



Iowa Utilities Board



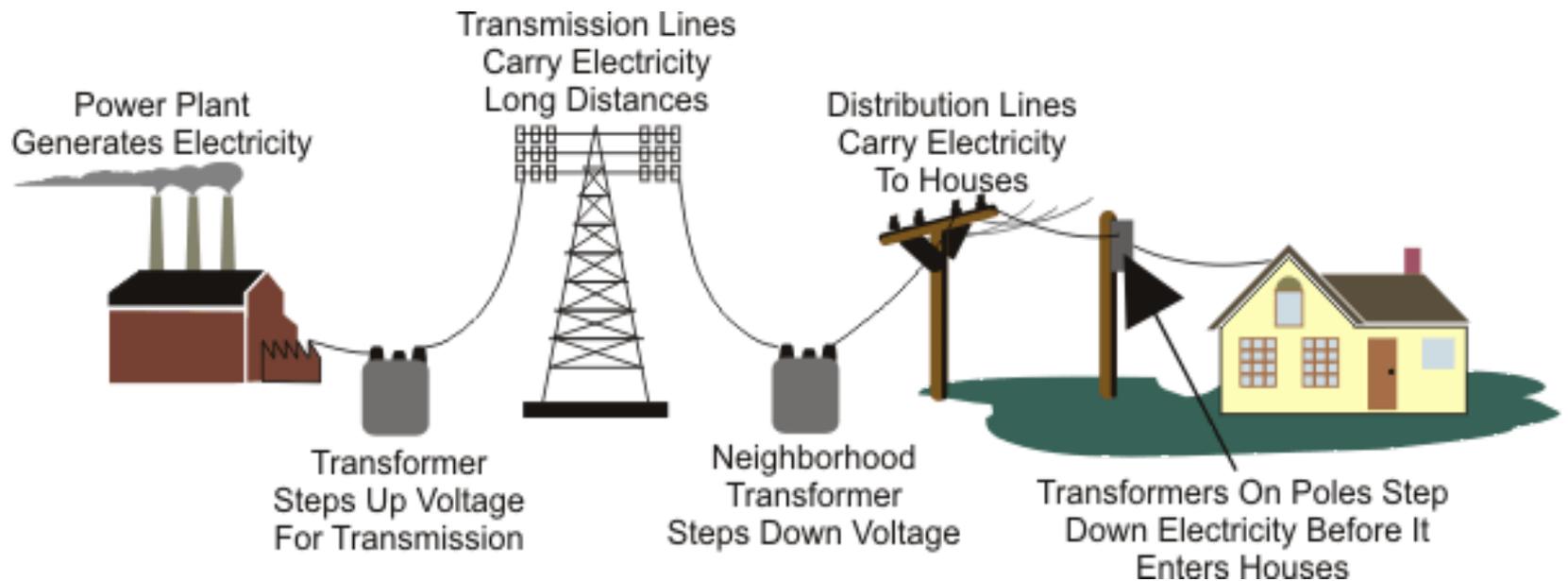
Presentation on

ELECTRIC TRANSMISSION IN IOWA AND THE MIDWEST

February 25, 2008



Transporting Electricity





Transmission lines in the U.S. and Iowa were designed to reliably deliver power to major electric load centers (cities) and to interconnect with neighboring utilities



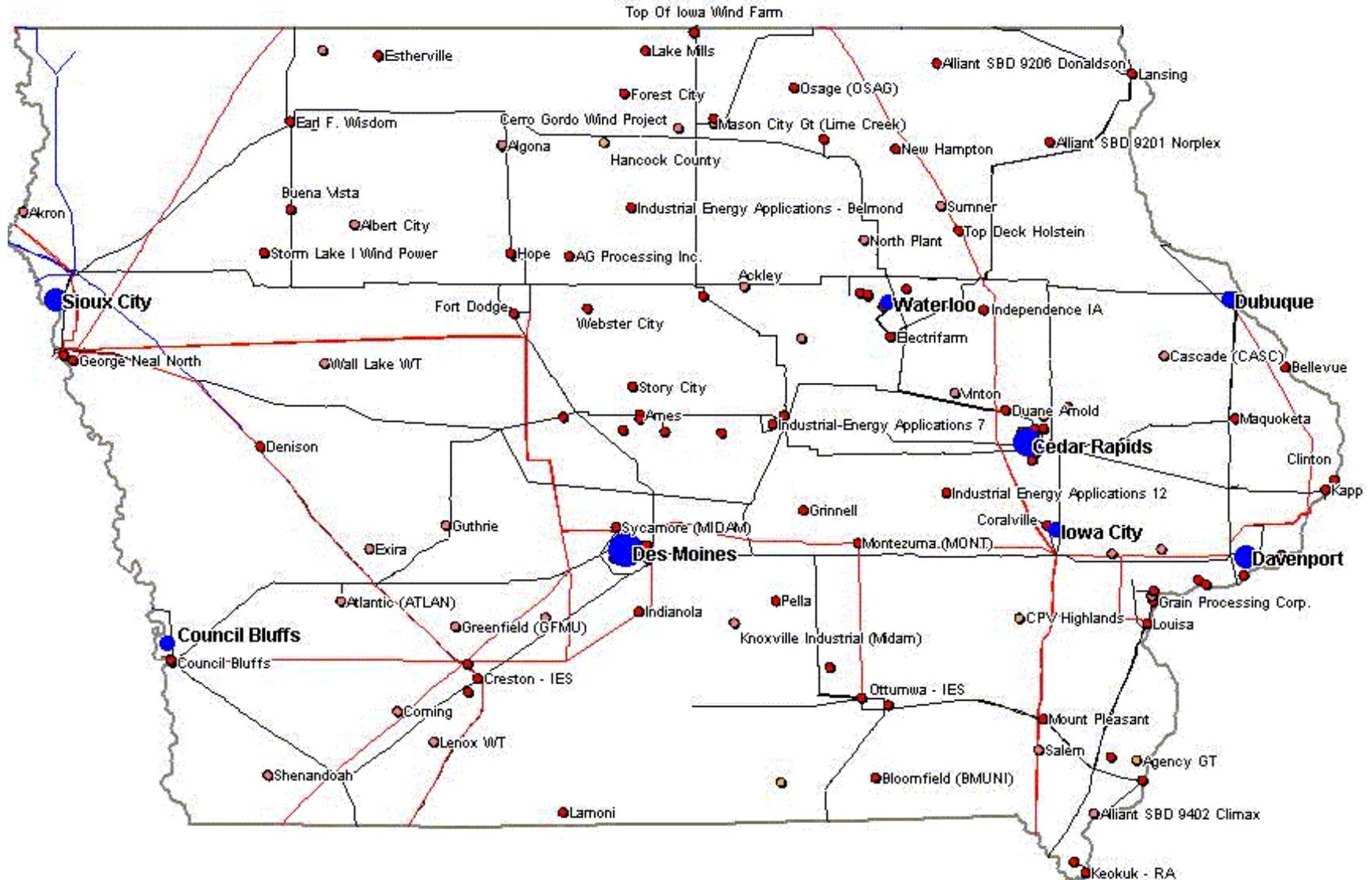
Transmission Challenges

- Transmission system in the nation and Iowa was built with additional capacity to support load growth but not wholesale transactions
- 56% of major transmission lines in Iowa are over 35 years old
- Given the age and increased new use, Iowa's existing transmission system is being stretched and needs updating



Iowa's Major Generating Units/Transmission Lines and Cities (> 50,000 in Population)

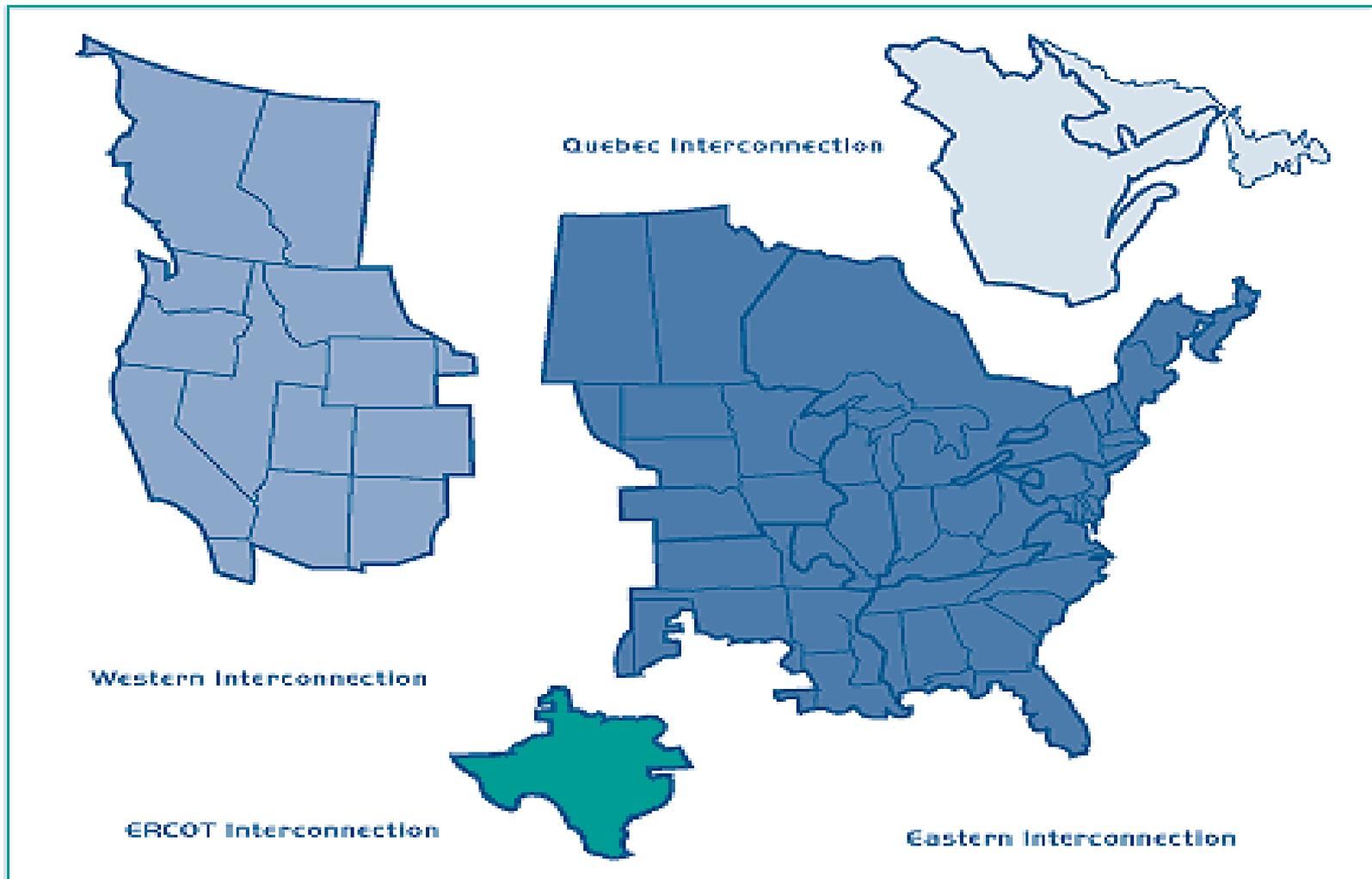
— 345 kV line — 161 kV line



North American Grid Has Four Interconnections

Utilities in each interconnection are electrically tied and operate as a single synchronized system

National Power Grids





Today

- Transmission is used to transmit power over long distances and to support wholesale transactions across regions
- Electricity is being transferred between multiple electric utilities across multiple state boundaries



Transmission Regulation

Federal Energy Regulatory Commission (FERC)

- Interstate activities (crossing state lines)
- Wholesale rates (sales and purchases between utilities)

States (IUB)

- Intrastate activities
- Approves construction and siting of generation and transmission lines



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Federal Action Changed That

- Energy Policy Act of 1992 (EPACT) law permitted generator owners to sell wholesale power to noncontiguous utilities
- To implement EPACT, FERC orders 888 and 889 opened access to transmission for all wholesale buyers and sellers of generation
- FERC orders created Regional Transmission Organizations (RTOs) and Independent System Operators (ISOs)



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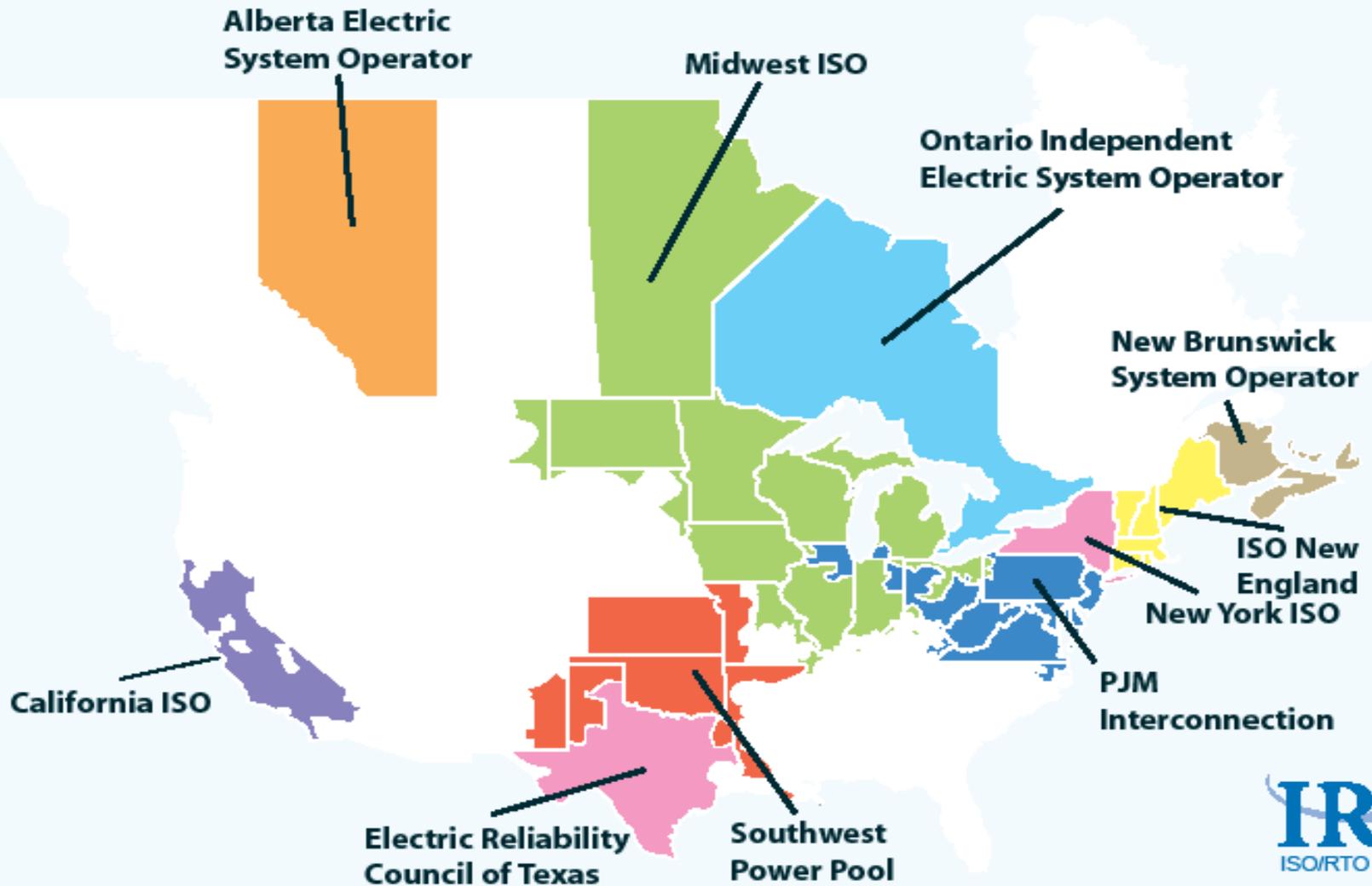
Transmission Planning Requires Teamwork

Iowa utilities must work with other entities

- Midwest Independent System Operator (MISO)
- Midwest Reliability Organization (MRO)
- FERC Order 890 sets forth nine planning principles (e.g., coordination, openness, and regional cooperation)
- Organization of MISO States
- IUB



FERC Approved RTOs/ISOs



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Transmission Planning

Planning process is complex, requires time, and three types of studies

- feasibility study (long-term)
- mid-term study that looks at specific area needs
- site specific studies that identify needed system improvements



Cost Allocation

- Building transmission is expensive
- Utilities often find transmission investment for economic development projects competes with other investments such as distribution, generation, and projects to maintain reliability
- Generators wanting to interconnect to a system that already needs some upgrades, ask who should pay for what upgrades?



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FERC has spoken.....

- FERC states, if existing system needs upgrades, interconnecting generator must initially pay for it -- transmission owner then must refund-over 20 years
- If system upgrades are required for lower voltages, generator pays for it all without refund
- A related question is, once the system is upgraded, should any new customers pay for the use of newly available capacity?



Iowa's Transmission Siting Law

- Iowa has had electric line siting authority since 1913
- IUB issues an electric franchise for lines rated at 69 kV and above, formerly franchise was required for any size line
- Iowa law emphasizes landowner opportunity to be aware and participate in the franchise process
- Process requires a showing of need and reasonable relationship with other transmission interests
- Sets routing standards to minimize interference with land use
- 25 to 60 new “franchises” are issued in a year
- Typical case decided within 6 months, contested or appealed cases may take longer



Federal Siting Law

- US DOE can declare “national interest electric transmission corridors” (NIETCs)
- State has one year to rule on transmission line franchise cases in NIETCs
- If state does not act or denies, FERC can license electric transmission line construction
- Could be done over state objection
- No NIETCs are designated in Iowa at present
- NIETC designations in NE and SW US have been appealed to courts



