



Electric Services
Transmission Development & Contracts

EXECUTIVE SUMMARY

Tri-State Generation and Transmission Association Inc. (Tri-State) is proposing to construct the Colorado-New Mexico Interconnection Project (CNMIP) that consists of a 113 mile 230 kV transmission line from Walsenberg, Colorado to Gladstone, New Mexico, with a 230-115 kV transformer at Gladstone. The project has a proposed December 2006 in-service date. This study was conducted to incorporate the CNMIP as part of the Northern New Mexico Interface (NNMI) Path 48.

This study describes in detail the system representation used and the study methodology, criteria and results.

The results/conclusions are summarized below:

Public Service Company of New Mexico (PNM) and Tri-State are requesting the following simultaneous and non-simultaneous import Accepted Ratings for Path 48, as shown below:

	Simultaneous Rating EPE PST @ 201 MW	Non-Simultaneous Rating EPE PST @ 0 MW	Requested Time Frame
Existing System	1785 MW	1947 MW	Existing
Pre-CNMIP	1785 MW	1952 MW	December 31, 2006
Post-CNMIP	1849 MW	1970 MW	December 31, 2006

The non-simultaneous rating for pre-CNMIP is 5 MW higher than the present WECC Accepted Ratings for Path 48 because this study used a more recent WECC base case with a slightly different load distribution. . PNM is not requesting to change the Accepted Ratings for Path 48 before the CNMIP is in-service. The pre-CNMIP ratings shown above were used for a base reference for this study.

The variable differentiating the above simultaneous and non-simultaneous ratings is the north to south flow over El Paso Electric Company's (EPE) phase shifting transformer (PST) on the West Mesa-Arroyo 345 kV line. The maximum firm transfer over the EPE PST at this time is 201 MW from north to south.

It has also been confirmed that the Path 47 non-simultaneous import capability of 1048 MW is not impacted with the EPE PST setting at 201 MW.

In practice, the operating transfer limit on Path 48 uses additional independent real-time nomogram equations that are incorporated in PNM's Energy Management Systems. These nomogram equations utilize metered real-time system conditions (e.g., real/reactive power flows, status of shunt capacitors/reactors, EPE PST setting, etc.) to determine the Path 48 limits on a one-minute basis. The nomogram equation variables



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included in the Path 48 calculations are therefore dependent upon system conditions and take into account seasonal and time-of-day variations. PNM operates the Path 48 based on the lower of the voltage stability or thermal limit.

All study results met the North American Electric Reliability Council (NERC)/WECC Planning Standards reliability criteria.