

# Energy Work Stream – Stakeholder Engagement Sessions

May 23 & 24, 2018

## Minutes of Meeting

<b>Dates held:</b> May 23 & 24, 2018	<b>Time held:</b> 9:00am – 3:00pm on both May 23 & May 24	<b>Location:</b> Crowne Plaza, Toronto International Airport
<b>Company</b>	<b>Name</b>	<b>Attendance Status</b> (A) Attended; (WebEx) Attended via WebEx
ADG Group Inc.	Cai, David	A
AMPCO	Anderson, Colin	A
AMP	Luukkonen, Paul	WebEx
APPrO	Butters, David	A
Blakes	Wong, Sharon	WebEx
Bruce Power	Xu, Jennifer	A
CanWEA	Giannetta, Brandy	WebEx
Capital Power	Robb, Colin	A
CC&L Infrastructure	Woomert, John	WebEx
Customized Energy Solutions	Withrow, David	WebEx
Emera Energy	Ferguson, David	A
Enbridge	Kemp, Heather	A
Glencore	Passi, Mark	WebEx
Goreway Power Station	Sutherland, Chris	A
HQEM	Belanger, Frederic	WebEx
Hydromega Services	Boily, Jacques	WebEx
Invenergy	Kampendahl, Kristian	WebEx
London Hydro	Munt, Lisa	WebEx
Mag Energy Solutions	Bordeleau, Patricia	WebEx
Mag Energy Solutions	Gros, Philippe	WebEx
Mag Energy Solutions	Pelletier, Simon	WebEx
Mag Energy Solutions	Viger, Louis-Philippe	WebEx
Mag Energy Solutions	Villeneuve, Alexandre	WebEx
Manitoba Hydro	Wells, David	WebEx
Market Surveillance Panel	Shalaby, Amir	A
Ministry of Energy	Freeman, David	WebEx
Ministry of Energy	Qureshi, Musab	A
Ministry of Energy	Zerek, Peter	A
Nalcor Energy Marketing	Martin, David	WebEx
Nexus Energy Inc.	Tang, Alvin	WebEx
Nexus Energy Inc.	Tardif, Francois	WebEx
Northland Power	Samant, Sushil	A
OMA Energy & De Beers Group	Shields, George	WebEx
OATI	Ejebe, Gabriel	WebEx

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Ontario Citizens' Coalition for Clean Affordable Energy	Fortin, Michel	A
Ontario Energy Board	Brown, David	A
Ontario Mining Association	Brownlee, Cheryl	WebEx
Ontario Power Generation	Cheung, Erica	WebEx
Ontario Power Generation	Harrison, Ken	A
Ontario Power Generation	Van, Sam	WebEx
Ontario Power Generation	Wizniak, Lynn	A
Power Advisory LLC	Cumming, Alison	A
Power Advisory LLC	Lusney, Travis	A
Power Advisory LLC	Simmons, Sarah	A
Power Consumer	Jagt, Mandy	A
Powerful Solutions	Inman, Peter	A
PwC	Strapp, James	WebEx
Rankin Renewable Power	Beekhuis, Jordan	WebEx
RCAI	Cary, Robert	WebEx
Resolute Forest Products	Degelman, Cara	WebEx
S&P Global Platts	Watson, Mark	WebEx
Sussex Energy	Hiltz, Bonnie	WebEx
TransAlta	Nguyen, Thanh	WebEx
TransCanada Energy Ltd.	Kuntz, Margaret	A
TransCanada Energy Ltd.	Luthra, Amit	WebEx
TransCanada Energy Ltd.	Van Norman, Tom	A
TransCanada Energy Ltd.	Vasquez, Noralyn	WebEx
Workbench	Jayapalan, Jennifer	WebEx
Workbench	Sears, Heather	A
FTI	Harvey, Scott	A
FTI	Pope, Susan	A
IESO	Ellard, Barbara	A
IESO	Gojmerac, Mark	A
IESO	Grbavac, Jason	A
IESO	Kamstra, Pat	A
IESO	Louw, Brennan	A
IESO	Matsugu, Darren	A
IESO	Movchovitch, Emanuel	A
IESO	Scratch, Jonathan	A
IESO	Versteeg, Peter	A
Prepared by Peter Versteeg, please report any corrections, additions or deletions by e-mail to <a href="mailto:engagement@ieso.ca">engagement@ieso.ca</a>		

All meeting materials are available on the IESO web site at: <http://www.ieso.ca/en/sector-participants/market-renewal/>

## **May 23 Sessions**

### **Introduction, Review of Meeting Objectives – Jason Grbavac, IESO**

The IESO welcomed participants and introduced the first session's presenter – Jonathan Scratch.

### **Single Schedule Market (SSM) Design Elements Discussion - Jonathan Scratch, IESO**

The IESO outlined the day's agenda and objectives and reviewed the work plan for Single Schedule Market stakeholdering. The IESO then led stakeholders through a discussion of Energy Price - Loss Component, Congestion Rents and Loss Residual, and Uplift, as well as the preliminary decisions for these design elements.

A participant asked if the preliminary decision to use dynamic loss factors to calculate losses would impact tie-breaking for variable generators.

*The IESO replied that locational marginal pricing (LMP) will be affected by losses and therefore overall rules for tie-breaking could be re-visited once LMP is in place.*

A participant asked if loads would (on average) pay the average monthly uniform price after all residuals had been paid out through zonal disbursements, and if different loads within a zone would get paid different amounts.

*The IESO clarified that after residuals had been paid out loads would (on average) pay the average monthly uniform price, and that loads within a zone could pay different amounts depending on their consumption.*

A participant asked if some loads would be worse off than they would have been under the uniform price despite the presence of residuals.

*The IESO explained that under a single schedule market it expects all loads to be better off compared to the existing two schedule system. Within the single schedule market, some loads will see a price higher than the uniform single schedule market average price and residuals will be used to mitigate this to the extent possible.*

A participant asked if the IESO could produce sensitivity analysis that showed that all consumers would be better off with the single schedule system compared to the two schedule system.

*The IESO responded that further analysis would be completed, and targeted the July timeframe to bring this work back to the group. The analysis will also demonstrate the mechanics of the residual framework.*

A participant asked if the prices shown on slide 33 were the Hourly Ontario Energy Price (HOEP). The participant also asked if the average price shown was expected to be different than the current price, and if it included global adjustment.

*The IESO clarified that the SSM uniform price was the average price at every generator location at each interval averaged over the month including the cost of congestion. HOEP does not include congestion prices which are dealt with separately using uplift payments. Based on previous analysis, the SSM uniform price would be lower than the current average HOEP plus Congestion Management Settlement Credits (CMSC) plus losses. The IESO further clarified that global adjustment is distinct from the price of energy. It is not part of HOEP today and would not be included in the SSM uniform price in the future.*

A participant observed that the need to preserve marginal incentives was at odds with the need to mitigate increases in price, and asked what criteria the IESO is using to decide which is more important.

*The IESO responded that preserving marginal incentives and mitigating price increases can be accomplished through two discrete design choices. The first design choice, intended to preserve marginal incentives, was to distribute residuals on a monthly basis whereby the overall incentive is not directly tied to an outcome on any given day or hour. The second design choice, intended to prevent specific loads from being adversely impacted by higher prices, was to use in-zone proportional disbursement.*

A participant commented that when the idea of residual disbursement as a mitigation strategy was first introduced, one of the options was that it would be an interim measure with the ultimate goal of pursuing internal financial transmission rights. The participant asked if residual disbursement would be temporary or permanent.

*The IESO responded that no decision has been made at this time and that the IESO is still looking for and welcomes feedback and further discussion on this option.*

### **Constraint Violations Discussion – Susan Pope, FTI**

The IESO led stakeholders through a discussion of Constraint Violations based on a scan of approaches used in other jurisdictions, and noted that penalty prices are typically used for operational considerations and are not necessarily sent to the market.

## **Market Power Mitigation Economic Withholding and Other Mitigation Considerations - Jonathan Scratch, IESO**

The IESO introduced the agenda for this section and led stakeholders through a discussion of the Market Power Mitigation framework. This included considerations for Economic Withholding such as Cost-based Reference Levels and Global Market Power Mitigation, and Other Mitigation considerations such as Uneconomic Production and Uncompetitive Interties.

A participant asked if imports could be subject to market power mitigation rules and, if not, whether Ontario resources would be at a competitive disadvantage. An example was discussed where a resource outside the Province was under a contract that incentivized a low import offer price into the Ontario market.

*FTI commented that it is standard practice in other jurisdictions not to apply market power mitigation rules to importers as this could be seen as a protectionist measure for Ontario suppliers. High price imports could set the market clearing price which would not be a disadvantage for Ontario suppliers.*

*The IESO replied it would review and consider how an outside resource that was incentivized to offer low into the Ontario market would fit into the market power mitigation framework.*

A participant asked about a point on slide 31 that indicates that ISO-NE does not currently mitigate uneconomic production, explaining that the market monitor in that jurisdiction may serve this function.

*FTI replied that uneconomic mitigation rules often depend on the price floor in specific jurisdictions. ISOs that have large negative price floors have historically also had uneconomic production mitigation measures. ISOs that have recently lowered their price floors have also begun considering mitigating uneconomic production.*

A participant asked if an exporter or an importer would be setting the LMP in the example on slide 40.

*The IESO clarified that since this is an uncompetitive intertie it presupposes that no exporters are available, therefore in this case the importer sets the price.*

## **Market Power Mitigation Physical Withholding – Mark Gojmerac, IESO**

The IESO led stakeholders through a discussion of considerations for Reference Quantities, and summarized and provided next steps in the Market Power Mitigation framework.

A participant asked if self-scheduling resources have an Availability Declaration Envelope (ADE) even though they do not put in price-quantity pairs.

*The IESO noted that self-schedulers receive an ADE for quantities they submit into the existing day-ahead commitment process (DACP) but are not prohibited from increasing their ADE in real-time like dispatchable resources are.*

A participant asked how a resource that offered part of their capacity into the Day-Ahead Market (DAM) would be assessed for physical withholding if they had no operating restrictions and did not offer additional capacity in Real-Time (RT).

*The IESO responded that the Market Participant would be investigated for physical withholding if offering less than their available capacity caused a material impact on prices.*

### **Day-Ahead Market Design Elements – Mark Gojmerac, IESO**

The IESO led stakeholders through a discussion of several design elements including Supply Participation: Variable Generation, Virtual Transactions, Optimization for ELRs, Submission and Posting Deadlines, Make Whole Payments, and Uplift Recovery.

A participant asked if the must-offer obligation requiring variable generators to bid into the DAM in order to participate in RT was consistent with other jurisdictions.

*The IESO responded that most jurisdictions only require variable generators to offer into the DAM if they have a capacity obligation.*

A participant asked if virtual transactions would be implemented to coincide with the DAM in-service date.

*The IESO responded that the in-service date for virtual transactions is currently being considered and a preliminary decision will be brought forward at the meeting.*

A participant asked how variable generators exposed to two settlement and responsible for their own forecast quantities into the DAM supports competition. The participant was concerned that offer strategies could be limited by market power mitigation measures against economic and physical withholding.

*The IESO responded that variable resources are in the best position to determine how they want to participate in the DAM to compete against other resources and maximize revenues. With respect to market power mitigation, it is not the intent of the IESO to mitigate offer strategies unless the generator has market power.*

Another participant raised the concern that variable generators would have to consider market power mitigation measures as risks outside of their control in developing their offer strategies, and asked for a broader discussion on allocation of these risks.

*The IESO asked participants to provide comments related to these risks so that it can better understand whether the concerns are design related or simply require greater clarification on how the design decisions impact variable resource participation.*

A participant asked about the primary purpose for virtual transactions, if they were seen as useful for arbitrage between the DAM and RT market, and why they were necessary.

*The IESO responded that the primary benefit from virtual transactions is that they can help provide price convergence and noted that a primer on virtual transactions is available on the Market Renewal Stakeholder Engagement webpage.*

A participant asked for an example of why an underbidding strategy might be valid for an LSE or other Market Participant.

*The IESO responded that a load might want to avoid the risk of paying too much in the DAM and so will leave a small portion of their load exposed to RT price volatility.*

## **May 24 Sessions**

### **Introduction, Review of Meeting Objectives – Jason Grbavac, IESO**

The IESO welcomed participants and introduced the first session's presenter – Pat Kamstra

### **Enhanced Real-Time Unit Commitment (ERUC) Discussion – Pat Kamstra, IESO**

The IESO introduced the agenda and objectives of the meeting and led stakeholders through a discussion of preliminary decisions on several design elements within the ERUC framework including Intertie Transactions, Market Participant Data, Offer Changes, Binding Start-up Instruction and Operational Constraint, and Calculation of Make-Whole Payments.

A participant asked if a NQS generator would be compensated under the real-time make-whole payment if it failed to synchronize before the start of its commitment period and was, therefore, ineligible for the cost guarantee. Another participant noted that settlements would depend on whether the unit was committed DA or Pre-Dispatch (PD).

*The IESO responded that it would review and provide answers to both scenarios where the generator had a DAM schedule or a PD commitment.*

A participant asked when notification that a resource will be manually constrained for reliability would occur as this could have operational impacts, for example, if the unit was already shutting down. Another participant asked how cost recovery would be assessed if a reliability commitment extended a generator past the Minimum Generation Block Run-Time

(MGBRT) period, and whether the generator would be able to amend their offer price to reflect changes in costs.

*The IESO replied that it would review notification timing and cost recovery for when a resource is manually constrained for a reliability commitment that extends a PD commitment, also considering the shutdown process.*

## **Market Renewal Intertie Trading Examples – Jonathan Scratch, IESO**

The IESO introduced the agenda for the meeting and led stakeholders through several basic intertie trading examples covering imports and exports in DAM, DA intertie congestion and Financial Transmission Rights (FTRs), and Real-Time Import Offer Guarantees (RT-IOGs) and PD intertie congestion.

A participant asked how often interties historically have been congested and if there was data on differences between DAM and RT. The participant also asked if virtual transactions could be incorporated into the examples provided.

*The IESO replied that it would review if data are available on different congestion patterns between the RT and the DAM. The IESO will also consider how virtual transactions could be included in the examples.*

A participant asked about the potential impact of floor and ceiling price caps at a congested intertie impacting long-term competition in the RT market at that intertie.

*FTI replied that the intertie congestion price recommendation should improve competition at the intertie in the long-term as this recommendation preserves incentives for bids to reflect costs.*

A participant asked if external generators who are scheduled in PD should benefit if the intertie settlement price goes up in RT. The current intertie congestion price recommendation is that the intertie settlement price will be the lower of the intertie price in RT or PD if import congested.

*FTI replied that the intertie congestion price recommendation always takes the lowest cost supply for imports which keeps the congested intertie price consistent with incremental costs. There could be many offers at a congested intertie and it is not economically efficient to pay an importer a higher RT price when there are multiple lower offers in PD.*

*The IESO responded that it will engage in further discussion and clarification on the intertie congestion price recommendation between interested participants, and that the results of this discussion will be communicated to the larger group.*



## **Market Renewal Two Settlement and Make-Whole Design Scenarios – Mark Gojmerac, IESO**

The IESO led stakeholders through several settlement topics for internal suppliers and loads that have been discussed individually in the SSM, ERUC, and DAM stakeholder engagements.

A participant commented on slide 14 that the two-settlement mechanics for operating reserve activated in RT appear to penalize resources for providing value to the system. The participant observed that given the mechanics presented, the resource would have been better off if they had provided only energy and not operating reserve.

*FTI responded that this scenario only reflects revenue, and that if costs were included it would show a more complete picture of the impacts of these mechanics on the net profit of the resource. FTI further commented that the prices used in this example reflect only one of many possible outcomes in the market.*

*The IESO replied that it would expand the scenario further to include production costs and net profit examples to better show how the mechanics would typically make the resource better off.*

## **Market Renewal Two Settlement and Make-Whole Design Scenarios – Pat Kamstra, IESO**

The IESO continued discussion on settlement topics for internal suppliers and loads that have been discussed individually in the SSM, ERUC, and DAM stakeholder engagements.

A participant asked why start-up costs had not been included as part of the make-whole payment on slide 46, where pre-dispatch extends commitment before and after a DAM schedule.

*Editor's Note: As-offered start-up costs are considered in the assessment of the DAM make-whole payment when there is a DAM schedule.*

*The IESO noted that there are still some decisions to be made regarding how ramp up MWs will be handled. The IESO plans to provide additional information at the next Stakeholder Engagement session.*

A participant raised a concern about issues that could arise when using a pseudo unit model and translating joint optimization advisory and binding schedules to physical units. The participant cited a specific example where a pseudo unit that holds a gas and steam turbine is divided into two physical units for energy and operating reserve, and the values for the steam turbine are not accurate.

*The IESO responded that it would take note of this concern and the example cited, and consider where this should be further addressed.*

*Editor's note: Further information will be provided at the July 2018 stakeholder session.*

*The IESO, in following-up on a question from a previous session, also took an action to expand on Scenario 12: Non-Quick Start (NQS) Scheduled in DAM with Delayed Start in RT, to show how a delayed start would impact RT make-whole payments.*

## **Conclusion and wrap up – Jason Grbavac, IESO**

The IESO thanked all participants and reiterated that all design decisions shared today are preliminary and that the IESO welcomes feedback from all stakeholders before moving to the final decision phase. Feedback should be sent to [engagement@ieso.ca](mailto:engagement@ieso.ca) and is appreciated on or before June 21, 2018.

### **Action Item Summary**

<b>Responsible Party</b>	<b>Action Item</b>
<b>Single Schedule Market Design Elements Discussion</b>	
IESO	Produce additional sensitivity analysis that demonstrates that all consumers would be better off with a single schedule system compared to a two schedule system. The analysis will also demonstrate the mechanics of the residual framework.
<b>Economic Withholding and Other Mitigation Considerations</b>	
IESO	Review and consider how an outside resource that was incentivized to offer low into the Ontario market would fit into the market power mitigation framework.
<b>Day-Ahead Market Design Elements</b>	
All Stakeholders	Several participants raised concerns that variable generators would have to consider market power mitigation measures as risks outside of their control in developing their offer strategies, and asked for a broader discussion on allocation of these risks. The IESO needs to better understand whether the concerns are design related or simply require greater clarification on how the design decisions impact variable resource participation. An update would be provided at the next stakeholder engagement in July.
<b>Enhanced Real-Time Unit Commitment Discussion</b>	
All Stakeholders	The IESO is seeking additional feedback from stakeholders regarding reasons and timeframe for an offer price increase after a PD commitment.
IESO	Review if a generator will be compensated through the real-time make-whole payment if it fails to synchronize before the start of its PD commitment period and is therefore ineligible for the cost guarantee. Also consider a scenario where the generator had a DAM schedule and was late for the start of its MGBRT.

<b>Responsible Party</b>	<b>Action Item</b>
IESO	Review notification timing and cost recovery when a resource is manually constrained for a reliability commitment that extends a PD commitment. Consider shut down process.
<b>Intertie Trading Examples</b>	
IESO	Review if data are available on different intertie congestion patterns between the RT and the DAM. The IESO will also consider how virtual transactions could be included in the intertie examples.
IESO	Engage in further discussion and clarification on the intertie congestion price recommendation with interested participants, and communicate the results of this discussion to the larger group.
<b>Two Settlement and Make-Whole Design Scenarios</b>	
IESO	Expand the Two Settlement System Mechanics example for Scenario 4 “Reserve Activated in RT” to include production costs and net profit examples to better show how the mechanics would typically make the resource better off.
IESO	Provide additional information on how the make-whole payment for the ramp in Scenario 15 will be handled, whether as a DA or RT make-whole payment.
IESO	Consider how to address issues that may arise when taking a pseudo unit model and translating joint optimization advisory and binding schedules to physical units i.e. a pseudo unit is divided into two physical units for both energy and operating reserve.
IESO	Expand on Scenario 12: NQS Scheduled in DAM with Delayed Start in RT, to show how a delayed start would impact RT make-whole payments.

**Meeting sessions adjourned at 3:00 pm.**

The next Energy Work Stream meeting is scheduled for July 18 and July 19, 2018.