
Nevada Wind Forum
July 26, 2006
Paul Schmidt
Transmission Planning



SIERRA PACIFIC RESOURCES (SPR)



SPR has two wholly owned electric utility subsidiaries:

- Nevada Power Company
- Sierra Pacific Power Company



NEVADA POWER COMPANY (NPC)

- 4,500 square miles southern Nevada
- 1,665 miles of FERC jurisdictional transmission lines
- 2005 peak load of 5,563 MW
- Peak load increased an average of 4.5% per year over the last five years



SIERRA PACIFIC POWER COMPANY (SPPC)

- 50,000 square miles in northern Nevada and northeastern California
- 2,165 miles of FERC jurisdictional transmission lines
- 2005 peak load of 1,740 MW
- Peak load increased an average of 2.2% per year over the last five years

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Peak load approximately 1/3 of NPC

With approximately 1/2 of the customers at NPC

Covers approximately 10X as much territory as NPC

ELY ENERGY CENTER



- Proposed Coal-Fired Power Facility in Eastern Nevada's White Pine County
- Phase One – Two 750 MW Super Critical Pulverized Coal Units 2011- 2013
- Phase Two – Two 500 MW coal gasification units

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NPC and SPPC announce Ely Energy Center in January 2006 after two years of site screening, due diligence & analysis

- The project was proposed to provide Nevadans with cleanest, most efficient and reliability energy supply
- Maintain Diversity in mix of energy sources
- Meet customer needs at low cost

Phase One – Two 750 MW super critical pulverized coal units with first unit planned to be on line late 2011 and second on-line in early 2013

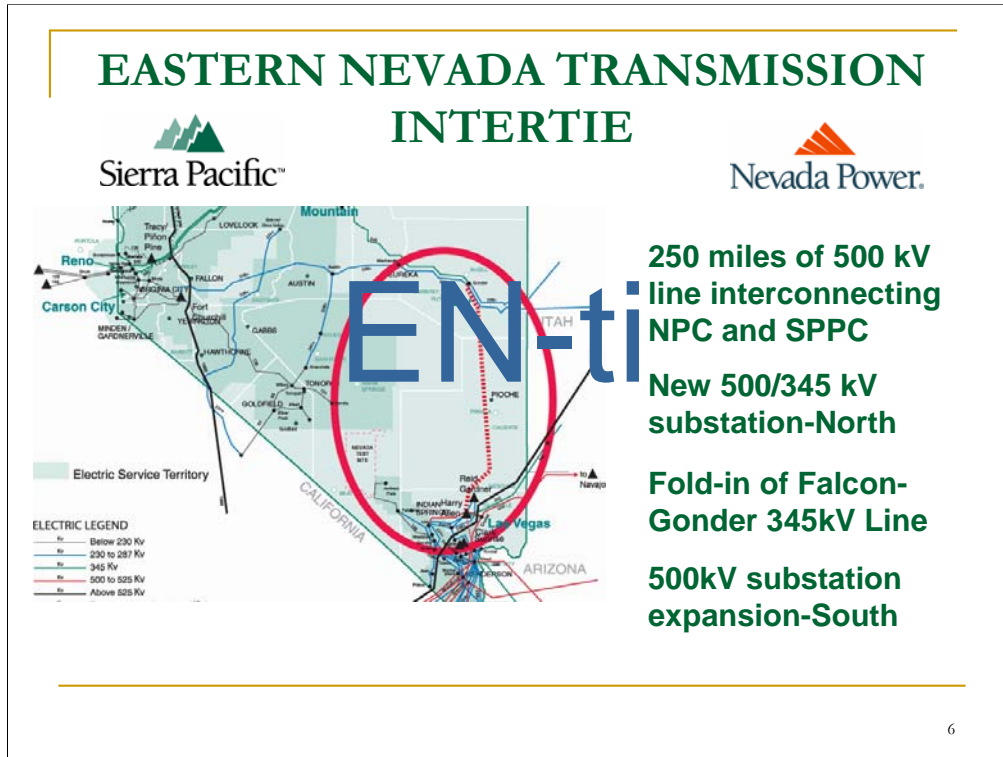
- Designed to utilize coal in cleaner more efficient manner than any existing coal plant in the west
- Super-Critical technology units are 5-10% more efficient than traditional Sub-Critical technology because they use higher temperature and pressure, resulting in less fuel consumption and thus less emissions
- Preliminary air quality screening has shown little or no impact in any of the National Parks
- Will use western coal as fuel – highly abundant with low sulfur content
- Plant designed to minimize water usage – about ½ of the water conventional plants utilize

Phase Two – Two 500 MW coal gasification units on line once technology is commercially viable

Economic Benefits

- Boost to rural economy of White Pine County creating 1000s of jobs, infusing \$ into local tax base during construction & continuing into operation
- Water: Approx:3000-4000 acre-feet per year for each 750MW unit...Applied for water right sin Steptoe, Butte, Jakes Valley
- Air: Install air monitoring equip this Spring, Submit air permit application this fall, expected air permit issuance in 2007
- Land: Land use will require EIS for gen and trans,... Currently preparing documents for submission to BLM
- Land: Require 2500-3000 acre site
- Rail: Implement needed upgrades to Northern Nevada Railroad... Companies operate two coal-fired plants & manger coal by rail transportation

Both Companies currently supply over 50% energy with Purchase Power



With the Ely Energy Center as Anchor tenant, SPP and NPC are planning the Eastern Nevada Transmission Intertie

Project Description

- 250 miles of 500 kV line from southern Nevada to Ely
- One 500/345 kV substation

Project Cost

\$515 million projected

Project Benefits

- Connect the Ely Energy Center with into the grid for delivery to SPP and NPC systems
- Directly interconnect the NPC and SPP systems
- Interconnect additional Nevada renewable energy resources

EASTERN NEVADA TRANSMISSION INTERTIE



- Interconnect and Deliver energy from EEC
- Interconnect and deliver new and existing Renewable Energy Resources
- Interconnect 1600 MW of proposed IPP generation in White Pine County
- Interconnect 500 kV transmission line for Great Basin Transmission LLC

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White Pine County – White Pine Energy Association, LS Power LLC

- 1600 MW – 3 - 530 MW units

GB Transmission LLC

- Build a 500 KV Transmission circuit between Robinson Summit and Harry Allen

Interconnect additional Nevada renewable energy resources

Renewable resources PUCN RPS

- 20% required by 2015 (5% solar)
- SP Currently has 10% Renewable
- NP Currently has < 1% Renewable

- Both companies currently supply > 50% energy with Purchased Power**

**4,000 MW OF NEW GENERATION
INTERCONNECTED SINCE 2000**



NPC's 1,200 MW Chuck Lenzie Plant

Silverhawk
Reliant / Bighorn
LV CoGen
Mirant / Apex
Naniwa
Western 102
Eldorado Energy

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Silverhawk 600

Reliant Bighorn 700

LV Cogen 230

Mirant Apex 550

Naniwa 300

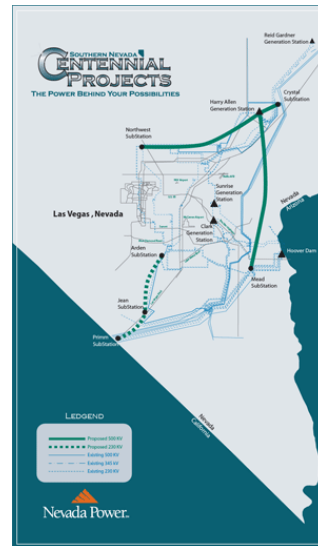
Western 102 130

EDE 500

THE CENTENNIAL PROJECT



- New Harry Allen 500 kV Switchyard**
- Harry Allen-Crystal 500 kV line**
- Harry Allen-Northwest 500 kV line**
- Harry Allen-Mead 500 kV line**



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The Centennial Project

New Harry Allen 500 kV switchyard to interconnect 3000 MW of new IPP Generation - Completed 2002

Harry Allen-Crystal 500 kV line – Completed 2002 (6 mi)

Harry Allen-Northwest 500 kV line – Completed 2003 (35 mi)

Harry Allen-Mead 500 kV line – Under construction (60mi)

Project Cost

\$309 million projected

Project Benefits

Allows up to 3,000 MW of new generation resources to be interconnected and delivered to the interstate grid or the Las Vegas Valley



FALCON to GONDER



180 Miles of 345 kV line

Two 345/230 kV Transformers

\$ 98 Million
Completed 2004



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Falcon to Gonder Project Description

180 miles of 345kV line

Two 345/230 kV transformers

Completed 2004

Project Cost

\$98 million

Project Benefits

Increases firm import capacity by 255 MW

Encourages generation development by increasing firm export capacity 200 MW

Enhances access to resources in Utah



Completed 1998
\$ 156 Million

ALTURAS



167 miles of 345kV line



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Project Description

167 miles of 345kV line that connects SPPC with BPA near Alturas California
Completed 1998

Project Cost

\$156 million

Project Benefits

Enhances access to resources in Pacific Northwest

Expands service for wholesale transmission customers

Increases transfer capability between the Pacific Northwest and SPPCO's system by 300 MW

PROJECTS UNDER CONSTRUCTION OR COMPLETED SINCE 1998



- River Mountain \$34
- Crystal Transmission \$98
- Big Horn \$24
- Centennial ~ \$309



- Falcon to Gonder \$98
- Alturas \$156
- Buckeye Transmission ~ \$16
- Winnemucca New Source ~ \$11
- Sugarloaf Addition ~ \$13

Total - \$759

\$ in Millions
~ Construction Not Complete

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PROJECTS PROPOSED TO NEVADA COMMISSION



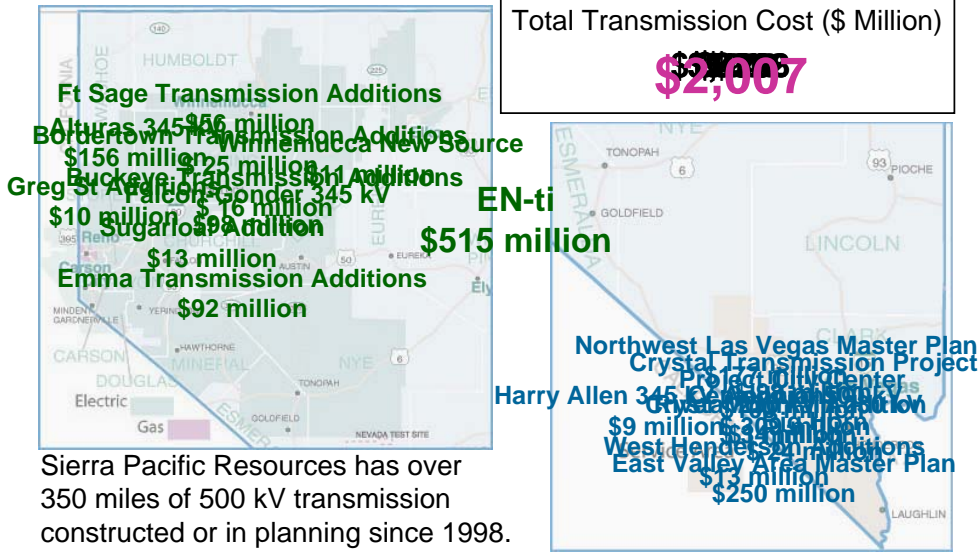
- NW Las Vegas Master \$177
- East Valley Master Plan \$250
- Project City Center 100
- Harry Allen 345 kV \$9
- Crystal 230 kV \$1
- West Henderson \$13
- Greg Street \$10
- Emma Transmission \$92
- Bordertown Transmission \$25
- Fort Sage Transmission \$56

Total  **\$1,248**

■ EN-ti \$515

\$ Estimate in Millions

SPR Transmission Projects



SPR Transmission Projects



- ❑ \$759 million under construction or completed since 1998
- ❑ \$1,248 million proposed to Nevada Commission for approval
- ❑ Total \$2.007 billion under construction, completed since 1998, or proposed to Nevada Commission



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Projects Completed

Nevada Power Company

Centennial (100 miles of 500 kV line and \$309 million projected)

River Mountain (32 miles of 230 kV line and \$34 million)

Crystal Transmission Project (\$98 million)

Big Horn (75 miles of 230 kV line and \$24 million)

Sierra Pacific Power Company

Falcon to Gonder (180 miles of 345 kV line and \$98 million)

Alturas (167 miles of 345 kV line and \$156 million)

Projects Proposed to Nevada Commission (\$989 million proposed to Nevada Commission for approval)

Nevada Power Company

Eastern Nevada Transmission Intertie (250 miles of 500 kV line and \$515 million projected)

East Valley Master Plan (\$251 million projected)

North Las Vegas Area Routing and Siting Project (\$177 million projected)

Sierra Pacific Power Company

Emma Line and Substation (20 miles of 345 kV line and 32 miles of 120 kV line and \$46 million projected)

