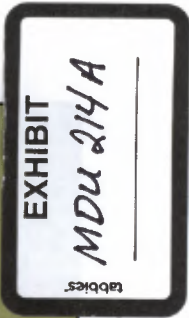




MDU Witness James Heidell

Principal, Global Energy Practice
PA Consulting

Summary MDU Exhibits 214, 215 & 217



Direct Testimony Summary

- Revised modeling of Montana-Dakota's least-cost resource plan
 - Revisited previous analyses, using revised Big Stone II plant size options and capital costs
 - Added two additional scenarios showing sensitivity of wind and natural gas results to variations in key assumptions.
- **Conclusion**
 - Big Stone II plant share of up to 133 MW is part of MDU's least-cost resource plan.

Responses to NDPSC Staff/Deason

- Provided MDU responses to various questions by Mr. Deason
 - Wind Production Tax Credit (PTC) assumptions and costs
 - Effect of PTC on MDU resource plans
 - Effects of PTC on operational and reliability concerns
 - Capital cost assumptions for natural gas-fired combined cycle units
 - Income tax effects on MDU's cost of capital
 - Cost of capital

Responses to NDPSC Staff/Deason (continued)

- Unreasonable to assume the wind PTC will be continued indefinitely
 - MDU examined results with and without the PTC.
- Most wind fixed and variable costs do not depend on the PTC.
- Wind resources beyond current plan may not cause operational or reliability problems

Responses to NDPSC Staff/Deason (continued)

- MDU assumptions for capital cost of natural gas-fired CCGT units are similar to those of Otter Tail.
- MDU's natural gas price forecast differs from Otter Tail's forecast for good reasons.
- MDU's assumed cost of capital is reasonable.

Responses to DRC/David Schlissel

- MDU's assumptions for capital cost of gas-fired CCGT units are reasonable.
 - Recent capital cost increases not included.
 - Costs for transmission included.
- MDU did not restrict the availability of CCGT units until the model did not select them. This is not a bias.

Responses to DRC/David Schlissel (continued)

- MDU cost assumption for wind turbines based on recent MDU wind energy development.
- Analysis requires consideration of costs across the project lifetime.
- Mr. Schlissel's analysis does not provide a reasonable alternative to Big Stone II.