FEBRUARY 13, 2020

Energy Payments for Economic Activation of DR Resources – Meeting #3

Presenter's First Last Name
Presenter's Full Title

ieso
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Meeting Participation

- Webinar participation (including audio):
  - Web participation link
  - Use the "Ask a Question" function to submit a question during the webinar
- Teleconference participation (audio only):
  - Local (+1) 416 764-8640; Toll Free (+1) 888 239-2037
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- When asking a question, please state your name and who you represent so those participating are aware
- This webinar is conducted according to the IESO Engagement Principles

Purpose

The purpose of today's meeting is to discuss:

- Stakeholder feedback received following the December 11th meeting and
- Expanding the scope of the engagement to look at options other than energy payments.

Agenda

- Stakeholder feedback
- Preliminary findings from the energy payment study
- Expanding the scope of the engagement to include the shut-down cost question articulated through the OEB proceeding
- Stakeholder input on shut-down costs

Agenda – continued

- Input is important to enable the IESO to develop options which:
  - Address the root cause,
  - Evaluate options, and
  - Ultimately support a recommendation.
- High-level options that should be further scoped and evaluated as part of the next steps.

STAKEHOLDER FEEDBACK

Re-cap: December Meeting

- At the December engagement meeting, the IESO:
  - Presented the final problem statement, criteria and scope of work for the energy payment study.
  - Defined the energy payment options (including those noted below) to be considered as part of the study.
    a. Status Quo
    b. Wholesale price of electricity above a customer benefits threshold price

Re-cap: December Meeting (continued)

c. Wholesale price of electricity minus the customer's cost to purchase electricity

d. Retail purchase with wholesale sell-back

- Requested stakeholder input on what other options should be considered in this work.

Stakeholder Feedback

- Stakeholder feedback was received from:
  - AMPCO
  - Rodan
  - Ryerson University
- This feedback is summarized and responded to in the following slides.

AMPCO Feedback

- Energy payments are not the only way of rectifying the disadvantage faced by DR resources; at a minimum, the IESO must provide a mechanism for DR resources.
- It is significant for a reasonable opportunity to recover incremental costs of activation.
- AMPCO supports consideration of option B (i.e. wholesale price of electricity above a customer benefits threshold price).
- AMPCO does not support the other options as they result in no payment for transmission-connected resources.

AMPCO Feedback (continued)

IESO Response:

- We have expanded the scope of this engagement to include the shut-down cost question.
- We will use stakeholder input on shut-down cost experience and data to develop and evaluate options other than energy payments to address the matter.

Rodan Feedback

- It would be beneficial to review administrative price compensation options including:
  - Historical DR programs (i.e. DR3)
  - DR test payments
- It would be helpful to review the value of DR3/CBDR during the polar vortex in 2014 including:
  - Number of activations and amount of MW activated;
  - The value of utilization payments to loads which responded;

Rodan Feedback (continued)

- The impact on price suppression; and
- The impact on reliability had DR not been available.

Rodan Feedback (continued)

IESO Response:

- We have expanded the scope of this engagement to include the shut-down cost question
  - A potential option to be explored further as part of this work is administrative in nature; this approach would seek representative treatment of shut-down costs across DR resources in Ontario
- The Brattle report will look at the DR3 program, including historical activation statistics

Rodan Feedback (…and continued)

IESO Response:

- It should be noted that the activation process for DR3 was different than the process employed today and often resulted in activating DR when there were more cost-effective resources available
- The IESO agrees that having DR resources available is advantageous from a reliability perspective

Ryerson University Feedback

- Two research papers were provided that discuss methods to calculate the electricity market price to factor:
  - In the cost of DR payments;
  - Procure DR in an efficient manner;
  - Determine market-driven payment levels for DR; and
  - Circumstances when DR should be dispatched.

Ryerson University Feedback (continued)

- The papers note that the FERC net benefit test protects against consumers from being worse off; but, does not go a step further in ensuring the cost of electricity to such consumers is minimized.

Ryerson University Feedback (…and continued)

IESO Response:

- Our understanding of the connection between these papers and this work is in how the net benefit test is defined in Ontario.
- Preliminary findings for a customer benefit test in Ontario will be covered today.
  - This test includes Ontario-specific considerations such as the Global Adjustment to ensure that total costs are employed in such a test.

PRELIMARY ENERGY PAYMENT FINDINGS

Preliminary Energy Payment Findings

- While the energy payment study is still underway, Brattle is able to share insights on the preliminary outcomes of their study related to the following compensation options:
    a. Status Quo
    b. Wholesale price of electricity above a customer benefits threshold price
- These insights are summarized in the following slides and will be further discussed at the meeting through a presentation by Brattle (slides forthcoming in Appendix A).

Preliminary Energy Payment Findings (continued)

- The findings for the remaining compensation options will be presented at the next engagement meeting in March:

    c. Wholesale price of electricity minus the customer's cost to purchase electricity

    d. Retail purchase with wholesale sell-back

Preliminary Energy Payment Findings (continued)

- It would be inefficient to compensate DR resources exposed to the wholesale electricity price with an energy payment.
  - Wholesale-exposed customers are already incented to curtail consumption when the wholesale electricity price exceeds their energy bid (willingness to pay).
  - Providing an energy payment would result in DR resources curtailing load even if their cost of that curtailment is greater than the wholesale electricity price.

Preliminary Energy Payment Findings (…and continued)

- This would over-incentivize curtailments.
- There is no net benefit to Ontario consumers from deductions in wholesale electricity prices from activation of DR resources when a Net Benefit Test akin to the FERC Order 745 is applied in the Ontario context.
  - Cost reductions from price suppression are offset on a roughly one-to-one basis by customer cost increases as a result of the Global Adjustment.

Full Energy Study Findings

- The full report will be shared with stakeholders in advance of the next engagement meeting in March, to facilitate discussion of all study findings including:
  - Findings related to energy payments for non-wholesale-exposed customers.
  - Identification and evaluation of exceptions when the basis for DR activation may not match the basis of settlement due to:
    a. Timing,
    b. Location, and/or

Full Energy Study Findings (continued)

c. Price formation challenges

- Other options to more fully enable DR players to participate in the wholesale energy market, which may help inform the DR participation model on a forward-looking basis.

EXPANDING THE SCOPE TO INCLUDE SHUT-DOWN COSTS

Further Articulation of the Key Concerns

- Discussion through the oral hearing phase of the AMPCO proceeding at the OEB identified that it may be possible for some DR resources to have costs which are only incurred if activated ("shut-down" costs).

  These may not be efficiently captured in the resource's energy bid or auction offer.

- The IESO understands that these costs:
  - May be incurred when certain DR resources are activated to curtail.
  - Are separate and distinct from the value of lost load.

Further Articulation of the Key Concerns (continued)

- May be fixed in that they do not vary with the duration of curtailment (this makes them difficult to include in an energy bid).
- Can range in type and magnitude depending on the type and characteristics of the DR resource.

Expanding the Scope of this Engagement

- To date, this engagement and associated study has focused solely on whether or not to provide energy payments to DR resources
- The IESO proposes to expand the scope of study to also include the "shut-down" cost question and to evaluate options other than energy payments to address the matter

Expanding the Scope of this Engagement (continued)

- This would be responsive to observations from the OEB hearing as well as stakeholder feedback on other options that should be considered
- This engagement is still expected to be completed in May

Engagement Timelines - Expanded Scope

ACTIVITY	TIMING
Present preliminary energy payment findings Discuss "shut-down" costs and options	February 13 (this meeting)
Present full set of energy payment findings Discuss stakeholder feedback and present more detailed options	End of March
Present draft recommendations	End of April
Present final recommendations	End of May
Implementation	Target prior to March 2021 Capacity Auction

STAKEHOLDER INPUT ON SHUT-DOWN COSTS

Stakeholder Input Requested

- The IESO asks stakeholders to provide specific information on the nature of shut-down costs in order to develop and evaluate options.
- The IESO will take note of feedback received as part of today's discussion, and is also requesting written feedback sent to engagement@ieso.ca by February 21

Stakeholder Input Requested (continued)

- Is the shut-down cost question articulated at the OEB the root cause of stakeholder concerns we are trying to address with this engagement?
- Can you provide data that helps define the concerns?

  Stakeholders are asked to flag which parts of their submissions are public and which are not.
- What types of DR resources incur these costs and under what scenarios are they incurred?

Stakeholder Input Requested (…and continued)

- How would you categorize different components of shut-down costs (i.e. labour, capital, operating)?
- What is the magnitude of such costs?
- How are these costs dealt with today? What challenge(s) and risk(s) does this create for you?
- What are some ways that these challenge(s) and risk(s) could be mitigated?

HIGH LEVEL OPTIONS

Potential Options to Address Shut-down Question

- The IESO has done some early thinking on high-level options in order to keep the discussion moving.
- These options are described at a narrative level and will be further scoped and evaluated based on the input received from stakeholders.
  - This will help ensure that the options address the root cause of the problem.
- Potential options will be evaluated against the market renewal principles (refer to following slide).

Market Renewal Principles

Efficiency - lower out-of-market payments and focus on delivering efficient outcomes to reduce system costs (good price formation)

Competition - provide open, fair, non-discriminatory competitive opportunities for participants to help meet evolving system needs

Implementability - work together with our stakeholders to evolve the market in a feasible and practical manner

Market Renewal Principles (continued)

Certainty - establish stable, enduring market-based mechanisms that send clear, efficient price signals

Transparency - accurate, timely and relevant information is available and accessible to market participants to enable their effective participation in the market

High Level Options

OPTION	OBJECTIVES
1. Risk Mitigation Report	Reduce the risk of the DR resource from incurring significant shut-down costs if activated more frequently than they have forecast.
2. Cost Recovery Approach	Allow for cost recovery of shut-down costs that are submitted by the participant and verified by the IESO.
3. Representative Cost	Administrative approach that would compensate DR with an amount representative of Ontario DR shut-down costs.
4. Bid-based	Incorporate shut-down cost into dispatch and price formation using a two-part energy market bid.

Is there anything that should be considered?

Stakeholder Feedback Requested Table

FEEDBACK TOPIC	DETAILS
Stakeholder Input to Develop and Evaluate Options	• Is the shut-down cost question articulated at the OEB the root cause of stakeholder concerns that we are trying to address with this engagement? • Can you provide data that helps define the concerns? Stakeholders are asked to flag which parts of their submissions are public and which are not • What types of DR resources incur these costs and under what scenarios are they incurred?

Stakeholder Feedback Requested Table (continued)

FEEDBACK TOPIC	DETAILS
Stakeholder Input to Develop and Evaluate Options	• How would you categorize different components of shut-down costs? (i.e. labour, capital, operating) • What is the magnitude of such costs? • How are these costs dealt with today? What challenge(s) and risk(s) does this create for you? • What are some ways that these challenge(s) and risk(s) could be mitigated?
Option Narratives	Is there anything else that should be considered?

Proposed Next Steps

- Please submit your feedback to engagement@ieso.ca by February 21 using the feedback form on the engagement webpage.
- Details of the next engagement meeting in March will be communicated shortly.

APPENDIX A – PRELIMINARY ENERGY PAYMENT FINDINGS