Market Services Update
Stakeholder Session

October 24, 2011
<table>
<thead>
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<th>Agenda</th>
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<tr>
<td><strong>Introductions</strong></td>
<td>Kelly Gunsch</td>
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<td>General update on market initiatives</td>
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<td>System Access update</td>
<td>Gord Nadeau</td>
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<tr>
<td>Price Restatement Period</td>
<td>Hameed Zaman</td>
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**Coffee Break**

| **Generator and Transmission Outage Reporting** | Hameed Zaman |
| **Minimum Stable Generation** | Hameed Zaman |
| **Competitive Process update** | Elizabeth Moore |

Questions & Answers
General Update

• Demand Response
• 500 Series OPPs
• Wind Integration
• Interties
• Supply Surplus
• Operating Reserve Market Redesign
• Market Suspension
Transmission Constraints Management (TCM) and System Access Policy

Gordon Nadeau
October 24, 2011
Transmission Constraints Management (TCM) Overview

DOE Policy

Transmission Regulation

s.17: TCM rules and business practices

s.15: System Planning & Non-wires Solutions

AUC Hearing

Proposed ISO Rule 302.2 Connection RAS

ISO Rule 302.1 TCM

AESO System Access Policy
AESO System Access Proposal: Transmission Constraint Conditions

System Service Access Request → Planning Studies

- **No Constraints**
- **Constraints under Abnormal Conditions** → Manage in Real Time (TCM)
- **Constraints under Normal Conditions** → Manage with a CRAS & TCM
- **Special Access Conditions**
A customer connection will be allowed if three conditions can be met:

- The AESO has a plan to relieve the constraints in a timely manner
- The market participants impacted by the constraint have the ability to compete for system access through their offers
- The AESO can operate the system in a practical manner during the constraint period

If all three conditions are not met, the customer connection will be delayed until they can be met.

The proposal is intended to provide reasonable access to all market participants.
AESO System Access Proposal: Abnormal Constraint Conditions

- If the transmission constraint can be managed in real time, then the AESO will allow the connection to proceed.

- If a Connection RAS is needed and operable, then the AESO will allow the connection to proceed and will document the RAS in the NID filing for the connection.
Spectrum of Potential System Access Approaches

Delay access until system enhanced
Allow access with conditions
- CRAS allows system access
- Other alternatives
If a connection causes transmission constraints under normal operating conditions, the AESO will not allow the connection to proceed until there is a publicly available plan to alleviate the constraint.
Next Steps

- The AESO has received some initial stakeholder feedback on System Access business practices which has been incorporated into the proposed TCM and System Access paper.

- The TCM and System Access paper and the AESO Connection RAS comment and response matrix will in combination fully respond to stakeholder comments on the proposed Connection RAS rule.

- The AESO will be seeking additional comment on the connection policies outlined in the TCM and System Access paper to determine whether the business practices outlined are addressing stakeholder questions and concerns.

- Any comments or questions should be directed to gordon.nadeau@aeso.ca or ph: 403-539-2568.
Thank you
Price Restatement Period

Hameed Zaman

October 24, 2011
Agenda

• Background and Reasons for Review
• An Analysis of Current Restatement Activity
• Impacts of Changing the Price Restatement Period
• Options for a Revised Price Restatement Period
• Next Steps
Background and Reasons for Review

• Current price restatement period

• Reasons for review
  – Potential alignment with ongoing market initiatives
  – Continuing enhancement of the FEOC operation of the market
An Analysis of Current Restatement Activity – Price restatements by T minus for the month of April
An Analysis of Current Restatement Activity –
Volume restatements by T minus for the month of April
An Analysis of Current Restatement Activity – Import restatements by T minus for the month of April
An Analysis of Current Restatement Activity – Import restatements within T-1 and T by five-minute blocks for the month of April
An Analysis of Current Restatement Activity – Export restatements by T minus for the month of April
An Analysis of Current Restatement Activity – Export restatements within T-1 and T by five-minute blocks for the month of April
Impacts of Changing the Price Restatement Period

- Three areas impacted by a change to the price restatement period
  - Intertie Scheduling
  - Wind Power Integration
  - System Operations
Options for a Revised Price Restatement Period

- A market timeline and three options ranges to consider

Diagram:

- D-1: Supply Surplus Report published
- T-360 (T-6): Market submits initial offers
- T-120 (T-2): Short term load and ancillary services forecast published on the AESO website
- T-70: AESO updates Available Transfer Capability (ATC) for interties
- T-60: Current price restatement period takes effect for energy market bids and offers, and dispatch down service (DDS) offers
- T-20: Export ATC posted to zero if under supply shortfall
- T-15: Import and export offers submitted
- T-10: Pool price forecast published on the AESO website
- T-5: WECC markets schedule energy for delivery at T
- T: Imports/exports scheduled

- Deadline for import/export e-tag submission
- BC intertie import/export ramp begins; Ramp ends at T+10
- AESO curtails e-tags above ATC on a LIFO basis
- AESO issues dispatches for ancillary services
- Saskatchewan intertie import/export ramp begins; Ramp ends at T+5
- All energy, ancillary services and DDS for the settlement interval dispatched
Next Steps

• Initiate AESO’s stakeholder consultation process

• Discussion paper posted to the AESO website in November for stakeholder comments
  – Stakeholder feedback requested on whether a change is desirable, potential options for a revised price restatement period and any other impacts whether positive or negative

• Further stakeholder consultation as required to determine final recommendations

• Please direct any comments or questions to hameed.zaman@aeso.ca
Thank you
Generator and Transmission Outage Information

Hameed Zaman

October 24, 2011
Agenda

• Background and Reasons for Review
• Stakeholder Comments on Recommendation Paper
• Implementation Update and Next Steps
Background and Reasons for Review

• Provide market participants with outage information in a FEOC manner

• Work to date
  – Discussion paper published – January 2011
  – Stakeholder comments reviewed
  – Recommendation paper published – July 2011
  – Stakeholder comments received
Stakeholder Comments on Recommendation Paper

• Outage submission by TFO to the AESO

• GFO and TFO outage reporting by the AESO
  – Remove breakdown of coal units by 200 MW and 350 MW groups
  – Increase the current average coal unit outage placeholder from 325 MW to 350 MW

• Major projects and critical transmission infrastructure (CTI) outage information reporting
Next Steps

- AESO responses to stakeholder comments on the recommendation paper
- Review OPP 600 series and assess impacts to related ISO rules and procedures
- Evaluate system impacts for GFO and TFO outage report enhancements
- Formalize the process for reporting major projects and CTI outage information
- Please direct any comments or questions to hameed.zaman@aeso.ca
Thank you
Minimum Stable Generation

Hameed Zaman

October 24, 2011
Agenda

• Background and Reasons for Review
• Summary of Feedback from MSG Workgroup Sessions
• Proposed Definition of Minimum Stable Generation and its Application
• Next Steps
Background and Reasons for Review

- Current definition
  - “minimum stable generation (MSG) means the minimum generation level that an asset can be continuously operated at without becoming unstable”
- Supply surplus consultations indicated a review was required
- Workgroup sessions conducted to solicit MSG requirements
Summary of Feedback from MSG Workgroup Sessions

- Accommodate generators with onsite industrial processes
- Ability to manage MSG in real time
- Similarities with available capability (AC)
- Environmental permits
- Auditing MSG restatements
- Application of MSG under normal operations
- Definition of AOR
Proposed Definition of Minimum Stable Generation and its Application

• Sample definition
  – “minimum stable generation means the minimum generation level that an asset can be continuously operated at without becoming unstable, or

  in the case of an asset that is integral to onsite industrial processes, the minimum generation level that the asset can be continuously operated at without becoming unstable or incurring a forced to shut down of onsite processes”
Proposed Definition of Minimum Stable Generation and its Application

- MSG submitted as part of the offer submission through the Energy Trading System (ETS)
- MSG volume cannot be split over more than one offer block and must be in the lowest priced block with non-zero volume
- MSG can be restated in real-time for acceptable operating reasons similar to AC
- MSG restatements will be audited using a similar process as used for AC restatements
- MSG will continue to apply only under supply surplus, transmission constraints management, and dispatch down service
## Proposed Definition of Minimum Stable Generation and its Application

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Next Steps

• Consultation on MSG definition and associated rules through the ISO rules consultation process in November 2011

• Implementation of system changes expected in Q1 2012

• Please direct any comments or questions to hameed.zaman@aeso.ca
Thank you
Agenda

• Guidance
  – Legislative mandate
  – Desired outcome

• Business Arrangement

• The Process
  – Terminology
  – Key agreements
  – Key adjustments
  – Evaluation overview

• Process stages

• Go forward schedule
Guidance

Legislated Mandate

• Government of Alberta Provincial Energy Strategy 2008
• Transmission Regulation 24.2 (2) 2010

Desired Outcome

• “To create a fair, transparent, and openly competitive opportunity for incumbent and new market participants to develop, own, and operate CTI”
Business Arrangement

- Covers life cycle of project
- Long term arrangement
  - Project Development Agreement
  - Project Agreement
- Counterparties
  - AESO
  - Preferred proponent/successful proponent
- Allocation of risk
  - To party who can best manage it
The Process

• Process procedures

• Expression of Interest (EOI)

• Request for Qualification (RFQ)
  – Proponent Agreement

• Request for Proposal (RFP)
  – Project Development Agreement
  – Project Agreement
**Terminology**

**Interested Parties**

**EOI**

**Responses**

**RFQ**

**Proponents Agreement**

**RFP**

**Project Development Agreement (PDA)**

**Project Agreement (PA)**

**Energization (ISD)**

**Preferred Proponent**

**Successful Proponent**

**Successful Proponent / TFO**
The Process

- Request for Expression of Interest (EOI) No Evaluation
- EOI Interested Parties and RFQ Respondents
  - Request for Qualifications (RFQ) Scored
  - Short list of qualifying Respondents
    - Proponents
      - Request for Proposal (RFP) Pass/Fail Scored
      - Preferred Proponent
        - Project Development Agreement Executed
        - Project Agreement Executed
  - Successful Proponent/TFO
The Process

- EOI
- RFQ
- RFP
The Process

THEMES

- Benchmarked off Alberta P3s
- Developed in consultation with stakeholder and financial, commercial, tendering and legal expertise
- Reflects unique nature of Alberta regulatory framework
- Generic process that supports the Fort McMurray Project
- Process transpires over a 45 month period
- Generic Process requires AUC approval
Key Agreements

EOI

- Respondents’ Participation
- Respondents to post Proponent Security
- Provides for Honorarium

RFQ

- Preferred Proponent Security
- AUC Facilities Application Approval
- Pricing Adjustments
- Funding Competition and Financial Close

RFP

Project Agreement

Project Development Agreement
Key Adjustments

**PRICING ADJUSTMENTS**
- Route Adjustments
  - Route Length
  - Surface/Subsurface
  - Structures
  - Land & Right of Way
- Elapsed Time
  - Inflation
  - Commodity Prices
  - Foreign Exchange
- Financial Uncertainties
  - Debt Cost

**PROCEDURES**
- EOI: Proponent Agreement
- RFQ: Project Development Agreement
- RFP: Project Agreement
Evaluation

Selection Factors
- Ownership
- Finance
- Technical
- Relationships
- Innovation

Submission Requirement #1
- Technical
- Financial Model

Submission Requirement #2
- NPV Cost
- Financial Reasonableness

Evaluation Method
- Weighted
- Financial
- Technical
- Environment & Consultation

Selection Panels
- Fairness Advisor
- Weighted
- Pass / Fail

Procedures
- EOI
- RFQ
- RFP
Process Stages

EOI

RFQ

RFP

June 2012

AUC Process Approval
1. Selection of fairness advisor and panel members will precede AUC approval of the competitive process.
Process Stages
Request for Qualifications (RFQ)

- **EOI**
  - Apr 2012: EOI Issued
  - Jun 2012: AUC Process Approval

- **RFQ**
  - Jul 2012: RFQ Issued
  - Sept 2012: RFQ Received
  - Nov 2012: Evaluation Complete
Process Stages
Request for Proposal (RFP)

**EOI**
- Apr 2012
- Jun 2012
- AUC Process Approval
- EOI Issued

**RFQ**
- Jul 2012
- Sept 2012
- Nov 2012
- RFQ Issued
- RFQ Received
- Evaluation Complete

**RFP**
- Nov 2012
- May 2013
- Aug 2013
- RFP Issued
- RFP Received
- Project Awarded
# Go Forward Schedule

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<th>Key Activities</th>
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<td>Competitive Process Application filed</td>
<td>September, 2011</td>
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<tr>
<td>Expected AUC Competitive Process Decision</td>
<td>June, 2012</td>
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<td>Fort McMurray Competition commences</td>
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<td>Project awarded to successful bidder (Preferred Proponent)</td>
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<td>Preferred Proponent files Facility Application with AUC</td>
<td>Q3, 2014</td>
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<td>Routing / Timing adjustments complete &amp; financial close</td>
<td>Q4, 2015</td>
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<td>Construction commences</td>
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PDA Term
Thank you