


<p><b>AESO 2010 Tariff Stakeholder Consultation</b></p> <p>John Martin, Lee Ann Kerr, and Raj Sharma AESO Regulatory June 24, 2009 — Calgary</p>	<p>Reliable <b>Power</b></p> <p>Reliable <b>Markets</b></p> <p>Reliable <b>People</b></p>
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<p><b>Agenda</b></p>	
<ul style="list-style-type: none"><li>• Introduction (slides 1-5)</li><li>• Studies<ul style="list-style-type: none"><li>– POD cost function update (slides 6-12)</li><li>– TFO O&amp;M cost causation study (slides 13-17)</li><li>– Operating reserve charge investigation (slides 18-22)</li></ul></li><li>• 2010 rate proposals (slides 23-42)</li></ul> <p>Break</p> <ul style="list-style-type: none"><li>• 2010 terms and conditions proposals (slides 43-71)</li><li>• Next steps (slides 72-75)</li></ul>	
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## Recent Applications



- AESO 2009 Rates Update
  - Filed March 12, 2009
  - Responses to information requests due this Friday, June 26
  - New rates may be effective October 1, 2009
- AESO 2008 Deferral Account Reconciliation
  - Filed April 9, 2009
  - Interim approval to recover \$6.4 million net shortfall on May 2009 statements of accounts to be settled at end of June 2009
  - Responses to information requests due Monday, July 13
  - Final decision expected in late fall 2009

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## AESO 2010 Tariff Application



- Plan to file in late September 2009
- Working group meetings being held from May to July 2009
  - Working group information posted on AESO website
  - Parties should contact working group members to discuss progress
- 2010 tariff will build on existing tariff
  - Changes to rates include hourly DTS operating reserve charge and potential additional export and import rates
  - Changes to terms and conditions include revision to contribution policy and revisions to align and consolidate information
- Discussion documents and comment processes to review proposed changes

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**Meeting Objectives**



- Understanding of preliminary results of studies being prepared for tariff application
- Understanding of preliminary proposals for tariff changes
- Establish expectations for remainder of consultation process and for filing of application
- Proposals are discussed “without prejudice” and may not be included or may be different in tariff application when filed
- Please ask questions during presentation

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**POD Cost Function Update**

Raj Sharma  
Senior Tariff Analyst, AESO Regulatory



## Updated “Greenfield” Data Set



- 48 load-only interconnection projects included in POD cost function in 2007 tariff proceeding
  - From 1987 to 2006
  - Escalated to 2007 using Alberta CPI in 2007 GTA study
- Removed one project that was cancelled
- Added 17 new load-only interconnection projects
  - From 2006 to 2009
- Updated project costs to most recent estimates or final costs
  - Minimum +20%/–10% (“PPS”) estimate or better
- All project costs based on AESO Standard Facilities

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## Composite Price Index



- Project costs escalated to 2008 using composite price index
- Based on four historical price indices from Statistics Canada
  - Canada equipment index ► substations
  - Canada materials index ► transmission line
  - Alberta industrial services index ► engineering
  - Average of Calgary and Edmonton industrial structures indices ► construction
- Historical price indices weighted in proportion to average weighting of cost components for interconnection projects
- Project costs escalated from 2008 to 2010 using forecast of Alberta CPI

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## POD Cost Function Increase

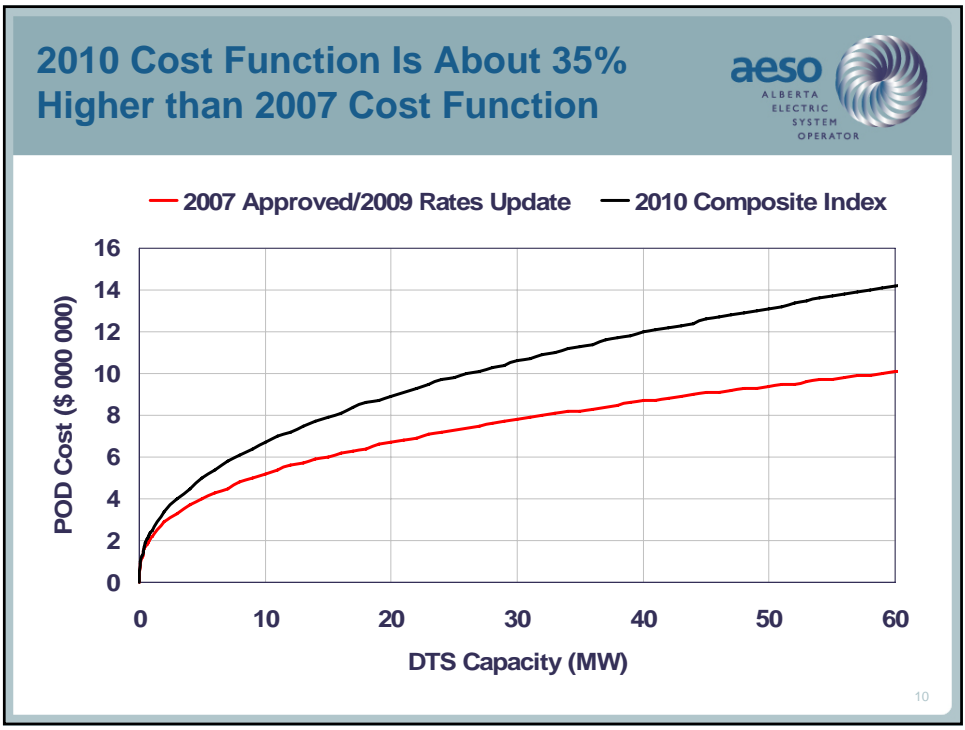


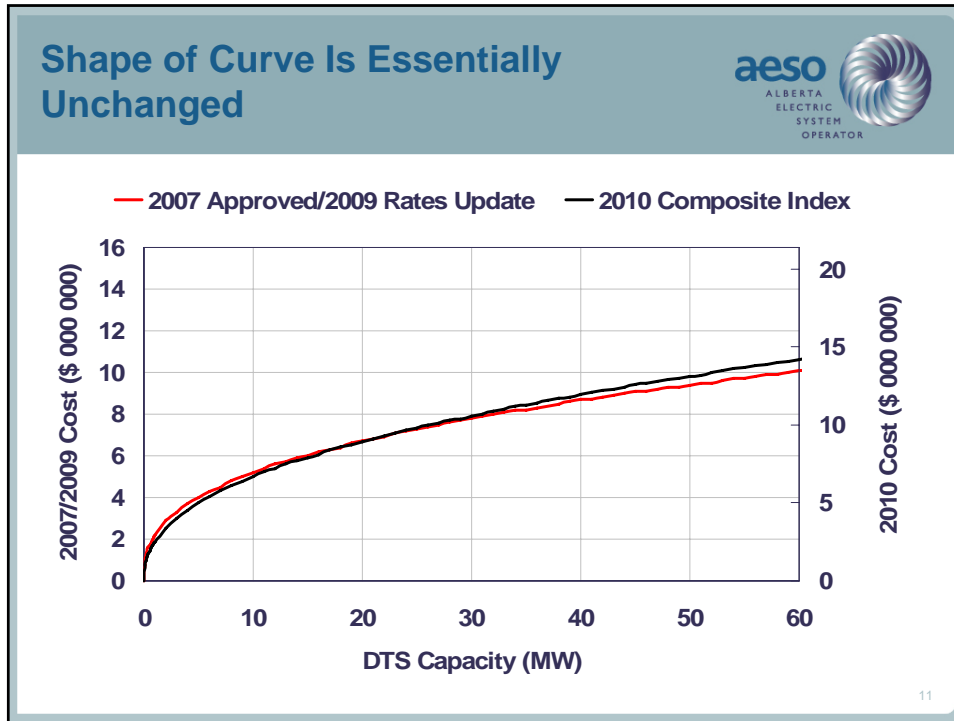
- 2007 POD cost function:  

$$\text{Cost} = \$2,213,108.54 \times \text{MW}^{0.37}$$
- 2010 POD cost function  

$$\text{Cost} = \$2,542,800 \times \text{MW}^{0.4197}$$
- Power curve remains “best fit” to data
- Shape of curve essentially unchanged
- Increases of:
  - 27% at 7.5 MW
  - 32% at 17 MW
  - 38% at 40 MW

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- ### Next Steps
- Final discussion paper planned for mid-July
    - Data will be distributed with discussion paper
  - Stakeholder comment process on discussion paper
  - Final results will be incorporated into 2010 tariff application
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## TFO O&M Cost Causation Study

John Martin  
Director, Tariff Applications, AESO Regulatory





### Study Status



- Study being completed for AESO by Arnie Reimer of PS Technologies
- Study scope developed and reviewed
- Initial interviews completed with TFOs
  - Study will be based on information from four largest TFOs: AltaLink, ATCO Electric, ENMAX, and EPCOR
- Study will examine costs from 2005 to 2009
- O&M costs will be defined broadly to include all non-capital costs
  - All costs except depreciation, return, income tax, and related costs
  - Includes operation and maintenance, general, and administrative costs

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## Preliminary Results



- Study is less data-intensive than wires cost causation study
- O&M costs appear to generally be considered demand-related costs
  - O&M primarily to maintain or improve reliability
  - Expected to increase demand weighting of bulk system and local system functions
- O&M costs appear to be:
  - Less than average for bulk system function
  - More than average for local system function
  - Average for point of delivery function
  - Expected to shift costs from coincident demand charge in bulk system to billing capacity demand charge in local system

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## Impact on Cost Functionalization and Classification



### Impact on Results From Wires Cost Causation Study

Function	Total	Classification		
		Demand (\$/MW)	Usage (\$/MWh)	Customer (\$/month)
Bulk System	41.7%	34.2%	7.5%	–
Local System	17.4%	14.3%	3.1%	–
POD	40.9%	35.0%	–	5.9%
<b>Total</b>	<b>100.0%</b>	<b>83.5%</b>	<b>10.6%</b>	<b>5.9%</b>

Note: Totals may not add due to rounding

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## Next Steps



- Finish study over summer
- Release study in early September
- Stakeholder comment process on study
- Final results will be incorporated in 2010 tariff application

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## Operating Reserve Charge Investigation

Raj Sharma  
Senior Tariff Analyst, AESO Regulatory



## Operating Reserve Charge



- DTS operating reserve charge recovers costs of active and standby operating reserves (regulating, spinning, and supplemental)
  - Also recovers related amounts, including trading fees, non-compliance charges, and liquidated damages
- Operating reserve costs are forecast to be \$236 million in 2009
  - Related amounts totalled \$7 million credit in 2008
- All costs are incurred hourly
  - Related amounts are billed in month following production

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## Operating Reserve Charge Review



- AESO had initially proposed moving from single-block to two-block operating reserve charge
  - Reduced deferral account balances significantly
- Stakeholders recommended AESO consider hourly allocation of operating reserve costs
- Hourly allocation appears feasible
  - Hourly operating reserve costs would be allocated over all DTS load in each hour
  - Allocation would be completed at month end and included on preliminary and final statements

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## Hourly Operating Reserve Charge



- AESO will maintain single-block operating reserve charge to allow customers to estimate magnitude of charge
  - Actual charge would be calculated from actual costs
- Operating reserve charge deferral account significantly reduced
  - Deferral account would likely still be used for related amounts
- AESO investigating how to provide information to allow customer to verify billing charges

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## Next Steps



- Finalize review of feasibility of hourly charge
- Final discussion paper planned for early August
- Stakeholder comment process on discussion paper
- Final results will be incorporated into 2010 tariff application

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## 2010 Rate Proposals


John Martin  
Director, Tariff Applications, AESO Regulatory







Rate Levels



- Rate levels will initially be based on 2009 costs as filed in AESO 2009 Rates Update application
  - Wires costs will be updated with recent TFO tariff approvals
- Rate levels will be updated to reflect 2010 costs when those costs are approved late in 2009
  - TFO costs will also be updated if further TFO tariff approvals occur
- Working groups examining:
  - Fort Nelson Rate
  - export and import rates
  - Primary Service Credit
  - deferral account Riders B and C

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## Demand Transmission Service Rate DTS



- Interconnection charge updated to reflect
  - (a) updated POD cost function, and
  - (b) updated wires cost functionalization and classification from TFO O&M costs causation study
    - No changes to structure, billing determinants, or methodology
- Operating reserve charge revised to:
  - highest 15-minute Metered Demand in each hour × operating reserve unit cost in each hour

where operating reserve unit cost is the total cost of operating reserves in the hour divided by the sum for all DTS customers of the highest 15-minute Metered Demand for each customer in the hour

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## Demand Transmission Service Rate DTS (cont'd)



- No change to voltage control charge
- No change to \$/MW component of other system support service charge
- Power factor deficiency charge will increase
  - Still determining appropriate level
  - Threshold will remain at 90% power factor during interval of highest Metered Demand

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## DTS Interconnection Charge




### Preliminary Comparison

Component	2009 Rates Update	2010 Application
<b>Bulk System</b>	\$2,229.00/MW \$0.78/MWh	\$2,156.00/MW \$0.51/MWh
<b>Local System</b>	\$653.00/MW \$0.32/MWh	\$866.00/MW \$0.22/MWh
<b>Point of Delivery</b>		
• First (7.5 × SF) MW	\$3,955.00/MW	\$3,920.00/MW
• Next (9.5 × SF) MW	\$1,368.00/MW	\$1,495.00/MW
• Next (23 × SF) MW	\$802.00/MW	\$917.00/MW
• All Remaining MW	\$425.00/MW	\$507.00/MW
• Fixed Component	\$7,030.00 × SF	\$5,270.00 × SF

SF = Substation Fraction

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- ## Fort Nelson Demand Transmission Service Rate FTS



  - Working group discussion has focussed on assessing costs in three time frames:
    - the current situation with significant TMR requirements,
    - after the northwest transmission development is complete, when the need for TMR is reduced, and
    - after significant load growth in the future when either TMR is again required or additional transmission development is needed
  - Working group has not yet completed examination of issues

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## Fort Nelson Demand Transmission Service Rate FTS (cont'd)



- AESO is generally supportive of:
  - continuing current rate for loads included in the northwest transmission development need application, and
  - serving incremental load growth beyond those levels by prorating future incremental costs over total incremental load growth
- Working group will continue to examine issues in support of a proposal to be included in the AESO's 2010 tariff application

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## Demand Opportunity Services Rates DOS



- No changes to structure, billing determinants, or methodology
  - Rate levels will change to reflect changes in costs
- Integrate some terms and conditions onto rate sheets

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## Export Transmission Service Rates XTS



- Rate XTS would provide a “firm” export service comparable to Rate DTS load service
- Export and import rates working group suspended to allow a separate interties workgroup to develop a vision and product requirements for export and import services
- Export and import rates working group will resume meeting when interties work is complete
  - Interties work is expected to be completed in July
- Work may not be completed in time to be included in 2010 tariff application, and may require a supplemental or amendment application

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## Export Opportunity Services Rates XOS



- No changes to structure, billing determinants, or methodology
  - Rate levels will change to reflect changes in costs
  - Rate levels will also reflect any changes arising from implementation of WECC BAL-002 contingency reserve standard

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## Demand Under-Frequency Load Shedding Credit Rate UFLS



- No changes to structure or billing determinants
- AESO is examining whether Rate UFLS should apply to direct-connect load customers
  - Currently Rate UFLS applies to distribution facility owners only

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## Primary Service Credit Rate PSC



- No changes to structure, billing determinants, or methodology
  - Rate levels will change to reflect changes in costs
- 55% of DTS POD charge components continues to represent share of costs attributable to substation
  - Based on updated data set used for POD cost function update
- Working group examining effectiveness of PSC price signal
  - Credit based on average embedded cost
  - Customer incurs specific incremental cost when building own substation

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## Supply Transmission Service Rate STS



- No changes to structure, billing determinants, or methodology
- RGUCC levels will reduce in accordance with existing schedule of charges

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## Import Transmission Service Rate ITS



- Rate ITS would provide a “firm” import service comparable to Rate STS generation service
- As with Rate XTS, export and import rates working group was suspended and will resume meeting when interties work is complete
- Work may not be completed in time to be included in 2010 tariff application, and may require a supplemental or amendment application

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## Import Opportunity Services Rates IOS



- No changes to structure, billing determinants, or methodology
  - Possibility of additional opportunity services to provide additional priority distinctions, based on product requirements developed by interties workgroup

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## Riders



- DAT Riders A1–A4: no changes
- Working Capital Deficiency/Surplus Rider B:
  - increase to threshold (currently \$7.0 million)
  - clarification of process
- Deferral Account Adjustment Rider C:
  - change to include prior year balances
  - examining other possible changes in working group
  - also examining possible changes to reconciliation approach and process
- Losses Calibration Factor Rider E: no change
- Balancing Pool Consumer Allocation Rider F: no change

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## Deleted Riders



- Bill Impact Mitigation Rider G
  - Expires December 31, 2009
- Interim Refundable Fort Nelson Rider H
  - Addressed as part of Rate FTS

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## Amortized Contribution Option Rider I



- Would allow credit-worthy customers to pay customer contributions over time rather than as up-front cash payment as currently required
- Would be available to both DTS and STS customers
- Credit-worthiness test may be restrictive
- Matters such as term, recalculation, and triggers for repayment still being examined in working group

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## Wind Forecasting Cost Recovery Rider J



- As part of implementation of market and operational framework, AESO is proposing a centralized wind forecasting service with costs recovered from wind generators
- Cost will likely be recovered under a rider approved as part of the AESO's tariff
  - Rider would apply only to wind generators
  - Rider would likely be on a \$/MWh production basis
- AESO will consult with wind stakeholders on design and implementation of rider

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## Rate Appendix Regulated Generating Units



- No material changes contemplated
- Incorporate relevant provisions from Article 14.6

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## 2010 Terms and Conditions Proposals

John Martin  
Director, Tariff Applications, AESO Regulatory





## Terms and Conditions Changes



- Update throughout to reflect changes in legislation, rules, and standards
- Interconnection process will be revised through separate initiative
  - Revised process will be reflected in terms and conditions
- Working groups examining:
  - TOAD-related changes
  - customer contribution policy

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## Article 1 Definitions



- AESO proposes to combine definitions from all authoritative documents into a single centralized glossary
  - Definitions would be used consistently in tariff, rules, and reliability standards
- Definitions would then no longer appear in tariff
- Definitions must be approved before residing in centralized glossary
  - AESO will apply for approval of definitions and movement to centralized glossary as part of 2010 tariff application
- Definitions used in a single article would be embedded in that article rather than moved to glossary

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## Article 2 Application of Tariff



- Clarify that current tariff applies to all customers, unless exceptions are identified
  - Such as original investment policy applying for contract changes that do not require construction
- No other material changes

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### Article 3 Provision of Service



- Will state that service may be subject to remedial action schemes or special protection schemes
- No other material changes

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### Article 4 Interconnection Requirements



- Removal of information already addressed in technical requirements
  - Primarily Article 4.4 for generating units
  - Already required in interconnection technical requirements

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## Article 5 System Access Applications



- Will be significantly revised to align with redesigned interconnection process
- Customer will work directly with TFO or own consultant
- Two processes are contemplated, one for load interconnections and one for generator interconnections
- Application fees will be eliminated
- Process will be developed over summer and included in 2010 tariff application when filed

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## Article 6 Security and Agreements



- Will be significantly revised to align with redesigned interconnection process
- Security requirements will be revised to align with expenditure of costs by TFOs

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## Article 7 Metering



- Removal of information already addressed in technical requirements
  - Several paragraphs include requirements already included in Metering Standard

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## Article 8 Provision of Information



- Removal of information already addressed in technical requirements
  - Several paragraphs already required in data and reporting standards

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## Article 9 Contribution Policy



- Clarification of contribution payment requirements
  - Amortized contribution option to be available to credit-worthy customers through Rider I
  - Otherwise, contribution payments to be staged to follow costs as incurred
- Further guidance on determination of system- and customer-related costs
- Further guidance on determination of AESO standard facilities
  - Will likely reside in policy document outside of tariff
- O&M charge will be updated based on TFO O&M study
  - Application will also reflect decision in R&V proceeding

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## Article 9 (cont'd) Investment Levels

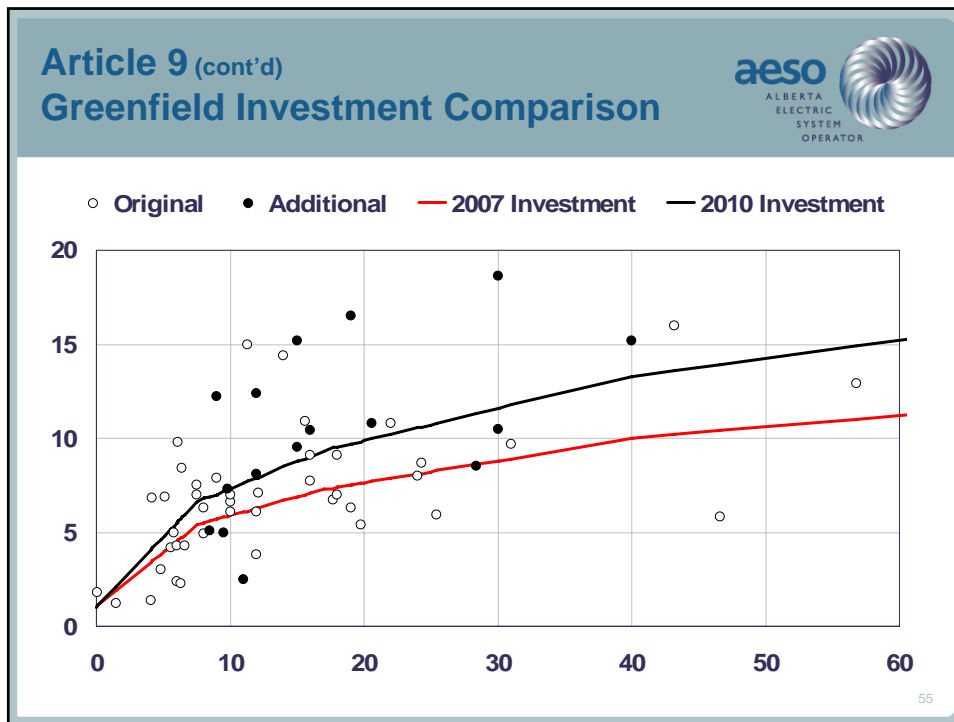


- Investment levels will be increased to reflect updated POD cost function
  - Will continue to use multiplier of 1.15 on average POD cost function

### Preliminary Comparison

Component	2007 Tariff	2010 Application
First (7.5 × SF) MW	\$28,900/MW/year	\$37,400/MW/year
Next (9.5 × SF) MW	\$10,000/MW/year	\$14,300/MW/year
Next (23 × SF) MW	\$5,900/MW/year	\$8,700/MW/year
All Remaining MW	\$3,100/MW/year	\$4,800/MW/year
Fixed Component	\$51,400 × SF/year	\$50,300 × SF/year

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- Article 9 (cont'd)**  
**Contribution Policy Details**
- Clarify that maximum investment will be based on contract capacity increase since last investment
    - Rather than increase at time of request (as is current practice)
  - Clarifications of staged load, cost changes, contribution changes, and shared facility requirements
  - No changes to generator system contribution requirements
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## Article 10 Demand Opportunity Service (DOS)



- Consolidate terms onto rate sheets if possible
- Move business practices to ISO Rules or into information document

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## Article 11 Ancillary Services (TMR)



- No changes contemplated

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## Article 12 Under-Frequency Load Shedding



- Consolidate terms onto rate sheet if possible

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## Article 13 Capacity Increases and Allocation



- Will be significantly revised to align with redesigned interconnection process
- Details will be developed over summer and included in 2010 tariff application when filed

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## Article 14 Reductions or Terminations



- Clarify that payment in lieu of notice is based on present value of local system charge only
- Explicitly require payout of RGUCC charges in the event of termination of RGU service before end of base life
- Move regulated generating unit provisions in Article 14.6 to Rate Appendix

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## Article 15 Security and Billing



- Explicitly state that interest will not apply to adjustments to statements of account
- Review provisions and applicability for late payment charges

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## Article 16 Peak Demand Waiver



- No material changes contemplated

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## Article 17 Interruptions and Force Majeure



- No material changes contemplated

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## Article 18 Limitation of Liability



- No material changes contemplated

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## Article 19 Dispute Resolution



- Investigating consolidation of dispute resolution procedures in ISO Rules
  - Provides consistency of process
- Tariff would incorporate process by reference to ISO Rule

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## Article 20 Confidentiality



- ISO Rule being developed to comprehensively address confidentiality matters
- Propose to remove confidentiality requirement from tariff to avoid redundancy

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## Article 21 Miscellaneous



- No material changes contemplated

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## Appendix A Metering Equipment



- Propose deleting appendix as information already addressed in Metering Standard

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## Appendix B Agreement Proformas



- Being reviewed to better address needs of AESO and customers
- Will align with redesigned interconnection process

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## Appendix C Procedure for TMR Procurement



- No material changes contemplated

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## Next Steps

John Martin  
Director, Tariff Applications, AESO Regulatory



## Next Steps



- Completion of working group discussion in July 2009
  - Possibility for some groups to continue into August
- Distribution of slide presentation with notes for stakeholder comment in July 2009
- Development of tariff detail during August
- General stakeholder meeting in early September
- Discussion paper and final opportunity for feedback in mid-September
- Tariff application filed in late September
- Effective date of 2010 tariff likely to be early 2011

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## Discussion and Questions



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## For More Information



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Tariff ► Current Consultations ► 2010 Tariff

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