

Minutes of Meeting

Date held: June 3, 2014	Time held: 9:00am – 12:00pm	Location held: IESO Mississauga Location
Invited/Attended	Company Name	Attendance Status (A)ttended; (R)egrets; (S)ubstitute
Gnanam, Bala	BOMA Toronto	R
Loughren, Chris	Bruce Power Direct	A
Morris, Richard	City of Toronto	A
Lambert, John	Eco-Shift Power	A
Dizy, Ron	Enbala	A
Pieniasek, Marie	Energy Curtailment Specialists	R
Hausle, Kyle	Energy Curtailment Specialists	A
Griffiths, Sarah	EnerNOC, Inc.	A
Forsyth, David	Gerdau Long Steel North America	A
Katsuras, George	Hydro One Networks	A
Roberts, Dan	Hydro Ottawa	A
Northey, Mark	Loblaw Companies Limited	A
Lundhild, Evelyn	Ontario Power Authority	A
Bourdages, Alain	Resolute Forest Products	A
Shervill, Paul	Rodan Energy Solutions Inc.	A
Goddard, Rick	Rodan Energy Solutions Inc.	A
Beaver, Chris	Sheridan College	A
Laflamme, Serge	Tembec	A
Marchant, Michael	Toronto Hydro Electric System Limited	S
Ford, Richard	Toronto Hydro Electric System Limited	A
Bruno, Juliana	IESO	A
Drake, Gordon	IESO	A
Duru, Josh	IESO	A
Hilbig-Wright, Rhonda	IESO	A
Iqbal, Haris	IESO	A
King, Ryan	IESO	A
Kwok, Jason	IESO	A
Murray, Patricia	IESO	A

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Observers		
Newton, Mark	Bidgely, Inc.	TC
Villegas, Gabriel	Bruce Power	TC
Chintapalli, Raj	Customized Energy Solutions	TC
Black, Peter	Honeywell Smart Grid Solutions	TC
L'heureux, Matthew	EnerNOC, Inc.	A
Plante, Matthieu	HQ Energy Marketing	TC
Chen, Simon	Ontario Power Authority	A
Peterson, David	Ontario Power Generation	TC
Springgay, Guy	Springgay & Associates	TC
Scribe: Juliana Bruno, Market Development		
Please report any corrections, additions or deletions by email to: stakeholder.engagement@ieso.ca .		

All meeting material is available on the IESO web site at: www.ieso.ca/drwg

Meeting Objective:

The objective of the Working Group (WG) session is to provide updates to the group as well as facilitate discussion about DR3 program rules and the framework for market integration. It will also provide the WG with a report on findings from the first Pilot Group Sub-Committee meeting with an opportunity for feedback.

Item 1 Session Overview

Ryan King of the IESO provided a session overview. He noted that the DRWG will continue as a forum for discussion and learning as well as an arena for feedback on DR framework, design, transition, auction and pilots. The overview indicated that the high level auction design will transition into a larger stakeholder engagement. Members of the Working Group were asked to submit feedback to Stakeholder Engagement in advance of the next public session in early July.

Item 2 Update on DR3 Integration

Gordon Drake of the IESO provided a verbal update on the status of the DR3 integration which went into service on June 1, 2014 for a first potential curtailment date of June 2. The trigger, as described in the IESO Action Item Response – DR3 Triggers posted on the DRWG page – is a \$200/MWh market price persisting for four consecutive hours. IESO market tools are now determining pre-dispatch schedules and shadow prices for each of the aggregated DR3 resources. The pre-dispatch shadow price report is

published on the IESO reports site. A dedicated DR 3 report is still to come which will indicate how resources are scheduled on a megawatt (MW) basis in each run of pre-dispatch.

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

A Member asked when the IESO expects the dedicated DR3 report to be public. *The goal is later in 2014, but the actual in-service date for the report will depend on vendor availability. The IESO plans to bring the proposed style of the report to the DRWG for comment, from there it will proceed to the pending changes process which will provide opportunity for broader stakeholder comment. There are also plans to provide sample report files to those who regularly scrape data from the IESO reports site.*

Item 3 Updated Schedule for Market Rules Transition

Josh Duru of the IESO presented an updated schedule for the Market Rules transition. The timelines for Stream 1 and Stream 2, as they correspond to Technical Panel (TP) and IESO Board meetings, was explained. Reference was also made to some of the activities that have taken place to date as well as what is planned moving forward. Josh noted that the timelines indicated in the material are subject to change based on stakeholder consultation. Added to the market rules impacts will be the potential need for a new class of market participant to register DR resources. Design considerations will be discussed in the Working Group consultation process prior to being brought before the TP such as measurement & verification (M&V), baseline methodologies, DR compliance, and considerations that the IESO has identified internally. There will also be opportunity for the broader stakeholder group to offer feedback on items that are posted for comment.

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

A member asked the IESO to provide highlights from the first presentation made to the TP. *The first TP presentation sought to expand on the two streams that Josh Duru spoke about. The TP has indicated their continued support for the DRWG stakeholder effort and urged the IESO to continue to effectively leverage the DRWG. Using the group effectively to inform all rule development and to address relevant issues before bringing them back to the TP was highly encouraged.*

A member asked how to best think of the scope of the rule changes for capacity-based demand response? *The IESO responded that capacity-based demand response is similar to how the DR program is operated currently – essentially capacity demand response is the effort to translate the DR3 program into IESO market rules.*

A member asked the IESO to clarify how the capacity-based DR stream of work differed from the compensation under the DR auction rules. *The IESO responded by indicating that the Auction will have a*

broader mandate – it will provide a revenue stream similar to what a capacity market may provide. The intent of the auction is to allow for the recovery of costs to make capacity available for a variety of services which are delivered through the energy market. The auction could procure resources beyond just traditional capacity-based DR, with such resources delivering their services into load-following or more efficient unit commitment in the energy market.

Item 4 Update on Market Rules for Pilot Programs

Gordon Drake introduced the members of the pilot sub-committee and provided an update on Market Rules for pilot programs. The three areas of pilot group exploration (More Efficient Unit Commitment, Load Following, and Surplus Baseload Generation) were summarized for the WG. It was indicated that the IESO's primary effort will be to enable the development and administration of pilot programs in the IESO administered market through market rule amendments. The IESO currently has existing market rules which address the same areas being explored through pilots but DR resources may require exemptions from specific market rules that could be barriers to their participation. After initial experience with the operation of the pilot programs and as pilot efforts continue to progress through the WG and subsequently through broader stakeholder consultation, increased focus will be placed on enduring pilot program design rules. Currently, the Market Rules do not allow for an availability payment stream for pilot programs.

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

A member asked for clarification regarding how the market rule work 'stream' for pilots compares to Stream 1 and 2 described earlier by Josh Duru and if pilot programs would be progressing along the same timeline as stream 1. *The IESO responded that the market rules required in order to enable pilots will occur in parallel to stream 1 as the pilots seek to explore what types of different energy services can be delivered beyond capacity DR. It is best to consider the pilots as a distinct stream of work that will move along the same timeline as stream 1.*

Item 5 Report on Discussion from May 8 Pilot Sub-Committee meeting

Ron Dizey of Enbala, on behalf of the members of the Pilot Sub-committee, presented a summary of the discussion and findings of the May 8 sub-committee meeting with opportunity for WG comment. Discussions from each of the three areas of focus were explained to the WG and can be found in the presentation on the DRWG page.

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

A member asked if the recent Storage RFP and the potential Load Following pilot program are totally separate items. *Yes – pilot programs for Load Following services is totally separate.*

Item 6 Pilot Program – Design Considerations

Rhonda Wright-Hilbig of the IESO explained the two phases of the pilot program in greater detail. She highlighted that in order to effectively incentivize load participation in pilot programs, there will likely need to be an availability payment. Currently, the IESO does not have a set of Market Rules to allow for such an availability payment to demand response providers, so this will need review. Phases of pilot program design consideration were separated into Phase 1 and Phase 2.

- Phase 1: The IESO will work with stakeholders, including the Technical Panel, to develop rules to allow availability payments
- Phase 2: The IESO will work with stakeholders will identify barriers and how to effectively manage them through exemption processes

Designing pilot programs in a manner that minimizes the activity of long term changes to Market Rules is crucial.

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

A member asked about the time horizon for pilots. *The IESO responded that a pilot needs to run long enough for loads to recover the costs associated with the investments they have made to be able to participate in the pilot programs and also long enough for the IESO and WG to undertake sufficient learning capability from the results of the pilots.*

Item 7 DR M&V and Baseline

Juliana Bruno of the IESO presented measurement & verification (M&V) and the baseline methodology under the current DR3 program. Best practices in neighboring jurisdictions and industry standards were also explored. Emphasis was placed on exploring evaluation of the current program and collecting feedback from Working Group members on perceived barriers as well as identified areas of program improvement.

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

A member asked why meter registration and the accuracy of meter data were left out of the presentation. *The IESO responded that the presentation sought to summarize key points from the DR3 program rules and that the technical data surrounding meters is readily available in the DR3 program rules.*

Discussion question posed by the IESO: What are some other known or perceived barriers in the areas of M&V Plans and/or Meter Data submission requirements?

A member commented that allowing for automated validation, with timely feedback, for meter data submissions would be helpful for aggregators. The member also commented that for aggregators with an immense amount of data streams it would be optimal if current timelines for weekly meter data submission were relaxed. *If aggregators or other WG members feel that timelines may be improved, then there is certainly an ability to review this process. Though all changes may not occur at the beginning of the program, broad improvements will certainly be prioritized.*

Working group members presented feedback regarding their experience with meter data submission timelines and penalties resulting from improper submission. The consensus among the WG was that relaxing these rules would allow more flexibility for submission efficiency and lead to fewer mistakes.

A member commented that a reference document to all for uniformity of meter data submissions from the IESO would be a good aid for aggregators. *The IESO noted this as a potential area for improvement.*

A member asked if the IESO is able to obtain meter data directly using the MDMR. *Only a subset of meter data is available through the MDMR. In addition, barriers exist which prevent the Smart Metering Entry from sharing data directly with the IESO. All meter data is not readily available in one place. The IESO and the Smart Metering Entity are two separate entities so approval and memorandums for the IESO to access the meter data will likely take time.*

Discussion Question posed by the IESO: Are there any perceived limitations and/or potential efficiencies to be gained from adopting the 10 of 10 baseline methodology?

A member responded that implementing a more accurate baseline (such as the 10 of 10) may limit the size of DR resource participation especially from smaller and industrial resources with operational decisions to make.

Another member commented that efficiency should be maximized and that it is important to balance baseline methodology with compliance rules and penalties. The member indicated that there may be the potential to realize efficiencies from altering the baseline if that change is accompanied by relaxed compliance penalties. The member also commented that having a clear definition of exclusion rules would be needed as the 10 of 10 baseline could create problems for Global Adjustment Class A customers.

The IESO thanked WG members for their feedback and stated that M&V and DR compliance are areas where the IESO can learn how to correlate the expectations of DR resources and supply resources.

Discussion Question posed by the IESO: What have your experiences been with baselines in other jurisdictions?

A member responded that in ISO NE the complex baseline has been viewed as an entry barrier by some customers. The member also commented that refining the baseline to achieve greater accuracy should be secondary to incentivizing greater participation and new entrants. Furthermore, the member commented that they have had favorable experience with the flexibility offered by the High 5 of 10 baseline in NYISO.

The consensus among members was that the baseline calculation needs to be reasonable, simple, flexible and consistent because DR is not the primary business for end customers. Members also motioned that flexible baseline calculations may minimize the amount of penalties that aggregators pass on to their customers.

A member commented that customers who participate in different programs such as GAM High 5 do not always make the connection between how baseline calculations and high five peak days may interact. Exclusion rules should be designed in a way that considers these types of scenarios so that customers are not penalized in one program by participating in another.

A member commented that it seems the common theme from feedback is finding the right balance between flexibility and accuracy. It is also important to consider customer's needs when DR baseline methodologies are chosen or constructed. *The IESO commented that managing participant concerns and expectations will allow for effective baseline management.*

Members were asked to submit any further feedback to stakeholder.engagement@ieso.ca.

Item 8 DR Compliance

Jason Kwok of the IESO presented Compliance in the current DR program. Steps of the DR process as outlined in the DR3 program rules were explained along with calculations for compensation and set-off penalties. Though compliance is currently evaluated at the Settlement Account level, the IESO is investigating the possibility of aggregating compliance evaluation to a zonal level. In regards to compliance for meter data submissions the IESO indicated a willingness to discuss and evaluate submission method, timing and granularity requirements. The timeframe for this is not currently defined but proposals will be brought to the Working Group following internal discussion and analysis.

Note: At the meeting, a member commented that slide 12 of the DR Compliance presentation should be 90% rather than 95% for the low confirmation threshold – upon investigation the IESO confirms that 95% is correct as per the original presentation.

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

A member commented that they feel there is area for improvement surrounding Performance Breach calculations – moving away from a calendar YTD to a rolling date calculation would be optimal. The member also indicated that under the current program rules that the future availability payment that is withheld as a result of a Performance Breach unfairly penalizes participants that may have not been part of the program at the time the Performance Breach occurred. The member felt that this framework penalizes participants in a month that could be increasingly more profitable than the month in which their performance breach occurred.

A member commented that it would be helpful if the IESO could provide a template for both M&V Plans and meter data submissions.

Members were asked to submit feedback to stakeholder.engagement@ieso.ca.

Item 9 High Level Auction Design

Gordon Drake presented the high level auction design considerations. It was also indicated that the design of the DR auction will be brought to a separate stakeholder engagement. The key design areas were outlined and potential foundational issues were highlighted. In regards to the planning horizon it was noted that there is concern that too short a time frame may inhibit competition and new entrants or technology. When discussing the commitment period for the auction it was acknowledged that there may be a trade-off between raising cost by introducing risk and ensuring the commitment period is short

enough to be flexible in responding to changing system conditions. The WG members were asked to offer feedback on the design considerations.

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

A member commented that in other ISO's there is a long term auction plus a reconfiguration auction. Fundamentally, participants may have to decide what their actual bidding power is either based on a sales plan (requires a longer time period) or based on the requirement to register in order to have MW approved (shorter time period needed).

A member asked if the IESO plans to consider the targets in the Long Term Energy Plan (LTEP) in coordination with assessment of resource delivery. *The yearly reviews will consider the 2025 target outlined in the LTEP. The yearly reviews should inform how the procurement of the auction targets is staged. The auction should be able to have the foresight of those yearly reviews and how to appropriately ramp up to meet the LTEP target over the next ten years. As an example – assume a 1 year commitment period. When moving into the 2016 auction, the MW that would have been procured would then be added to any expiring DR contracts until the 500MW procurement target is competitively met, with any additional MW being added.*

A member asked if a participant would be banned from participating in the market if they are unsuccessful in the auction. *If a resource does not clear in the auction they would not receive the revenue stream from the auction but they can still participate in the real time energy market.*

A member asked about assigning capacity to DR resources and who will be responsible for this. *The IESO will establish the process for assessing planned resources and will provide the metrics for assessing existing resources – this process will likely be investigated in line with stakeholder consultation on the DR auction.*

A member commented that in the PJM market there is a formal process for Curtailment Service Providers (CSP's and the IESO will need to consider whether or not to allow resources to register with different CSP's for different services. *The IESO responded that the relationship between resources and market participants will be an important consideration in the registration and pre-qualification process.*

A member asked if there will be consideration given to customers that are not fully registered but are still able to deliver by the delivery date. *Prequalification requirements and processes will need to consider the lead times involved.*

A member commented that the longer the planning horizon and commitment period, the more risk they (a direct participant) will be taking on as industry conditions may change over the time between the auction and the commitment period. *The IESO wants to ensure that the selection of the planning horizon and commitment period are suitable for both aggregated and direct participation and that the selection of these timeframes does not reduce the participation incentive for a specific resource type.*

A member asked if the participant requirements and prudential obligations will be tied to existing IESO prudential requirements. *The IESO responded that it would be through existing IESO methods and that there are no plans to create a new prudential assessment process.*

The IESO commented that some of the qualifications detailed in the presentation may change depending on analysis of resource capability and existing facilities – registering facilities for the auction will be a different process than registering a facility for the energy market.

A member posed concerns regarding monitoring, compliance, penalties and mitigation and asked how these would be handled in the auction. *There is an expectation that offer quantity is reflective of opportunity costs. Even if a DR resource offers a very high price, but remains in the bid stack, then they are still available for dispatch should the system require them to reduce consumption. It is expected that participants offering into this auction will have an understanding of where they would place in the stack and how that might translate into the frequency of their dispatch within the energy market.*

A member asked what kind of reporting will be provided to ensure market transparency. *The IESO responded that the reports will be coming through the stakeholder engagement process.*

A member commented that the auction should allow for residential resources. *The IESO noted this comment for consideration.*

Item 10 Other Business

Ryan King of the IESO concluded the session by thanking WG members and announcing that the next session will be a public session and will take place in the beginning of July. WG members were encouraged to submit feedback in writing by email to stakeholder.engagement@ieso.ca.