

# Montana-Dakota Utilities Co. Transmission Infrastructure Overview

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# MDU Transmission in Montana

- 624 miles (20% of MDU transmission system)
  - 73 miles of 115kV lines
  - 525 miles of 57kV lines
  - 26 miles of 33kV lines
- Interconnected with WAPA system at various points under an Electric Service Agreement
- Adequate capacity to meet needs of eastern Montana communities

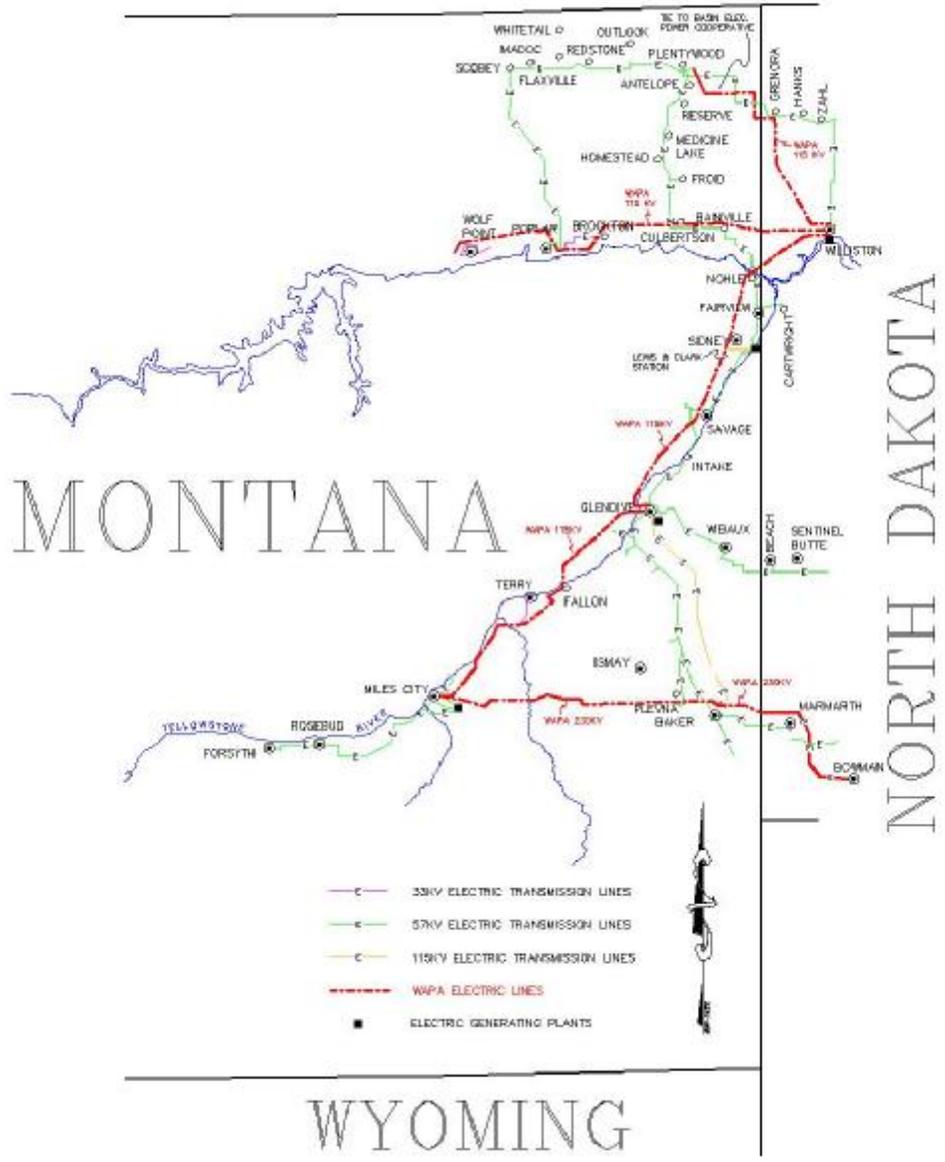
# WAPA Interconnections

- WAPA 115 and 230kV systems are the “backbone”
- Major interconnection points with MDU at:
  - Miles City
  - Glendive
  - Baker
  - Poplar
  - Sidney
  - Culbertson
  - Plentywood





CANADA



MONTANA

NORTH DAKOTA

WYOMING

# Planned Projects

- Add 115kV/57kV substation in 2006 at midpoint of 115kV Glendive - Baker line to accommodate growing oilfield demand
- Reconductor or rebuild 57kV line between Glendive and Baker after new substation is built.



# Midwest Independent Transmission System Operator, Inc.

- MDU service territory in Eastern Interconnection and part of the Midwest Independent Transmission System Operator, Inc. (MISO) footprint
- Joined MISO in 2001 in response to a FERC initiative
- MISO controls our bulk transmission system (>115 kV)



# MISO Transmission Expansion

- MISO plans reliability and regionally beneficial transmission expansion projects in its footprint
- MISO's annual Transmission Expansion Plan (MTEP) identifies facilities to be built in a 5-10 year period
- MISO has filed tariff changes at FERC defining cost recovery for MTEP projects



# MISO Generation Interconnection

- MISO administers the new generator interconnection queue and required studies
- MISO has filed tariff changes at FERC defining cost recovery for generator interconnection projects



# MISO Proposed Cost Recovery Methods

- Resulted from stakeholder discussions
- Filed with FERC on October 7, 2005
- Pending FERC action



# MISO Proposed Cost Recovery Method

- Reliability projects:
  - To be eligible for regional cost sharing
    - Must be 100 kV or above
    - \$5M project cost or cost equal to or greater than 5% of the Net Transmission Plant of constructing entity
  - Cost allocation to transmission owners is a blend of postage stamp and sub-regional allocations
    - Postage stamp = 20% of any 345 kV facility cost applied across MISO based on load ratio share
    - Other costs are included in sub-regional allocation to beneficiaries in project vicinity



# MISO Proposed Cost Recovery Method

- Regionally beneficial projects that enhance commerce, mitigate a constraint
  - MISO identifies benefits and beneficiaries
  - Facilitates funding agreements between parties
  - Include in MTEP if participants agree to funding
  - Interim proposal, to be addressed further within 12 months



# MISO Proposed Cost Recovery Method

- Generator interconnects:
  - 50/50 transmission owner (TO) and customer cost sharing with one year contract to a MISO customer
    - Direct assigned to customer if no contract
  - TO- 50% per reliability method of blended postage stamp/subregional sharing
  - Customer- 50% participant funded or charged to recover return at option of transmission owner



# Potential Costs to MDU and Montana Customers- Example

- Reliability projects (~\$787 million in 2005 MTEP over 5 – 10 yrs.)
  - MDU cost ~\$412,000
    - Montana customer share ~\$103,000
- Generator interconnections (~\$105 million)
  - MDU cost ~\$64,000
    - Montana customer share ~\$16,000



# Potential Benefits to MDU and Montana Customers

- Big Stone 2 Generator Interconnection
  - ~\$24.6 million MDU cost
  - ~\$1.8 million MISO member contribution
    - Montana customer savings ~\$630,000



# Transmission Construction Minimization Programs

- MDU's biennial Integrated Resource Plan (IRP) identifies demand-side management programs
  - Montana Universal System Benefits Charge (USBC) funds some of our identified DSM programs
- Transmission costs are considered in placement of future generation



# Summary

- Montana-Dakota transmission adequate and reliable
- Some upgrades planned for future load growth
- MISO transmission planning and cost sharing should prove beneficial for Montana customers

