



Node-to-Zone vs. Zone-to-Zone FTR Auction Example

June 3, 2002

John Lally, ISO New England



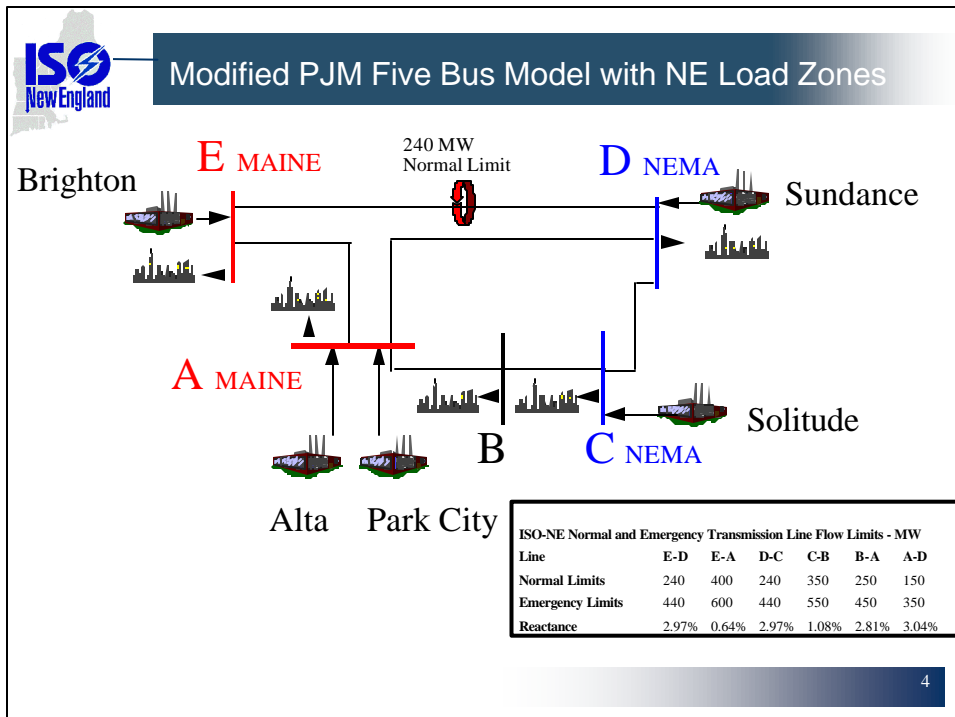
Objectives

At the completion of this presentation, you should be able to understand the difference between the following types of FTRs ...

- Node-to-Zone FTR
- Zone-to-Zone FTR

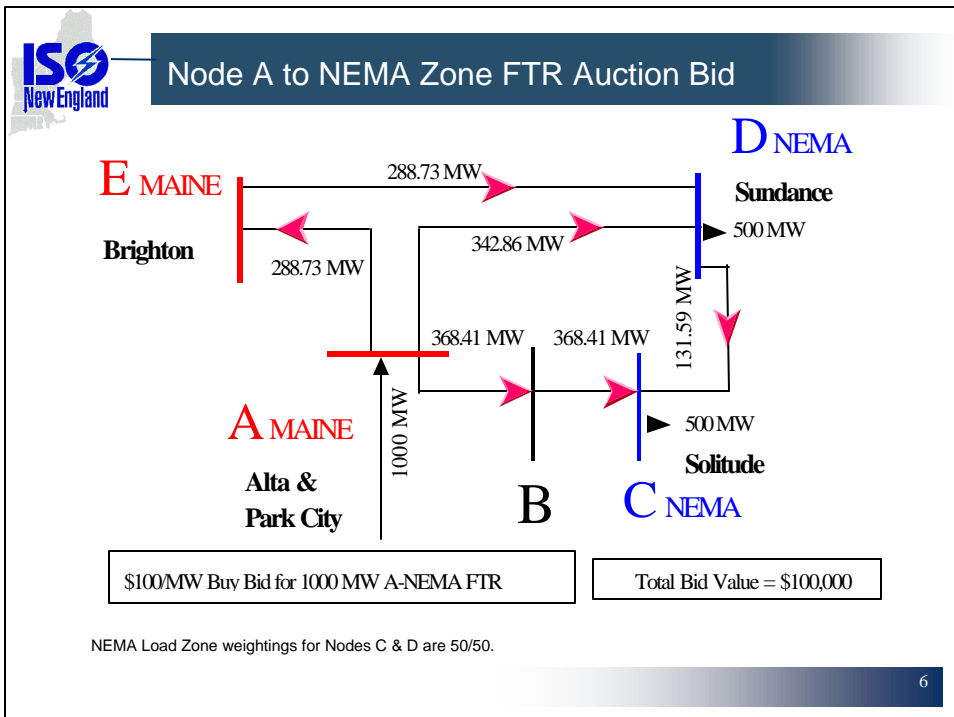


The Five Bus Power System Model



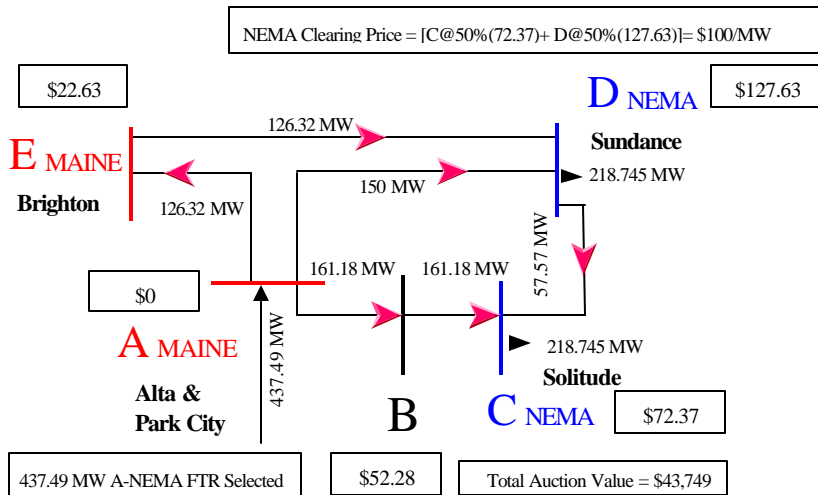


Node-to-Zone FTR Auction Example





Node A to NEMA Zone FTR Auction Solution



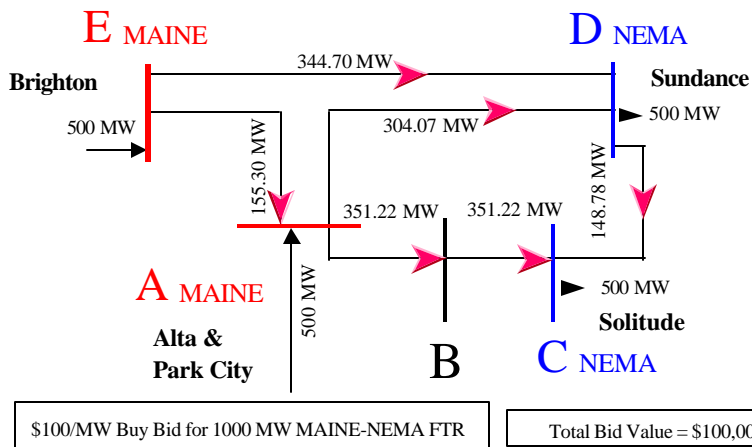
7



Zone-to-Zone FTR Auction Example



MAINE Zone to NEMA Zone FTR Auction Bid

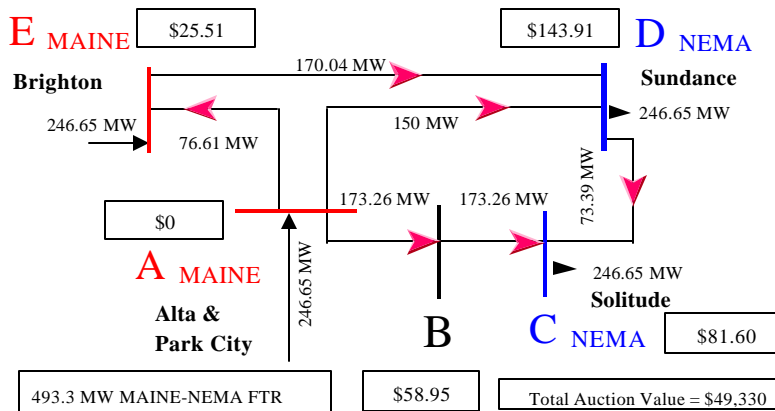


MAINE Load Zone weights for Nodes A & E are 50/50 and NEMA's weightings for Nodes C & D are also 50/50.

9



MAINE Zone to NEMA Zone FTR Auction Solution



MAINE Clearing Price = $\{A@50\% (0) + E@50\% (25.51)\} = \$12.76/\text{MW}$
 NEMA Clearing Price = $\{C@50\% (81.60) + D@50\% (143.91)\} = \$112.76/\text{MW}$
 MAINE to NEMA Path Clearing Price = $\{112.76 - 12.76\} = \$100/\text{MW}$

10



Observations



Observations

Node-to-Zone and Zone-to-Zone FTR bids are not equivalent:

- Each auction solution resulted in unique nodal clearing prices.
- For this example, the zone-to-zone FTR yielded a greater auction value than the node-to-zone FTR. If both FTRs in this example were to compete in the same auction, the zone-to-zone FTR would have prevailed as it maximizes the auction value.



Acknowledgements

To Dr. N. S. Rau for his tutelage in optimization theory.

To the PJM Interconnection for the five-bus power system model upon which this example is based.



?

Questions?