

NEW MEXICO FINANCE AUTHORITY OVERSIGHT COMMITTEE

Clovis, New Mexico

November 1, 2013

OBJECTIVE: Support the use of state roads right-of-way to integrate buried HVDC (High Voltage Direct Current) technology into a state energy plan that addresses New Mexico's electricity transmission needs to develop its clean energy resources.

REQUESTS TO THE STATE BY THE DEVELOPERS OF "THE NEW MEXICO EXPRESS" (TNME):

- Develop a state energy plan.
- Identify the state's unmet needs for additional transmission capacity that will encourage development of the state's clean energy resources in a manner that enhances the state's economic and social policies.
- Demonstrate clear support from state policy makers for sound projects that will meet the state's transmission needs, goals, and policies.
- The legislature should monitor progress on development and deployment of a state energy plan and provide oversight through appropriate legislative committees.
- Support development and deployment of buried HVDC technology utilizing state roads rights-of-way consistent with state policy.
- Encourage dual-use of buried HVDC cable and broadband in state roads rights-of-way and other state lands.
- Encourage development of HVDC technology in New Mexico, including HVDC cable and battery manufacturing and storage capacity.

EXISTING STATE SUPPORT IDENTIFIED THROUGH EFFORTS OF NMFA OC:

1. NM PRC already is mandated by law to act within nine months after receipt of a completed application for Certificates of Convenience and Necessity if required.
2. NM DOT already timely acts on applications for easements on state roads rights-of-way within 6-9 months after receipt of a completed application.
3. NM DOT already has authority to assess a fee for use of its ROW.
4. NM DOT may already have authority to accept additional voluntary monetary contributions for use of its ROW.
5. The NM Department of Information Technology (DoIT) is studying ways to expand broadband in New Mexico, especially into rural areas.
6. The NMFA OC has received testimony on The New Mexico Express (TNME), a project planning a transmission line utilizing buried HVDC technology and proposing to utilize state roads ROW, combined with railroad ROW. TNME will extend from Gallup to Clovis with a line to Four Corners from Gallup and another line from Clovis into Southeastern NM. TNME will facilitate the export of electricity generated in the state.
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THE NEW MEXICO EXPRESS (TNME)

EXECUTIVE SUMMARY. .

TNME is a Transmission proposal to construct a 2,000 MW link between the existing and new generation in New Mexico with market hubs at Four Corners and Tres Amigas, using buried, High Voltage Direct Current (“HVDC”) transmission lines.

Timely action is by state authorities where state action is required is absolutely essential to the developers continuing with their plans, including timely action by the NM DOT on applications for easements on state road ROW and timely action on applications, if required for CCN, of the NM PRC.

New Mexico is blessed with the potential to generate vast amounts of power fueled by natural gas, solar, wind, biomass and possibilities for major storage opportunities. With a State combined peak load of approximately 4.5 GW¹ and potential generation capabilities well above 50 GW, it is intuitively obvious that export of electric energy is the only option if New Mexico is going to reap the economic benefits of its resources and contribute significantly to a national energy solution. This means a commitment by the policy leaders of the state to support a definitive transmission program that is economically viable for the state.

The objective of creating a State transmission policy has not been easy for New Mexico. The State has vast land areas and therefore many miles of transmission are needed. The State also has a relatively small population base. So, unlike the transmission build out in Texas where the cost was uplifted to all electric customers, New Mexico must find other creative solutions to funding transmission investment in order to achieve the economic benefits without harming the State’s ratepayers.

The TNME concept offers the potential for a public, private (and state, federal) partnership in order to achieve a state transmission super highway. Typically, the construction of new transmission has been blocked by local land use and environmental concerns associated with overhead lines, despite the broad recognition of the need for new high capacity interstate transmission. To overcome these issues, TNME proposes to use buried High Voltage Direct Current (“HVDC”) cable, most of it along existing railroad or highway right of way. It is a technological solution to a longstanding regulatory problem.

Buried HVDC cable is technologically feasible and new manufacturing facilities are available in the United States to produce it. The combination of HVDC transmission to connect clean energy resources with load, and use of buried cable, will overcome many objections to new electric transmission and will facilitate the integration of New Mexico generation potential to electric load within and outside the State.

From a national standpoint, this proposal advances technology and helps eliminate an important impediment to national energy policy by being the first long-distance, high voltage transmission project that will use buried HVDC cable in the U.S. For this reason, we believe the Federal government will have a strong interest in this project, which could be a model for projects in other locations.

Worldwide there are a number of countries addressing the need to generate electricity by natural gas and renewable energy from remote locations and transmit it to major load centers. Many of these countries have determined to construct HVDC lines as an overlay to the existing High Voltage AC networks. The advantages of this are understood by experts, and HVDC is increasingly seen as a reliable and economic means of transmitting energy long distances to load centers to support clean energy integration and economic growth.

Supporters of the SuperGrid™ in Europe argue that it is the future electricity system that will enable Europe to undertake a once-off transition to sustainability. The full significance of a switchable HVDC innovation has not yet been appreciated by policy makers or by the business community. It is clear that a network incorporating a HVDC grid with the redundancy and reliability of current AC grids is now a reality and that the limits of what is technologically possible have been greatly expanded. HVDC technology will open markets, strengthen security of supply and create another global opportunity for European companies to export sustainable energy technology. The technology underpinning the SuperGrid will give competitive advantage to the companies involved with its specification and design. This type of integrated AC/DC grid will be a template for what will be needed in other global markets including the US and China.

These statements confirm the opportunity that HVDC technology offers for New Mexico. Any time a major innovative proposal is made, the naysayers and scoffers emerge. Connecting regions by the “transportation” needed to support commerce is not without precedent. Certainly everyone is familiar with the establishment of the Interstate Highway system and its’ economic value to the US economy. Another great parallel is the story of the Erie Canal which began construction in 1817 and was completed by 1825 and whose costs were repaid within nine years through fees collected for its use. Its purpose was driven by the economic need to deliver the resources from the west to the trading centers on the coastal regions; very similar to the electrical transmission needs today. But, it almost didn’t happen because of opposition from the federal government, other naysayers, and those that had a commercial advantage in the status quo. The State of New York prevailed and the canal was built and has proven its worth.

The advantages of a buried HVDC Network in New Mexico connecting the population centers west of New Mexico with the centers in the East and Texas are similar in purpose to the Erie Canal. The West, East and Texas coast have the population and trading centers while the Southwest has the resources. A way to connect these regions is as important today as the Erie Canal was in 1817. Obviously a solution needs to be found. TNME is being proposed as a cutting-edge technology that, with the cooperation of the state of New Mexico can succeed not just for New Mexico, but as a solution for the rural west and, thus, for the United States.