



# Loss Factors – Proposed ISO Rule Changes

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# Overview

- Milestones
- Purpose
- Process summary
- Detailed changes



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# Milestone Summary

February 22, 2006	Opened discussion on Loss Factor rule changes
March 9, 2006	Request for input on Loss Factor rule changes
April 26, 2006	Layout of process for changes
May/June 2006	Loss Factor rule change development & internal review
July 2006	Stakeholder consultation on proposed Loss Factor rule changes
September 2006	AESO Executive Rule Committee review/approval
Later September 2006	Effective date of Loss Factor rule change



# Purpose and Approach

- ISO Rules change process explanation
- Understanding and clarifying Loss Factor rules and reason for upgrading
- Loss Factor rule change alternatives exist
  - Primary goal - understand the rule changes as discussed in the past two meetings, 2006
  - Questions and discussion



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# Process

- Suggested alternatives to Loss Factor rule changes presented
- Discussion and analysis
- Request final input and follow process
- Changes complete for September 2006.



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## Changes – ISO Rule 9.2 and Appendix 7

- Changes are suggested in two areas:
  - Changes to the Loss Factor Rules
  - Changes to Appendix 7
- No changes associated with the Transmission Regulation Amendment are considered at this time



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# Definition Enhancement

- Suggest within document(s) a new definition - “loss factor asset” instead of “generating unit” for reasons of consistency
- Loss Factor Assets may refer to Regulation as those assets receiving loss factor credits or charge



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## Rule 9.2.2.b Establish and Maintain Loss Factors

- Enhancement on Concept of Changes
  - For clarity, “addition” added to the text as STS increases can result in changes to other loss factor assets in a local region
  - ‘...in it’s opinion, an **addition**, enhancement, or upgrade to the transmission system...’
- Threshold still 0.25%
- Changes to the transmission system also may result to local or system wide loss factor modifications



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## Rule 9.2.2.e Establish and Maintain Loss Factors

- Issue is ability to develop loss factor estimates
- For ‘simple’ change (loss factor asset connected with little/no system changes) a preliminary loss factor may be developed w/ no project application
- In cases where system changes are required to connect a loss factor asset, the preliminary process is not sufficient to result in a meaningful loss factor estimate.
- Where system changes are required to connect a loss factor asset, a full application to the ISO is required for a project and planning solution. A loss factor estimate will then be generated.



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## Rule 9.2.4 Loss Factor Modeling and Assumption Details (Suggested)

- To generate GSO values for determining loss factors, at least two approaches exist
- Firstly, likely no issue exists if only historic output values used for all (common AESO data source)
- Secondly, issue may exist if option for changes continue to be allowed to GSO
  - Option offered to increase loss factor accuracy
  - Change allowance may result in unintended outcomes
  - To ensure appropriate behavior, compliance, sanctions, and other checks/balances have been requested if 'change option' remains



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## Appendix 7. 2.1 - Load Flow Loss Factors ('Adjusted' Raw Loss Factors)

- Issue: the event where the GSO does not contain enough generation to meet load
- Options:
  - Scale load to be covered by GSO
  - Scale generation and risk over subscribing MCR
- Load scale more appropriate



## Appendix 7. 2.1 - Load Flow Loss Factors ('Adjusted' Raw Loss Factors)

- Issue: the event where the GSO contains more generation than load
- AESO does not regard as an issue – un-dispatched units will be assessed at low or 0 MW as per reality



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## Appendix 7. 3.1 – Development of Base Cases

- Alternative option (RSS) for setting the High, Medium, and Low have been examined.
- Average still a good solution



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# Appendix 7. 3.1 – Development of Base Cases

- Tie Line definition
- Application to existing and new Tie Lines
- Upgrades to reflect current practices more accurately



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## Appendix 7. 2.1 - Load Flow Loss Factors ('Adjusted' Raw Loss Factors)

- A further issue raised: Using more than one year of historic data
  - Alignment of load duration curves for more than one year would be difficult/arbitrary in the current process
  - Using annual levels always ensures the latest data used for the next year



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# Weighting Factor

- When determining 2006 loss factors equal weighting was employed
- Going forward propose an alternate proportional weighting for the raw loss factors based on forecasted load



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## Conclusion, Next steps

- Proposed changes under consideration
- Follow milestones to adhere to intent of Loss Factor rule
- Implement revised Loss Factor rule in September, 2006
- Changes will be made in the loss factor calculation prior to finalizing changes to Loss Factor rule if and where necessary
- DOE amendment to transmission regulations to be treated separately

