



# **AESO Corporate Priorities**

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# Overview

- **Transmission system: Current state**
- **Transmission system: AESO's plan**
  - **Implementing approved system reinforcements**
  - **Regional plans: Northwest, Northeast & Southeast**
  - **20-Year Outlook/10-Year Transmission Plan**
- **Transmission system: Taking care of today**
  - **The associated operating challenges**
  - **“interim” measures to ensure reliability**
- **Enhancing the competitive electricity market**
  - **AESO's implementation of the market policy**



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# Transmission System: Current State

- **Only one significant transmission line has been built in the last 20 years**
  - **Fort McMurray area to Edmonton**
- **AESO addressing challenges in operating a system near its capacity:**
  - **Reliability issues: ensuring voltage stability**
  - **System losses continue to increase**
  - **Increasing system congestion**
  - **Reduced import/export capability**
  - **Increased “out of market or must-run” generation requirements**

**Bottom line: the transmission system must be reinforced**



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# System Reinforcements Underway

- **Edmonton to Calgary 500 kV Reinforcement**
  - **Approved by the EUB in April 2005**
  - **Planned in-service date: 2009**
  - **AltaLink will construct the transmission line**
    - **Facilities application: target summer 2006 filing with EUB**
  - **Challenge: transmission line right-of-way procurement**
  - **Challenge:**
    - **High international demand for transmission system equipment**
    - **High demand for construction materials and labour in Alberta**



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# System Reinforcements Underway (cont.)

- **SW System Reinforcement**
  - Driven by extensive wind generation development
  - Approved by the EUB in May 2005
  - Planned in-service date: 2007
  - AltaLink will construct
- **City of Edmonton**
  - Addressing reliability concerns for Edmonton city centre
    - Imminent retirement of Rossdale Generating Station
    - Reliability concerns with existing 240 kV cables
  - Approved by the EUB April 2005
  - Planned in-service date: 2008
  - EPCOR will construct



# Northwest System Reinforcement

- **Target to file “needs” application in February 2006**
- **Extensive stakeholder consultation**
  - **Goal to expedite regulatory review by reducing the number and narrowing the scope of issues**
  - **Positive stakeholder feedback**
- **Proposed reinforcement from Fort McMurray area and new regional transmission lines**
- **Benefits:**
  - **Enhanced regional reliability**
  - **For all intents and purposes, reinforcements should eliminate the need for transmission must-run in the upper northwest area**



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# Other Planning Studies

- **Northeast System Reinforcement**
  - Addressing uncertainty with the Fort McMurray area generation and load requirements
  - In consultation with stakeholders
  - Target to file “needs” application by year end 2006
- **Southeast System Reinforcement**
  - Restoring Alberta-Sask. inter-tie to full capacity
  - Accommodating wind potential
  - In consultation with stakeholders
  - Target to file “needs” application by year end 2006
- **20-year Transmission Outlook**
  - First Outlook published June 2005
- **10-year Transmission System Development Plan**
  - Target to file update of Dec. 2004 plan with the EUB by year end 2006



# AESO: Taking Care of Today

- **Major operating challenge: south system voltage stability**
- **Interim measure: adding 500 MVar capacitors in the Calgary area**
- **Partial in service Dec. 2005; completion Feb. 2006**
- **Benefits:**
  - **Reduced risk of voltage instability**
  - **Lower system losses/increased efficiency**
  - **Enhanced import and export capability**



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# AESO: Taking Care of Today

- **Interim measure: Transmission must-run**
  - **Calgary area, Grande Prairie area, Rainbow Lake**
  - **AESO committed to competitive procurement**
- **Increased dependence on AESO Operations Planning & System Coordination**
  - **Increased diligence in operations planning studies**
  - **Improved “real time” operating tools to enhance system management**
  - **Ongoing updates to AESO operating polices and procedures (OPPs)**
  - **System controller training**
- **NERC/WECC Audit**
  - **Strong endorsement of AESO system operations**
  - **Recommended three AESO practices as “industry best practice”**



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# Increasing Import/Export Capability

- **Inter-ties are critical to the success of Alberta's competitive electricity market**
- **AESO required by the Transmission Regulation to restore inter-ties to design capability**
- **Edmonton to Calgary 500 kV reinforcement**
  - **The primary driver is reliability within Alberta**
  - **Also will be a major step to restoring the Alta-B.C. inter-tie to design capability**
- **Working with stakeholders to enhance our inter-tie capability as soon as possible**
- **Operations system studies are critical in continuing to ensure reliability as we operate closer to transmission system limits**



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# Increasing Import/Export Capability (cont.)

- **Calgary area capacitor banks**
- **Improved system coordination centre operating tools to maximize inter-tie capability in “real time”**
- **Modified OPPs to enhance exports while managing risk**
- **Studied the potential for generator remedial action schemes and consulted with stakeholders**
  - **Requires close coordination with BCTC**
- **Studying the potential for export must-run services**
- **AESO intervention in BCTC Tariff proceeding – network economy**



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# Merchant Transmission in Alberta

- **Working with Montana Alberta Tie Ltd. to reliably integrate project into Alberta grid**
- **Developing a framework for merchant transmission**
- **AESO's planning and operating studies will ensure integrity of Alberta's power system**
- **"needs" application to be filed with EUB in February**
- **Coordinated operating agreement with MATL and NorthWestern Energy's power system in Montana**



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# Competitive Electricity Market

- **Implementation of government's Market Policy released in June 2005**
- **Expecting the policy to be enacted through a government regulation in the spring 2006**
- **Policy focused on refinements to the “real time” energy-only market with the objective of increasing price fidelity and credibility in the market signal**
- **Policy also raised concerns about the market providing other signals to ensure long-term adequacy of supply**
- **AESO has key role to implement policy recommendations**
- **Implementation to be carried out in three stages**



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# Stage 1: 'Quick Hits'

- **Addressing priority short-term adequacy and price fidelity concerns**
- **Primary objective: stabilize the merit order**
  - **Generators must offer/must comply**
  - **Imports allowed to set pool price**
  - **Limitations on restatements – two-hour lock down**
  - **Pool price reconstitution for transmission must-run**
  - **Payments to marginal generators**
- **Extensive stakeholder consultation**
- **Conceptual design has been completed**
- **Market rules have been drafted; issued for stakeholder review in the near future**
- **AESO IT systems are being modified**
- **Target implementation: March 2006**



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# Market Policy Implementation: Stage 2

- **Components**
  - **Reliability unit commitment (RUC)**
  - **Generator outage coordination**
  - **Notice of load curtailment**
- **Target implementation mid-2006**



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# Market Policy Implementation: Stage 3

- **Components**
  - **Long-term adequacy**
  - **Ancillary services – self procurement/market redesign**
  - **Enhanced AESO price forecasts**
  - **Alignment of dispatch and settlement**
  - **Demand response – market implications**
  - **Intermittent resources (e.g. wind generation)**
- **Requires significant study and consultation**
- **Preliminary target implementation: year end 2006**



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Your Questions?



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