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Energy Forward Market

July 15, 2008 Technical Support Group Meeting # 1

Agenda for Meeting#1

- Introduction/Terms of Reference
- Agenda additions
- Review the objectives
- How did we get here?
- Review current EFM design (Option 2)
- Discuss concerns with current EFM design
- Discuss existing NGX forward market
- Next Steps

Objectives of EFM TSG

- To review and discuss the Option 2 EFM design
- To explore alternate EFM design possibilities
- To provide an assessment to the stakeholders and Stakeholder Advisory Committee at their August meetings

How Did We Get Here?

- At market opening, an EFM to supplement the real-time market was envisioned
- Market rules were created to outline and allow for an IESO operated EFM
- The IESO EFM system was designed and built but never implemented
- In this absence, no external agencies chose to initiate a day-ahead EFM

How Did We Get Here?

- Cost benefit analysis resulted in a recommendation by the IESO day ahead team to proceed with EFM for day-ahead financial positions
- Support for EFM is stronger if based on an existing exchange platform and if liquidity of the EFM could be increased (e.g. co-ordinated prudential requirements)
- SAC requested further investigation of EFM design

Day-ahead Assessment Goals

Three goals entering into the day-ahead market assessment:

1. Enhanced unit commitment efficiency
2. Better day-ahead price signals and examine opportunities for day-ahead financial commitments
3. Ensuring continued reliable system operations

Current IESO EFM Design

- Participants submit bids or offers to the IESO EFM system to receive financially binding price and quantity
- There is no specific counterparty
- Market clearing mechanism determines transaction price (MCP)
- Not all bids and offers clear
- Swap is valued as the difference between the EFM MCP and RT HOEP
- IESO manages prudential and provides settlement

Example: Seller

- Seller offers 100 MW at $35 into the EFM
- EFM MCP is $40 and offer clears
- RT HOEP is $45
- EFM settlement is $40 less $45 = $(5) * 100 MW = $(500)
- Seller owes the IESO $500

- Seller is a generator in RT, offer $35/100MW
- Dispatched at 100 MW
- RT settlement is $45 * 100 MW = $4500
- IESO owes Seller $4500

- Net settlement = $4500 - $500 = $4000 paid by IESO to Seller

- If Seller's EFM and RT offers clear, they are guaranteed the EFM MCP of $40

Example: Buyer

- Buyer 1 bids $35 for 100 MW into the EFM
- The EFM MCP is $40 and Buyer's offer does not clear

- Buyer 2 bids $50 for 100 MW, EFM MCP is $40, offer clears
- RT HOEP is $45
- EFM settlement is $45 less $40 = $5 * 100 MW = $500
- Buyer is owed $500 by IESO

- Buyer 2 is a load in RT, consuming 100 MW, offer of $50
- RT settlement is $45 * 100 MW = $(4500); Buyer 2 owes IESO $4500

- Net settlement = $(4500) + $500 = $(4000) paid by Buyer to IESO

- If Buyer's EFM and RT offers clear, they are guaranteed the EFM MCP of $40

Prudentials for IESO EFM

- Review of prudential & clearing impacts is ongoing
- Prudential positions are distinct for three markets (RT, EFM, external exchange)
- Harmonization of prudentials – need to assess fairness and efficiency

Option 2 EFM Design Questions

- What is missing from the IESO design?
- Could the involvement of an exchange add value to the design?
- If support for EFM is stronger based on an existing exchange platform - what do you see as the role of the IESO?

NGX

- NGX is a central clearing exchange
- Ontario electricity swap products for IESO RT HOEP
- Flat, Peak and Off-peak
- Current liquidity of Ontario products
- Benefits of using an exchange
- NGX Prudential requirements

Next Steps

- Next meeting is proposed for Tuesday July 29
- Further information will be provided by the IESO on prudentials
- New design concepts will be considered if appropriate

- Questions