

Energy Forward Market

July 29, 2008 Technical Support Group Meeting # 2



- Introduction
- Review minutes of July 15 meeting
- Review the TSG objectives and deadlines
- NGX proposal
- Exchange EFM Design
- Review of example
- Questions for discussion
- Next Steps - August 14 TSG meeting

- To review and discuss the Option 2 EFM design (IESO auction/financial swap)
- To explore alternate EFM design possibilities (external exchange)
- To provide a recommendation for posting August 6th, in advance of the August 20th meeting of the SAC

- NGX would operate (clear and settle) a physical forward market using their collateral and margining process.
- Transactions reported by NGX into the IESO physical bilateral mechanism as a net forward open position.
- Quantity differences between NGX reported forward positions and real time quantities settled by the IESO.

- Market Rules Chapter 8 allows the IESO to receive contract quantity and delivery point for transactions between market participants
- There is a specified buyer and seller
- The buy and sell quantity must be equal
- These transactions “are not in any way to affect” RT operations
- The IESO provides settlement, offsetting the PB and real time quantities

- An IESO “exchange energy forward market” for market participants, settled in real-time and supported by new market rules.
- The exchange EFM market rules would license external exchanges to:
 - participate in an official IESO administered market, posting forward Ontario electricity contracts
 - electronically submit weighted average price and individual transaction quantities/delivery points

- IESO systems would be required to:
 - Receive the weighted average price and total quantity
 - Receive the quantity and delivery point transacted by individual MPs into the IESO settlement system
 - Manage prudentials
- The IESO would publish the forward market price (weighted average transaction price for all licensed exchanges).

NGX is a licensed exchange.
Seller and Buyer are MPs with RT quantities.

NGX EFM for Ontario:

- Seller offers to sell 100 MW at \$40
- Buyer bids \$40 to buy 100MW

NGX:

- requires prudentials from Buyer and Seller
- clears, settles and invoices
- transmits open positions to the IESO for settlement

- Seller is paid \$4000 by NGX
- Buyer owes \$4000 to NGX

In RT:

- Seller is a generator dispatched at 95 MW
- Buyer is a large industrial consuming 110 MW

IESO system receives transmission from NGX and settles RT and EFM quantity differences against RT HOEP of \$50.

- Seller:

$(+95-100)*\$50 = -\250 ; Seller owes the IESO

- Buyer:

$(-110+100)*\$50 = -\500 ; Buyer owes the IESO

- Seller has been paid by NGX for its physical MW generated
- Buyer has paid NGX for its physical MW consumed
- Real time is just a balancing market with settlement by the IESO
- Result: two settlement system of a day ahead market

- What if the generator is not dispatched?
 $(+0-100)*\$50 = -\5000
Seller owes the IESO \$5000 in RT which would require IESO prudentials
- Would this incent the generator to lower their RT offer price to ensure dispatch?
- Would this in turn impact RT HOEP? Is this OK?
- Should a charge related to admin be levied?

What if the Seller is Virtual?

In RT:

- Seller is a bank with no RT quantity
- Buyer is a large industrial consuming 110 MW

IESO system receives transmission from NGX and settles RT and EFM quantity differences against RT HOEP of \$50.

- Seller: $(0-100)*\$50 = -\5000 ; Seller owes the IESO for physical quantity of 100 MW and requiring prudentials
- Buyer: $(-110+100)*\$50 = -\500 ; Buyer owes the IESO

- Is there an advantage to using the physical bilateral mechanism versus a financial swap (Option 2 EFM or current NGX financial swap)?
- Do participants need incentives to transact?
- How would prudentials be managed under the exchange EFM for:
 - The IESO
 - NGX
- Are there net prudential efficiencies?

- Are there other efficiencies created by implementing this EFM?
- Does this EFM help the market evolve?
- What are the costs?
- What about Market Rules?

- Submission on this design review to be prepared for SAC by August 6
- Next TSG meeting is proposed for Thurs Aug 14
- Need further understanding of:
 - market rule changes
 - efficiencies and costs
 - impact on market participants
 - prudential implications
 - incentives for participation

- Questions