

Outer Metro 115 kV Transmission Development Plan  
(Carver, Scott and Hennepin Counties)

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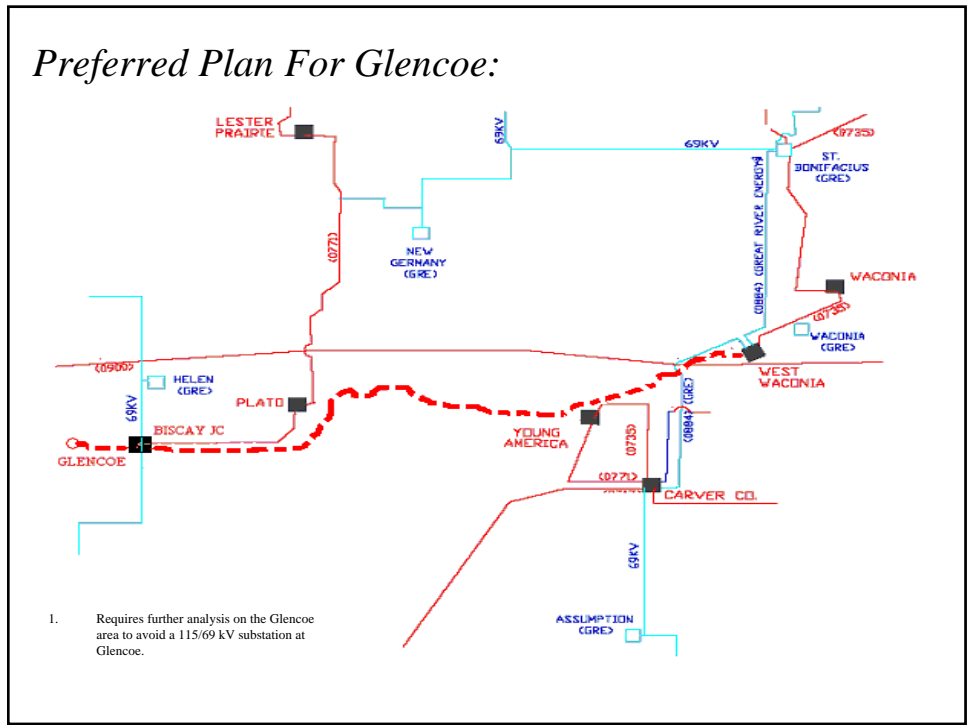
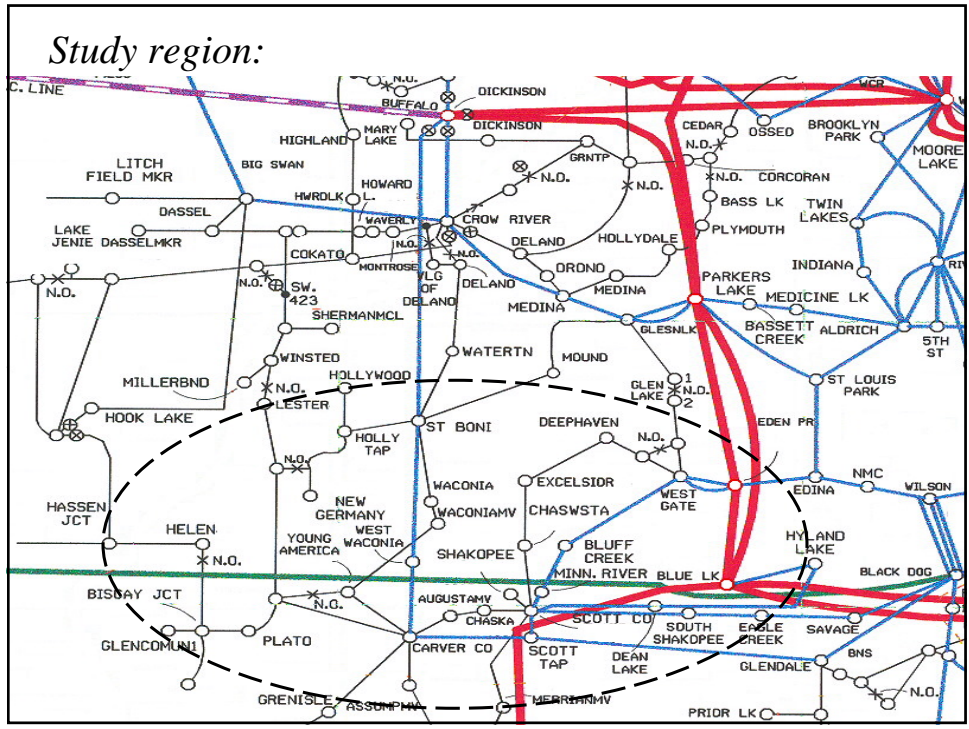
- Transmission inadequacies in the region
- Powerflow models and analysis
- Proposed plan
- conclusion

*Transmission inadequacies:*

- Glencoe area 115 kV plan 2<sup>nd</sup> phase
- Victoria interconnection
- Chaska Bio Technology Campus
- Minnetonka load serving issues

*Powerflow models:*

- MAPP 2006 series 2011 summer peak
- MAPP 2006 series 2016 summer peak
- Regional generation turned off
- Chaska Bio Technology park load at 25 MW (2011) and 40 MW (2016)



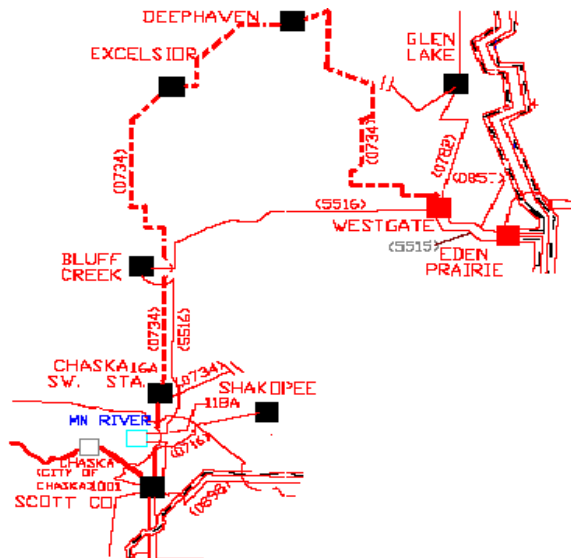


*Alternate plan for Chaska area:*



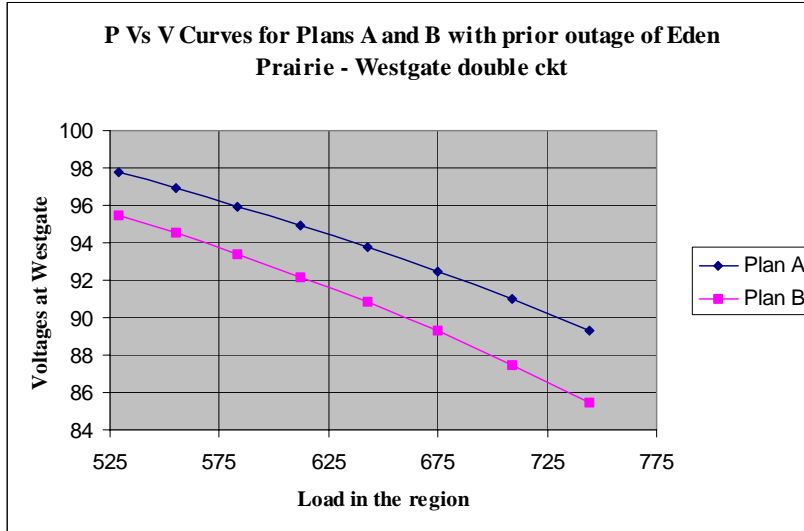
1. Requires further analysis on the Chaska area to routing the line through the downtown Chaska

*Preferred plan for Minnetonka area:*





PV analysis (2016) with 345 kV source at West Waconia:



*Results:*

Option	Cost Millions \$	Incremental load serving capability after 2016 without (with) 345 kV source (MW)	No of miles of new 115 kV line	Loss reduction	Planning time frame
A		48 (157) MW	51.34 miles	14.7 MW	10 Years
B		8 (89) MW	37.2 miles	13.4 MW	10 Years

*Conclusions:*

- Plans need modifications at Glencoe and Chaska areas.
- Economic analysis is yet to be completed.