Information To Assist With Future
New Mexico Public Utility Commission IRP Requirements
June 21, 2007

New Mexico Transmission Grid Investigation Of Potential Access To New Generation Resources

Introduction

A look into the near future at the delivery needs of the bundled retail native load customers in northern New Mexico and those of PNM's transmission customers shows a strong need to enlarge the existing transmission system, expand load-side resources, or both. PNM's northern New Mexico transmission ("NNM System" or "WECC Path 48") is an important component in the reliable supply of electricity for New Mexico (see Attachment 1). This system has reached its full capacity (see Attachment 2). Due to the lengthy siting, permitting and construction timelines (often as long as seven years for transmission) it is necessary to begin an investigation at this time to define the parameters for a new transmission line(s) to market hubs or to new generation resources to ensure reliable and economic energy can continue to be delivered.

Changes in the Regulatory Environment

Over the last decade, the U.S. Electric Power Industry has undergone unprecedented change, with the 1996 enactment of the Federal Energy Regulatory Commission ("FERC") Order No. 888. Order No. 888 required that jurisdictional transmission providers such as PNM provide open access to its transmission system to all eligible customers via an Open Access Transmission Tariff ("OATT" or "Tariff"). Eligible customers under the Tariff can contract for Network Integration Transmission Service ("NITS") to integrate their designated network resources and designated network loads on the PNM transmission system in a manner comparable to which PNM integrates its own network loads and resources. Eligible customers can also contract for firm point-to-point transmission service on a long-term basis. All customers that serve load from the PNM transmission system including Tri State Generation and Transmission Association, Inc on behalf of its Cooperative members and the incorporated County of Los Alamos, have opted to take NITS. Under the OATT, PNM is obligated to plan its transmission system to meet not only its own retail customer needs, but also to meet its obligations to NITS and long-term firm point-to-point transmission service customers. Order No. 890 clarified and strengthened these obligations.

Energy Policy Act of 2005 ("Act") became law in June 2005. Among other things, the Act legislated a national regime of mandatory transmission grid reliability rules. Under the Act, FERC now wields jurisdiction over all aspects of transmission grid reliability, and FERC's rulemakings to implement its new reliability authority are nearing completion for a June 2007 implementation date. FERC has approved the application of the existing North American Electric Reliability Council ("NERC") to assume the role as the national Electric Reliability Organization ("ERO"). The Western Electricity Coordinating Council ("WECC") has been delegated the role of a Regional Entity and will monitor and enforce the mandatory reliability standards in the west. Adherence to reliability standards on the western grid prior to passage and implementation of the Act, was accomplished through a voluntary contractual reliability management system. Beginning June 18, 2007, a utility that fails to comply with the ERO standards is subject to sanctions and civil penalties of up to $1 million per day, for each incident for the most substantive failures to follow FERC's grid reliability rules.

PNM Transmission System Status

Most of the PNM high voltage transmission system was developed in the 1960s and 1970s. The last PNM backbone transmission line was completed in 1984 when PNM constructed the Eastern Interconnection Project, a 223-mile 345 kV line from the Placitas area north of Albuquerque (at BA 345 kV Switching Station) to Clovis, New Mexico interconnecting PNM with SPS through the Blackwater AC-DC-AC converter station. During the 1990's PNM pursued the Ojo Line Extension ("OLE") project to complete a third 345 kV path from the Four Corners area to the major load centers which would reinforce the 345 kV backbone transmission system and increase import capability into NNM. Ultimately, permission to build the OLE project was denied and PNM focused its efforts on transmission reinforcements that maximized the use of the existing northern New Mexico transmission lines. In part, the OLE denial also resulted in generation construction within the northern New Mexico load center.

In the late 1990's PNM purchased several transmission assets from Tri-State Generation and Transmission Association, Inc. ("Tri State"). These assets were formerly owned by Plains Electric G&T. Purchase of these assets allowed PNM to upgrade key portions of the system further enhancing the import capability of the northern New Mexico transmission system. In addition to improving reliability of the system, these enhancements have reduced reliance on gas-fired load-side generation. PNM has made numerous modifications to the existing system in the past 10 years to maximize the use of this system (see Attachment 3). However, PNM has reached the point where few, if any, further opportunities remain to extract additional capability from the existing NNM system.

Because of the topology of the New Mexico system (i.e.: the locations of the loads, generation and major transmission lines) a portion of the power used to serve PNM and its transmission customers loads flows across the NNM system, independent of where it is generated. Nearly 100% of generation transmitted to load from the Four Corners area and the western grid beyond, flows on the NNM system. Also, generation in Arizona or southern New Mexico at least partially flows on the NNM system when scheduled to NNM customers. Thus, except for the case of generation located very near the load centers, as customer usage of PNM, Tri State's Cooperative members, and others increases, the flows across the NNM system increase.

PNM must comply with the new mandatory reliability standards. Today, PNM faces increasingly limited windows of opportunity in order to take line outages to perform maintenance and repair of its backbone 345kV transmission system. PNM transmission maintenance activities, which often require line outages, have had to be performed on weekends and at night in order to assure that transmission limits not are not exceeded. The NNM transmission system loses approximately one-third of its total transfer capability when either of the major transmission lines from the Four Corners/San Juan area to Albuquerque is out of service. To ensure reliability during these times, PNM dispatches its gas-fired generation in or near Albuquerque. When these generators are used in this manner, they are dispatched out of their normal merit order and higher costs are incurred. A new transmission line would significantly enhance PNM's ability to accommodate maintenance and repair, while maintaining adequate reliable service to existing and future customers.

PNM is exposed to the possibility of controlled load reduction if two or more of the existing backbone transmission lines trip at near peak load conditions. While this is a very low probability event, it has occurred in the past. Even at moderate load levels with one major line out of service

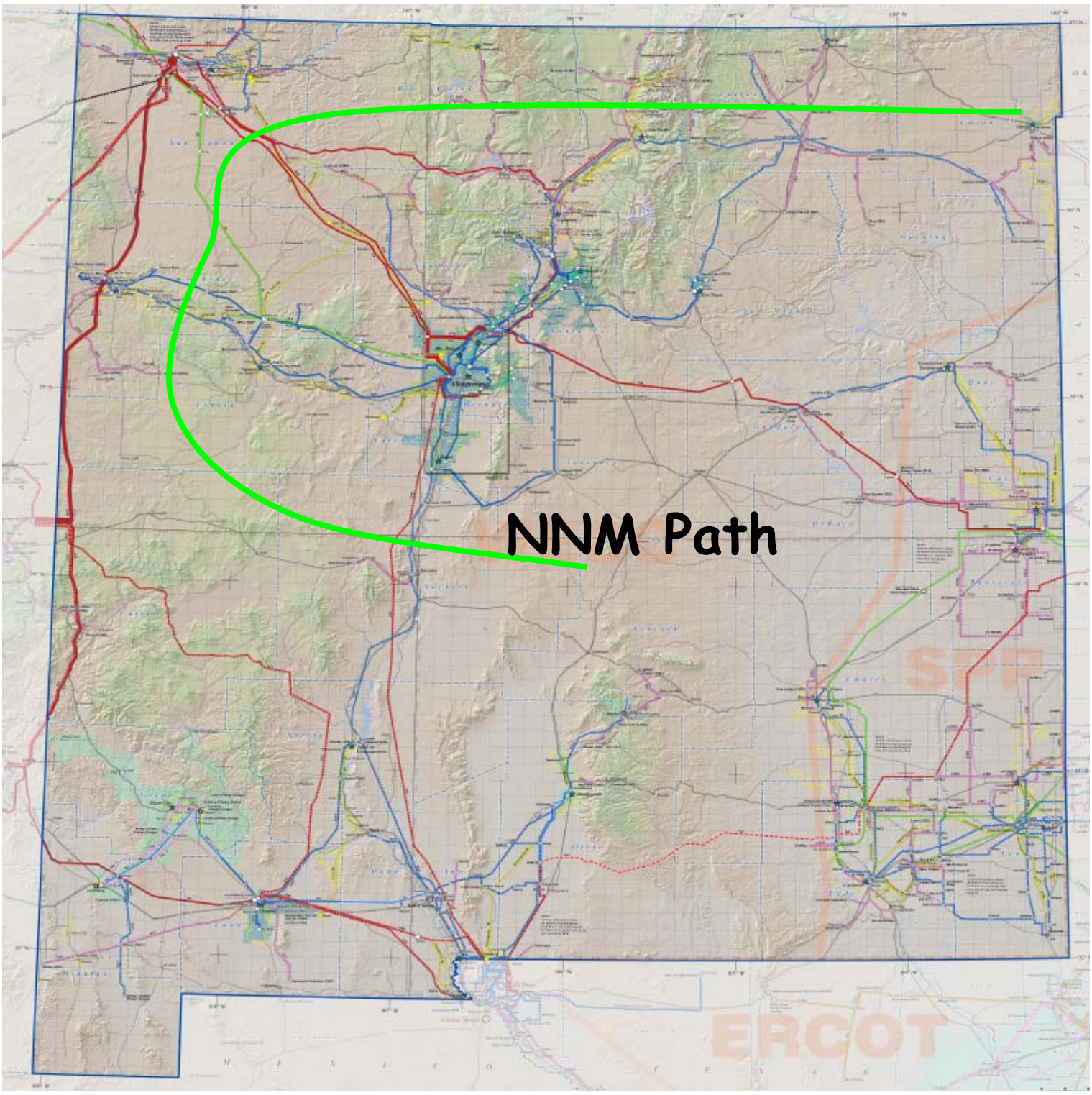
for maintenance and all present load-side generation running, there is risk for load reduction upon the loss of another major line. To meet WECC and NERC planning and operating criteria, PNM installed an automated load shedding procedure as a safety net to ensure that disturbances involving two or more backbone transmission lines do not cascade further into the system or into neighboring systems. While this procedure results in the loss of service to some customers, it controls the effect of the disturbance and maximizes the amount of load that can stay connected while preserving system integrity and meeting system reliability criteria. This load reduction exposure could be eliminated or largely mitigated with the construction of additional transmission.

Transmission Investigation

PNM has analyzed certain alternative conceptual transmission projects that could facilitate access to a wide range of potential supply options. Each alternative targeted 600 MW or more of incremental NNM load serving capability to accommodate NNM load growth. A preliminary cost effectiveness evaluation of the alternatives and a diagram are contained in Attachment 4.

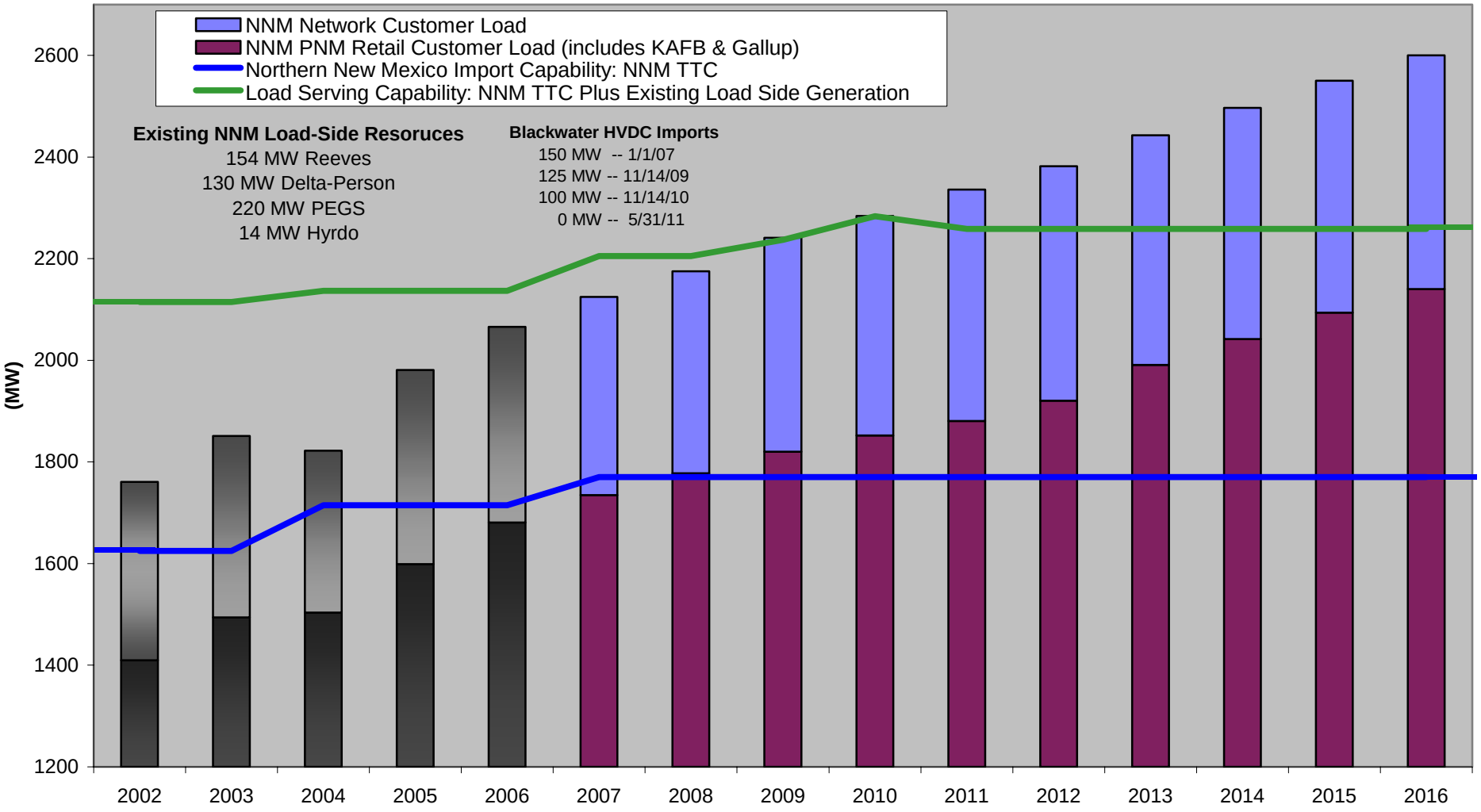
Each alternative was studied at the system thermal limits. Voltage support for achieving these limits was considered from three sources: (1) by using existing local generation at minimum load levels, (2) by use of a static var compensator ("SVC"), and (3) shunt reactive support to mimic underlying system improvements for the large increase in load in the central New Mexico.

Attachment 1



Attachment 2

Historical and Projected Northern New Mexic (NNM) Load with Transmission Import Limits (TTC) and Exisitng NNM Load Side Generation



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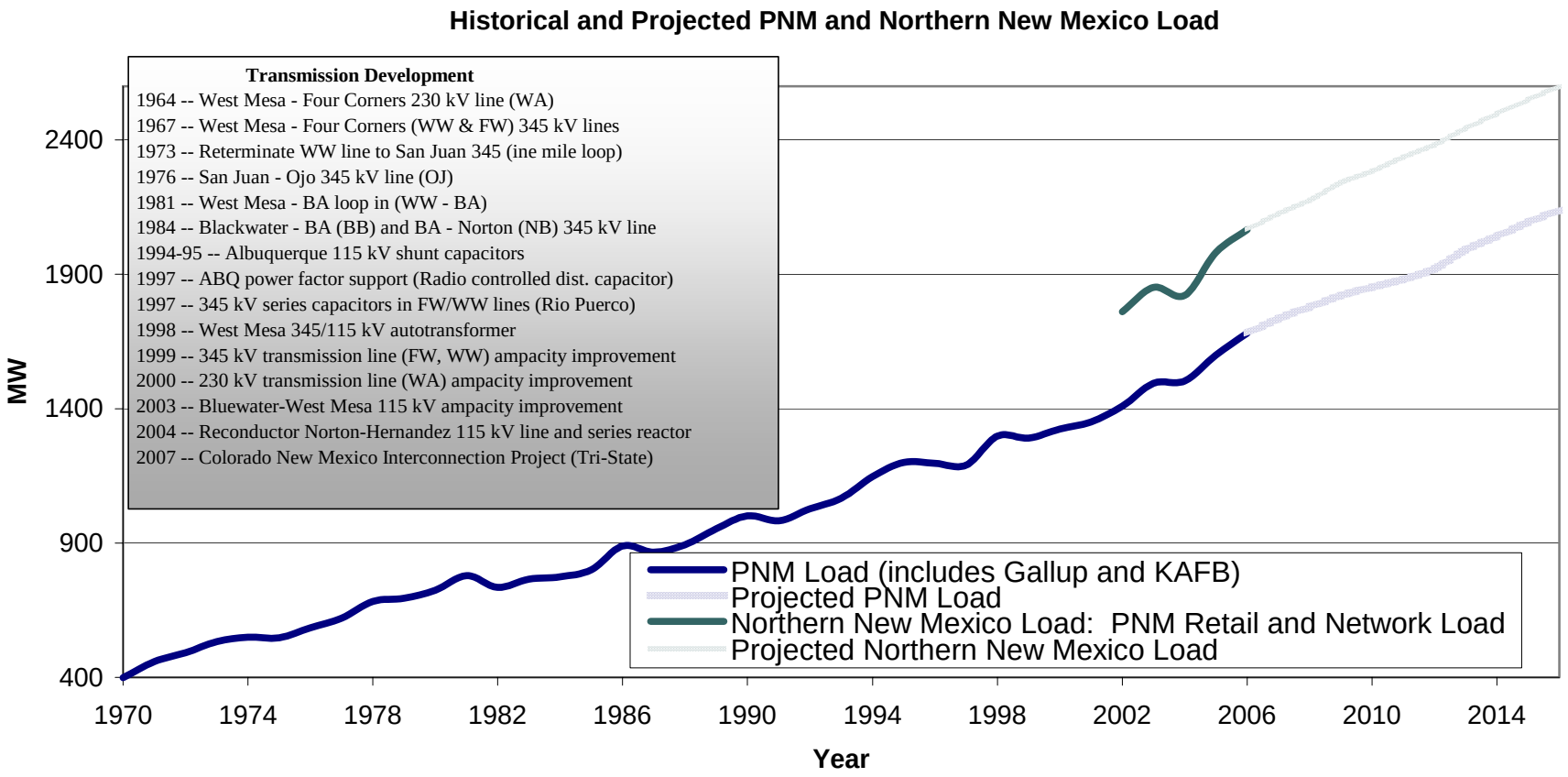
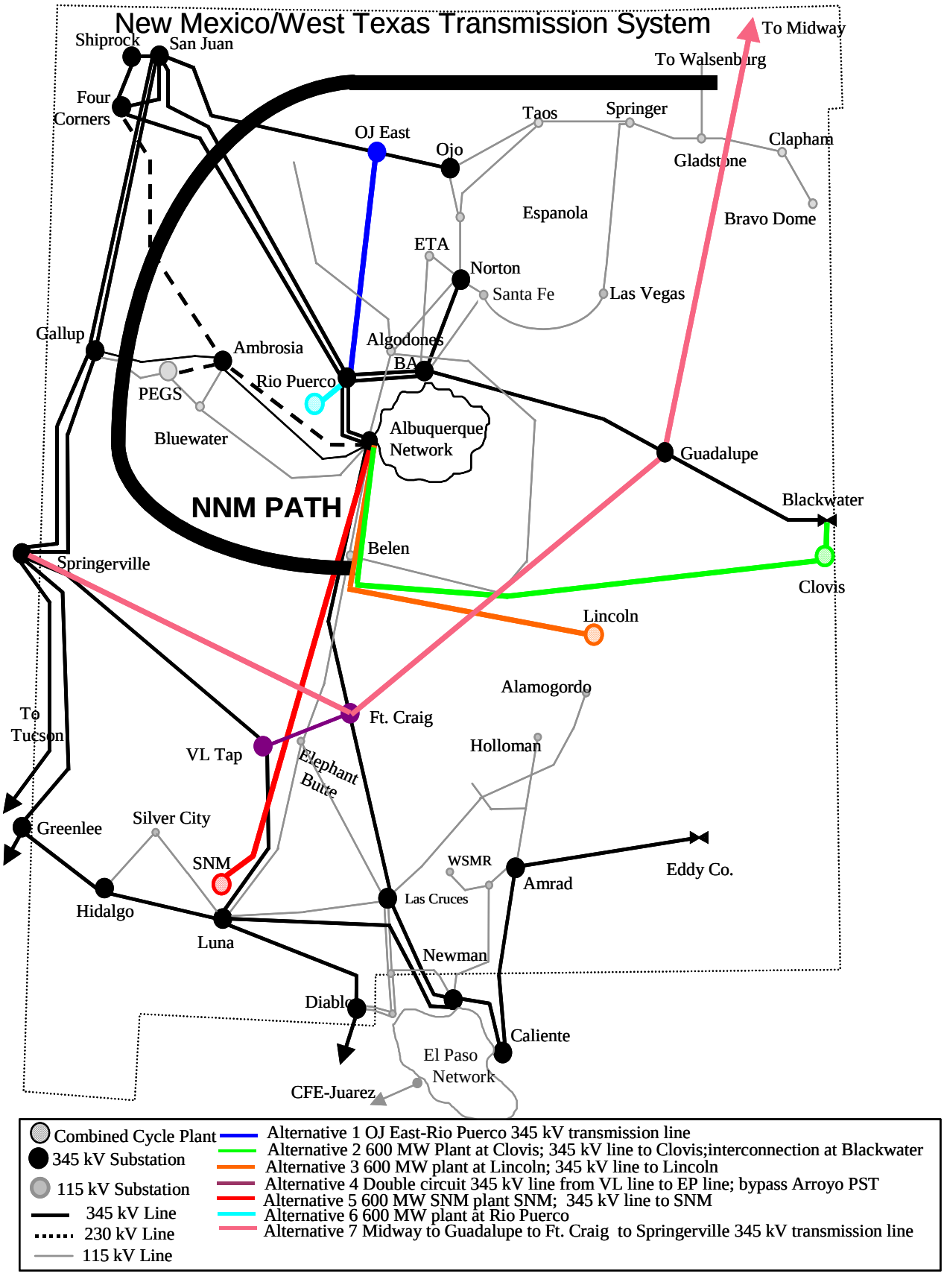


Attachment 4



Preliminary Comparative Cost Effectiveness
(Transmission Cost Only)

Alternative Cost Estimate Summary			
Case	**Incremental NNM Load & Losses (MW)**	**Cost Estimate**	**Cost Estimate Per Incremental MW**
Alternative 1 OJ East-Rio Puerco 345 kV transmission line	810	$ 121,973,047	$ 150,600
Alternative 2 600 MW plant at Clovis; 345 kV line to Clovis; interconnection at Blackwater	605	$ 308,974,146	$ 510,295
Alternative 3 600 MW plant at Lincoln; 345 kV line to Lincoln	582	$ 139,534,803	$ 239,910
Alternative 4 Double circuit 345 kV line from VL line to EP line; bypass Arroyo PST	245	$ 85,910,674	$ 350,662
Alternative 4 Double circuit 345 kV line from VL line to EP line; bypass Arroyo PST with southern NM swing bus	552	$ 85,910,674	$ 155,647
Alternative 5 600 MW SNM plant; 345 kV line to SNM	582	$ 230,537,337	$ 396,270
Alternative 6 600 MW plant at Rio Puerco	643	$ 4,877,567	$ 7,584
Alternative 7 345 kV line from Midway to Guadalupe to Ft. Craig to Springerville	381	$ -	$ -