



Generator Contribution Policy

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AESO Stakeholder Conference

January 19, 2005 – TELUS Convention Centre

Agenda

- Stakeholder consultation process
- Consultation overview
- Outline key components:
 - Local interconnection costs
 - Area definition
 - Zonal & Interzonal Factors
 - Payment process
 - ISO Rules on performance measures
 - Refund mechanism

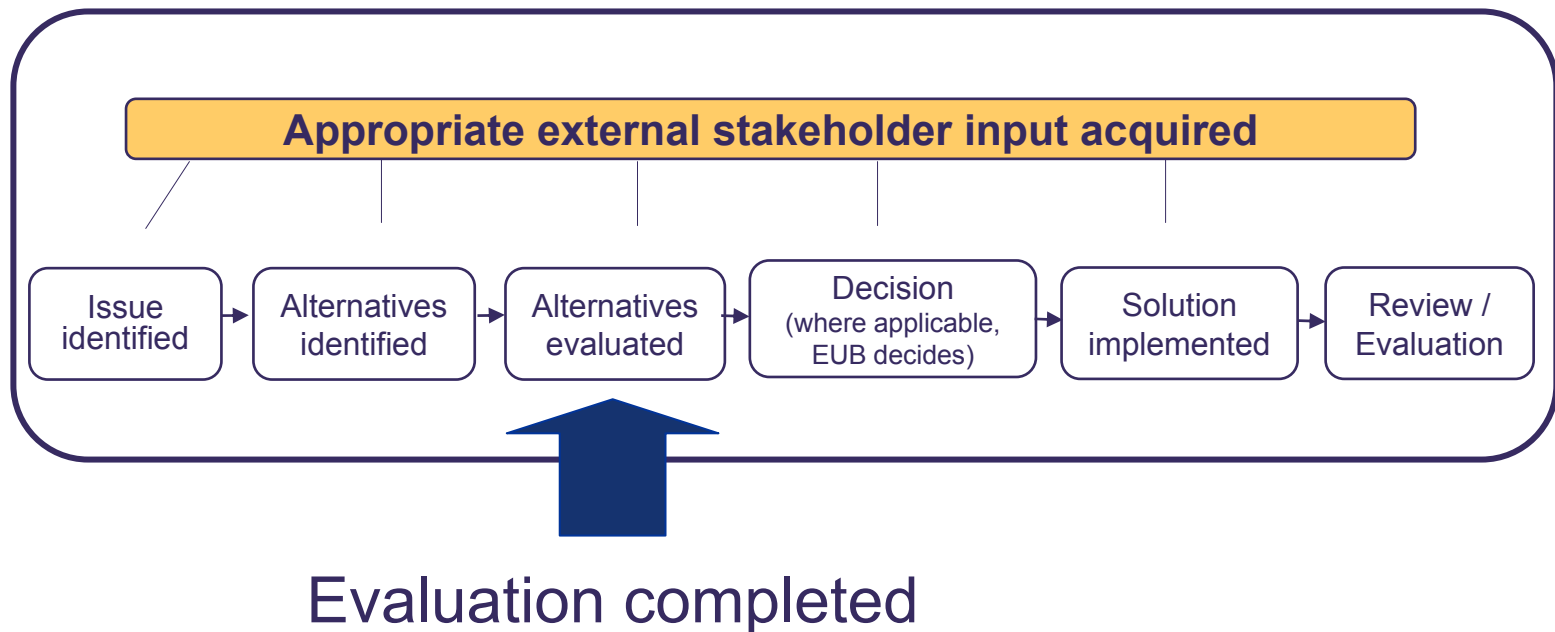


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AESO Consultation Process

- Final stage of determining content of 2006 GTA to be filed end of January 2005
- Further consultation for performance criteria



Consultation Overview

- Project kick-off – October 4
- One on one stakeholder consultation – week of October 25
- Distribute discussion paper – November 26
- Stakeholder consultation – December 3
- Stakeholder questionnaire / comments – December 31
- Stakeholder review – January 19, 2005
- File revised discussion paper and evidence in 2006 GTA – end of January
- Further consultation if necessary – February, March



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Policy Components: January 1, 2006

Refundable over 10 years based upon satisfactory performance

**Local
Interconnection
Costs**

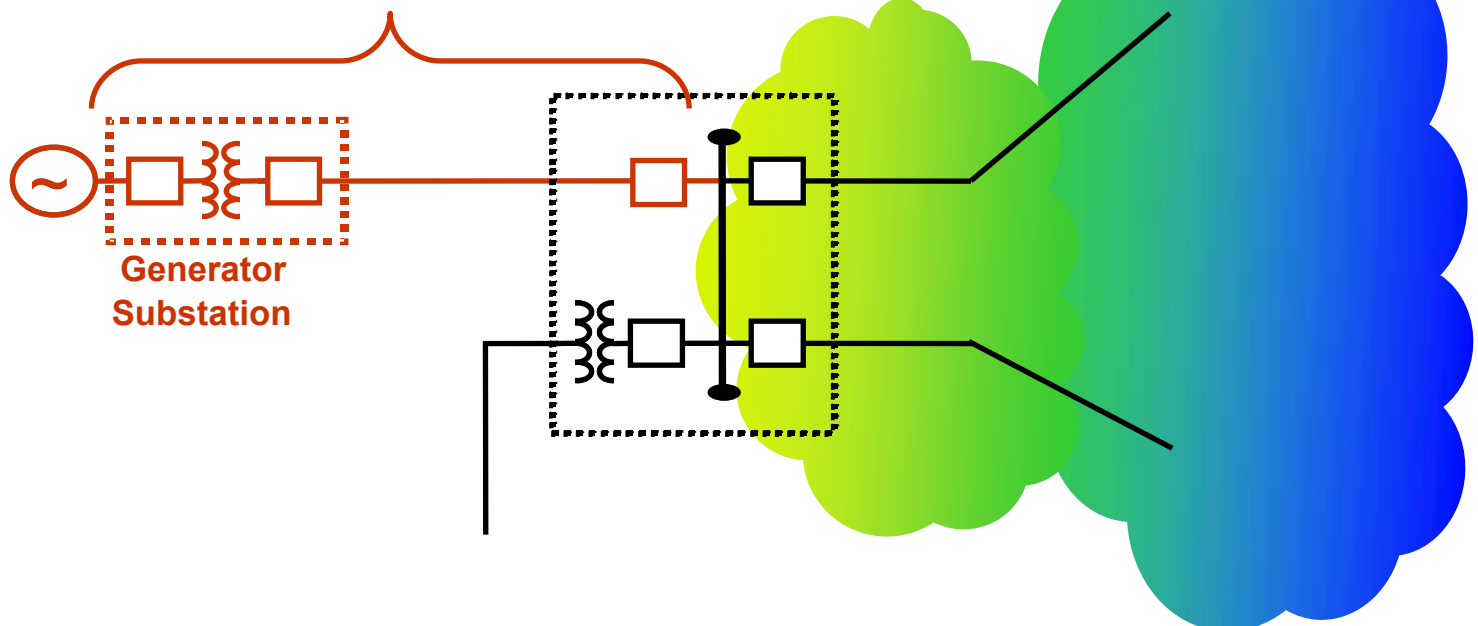
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**Upgrade to
existing facilities**

\$10,000/MW

**Zonal & Interzonal
Factors**

+\$0 to \$40,000/MW



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Local Interconnection Costs

- Transmission Regulation requires the AESO to define “local interconnection costs”
- AESO 2005 GTA T&C’s definition of “Customer-related costs” in relation to load contribution policy will be used for defining a generator’s “local interconnection costs”
- Article 9.2 (a) and 9.2 (b) (iii) through (v) define a generator’s “customer-related” local costs;
 - cost of the substation at the generator’s site,
 - interconnecting radial line,
 - breaker at the existing substation and,
 - communication from the generators substation to the existing substation.



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Area Definition

- Principles considered for Area Definition:
 - Area boundaries should:
 - reflect current and emerging generation basins;
 - reflect current and emerging load centers;
 - reflect, as much as possible, how the AESO will study and plan for transmission system development;
 - be geographically broad.
- **Seven** areas proposed



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Zonal & Interzonal Factors

\$40,000/MW x (Zonal + Interzonal Factors)

Zonal Factor
(33%)

Interzonal Factor
(67%)

Applies to generators who locate in an area of the transmission system where generation exceeds load

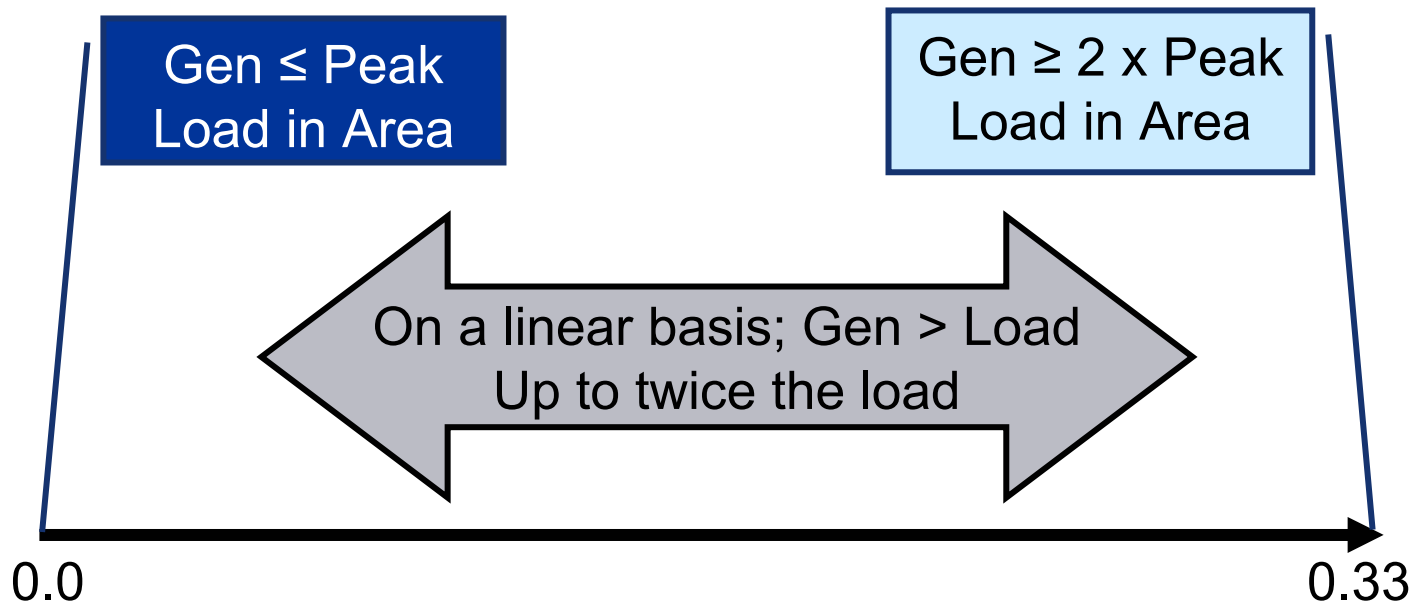
Determined based on location of the generation relative to load

• **33%:67%** ratio based on **local:bulk** wires cost ratio from cost allocation study



Zonal Factor: Generation > Load

- Where STS contract capacity (net to the AIES) is greater than the **aggregate non-coincident peak load** (net from AIES) forecast for a 5 year period
- To recognize that an area may evolve from a net importer to a net exporter
- Avoid the “cliff” of a binary approach



Zonal Factor Calculation: Inputs

| Area | Peak Load (MW) | Committed Generation |
|--------------|----------------|----------------------|
| SW | 308 | 747 |
| Calgary | 2,209 | 889 |
| East | 1,164 | 1,574 |
| Central | 1,055 | 834 |
| Edmonton | 3,273 | 6,267 |
| NE | 263 | 1,314 |
| NW | 1,389 | 536 |
| Total | 9,353 | 12,161 |

** Note: inputs to be finalized*



Zonal Factor Calculation

| Area | Peak Load (MW) | Committed Generation | Gen÷Load | Zonal Factor |
|--------------|----------------|----------------------|-------------|--------------|
| SW | 308 | 747 | 2.43 | 0.33 |
| Calgary | 2,209 | 889 | 0.40 | 0.00 |
| East | 1,164 | 1,574 | 1.35 | 0.12 |
| Central | 1,055 | 834 | 0.79 | 0.00 |
| Edmonton | 3,273 | 6,267 | 1.91 | 0.31 |
| NE | 263 | 1,314 | 4.99 | 0.33 |
| NW | 1,389 | 536 | 0.39 | 0.00 |
| Total | 9,353 | 12,161 | | |

** Note: inputs to be finalized*

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Interzonal Factor

- Principles:
 - Reasonably account for future load growth
 - Representative of the impact generation development in an area has on system flows and overall system development (including dominant path flows)
- Determination of generation location relative to load includes two components:
 - Physical distance from a central point in each area
 - Dominant flow adjustment – to recognize dominant path flow impacts



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Interzonal Factor

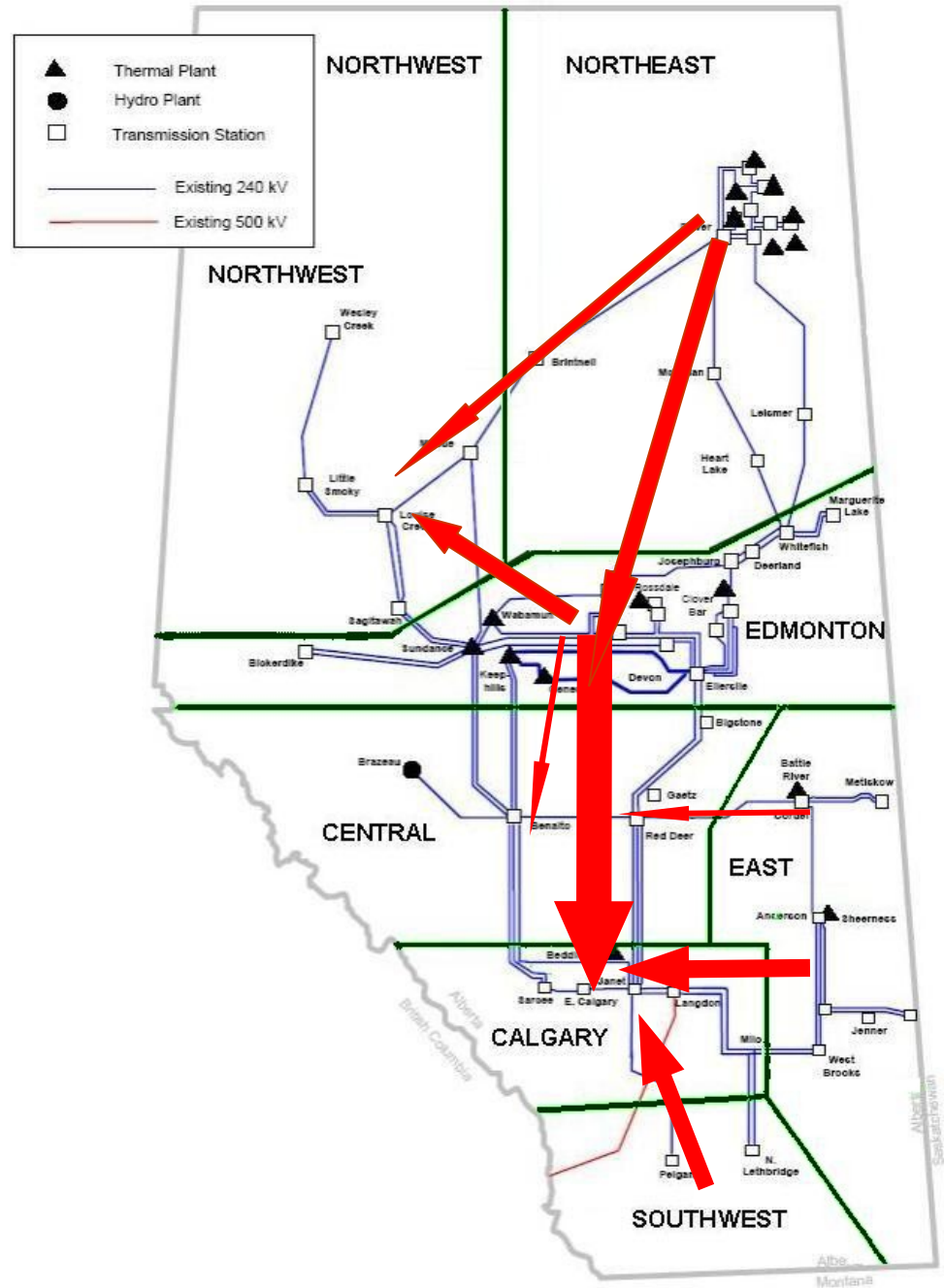
- Dominant path flow adjustment rules:
 - Generation is greater than load in the origin zone
 - Load is greater than generation in a destination zone
 - Flows from the origin zone to a destination zone is in the same direction as the dominant path flow
- “Dominant Path Adjustment” value of one “1” where all three criteria are met and zero “0” where one or more are not met



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Dominant Path Flows



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Dominant Path Adjustments

| | SW | Cal. | East | Cen. | Edm. | NE | NW |
|------|----|----------|------|----------|------|----|----------|
| SW | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Cal. | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| East | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| Cen. | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Edm. | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| NE | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| NW | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



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Interzonal Factor Calculation: Inputs

| Forecast Load Growth: 2006 – 2011 (MW) | | | | | | | |
|--|-----------|-------------|-------------|-------------|-------------|-----------|-----------|
| | SW | Cal. | East | Cen. | Edm. | NE | NW |
| Avg. | 25 | 259 | 112 | 101 | 325 | 5 | 149 |



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** Note: inputs to be finalized*

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Interzonal Factor Calculation: Inputs

| Forecast Load Growth: 2006 – 2011 (MW) | | | | | | | |
|--|-----------|-------------|-------------|-------------|-------------|-----------|-----------|
| | SW | Cal. | East | Cen. | Edm. | NE | NW |
| Avg. | 25 | 259 | 112 | 101 | 325 | 5 | 149 |
| Physical Distance Between Areas (km) | | | | | | | |
| SW | - | 166 | 206 | 286 | 428 | 772 | 640 |
| Cal. | 166 | - | 160 | 138 | 280 | 643 | 474 |
| East | 206 | 160 | - | 166 | 255 | 578 | 517 |
| Cen. | 286 | 138 | 166 | - | 195 | 508 | 360 |
| Edm. | 428 | 280 | 255 | 195 | - | 366 | 283 |
| NE | 772 | 643 | 578 | 508 | 366 | - | 406 |
| NW | 640 | 474 | 517 | 360 | 283 | 406 | - |

* Note: inputs to be finalized

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Interzonal Calculation: Dominant Path Adjustment

| Forecast Peak Load Growth: 2006 – 2010 (MW) | | | | | | | |
|---|----|------------|------|------------|------|----|------------|
| | SW | Cal. | East | Cen. | Edm. | NE | NW |
| Avg. | 25 | 259 | 112 | 101 | 325 | 5 | 149 |
| Physical Distance Between Areas (km) | | | | | | | |
| SW | 0 | 166 | 0 | 0 | 0 | 0 | 0 |
| Cal. | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| East | 0 | 160 | 0 | 166 | 0 | 0 | 0 |
| Cen. | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Edm. | 0 | 280 | 0 | 195 | 0 | 0 | 283 |
| NE | 0 | 643 | 0 | 508 | 0 | 0 | 406 |
| NW | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



Interzonal Calculation: Product of Inputs MW x km (000's)

| | SW | Cal. | East | Cen. | Edm. | NE | NW |
|------|----|------------|------|-----------|------|----|-----------|
| SW | 0 | 43 | 0 | 0 | 0 | 0 | 0 |
| Cal. | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| East | 0 | 41 | 0 | 17 | 0 | 0 | 0 |
| Cen. | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Edm. | 0 | 73 | 0 | 20 | 0 | 0 | 42 |
| NE | 0 | 167 | 0 | 52 | 0 | 0 | 60 |
| NW | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



Interzonal Factor Calculation: Product of Inputs MW - km (000's)

| | SW | Cal. | East | Cen. | Edm. | NE | NW | Total | IZ F |
|------|----|------------|------|-----------|------|----|-------------|------------|-------------|
| SW | 0 | 43 | 0 | 0 | 0 | 0 | 0 | 43 | 0.10 |
| Cal. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| East | 0 | 41 | 0 | 17 | 0 | 0 | 0 | 58 | 0.14 |
| Cen. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Edm. | 0 | 73 | 0 | 20 | 0 | 0 | 42 | 135 | 0.32 |
| NE | 0 | 167 | 0 | 52 | 0 | 0 | 60 | 279 | 0.67 |
| NW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | Max. | 279 | |



Total Zonal & Interzonal Factors

| Area | Zonal Factor | IZ F | Total | \$0-40k /MW |
|------|--------------|------|-------|-------------|
| SW | 0.33 | 0.10 | 0.43 | \$17,500 |
| Cal. | 0.0 | 0.0 | 0.0 | \$0 |
| East | 0.12 | 0.14 | 0.26 | \$10,300 |
| Cen. | 0.0 | 0.0 | 0.0 | \$0 |
| Edm. | 0.31 | 0.32 | 0.63 | \$25,100 |
| NE | 0.33 | 0.67 | 1.00 | \$40,000 |
| NW | 0.0 | 0.0 | 0.0 | \$0 |



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Total Zonal & Interzonal Factors

| Area | Zonal Factor | IZ F | Total | \$0-40k /MW | \$10k/MW | Total \$/MW |
|------|--------------|------|-------|-------------|----------|-------------|
| SW | 0.33 | 0.10 | 0.43 | \$17,500 | \$10,000 | \$27,500 |
| Cal. | 0.0 | 0.0 | 0.0 | \$0 | \$10,000 | \$10,000 |
| East | 0.12 | 0.14 | 0.26 | \$10,300 | \$10,000 | \$20,300 |
| Cen. | 0.0 | 0.0 | 0.0 | \$0 | \$10,000 | \$10,000 |
| Edm. | 0.31 | 0.32 | 0.63 | \$25,100 | \$10,000 | \$35,100 |
| NE | 0.33 | 0.67 | 1.00 | \$40,000 | \$10,000 | \$50,000 |
| NW | 0.0 | 0.0 | 0.0 | \$0 | \$10,000 | \$10,000 |



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Zonal & Interzonal Factor Updates

- Propose to revise Factors every **2** years:
 - New Zonal & Interzonal Factors will be published in January of every odd numbered year for the following 2 years:
 - In January 2005 factors are published for 2006-2007
 - In January 2007 factors are published for 2008-2009
 - Contribution level is known 1 year ahead of effective date and applicable for a 2 year period



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System Access Contracting

- System contributions will apply to new generators executing System Access Service agreements (SASA) on or after Jan 1, 2006
- System contribution in effect at the time the SASA is executed will apply



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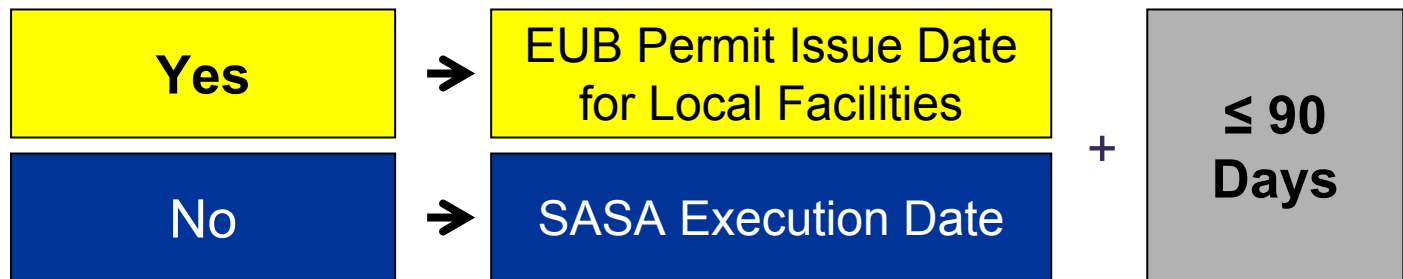
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Contribution Payment

- Contribution to be paid before construction of local interconnection facilities

Local Facilities

Payment Due By:



- Letters of credit or parental guarantees will not be accepted as forms of payment



Contribution Treatment

- Contributions will be treated as no cost capital
 - Refund amounts forfeited due to unsatisfactory performance will also offset AESO costs
 - Contributions will reduce AESO interest payments on borrowed working capital to the benefit of DTS customers
- No interest will be paid on contribution refunds



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Performance Criteria

- To be developed through the ISO Rules Process
- Continue stakeholder consultation in February, March
- Enter ISO Rules process in April 2005

Performance Criteria

- Commercial Operation Date (COD)
 - Reach COD in 5 years, beyond that annual forfeiture to max 10 years
- Under Contracting Criteria
 - Generate less than 125% of STS contract capacity at all times
- And...



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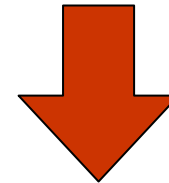
Performance Criteria...Cont.

Capacity Criteria

Operate at
90% or
greater of
STS
Contract
Capacity for
240 hours or
more per
annum

&

Operate at or above a
generation specific
annual capacity factor



Open cycle gas turbine: **0%**
Combined cycle gas turbine: **10%**
Wind/hydro/biomass: **15%**
Cogeneration: **30%**
Coal: **40%**



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Refund Process

- Refunds applied on straight-line basis over 9 years allowing for 1 off year and still receive a full refund
 - No off years, full refund in 9 years
 - 1 off year, full refund in 10 years
 - 2nd off year and every off year thereafter, forfeiture
- Generator to submit report outlining compliance with performance measures, due January 31 each year
- AESO to review Generator reports, check internal data and records and issue refund to generator by end of February each year



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Questions & Contact Information

- Questions?
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