

Load Payments

Market Outcomes

Objectives

- At the conclusion of this module you will be able to.....
 - Demonstrate the effect of congestion on load payments



LMP and Load Payments - Myths

- Security constrained economic dispatch minimizes load payments
- If we remove all transmission constraints, loads will pay less

These are common misconceptions

Load Payments - Case 1



11,000MW @ \$20
10,500MW Dispatched

LMP = \$20



Load = 10,000MW



Flow = 500 MW

Limit = 500 MW

11,000MW @ \$100
9,500MW Dispatched

LMP = \$100



Load = 10,000MW

Total Load Payments = (10,000 * \$20) + (10,000 * \$100) = \$1.2 M

Load Payments - Case 2

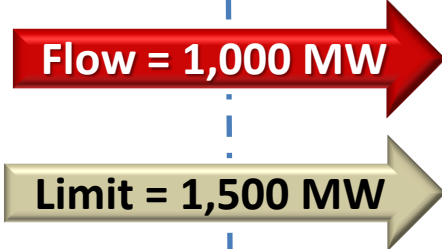


11,000MW @ \$20
11,000MW Dispatched

LMP = \$100



Load = 10,000MW



11,000MW @ \$100
9,000MW Dispatched



LMP = \$100



Load = 10,000MW

Total Load Payments = $(10,000 * \$100) + (10,000 * \$100) = \$2.0 \text{ M}$

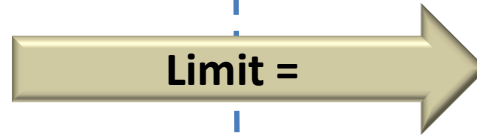
Load Payments Exercise



5,000MW @ \$40



Load = 4,000MW



5,000MW @ \$80



Load = 4,000MW



Calculate the total system load payments with a transmission limit of:

- 500 MW
- 1,500 MW
- Which is higher?

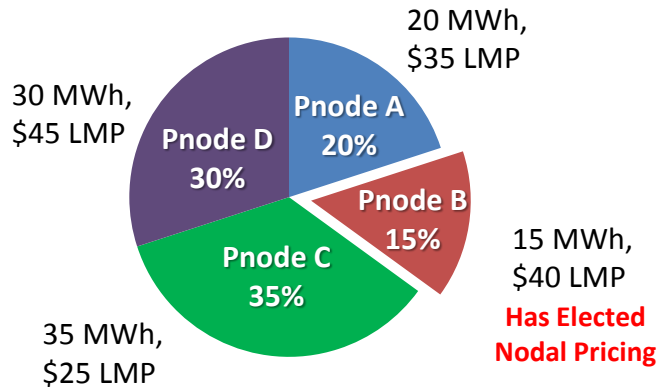
Residual Metered Load Pricing

Residual Metered Load Pricing Overview

- Residual Zone (Residual Metered Load Aggregates)
 - An aggregate containing all load buses in the fully metered EDC territory, minus all load that has been designated to be priced at a specific non-zonal (or nodal) location
- Residual Metered Load aggregate prices are defined by weighting each load bus LMP by that bus's residual metered load aggregate distribution factor

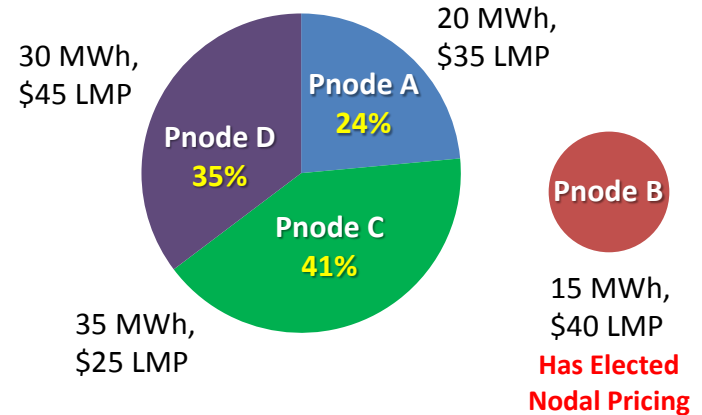
Nodal Load Impacts on Physical Zone Price

Physical Zone Definition



Total Zone Load Charges: \$ 3525
Physical Zone LMP: \$ 35.25

Residual Zone Definition



Total Zone Load Charges: \$ 3525
Residual Metered Load LMP: \$ 34.41

Questions?