Distribution Factor Differences

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DIRS

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Constraint Example

- Two Pnodes at same transmission substation
- Constraint is not between the two Pnodes
  - Constraint element 20 miles away
  - Contingent element 35 miles away
- Pnode 1 has a 19.8% raise help DFAX
- Pnode 2 has a 12.1% raise help DFAX

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Concerns

- Operations (Constraint control)
  - If priced at Pnode 1 (19.8%) but located at Pnode 2 (12.1%) then Operations receives over a third less response than anticipated
- Markets (Congestion pricing)
  - Example SMP = $20 and resource marginal price = $50
  - Shadow Price Pnode 1 = ($50-$20)/.198 = $151.51
  - Shadow Price Pnode 2 = ($50-$20)/.121 = $247.93
  - The marginal price sets the congestion cost for LMP across the PJM system for any impactful resource

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Constraint Distribution Factors /

Nodal Aggregation

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