



Transmission Modeling

*-How much detail
is needed?*

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Load values must be defined at the bus level in order to properly calculate line flows and spot prices.

Power flow provides snapshot of load distribution between buses within the system.



Now – Hourly profiles on a control area basis can be distributed using this snapshot, recognizing non-conforming loads at selected buses.

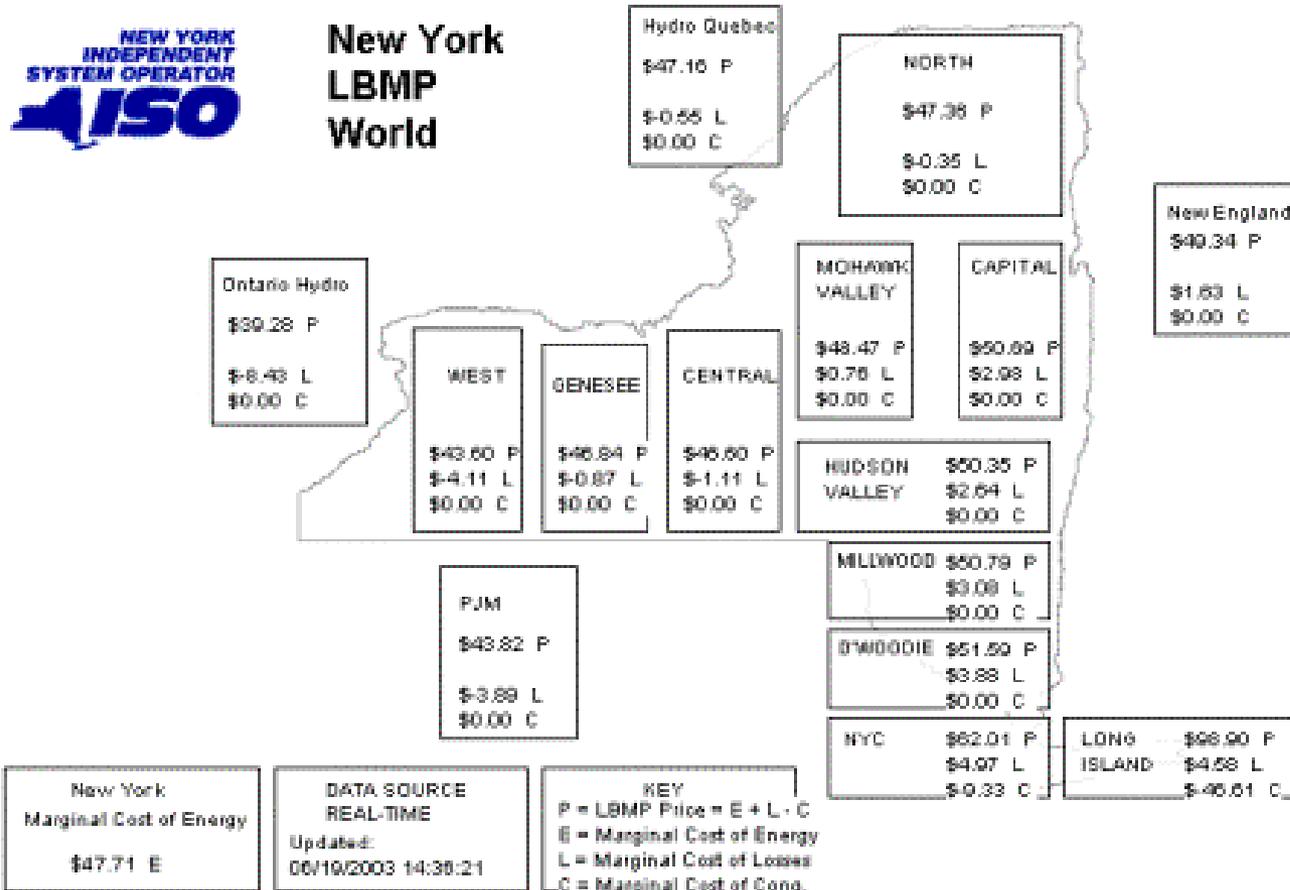
Future – Define residential, commercial and industrial load shapes by region.



**Scheduled flows can be calculated
in parallel with Electrical flows.
Both are “real” in the sense that
they are recognized in system
operation.**



Actual losses can be significant, even when congestion is not present.



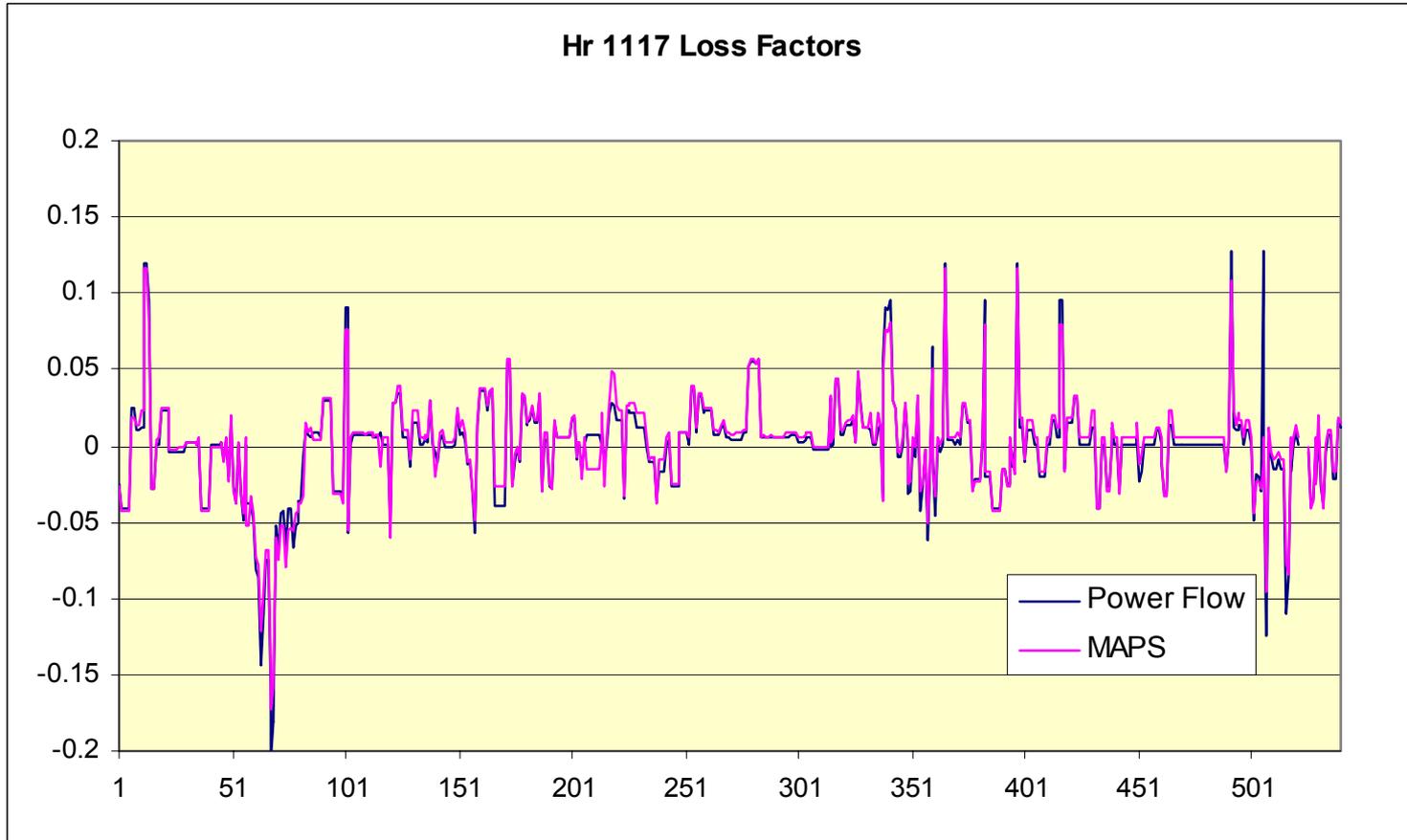


For large systems the Average Losses need to be considered in the calculation of line flows and total generation required.

Incremental losses should be considered in the determination of spot prices

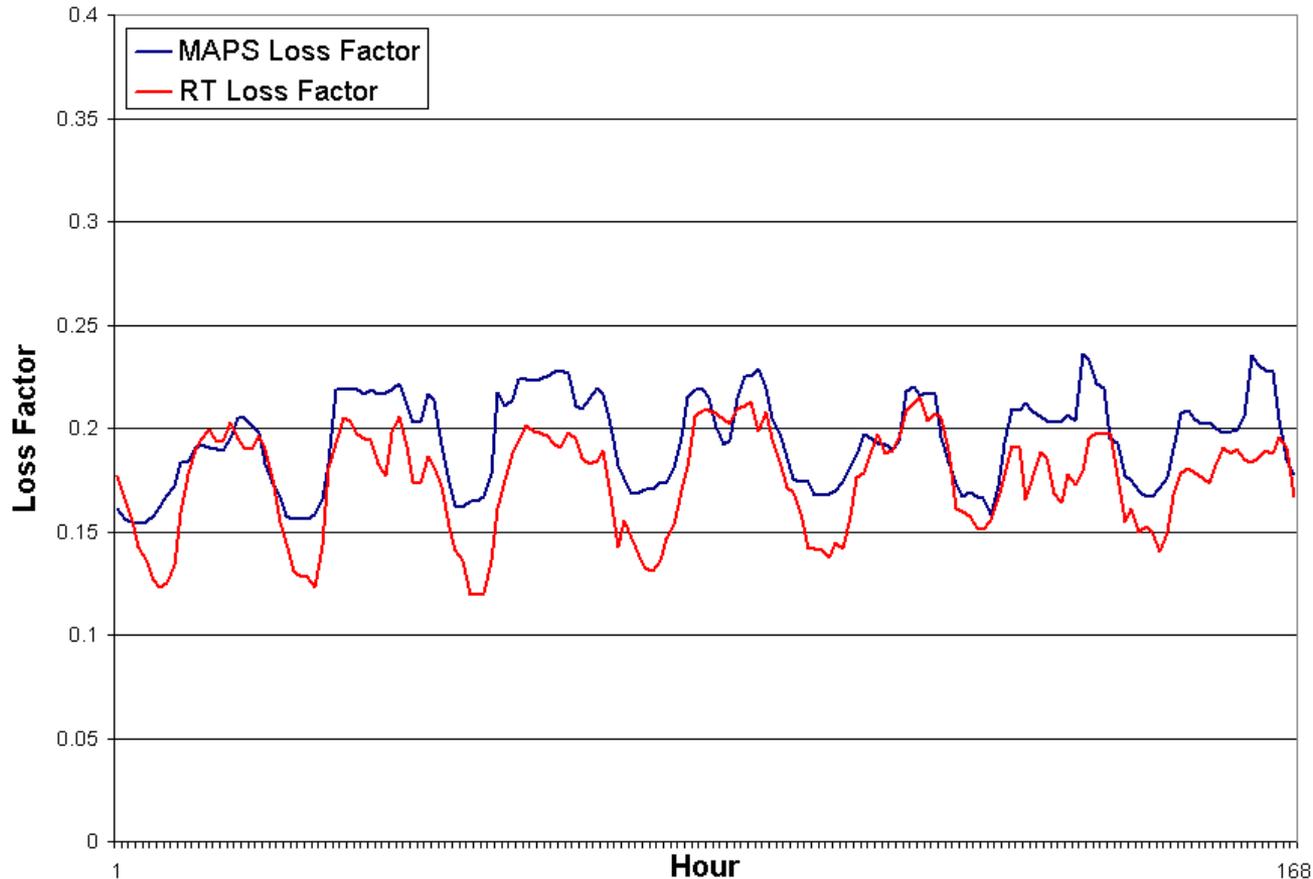


MAPS predictions of Loss Factors are in close agreement with full Power Flow calculations.





Comparison of GE-MAPS results and NYISO data



Difference in loss factors between zones A and J shows good correlation between GE-MAPS and NYISO data



Incremental Loss Logic Impact on Magnitude and Sign

