



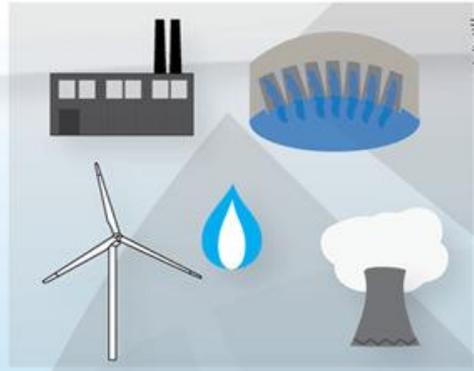
Organization of MISO States

*Not Your Father's
Electricity Industry –
Utilities in 2014*

William H. Smith, Jr.

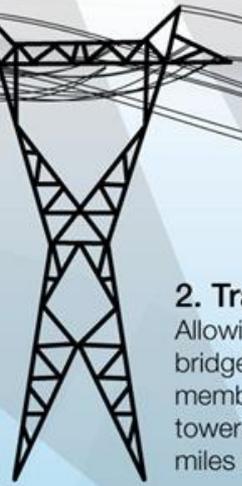
Multistate Tax Commission

July 2014



1. Generation

Power is generated by turning an energy source into electricity. In MISO, sources include coal, natural gas, nuclear and renewable power.



2. Transmission

Allowing the flow of electricity to bridge long distances, MISO's member transmission lines and towers support more than 65,787 miles of electricity flow.

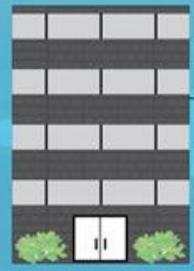


MISO

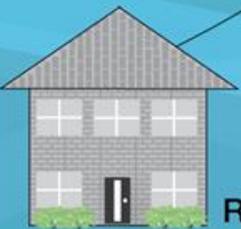
An Overview of the Bulk Transmission System



Industrial



Commercial

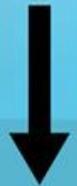
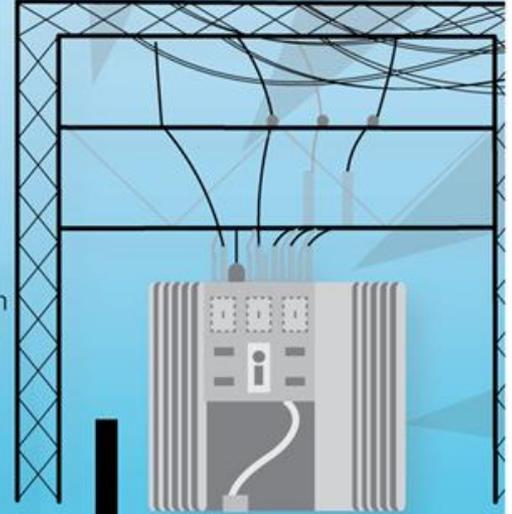


Residential



3. Distribution

Allows energy to be moved from transmission lines closer to end users, ensuring reliability and power quality.



4. Final Delivery

As travel distance decreases, smaller power lines are used to reach business, industrial and residential end use customers.

Industry Changes

- 1978 – PURPA opens generation to third parties, encourages renewable generation
- 1996 – FERC Open Access program opens transmission system to all generators, leads to regional transmission systems
- 1990s – state retail competitive supply and restructuring
- Unbundling – separating ownership of generation, transmission, and distribution

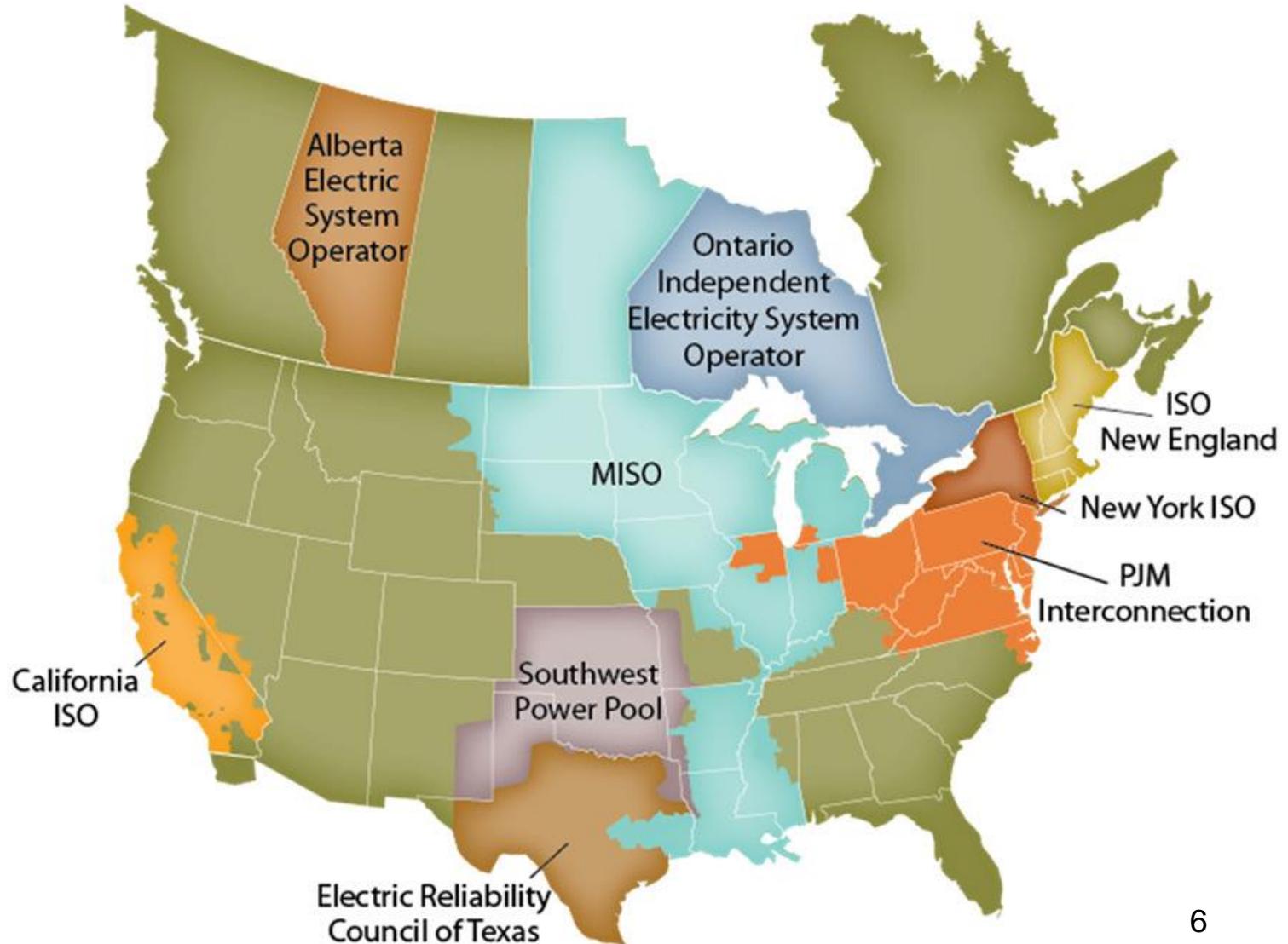
Mega Trends

- Acceptance of market forces in regulated and monopoly industries
- Computational power
- Environmental forces

ISO and RTO

- Independent Transmission System Operator (ISO)
 - FERC-regulated
 - Operates transmission grid
 - Does not own transmission assets
 - Provides non-discriminatory access to grid
 - Manages congestion
 - Maintains reliability and security
 - Provides billing and settlement services
- Regional Transmission Organization (RTO)
 - ISO Responsibilities
 - Core characteristics: Reliable operation, independence, regional configuration, operational authority
 - Eight key functions: Tariff administration, congestion management, parallel path flows, ancillary services, OASIS and capability calculations, market monitoring, planning and expansion, and interregional coordination

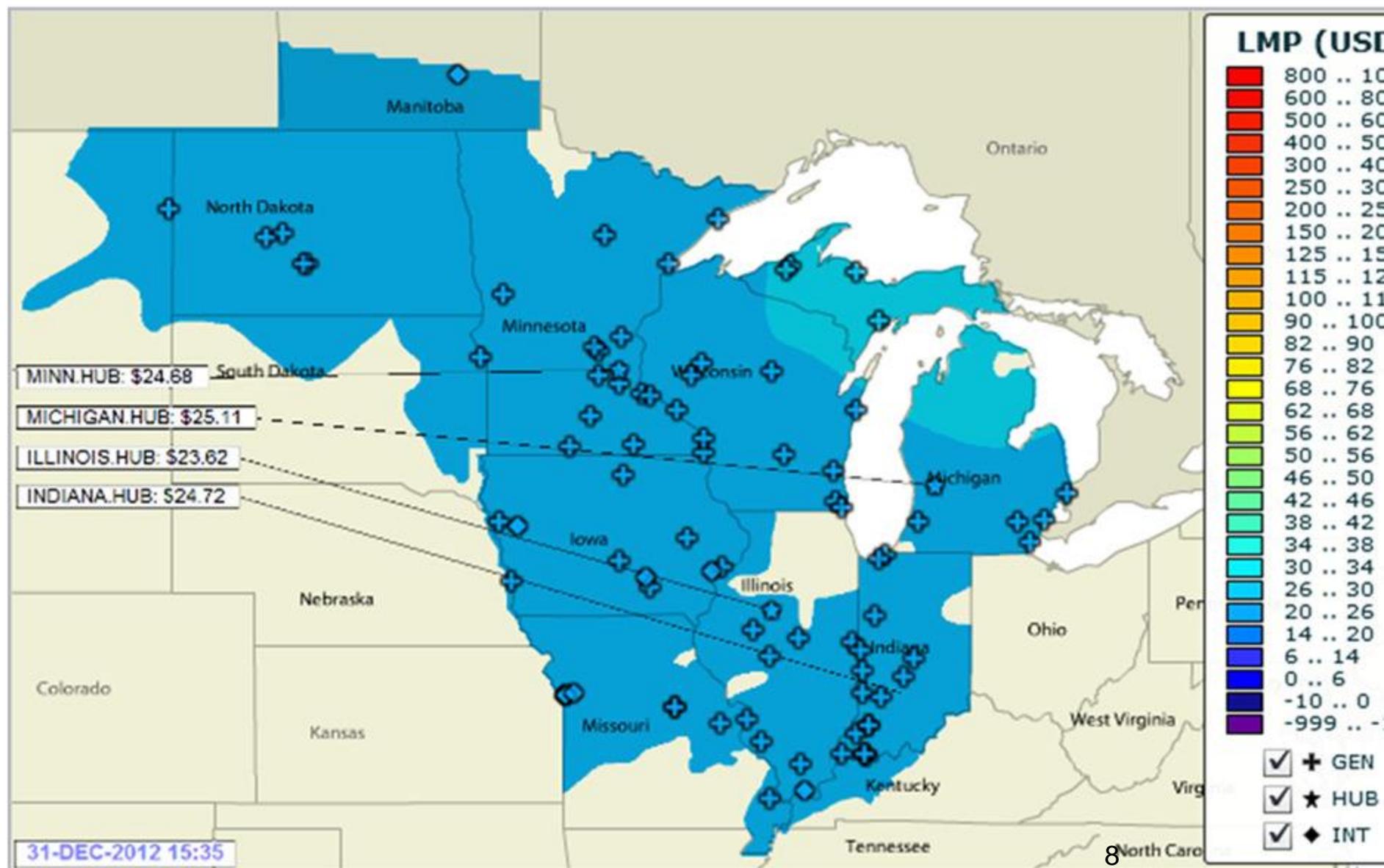
North American RTOs and ISOs



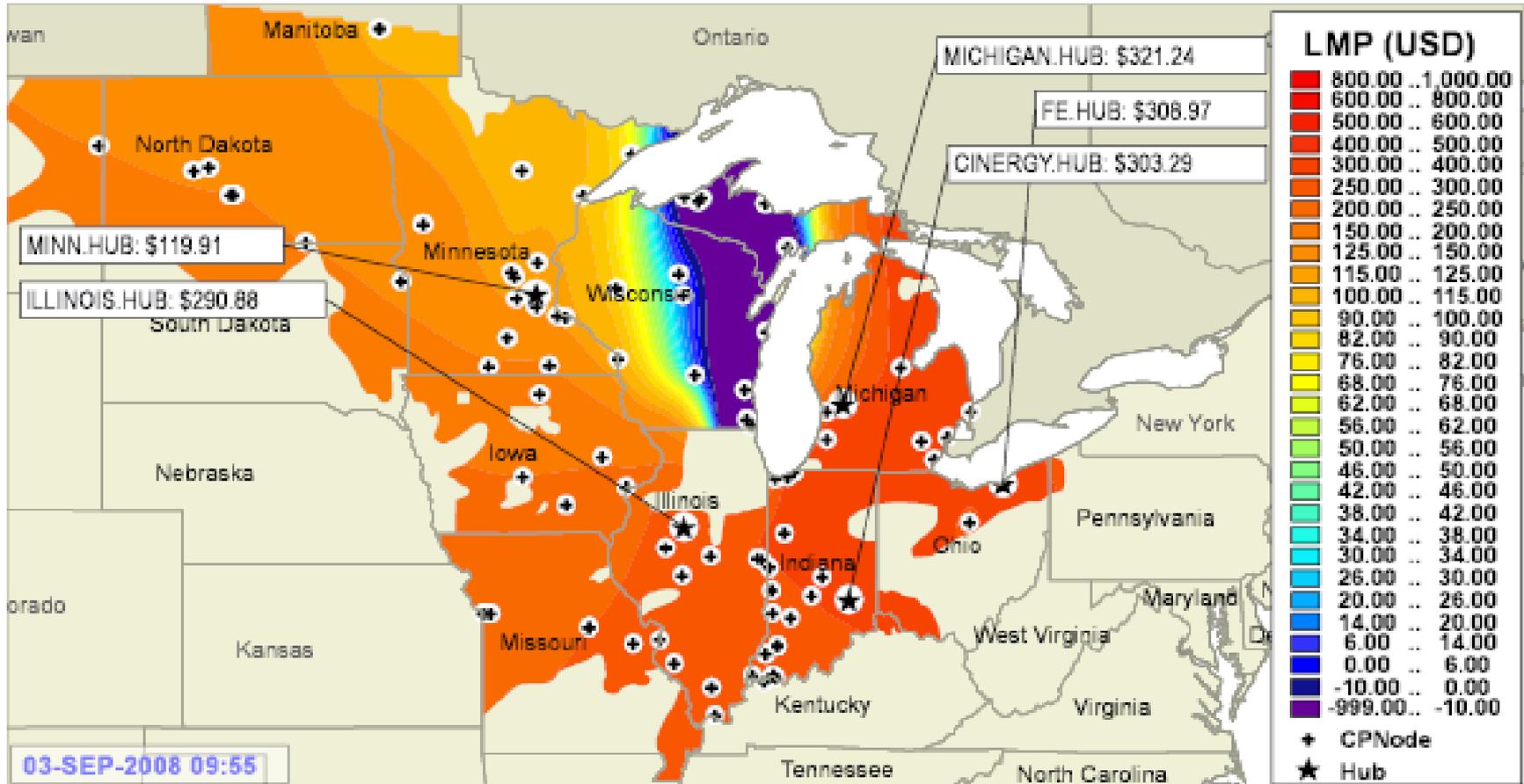
RTO Market Participants

- Transmission Owners
- Competitive Transmission Developers
- Transmission Dependent Utilities
- Independent Power Producers
- Industrial End Users
- Power Marketers and Brokers
- Demand Response Providers

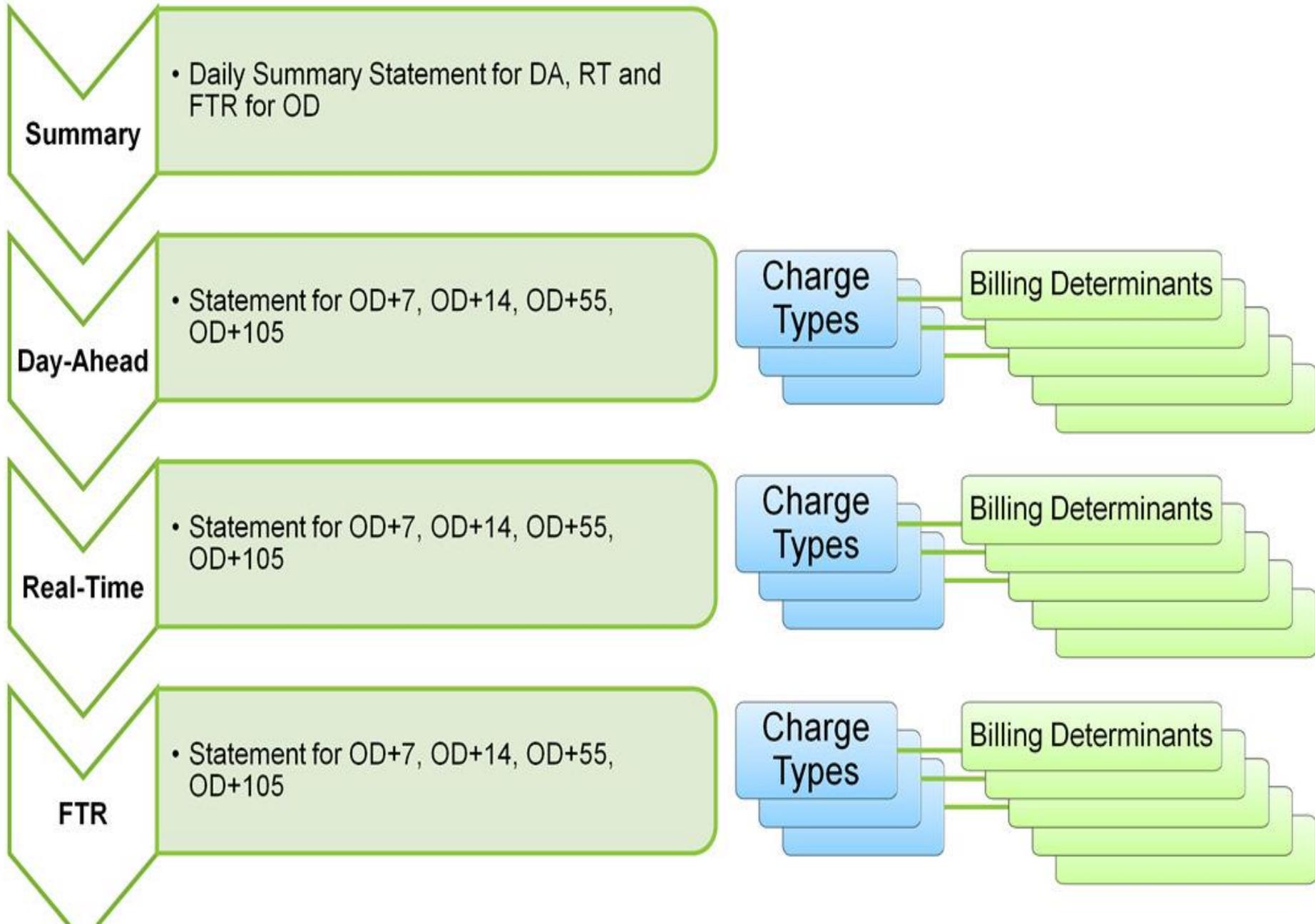
LMP Basics...



Locational Marginal Prices . . .



- Financial settlement of market activities in the MISO footprint



Financially settles Market Participants' use of the MISO Transmission System and mandated, non-competitive Ancillary Services such as scheduling and voltage support

Market Participant charges for Transmission and Ancillary Services are calculated based on the Tariff that has been approved by the FERC.

Transmission Settlements

Collected funds are distributed to the Transmission Owners and the providers of the mandated Ancillary Services

Pre-date the opening of the Markets and are settled and billed using different systems on different schedules than Market Settlements

Problem Areas for Taxing Authorities:

- Time differentiated wholesale rates
- Revenue not tied to ‘sale’
- Physical dispatch may not match commercial path
- RTO as counterparty
- Virtual traders
- Demand response and ‘non-consumption’ payments
- RTO may be tax exempt
- Multi-state RTO
- Multi-RTO state
- Inter-RTO trades

Alert – this list may not be all-inclusive