

Single Schedule Market – Phase 1, Session 3

July 27, 2017

Minutes of Meeting

Date held: July 27, 2017	Time held: 9 am – 3 pm	Location held: Crowne Plaza Toronto Airport
Company	Name	Attendance Status (A)ttended; Attended via Webex
AMPCO	Anderson, Colin	A
AMPCO (behalf of)	Wright-Hilbig, Rhonda	A
APPrO	Butters, David	A
Brookfield	Wu, Julien	WebEx
Bruce Power	Dalzell, Pat	A
Centre Lane Trading Ltd.	Nikkel, Jonathan	A
Emera Energy	Ferguson, Dave	A
Enbridge	Jayaraman, Jay	A
Gerdau	Forsyth, Dave	A
Goreway Power Station	Coulbeck, Rob	A
H2O Power	Medina, Ron	A
Ivaco Rolling Mills	Abdelnour, Francois	A
Manitoba Hydro	Wells, David	A
Manitoba Hydro	Bertholet, Kelly	WebEx
Market Surveillance Panel	Kelly, Brandon	WebEx
Northland Power Inc.	Samant, Sushil	A
Ontario Power Generation	Mo, Herman	A
Ontario Power Generation	Wizniak, Lynn	A
Ontario Waterpower Association	Norris, Paul	WebEx
Power Advisory LLC	Cumming, Alison	A
Powerful Solutions	Inman, Peter	A
Resolute Forest Products	Degelman, Cara	A
Sussex Strategy	Simmons, Sarah	A
TransCanada Energy	Kuntz, Margaret	A
Whisker Labs	King, Robert	WebEx
Workbench Corp.	Sears, Heather	A
IESO	Agavrioloai, Ioan	A
IESO	Bell, Brian	WebEx
IESO	Butler, Joanne	WebEx
IESO	Grbavac, Jason	WebEx
IESO	Jovic, Rado	WebEx
IESO	King, Ryan	A
IESO	Louw, Brennan	A
IESO	Matsugu, Darren	A
IESO	Myers, Denise	WebEx

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Company	Name	Attendance Status (A)ttended; Attended via Webex
IESO	Sapona, Ingrid	A
IESO	Scratch, Jonathan	A

Scribe: Ingrid Sapona. Please email any corrections, additions or deletions e-mail to the scribe (Ingrid.sapona@ieso.ca).

The meeting started at 9 a.m.

Introduction – Ryan King, Jonathan Scratch, IESO

The IESO welcomed participants to the first session of Phase 2: design element options and preliminary decisions.

The IESO reviewed and discussed an updated Single Schedule Market (SSM) work plan. Participants were encouraged to provide feedback and identify data and information that would be helpful to them to better understand the issues associated with different design options.

Module H: Make Whole Payments and Uplift – Susan Pope, FTI

The first presentation was a carry-over module from the June 29, 2017 session. It focused on elements of make whole payments and uplift that would change with implementation of SSM.

There were no questions or comments.

SSM Pricing Issues - Price Formation Options – Susan Pope and Scott Harvey, FTI Phase 2 – Session 1

In this session, FTI reviewed and discussed the first 12 design options for the SSM. For each design element, a number of alternatives were considered; however, in some cases only the options considered to be reasonably viable were presented. Some options were excluded due to either experiences from other jurisdictions or because they are not considered practical alternatives. This was also done to ensure that the session was manageable and that there was enough time to discuss the other viable design elements. However, FTI encouraged participants to raise questions or bring up other alternatives beyond those focused on during the presentation.

Design element 1 - Energy Price – Congestion Component (Slide 5)

FTI indicated that since reflecting the cost of congestion in prices is implicit in a single schedule market, there is only one option for this component. Not proceeding with pricing congestion would effectively mean not proceeding with a single schedule market.

Stakeholders had questions about how the IESO plans to document decisions and track issues. A number of participants suggested starting a list or creating a document summarizing the options by design element. It was further suggested that this document go out at the same time as the meeting minutes.

The IESO agreed to this request. The IESO committed to developing these documents before the next meeting. However, it was noted the purpose of these first few meetings is not about decision making but to document the options and identify, with the participants' help, where more analysis and information might be needed to inform options.

A participant expressed concern that silence among the participants at a meeting like this might be interpreted as consent, when what the participants really need is time to collect their thoughts before commenting.

The IESO reiterated that the intention is to make sure all the different option elements are raised during these meetings and that silence will not be interpreted as consent. The intent is not to talk about these things only once and then move on; this is meant to be an iterative process. The IESO noted that it is creating a tracking document aimed at explaining when decisions are preliminary and there is no intention to rush to any decisions.

A participant commented that notwithstanding the desire to canvass multiple choices, in some cases the decision – such as whether congestion is taken into account in energy pricing – is a binary choice. Another participant added that it would be helpful to have a document that allows participants to see which items are binary.

The IESO agreed to this request and will include this information as context in a design tracking document.

Design element 2 - Energy Reference Price (Slides 9-12)

A participant asked what was meant by “distributed load” as the reference location?

FTI responded that with a single reference location, if losses need to be supplied into the power flow, they are basically supplied with respect from the reference location – which is a single locale on the grid. With a distributed load reference location, the software uses many different locales to determine losses, with each distributed load location representing a weighting of the load in the province. In either case, the actual locational marginal price (LMP) at any location remains constant.

A participant asked what effect would a change in reference location have on price?

FTI responded that the choice of reference location will not impact the LMPs. The current reference location is Richview which has worked well so there is no reason to consider a change.

A participant asked for more clarity in terms of what is expected of them at this session. Is the intent of this session to agree whether or not the options presented are the right options and to choose from among them?

The IESO explained that the purpose of today's meeting is to identify the available options and to ensure stakeholders understand the choices being considered. Participants are not being asked to agree on anything during this session. If there are additional options that have not been identified, participants are encouraged to bring them forward.

Design element 3 - Energy Price – Loss Component (Slides 14-21)

A participant commented that Option 2 (to exclude the cost of marginal losses from prices and from the dispatch) doesn't make sense given that the purpose of this engagement is to have prices reflect physical dispatch.

FTI responded that option may look odd because it would be going backwards from where Ontario is today. It would be going to something more complicated and less efficient. Dispatches do work without marginal losses – it is done in Texas, but it is not very efficient.

A participant commented that on the third bullet on slide 19, the language is unclear. What are the software expectations going forward through market renewal? Should all decisions consider the impact on the IESO's existing software?

The IESO responded that it has not identified a need for major changes to the real-time dispatch software at this time.

A participant noted that Ontario has previously considered using dynamic losses but there were complications, which is why Ontario ended up going for fixed losses.

FTI responded that implementing dynamic loss factors isn't, strictly speaking, something needed for SSM; but it is something that would be an improvement over what Ontario has now and it could be considered as part of this discussion.

Design element 4 - Ex Post vs. Ex Ante Pricing (Slides 23-27)

There were no questions or comments on this design element.

Design element 5 - Intertie Congestion Pricing (Slides 29 - 35)

A participant commented that this topic may have implications for when the IESO looks at more frequent intertie scheduling (MFIS). The document that sets out options and decisions should also highlight when decisions are contingent on other work streams.

The IESO agreed that identifying such linkages is important and will try to include in the design tracker.

A participant asked if one of these options may be more beneficial if we move to coordinated transaction scheduling (CTS) or MFIS.

FTI responded that we would really be moving away from either of these options to something that is kind of like option 1 (to charge intertie transactions based on the congestion charge in the constrained pre-dispatch and the price at the intertie in the real-time constrained schedule) but differing in some aspects. Slide 33 on CTS would basically be the current framework but it's something that must be negotiated with other ISOs – this is the framework people are tending to move toward.

The IESO added that with CTS, the zone around the intertie (both in Ontario and on the NY side) is priced based on both sides of the intertie. However, at the present time, prices are established in Ontario in isolation.

A participant asked whether moving toward CTS, would, in effect, be a new option (i.e., option 3), or is it that we could adopt option 1 and then move easily into this later?

FTI responded that the reason to stay with option 1 would be because it's the least change from the current design.

Design element 6 - Supplier Pricing (Slides 37-41)

A participant asked if the discussion on supplier pricing relates to generators only and not dispatchable loads.

FTI responded that this section relates to generators; the load side will be included in the load pricing discussion.

A participant asked for examples of spot market incentives for resources able to provide the required flexibility, as mentioned in the second bullet on Slide 41.

FTI explained that there are a number of barriers to prices reflecting the value of flexibility. Under the two schedule system, the unconstrained price is calculated using three times the actual ramp rate. As a result, the unconstrained price is less volatile than it would be if it reflected actual system conditions. Another feature of the current system is that minimum loads are treated as flexible in the unconstrained sequence, but cannot actually be dispatched. Most importantly, the lack of transmission constraints

means that when the system is actually constrained and there is a ramp need in one part of the province, the unconstrained dispatch assumes the need can be met with resources in a constrained region even when that cannot happen because of transmission congestion.

A participant asked if there are benefits to zonal pricing over nodal pricing for suppliers.

FTI responded it did not think so and that is not what other ISOs are finding.

Design element 7 - Operating Reserve Reference Price (Slide 45)

A participant asked if the intent is to co-optimize energy and operating reserve (OR) in the day-ahead also, or just in real time?

FTI agreed that co-optimizing in day-ahead as well as in real time make sense.

Design element 8 - Operating Reserve Price – Congestion Component (Slides 48 - 51)

There were no questions or comments on this design element.

Design element 9 - Constraint Violations (Slides 53 - 68)

A participant commented that stakeholders haven't seen any information about the current use of "price relaxation" which may occur when the control room goes to the last resource dispatched and gets into a non-dispatchable block of a dispatchable load. Where will this issue be covered?

Action Item: *FTI committed to address this at the next meeting.*

A participant asked if other jurisdictions publish shift factors so that participants understand the impact of constraints on their own dispatch?

Action item: *FTI committed to finding out which jurisdictions publish shift factors.*

IESO Comment on Feedback and Process

The IESO reiterated the importance of stakeholders being able to understand the information presented and to come forward with questions or requests for further information.

A participant asked if penalties are set below maximum market clearance price (MMCP), this will affect how the control room works through difficult operating conditions. The participant suggested that the IESO present examples of challenging operating conditions.

Action Item: *The IESO agreed that using examples would be helpful and committed to providing them at future meeting.*

A participant asked if the examples would also related to the use of control action operating reserve because that is activated before we get to the other penalties.

Action Item: *The IESO agreed and would include that information in the example(s).*

Design element 10 - Out-of-Market Operator Actions

A participant asked if it was deliberate that FTI did not include the very last step on the emergency operating state control action list (which curtails firm load).

FTI responded that it was not deliberate.

A participant asked if all the causes of control actions currently fall into uplift categories?

FTI responded that since the price cannot go above the cap, this cost must be recovered via uplift.

A participant asked a follow up question that if we move toward a system where those operator actions are not priced, would it be similarly set up so the costs associated with these would also fall into uplift categories?

FTI responded that yes, costs that are not recovered from the energy market will continue to be recovered via uplift.

A participant asked if the decision around ex post and ex ante pricing would affect how costs associated with operator actions might be recovered? Would we be setting these different if we were doing ex post or ex ante?

FTI responded that the decision regarding ex-post or ex-ante would be unlikely to affect how costs associated with operator actions would be recovered.

A participant noted that when you look at the Emergency Operating State Control Action (EOSCA) list, there are a number of actions that are priced currently – voltage reductions, for example – that don't show up in the constrained dispatch because of the way demand is calculated. The participant thought it would be useful to have a chart listing the operator actions that currently are not considered when setting price in the constrained schedule (shadow prices) and an indication of whether those actions are currently priced by adding MW into the unconstrained schedule.

Action Item: *The IESO agreed to provide a list of operator actions currently not considered in setting price in the constrained schedule, as requested*

A participant noted that we should look at what are the appropriate values of the various items – all of them, not just the control action operating reserve. In particular, it would be useful to know how other jurisdictions do voltage cuts and how it is priced. This should all be reviewed at the same time.

FTI responded that these suggestions are the kind of feedback they are looking for in terms of how to organize the discussion.

A participant asked if anything can be inferred from the fact that other jurisdictions are not currently pricing operator actions? Does the fact it's not widely used say something about its efficacy?

FTI responded that the fact that other ISO's aren't pricing operator action could be because of other design choices that they have made.

A participant asked for information about which design choices might be implemented such that operator actions would not need to be priced.

Action item: *FTI responded that they will provide some constraint violation penalty numbers, as well as information from ERCOT regarding its OR demand curve, since they went through a similar exercise to try to determine whether the OR demand curve should have steps for these kinds of actions.*

Design element 11 – Multi-Interval Optimization (Slides 81, 83-84)

A number of participants discussed MIO, both its original rationale and the role it should play going forward.

FTI clarified that the dispatch implications of MIO vary by jurisdiction but for this engagement, no changes to MIO are being contemplated.

A participant made a comment not directly related to MIO, but rather about how variable resources are dispatched, the disruption from being dispatched up and down has been challenging for generators in the market.

A participant asked how MIO might be a hindrance.

FTI responded that for the purpose of SSM, a re-think of MIO is not being proposed. Jurisdictions that use MIO are not looking at moving away from it.

A participant asked how price might be set with MIO if you are looking across five intervals? Would it be an average over the five intervals, or is it always the first interval?

FTI responded that it's always the first interval.

A participant asked if this is different from option 1, which is where there is just one interval?

FTI responded that with one interval, when MIO runs, it's not going to be looking forward to see that you need the energy on, for example, a unit that's ramp constrained that you need it in a later period. It'll dispatch that resource up, if it's cheap without considering needs in future intervals.

The IESO noted the need to be careful about describing the options here. Option 1 is not about dispatching on single interval optimization.

FTI also clarified they are not referring to the physical dispatch, they are referring to the pricing run.

Design element 12 - Price Setting Eligibility (Slides 86 - 93)

A participant noted that when talking about supplier restrictions, such as minimum loads, some of the restrictions are not necessarily modelled in the IESO's tools – they are handled through outage slips or are completely ignored (in the case of dispatchable load).

The IESO added that the shortcoming in the way things are modelled is a good conversation to take off line but it may not be pertinent directly to this engagement.

A participant asked if zonal pricing is chosen, would the zones be similar to those used in the shadow pricing? If the choice were to be nodal, would the number of nodes be similar to the number used for shadow pricing?

FTI responded that if zonal pricing is chosen, a determination will have to be made on how to calculate hypothetical prices. On the issue of the number of nodes that might be used, there would be a node for each generating system at least. As well, there would probably be nodes for transformers and other things, but there is no need to calculate prices there.

A participant asked if the IESO could produce a glossary of terms so everyone is on the same page in terms of concepts and jargon?

Action Item: *IESO agreed to produce a glossary of terms.*

Action Item Summary

Responsible Party	Action	How Addressed	Date Addressed
IESO	Publish tracking document that shows design options/design decisions	IESO has posted: <ul style="list-style-type: none"> • SSM Actions Log • SSM Issues Lot • SSM Design Element Tracker All of these can be found at: http://www.ieso.ca/en/sector-participants/market-renewal/market-renewal-single-schedule-market	Early August 2017
IESO	Provide constraint violation penalties along with examples of challenging operator conditions using numbers similar to those applied in NY. Include examples related to use of control action operating reserve		
IESO	The IESO agreed to provide a list of operator actions currently not considered in setting price in the constrained schedule		
IESO	Produce a glossary of terms		
FTI	Provide information on treatment of dispatchable load	Presented at August 17 SSM Meeting	
FTI	Research and provide information on which jurisdictions publish shift factors		
FTI	Provide some constrained valuation penalty numbers, as well as what ERCOT has done with its OR demand curve		

Conclusion

The IESO closed the session noting there are a number of items it will take back, especially on the tracking side, and it asked participants to contact the IESO over the next few days if there's other information they might find helpful that can be provided. The IESO reminded participants to send comments to engagement@ieso.ca

Next Session: August 17, 2017