

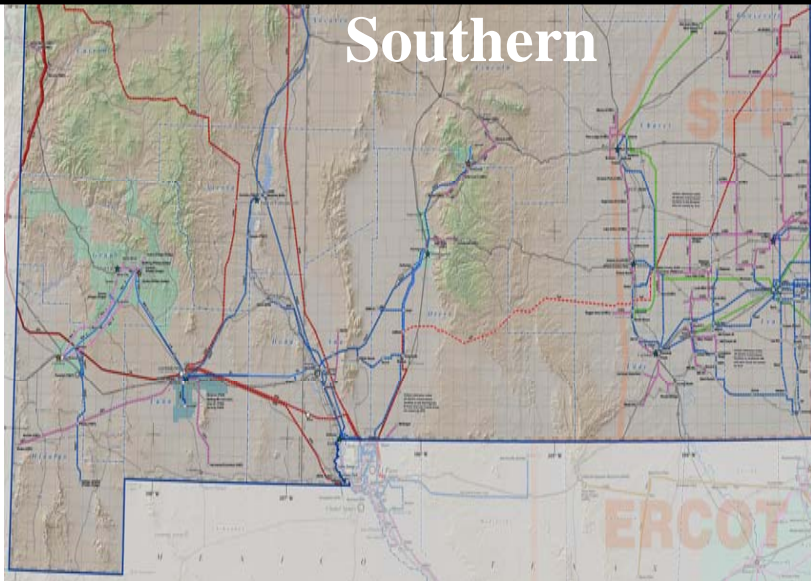
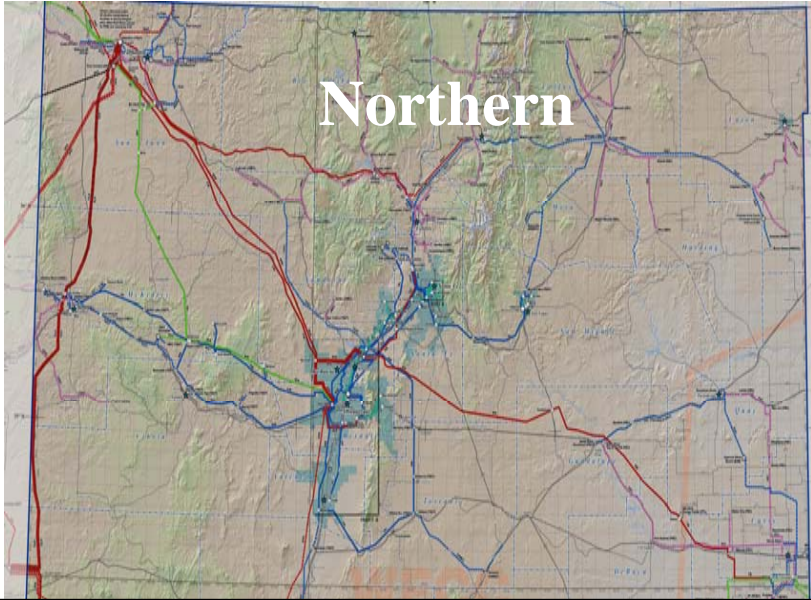
***PNM's Transmission 10-Year Overview
for
WestConnect Planning Workshop***

***October 31/November 1, 2007
Reno, NV***

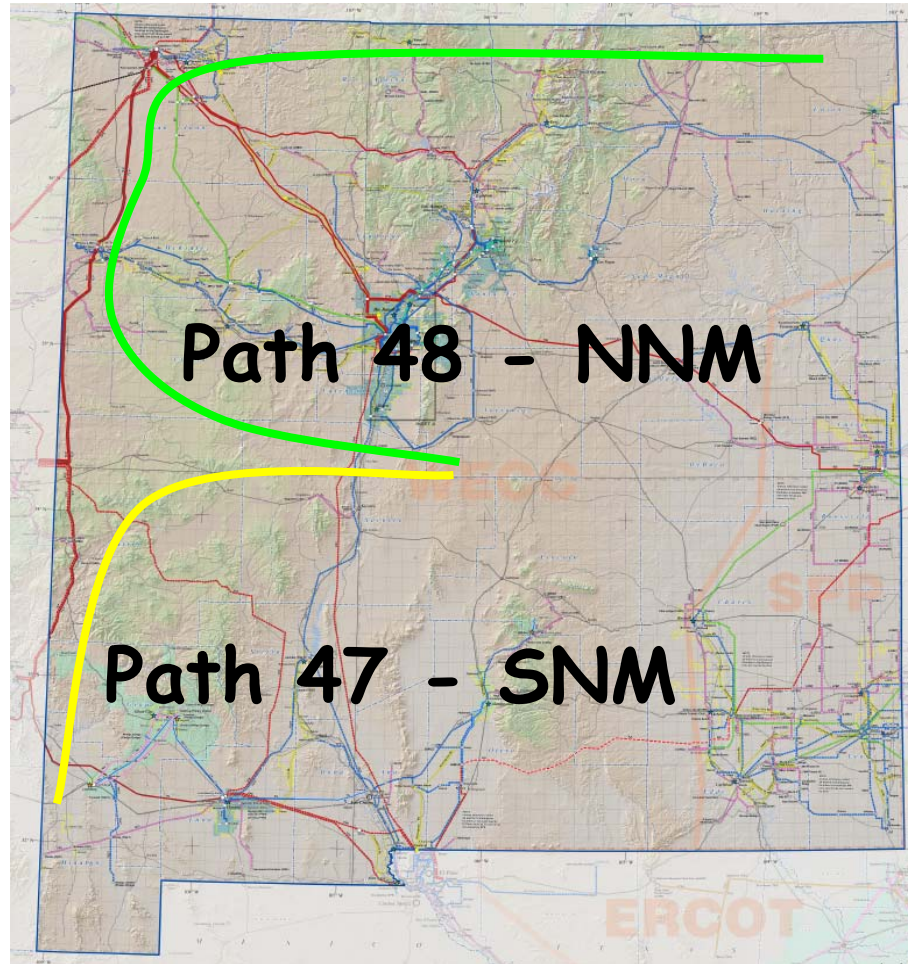


*A personal commitment
to New Mexico*

Northern New Mexico Projects



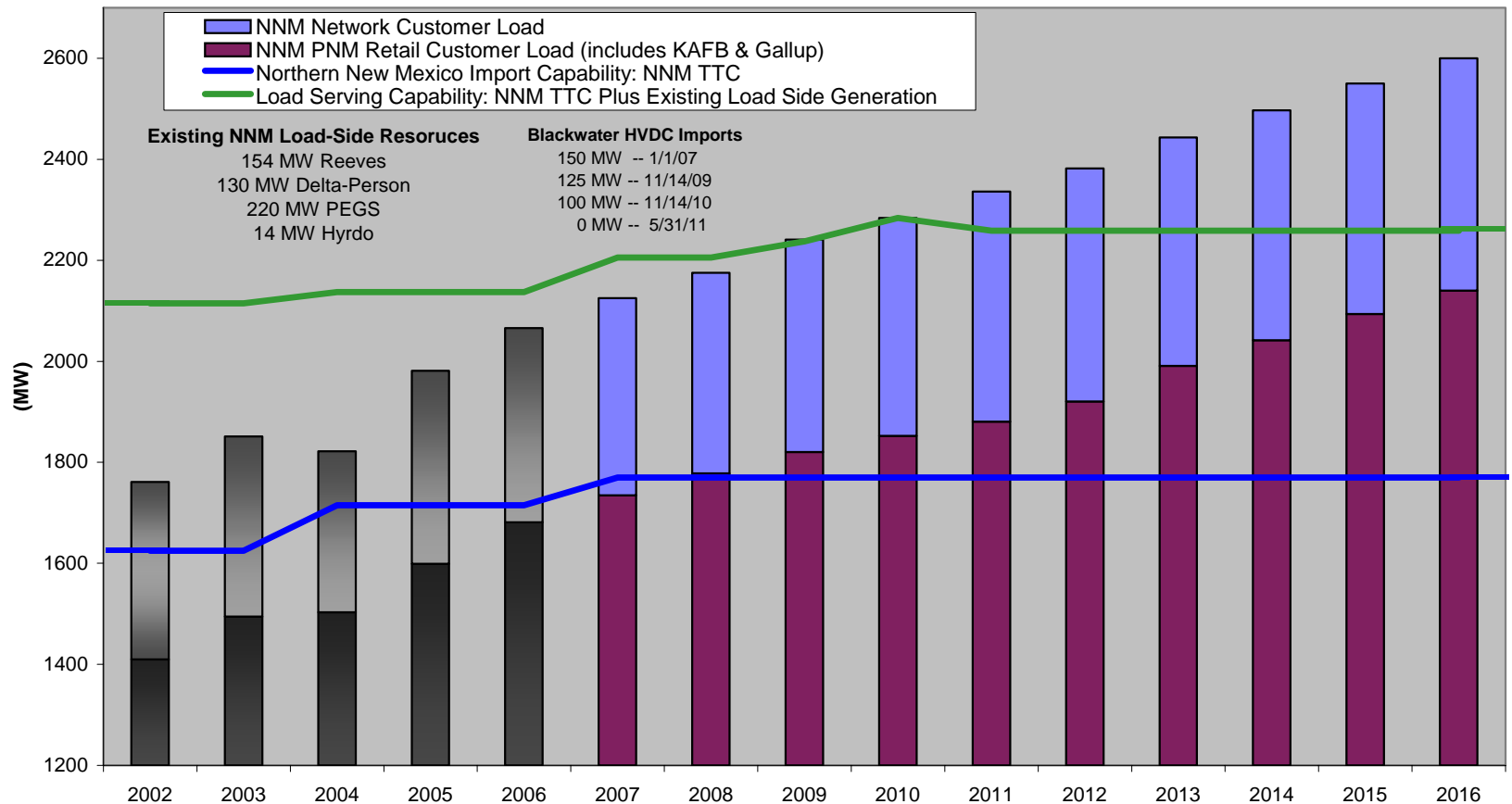
Path 47/48 Upgrades



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Load with Transmission Limits

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



NM IRP

- Will define load driven transmission improvements.
- Projects for serving load are conceptual
- Dependent in IRP approved resources

NM IRP Process

- Create a Resource Plan
 - – Filed every 3 years
 - Twenty year planning horizon
 - Four year action plan
 - – Development of Resource Portfolios
 - Load Management and Energy Efficiency
 - Renewable energy
 - Standardized carbon pricing
 - Transmission constraints
 - Reliability and reserve margin
 - – Document the Planning Process

NM IRP Schedule

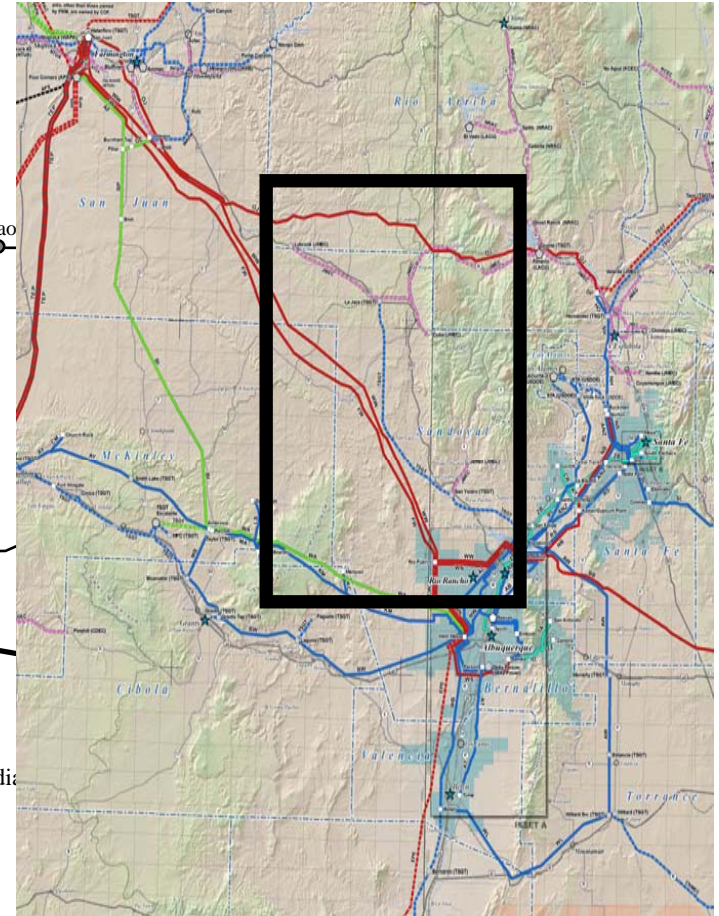
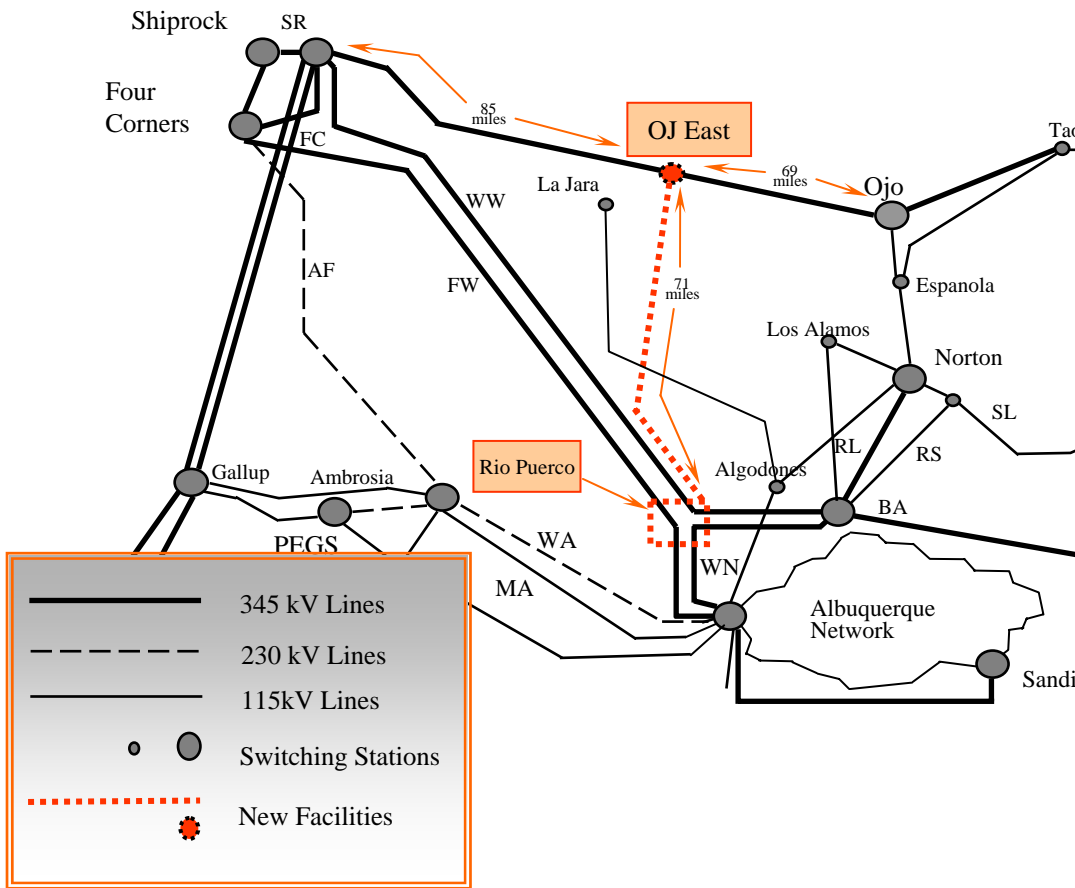
- Discuss Inputs/Assumptions Fall 2007
- Share Draft Assumption Document Winter 2008
- Discuss results Winter/Spring 2008
- Prepare draft IRP filing Spring 2008
- Incorporate comments Spring 2008
- File electric – IRP June 30, 2008

Northern New Mexico Transmission Line (Conceptual)

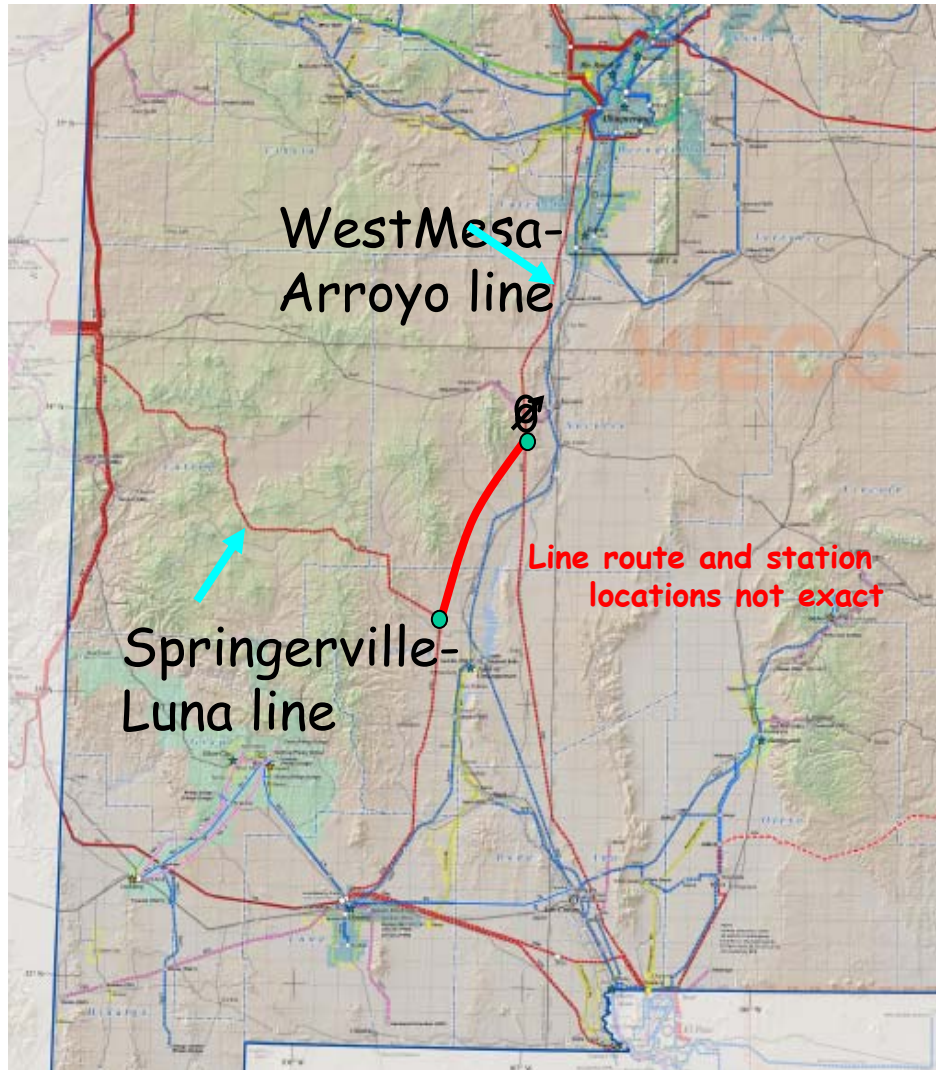
Purpose – A look into the near future at the delivery needs of the bundled retail native load customers in northern New Mexico and those of PNM’s transmission customers shows a strong need to enlarge the existing transmission system, expand load-side resources, or both. PNM’s northern New Mexico transmission (“NNM System” or “WECC Path 48”) is an important component in the reliable supply of electricity for New Mexico.

This is a **conceptual** transmission project that could facilitate access to a wide range of potential supply options.

Northern New Mexico Transmission Line (Conceptual)



Path 47/48 Upgrades (Conceptual)



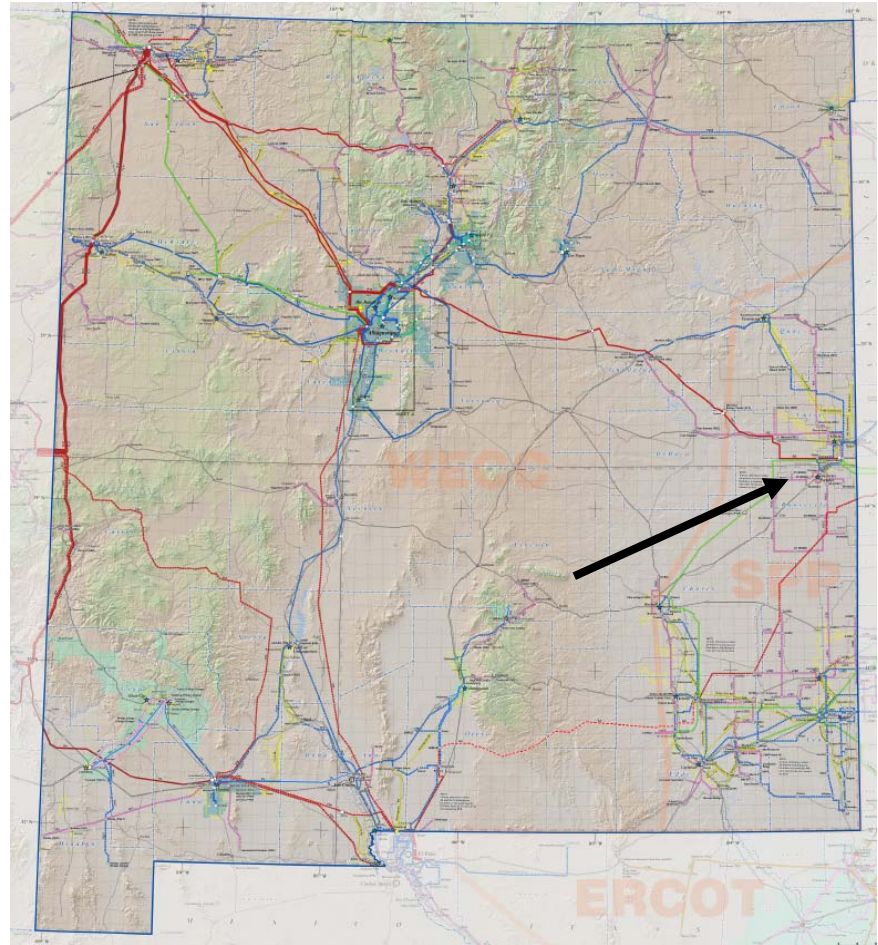
- Tie between existing West Mesa-Arroyo 345 kV Line and Springerville Luna 345 kV Line

North-South Tie (Conceptual)

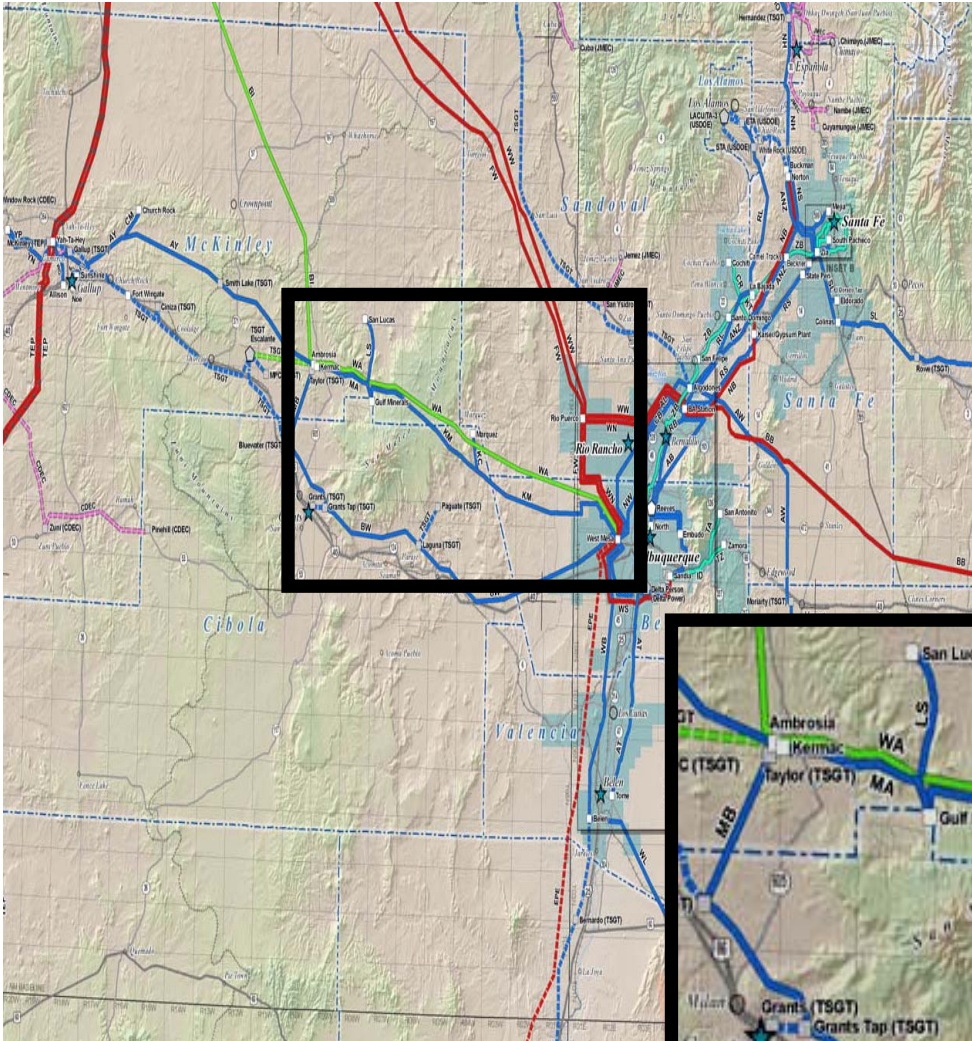
- **Tie existing Springerville–Luna (VL) and West Mesa–Arroyo (EP) 345 kV lines possibly with addition of a PST to schedule flow northbound.**
 - With and without series compensation
- **220-480 MW for Path 48**
- **Recommendation to identify issues for SNM**
- **Generally a component of wind expansion studies.**
- **No further work planned. Possibly ties to IRP filings.**

Blackwater HVDC Station Life Extension

- Status – In Progress
- Phase 1: Replace evaporative cooling system with dry cooling technology
 - In service Date – 2008
- Phase 2: Replace control system
 - In Service Date – 2009



KM/MA Line Upgrade



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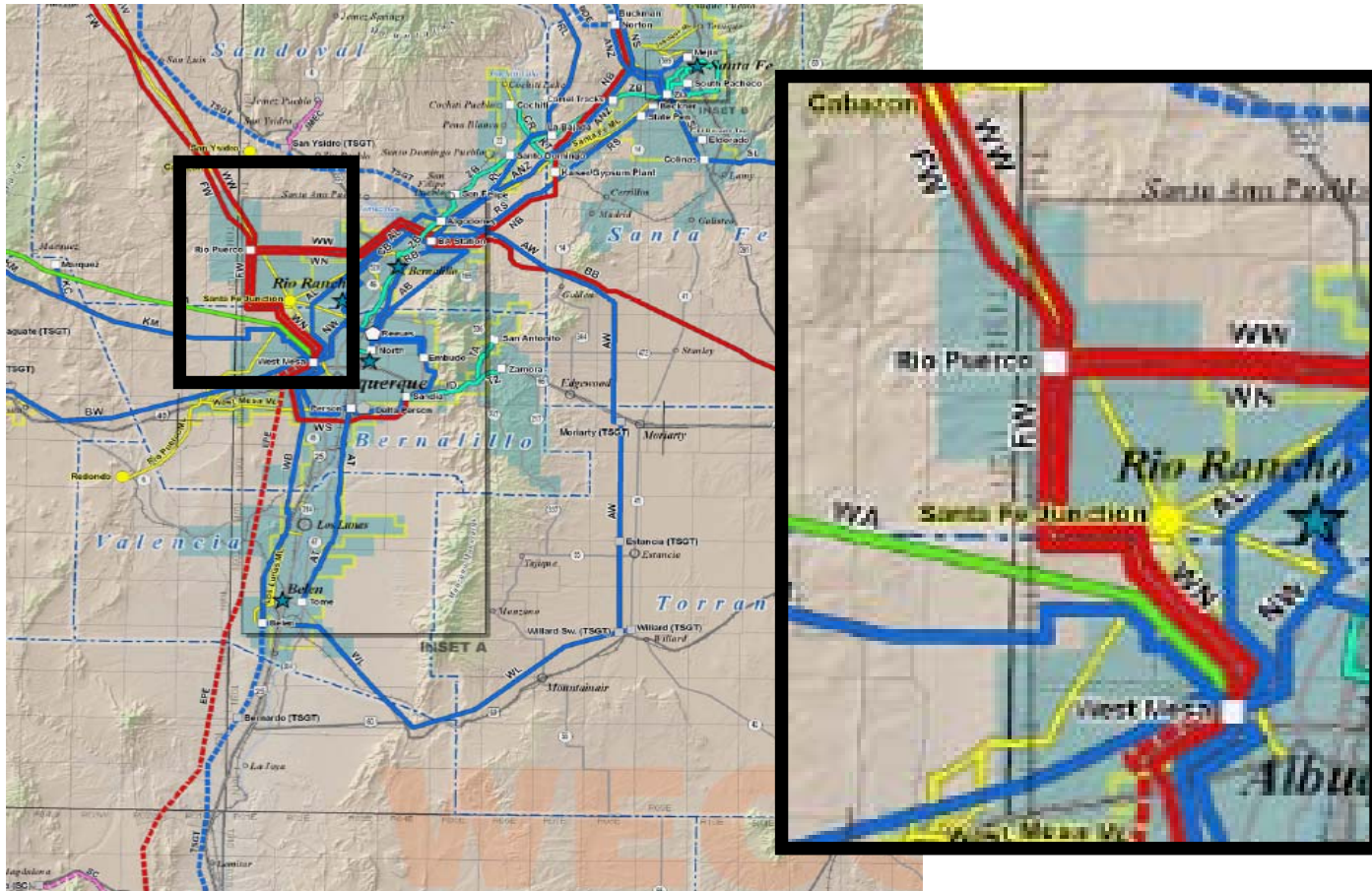
KM/MA Line Upgrade

Start Date – 2008

In Service Date – 2008

Purpose – Address clearance issues, maintain Path 48 imports and maximize future utilization of the lines

Rio Puerco Project



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Rio Puerco Phase 1

Start Date – 2008

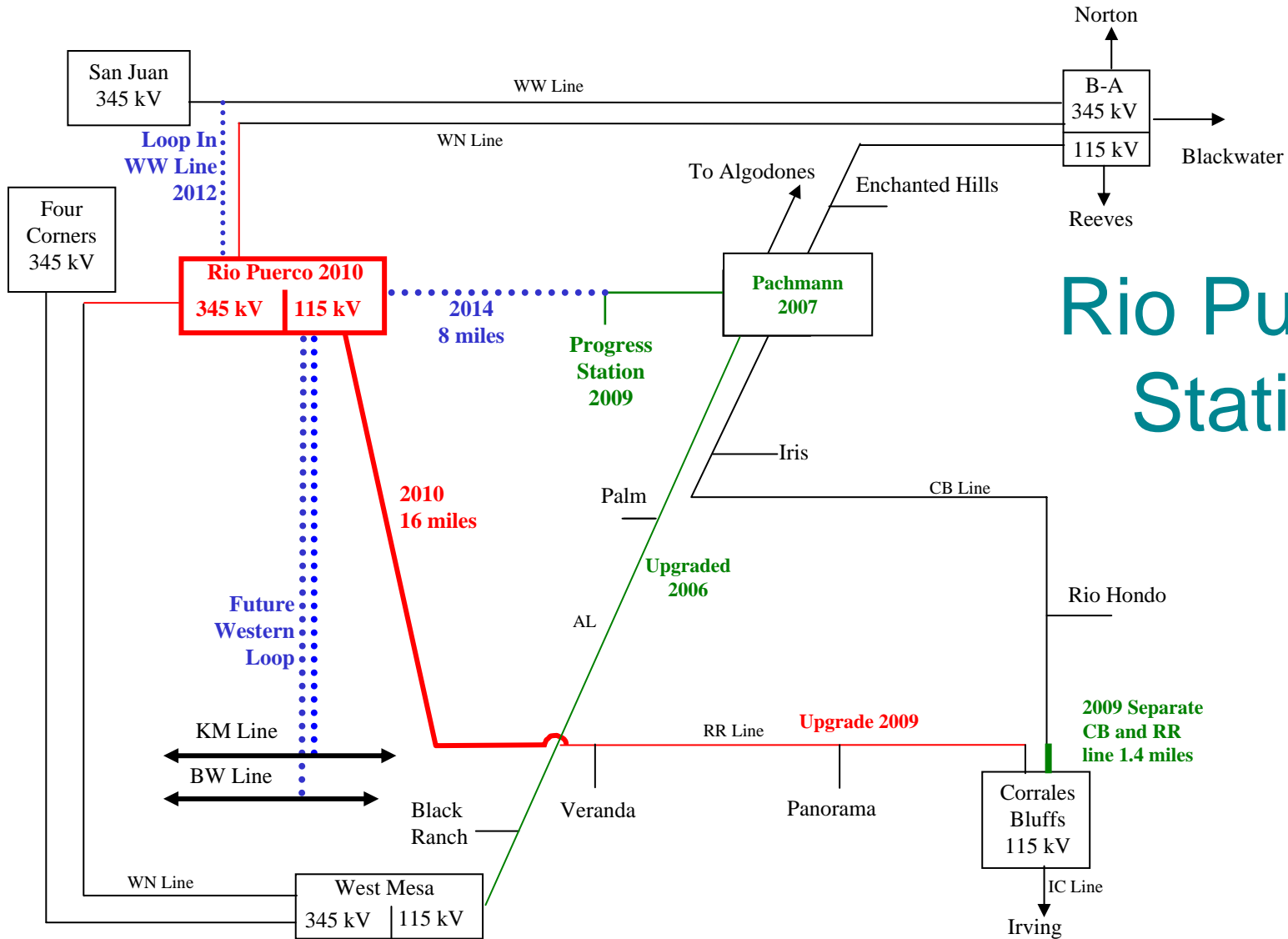
In Service Date – 2010

Purpose – Provide a new 115 kV transmission source to support Rio Rancho load growth. Load growth in southwest Sandoval county and Northwest Albuquerque has sky rocketed over the past five years

- 18.5% increase in southwest Sandoval County
- 17.8 % increase in northwest Albuquerque

What does it consist of ?

- A new Rio Puerco 345 kV and 115 kV switching station.
- Installation of a 345/115 kV bulk transformer
- Construction of a new 16 mile 115 kV line from Rio Puerco to Veranda substation.
- Upgrade of the existing Veranda to Corrales Bluff 115 kV line.



Rio Puerco Station

Rio Puerco Phase 2

Start Date – 2011

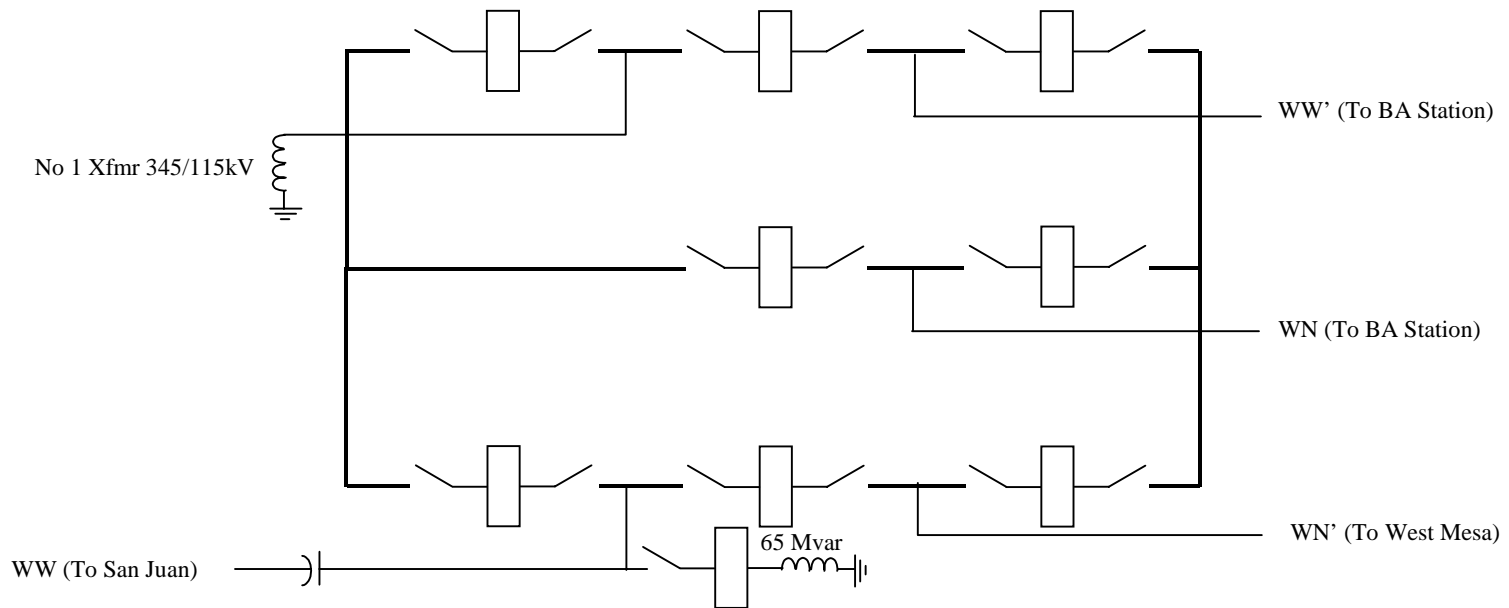
In Service Date – 2012

Purpose – Mitigate overload on the BA 345/115 kV transformer that results from the loss of the Rio Puerco – BA 345 kV Line

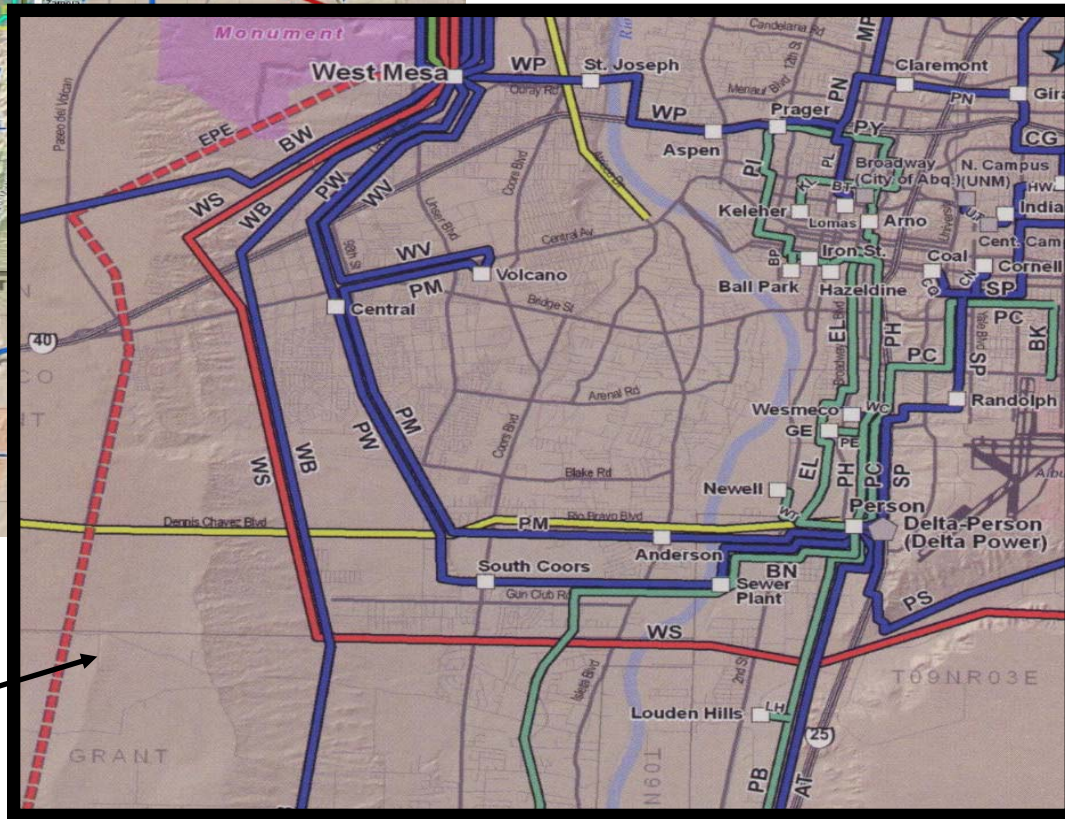
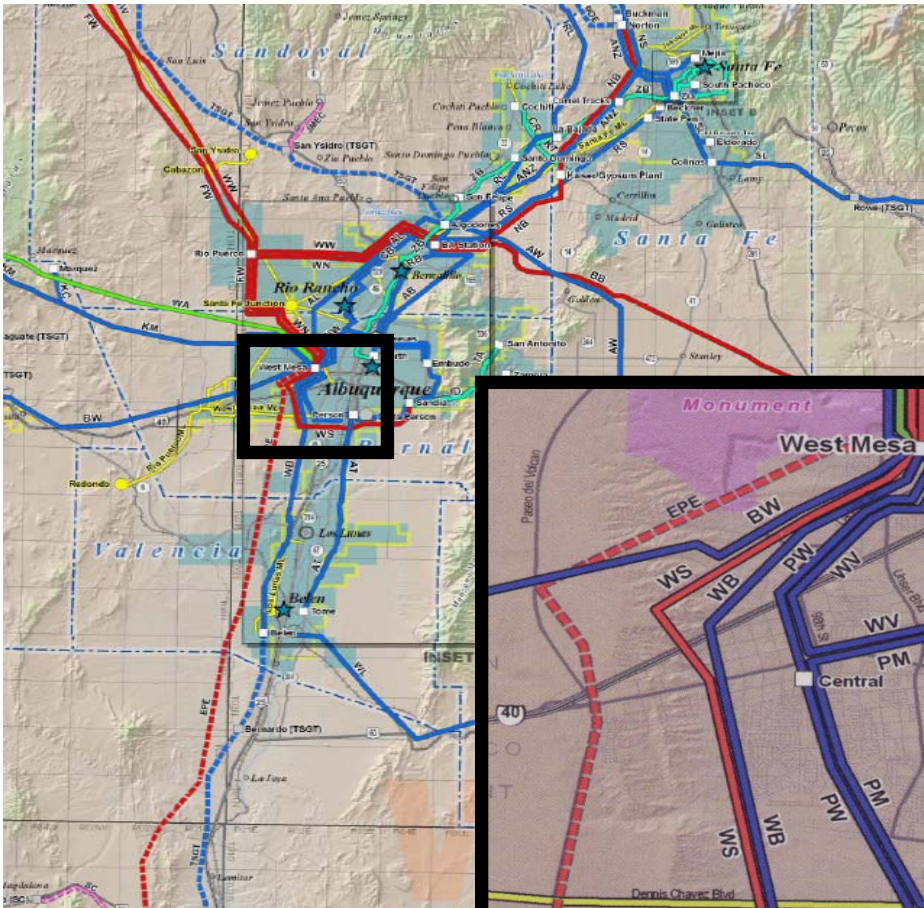
Rio Puerco Phase 2

Project Includes

- Looping in the San Juan – BA (WW) 345 kV Line
- Installation of a shunt reactor



Pajarito Project



Approximate station location

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Pajarito Project

Start Date – 2009

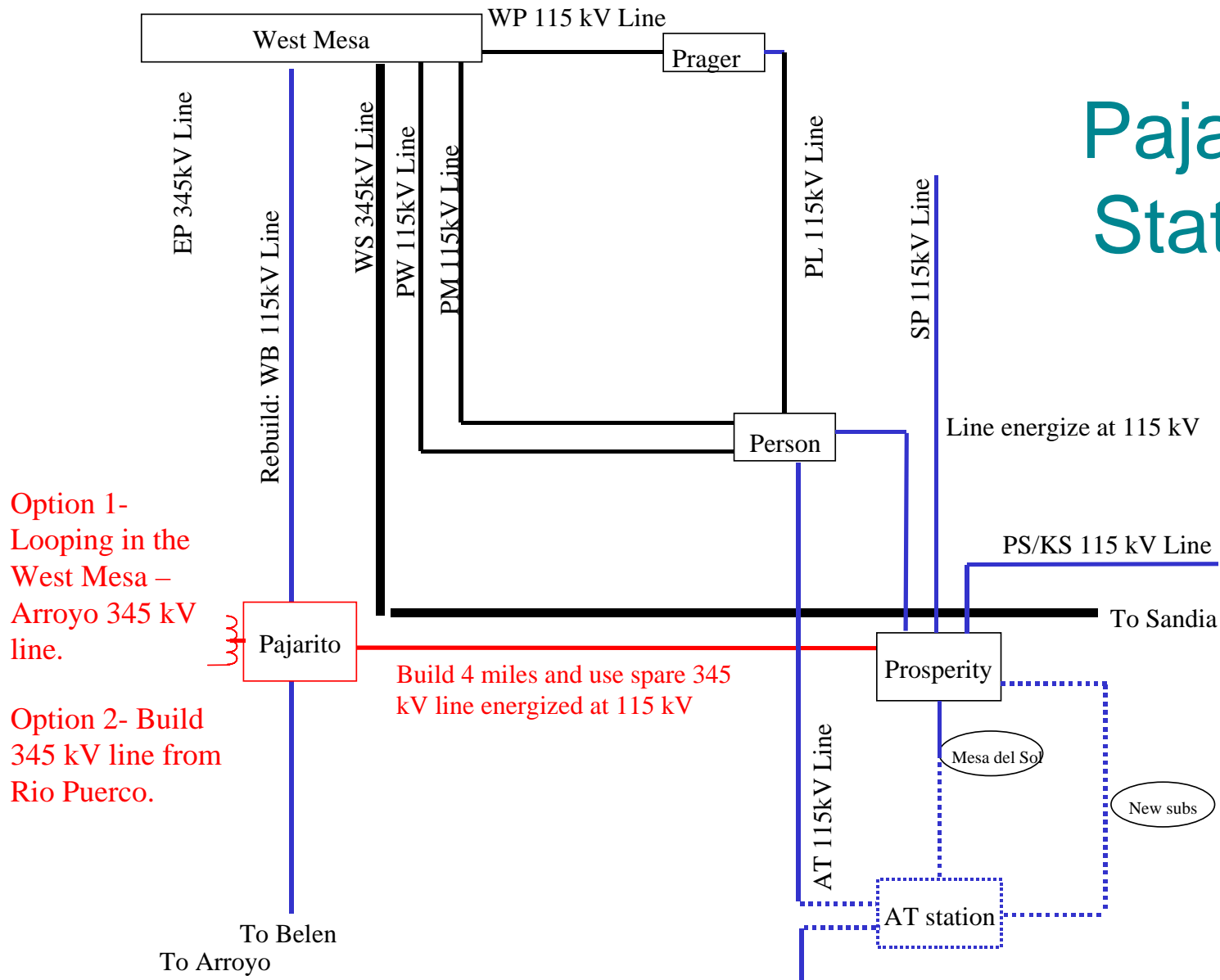
In Service Date –2012

Purpose – Provide a new 115 kV transmission source to support southern Albuquerque load growth

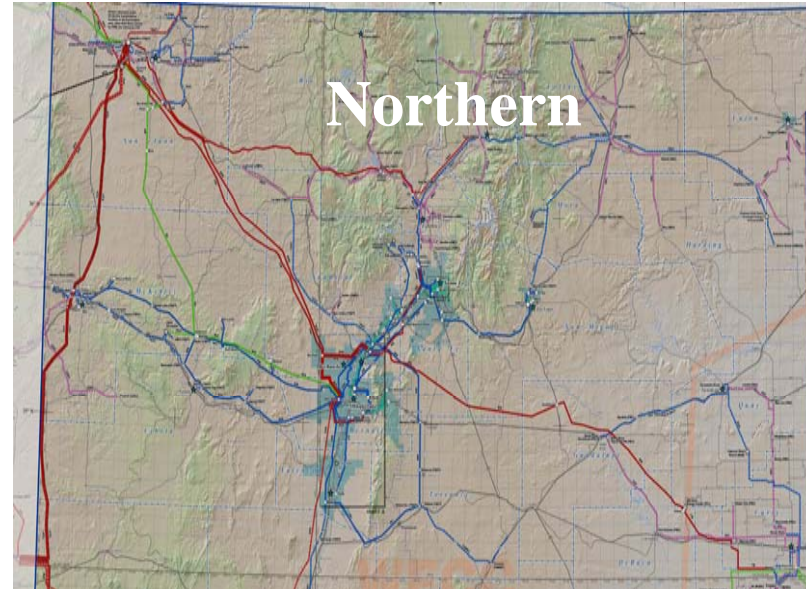
What does it consist of ?

- Rebuild West Mesa-Belen (Pajarito) 115 kV line
- A new Pajarito 345 kV and 115 kV switching station
- Installation of a 345/115 kV bulk transformer
- Construction of a new 4 mile 115 kV line from Pajarito to Prosperity substation.

Pajarito Station

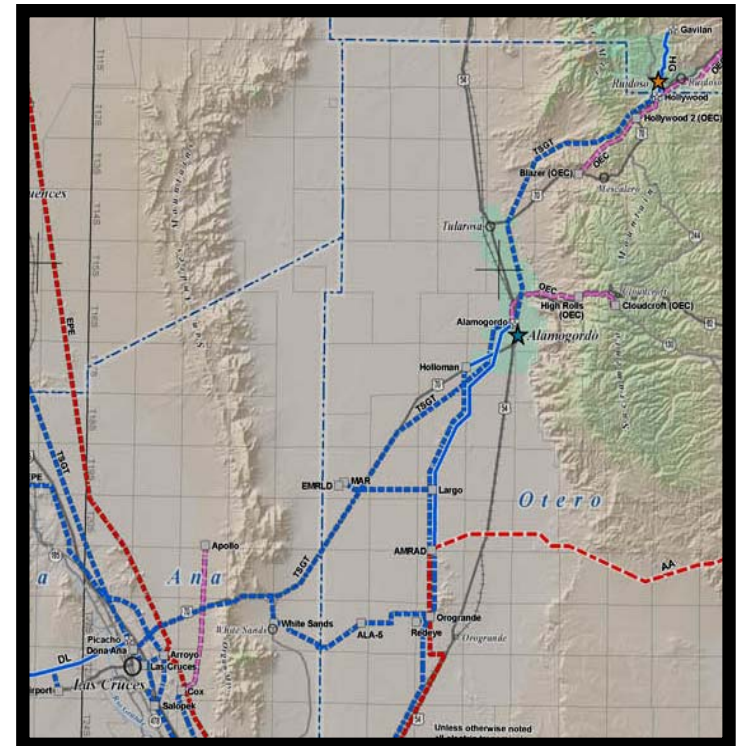
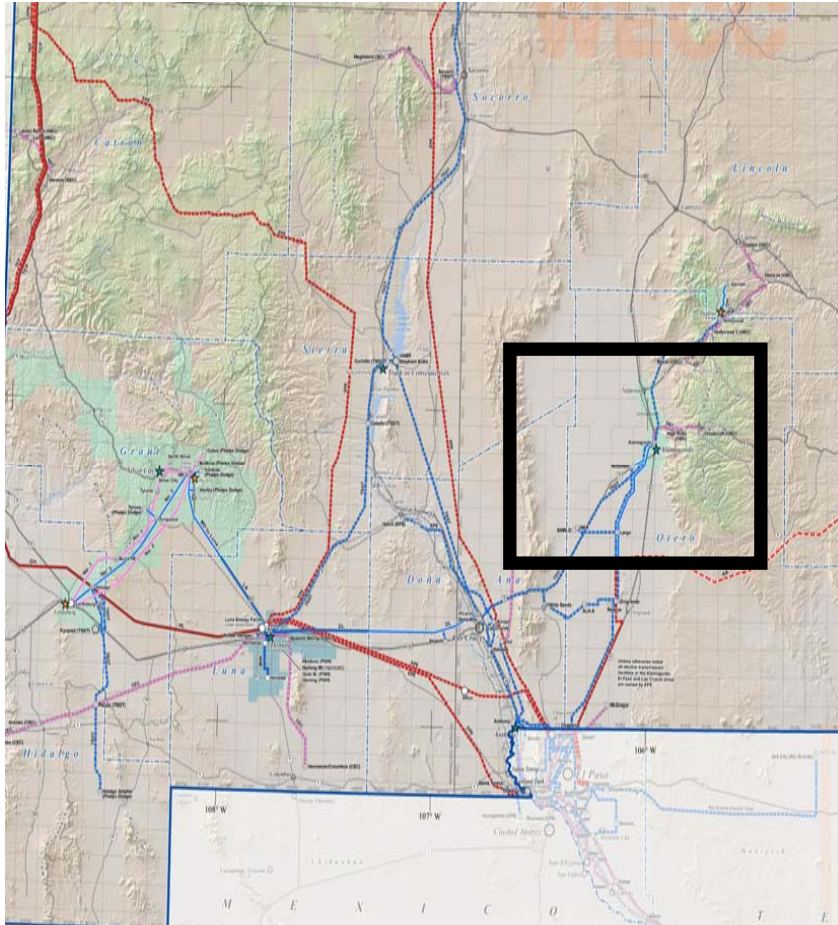


Southern New Mexico Projects



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Alamogordo Third Source



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Third Source and UVLS Scheme

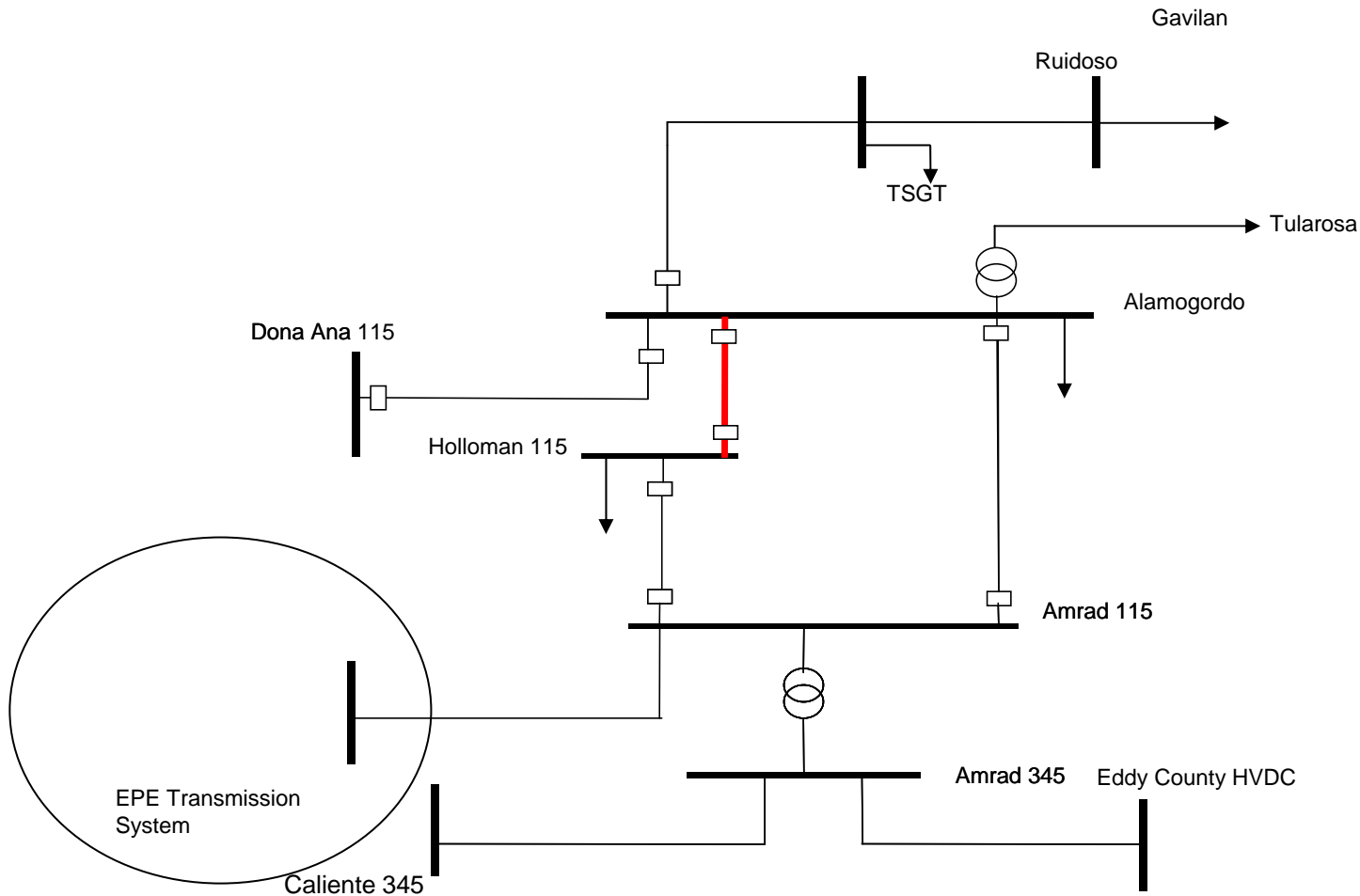
(Alamogordo – Holloman 115 kV Line)

Status – In Progress

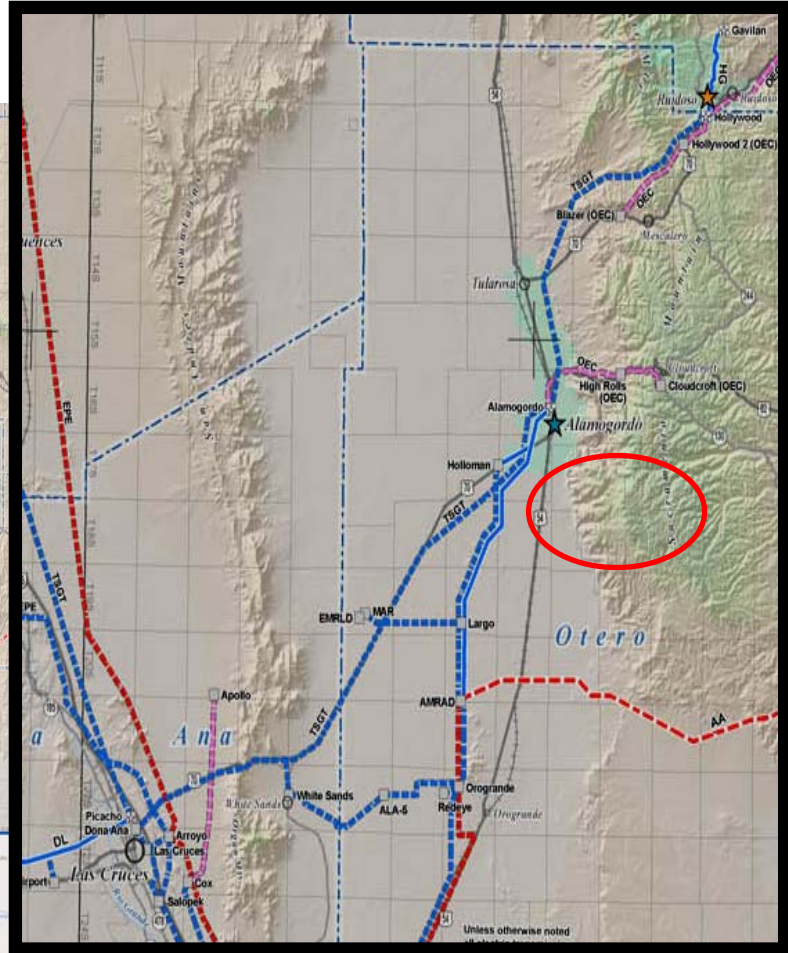
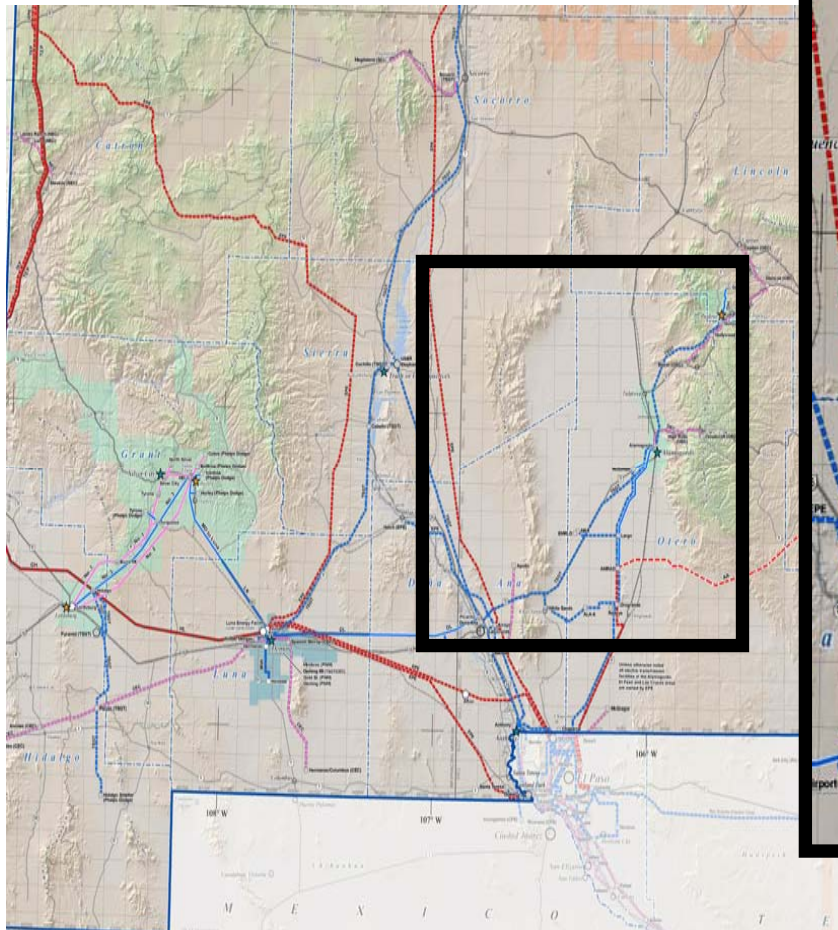
In Service Date - 2008

Purpose: Provide a third 115 kV source into the Alamogordo area and UVLS scheme.

Alamogordo Third Source



Alamogordo SVC



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Alamogordo SVC

Start Date – 2008

In Service Date – 2010

Purpose – Prevent voltage collapse/depression in the Alamogordo area for the loss of the Amrad 345/115 kV transformer, Amrad-Caliente 345 kV line or Amrad-Alamogordo 115 kV line during peak load conditions

Alamogordo SVC

Project Includes

- Installation of a -30 to $+75$ static var compensator (SVC)
- Build a second ring bus adjacent to existing Alamogordo 115 kV station

