee if there was an efficient way to capture discussions from other jurisdictions on integrating NERs.

The IESO informed that we will be providing information from jurisdictional scans and will consider the best approach to sharing this information.

A stakeholder commented that the future is happening at the DER level and that the subcommittee should explore how to integrate DERs in the market design.

Power Advisory replied that we should begin by looking at the definition of DERs and examine whether this resource type should participate in the wholesale market. One of the questions to be answered is; what products can DERs potentially provide to the market?

Another stakeholder asked Power Advisory if other jurisdictions have looked at how DERs can participate in their wholesale and capacity markets?

Power Advisory replied that this has begun to occur to an extent. The NYISO is an example of a jurisdiction that has looked into this with pricing these resource types as LMP + Distribution.

A stakeholder asked the IESO whether it is contemplating an increased amount of residential solar, and whether this falls within the scope of Market Renewal.

The IESO replied that it is trying to focus on clearly and accurately identifying the products and services that the system needs. The IESO is focused on ensuring that Market Renewal does not include any unnecessary barriers to participation so that residential solar and other emerging technologies can compete with other resources to provide what the system needs at lowest cost to the consumer. Through the work of the NER-SC the IESO hopes to better understand what these barriers and challenges might be