AGENDA

Welcome
PNM Community Manager

Power Supply Overview
Ron Darnell, Sr. Vice President of Public Policy

Power Supply Planning Process
Pat O’Connell, PNM Planning and Resource Director

Questions/Input
June 27, 2013
Demand for power hits all-time record: 2008 MW

$675 million investment in power plants, power lines 2010-2012
BALANCE

Environment

Affordability

Reliability
# Benefits and Objectives of San Juan Settlement

<table>
<thead>
<tr>
<th>Benefits and Objectives</th>
<th>Broad Environmental Benefits</th>
<th>Consider Economic Impact to the Four Corners Area and State</th>
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<tbody>
<tr>
<td>Lessen cost for customers</td>
<td>Consumers benefit from overall lower cost implementation plan and lower increases related to future potential environmental mandates associated with coal</td>
<td>Includes construction of 150 to 200 MW natural gas peaking plant in Four Corners area. Will create approximately 350 person years of construction jobs.</td>
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<tr>
<td>Broad environmental benefits</td>
<td>Achieves strong visibility improvements—visibility improvement is close to FIP</td>
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<tr>
<td>Consider economic impact to the Four Corners area and state</td>
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<td>No SJGS layoffs as a result of closures</td>
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<tr>
<td>Lower fuel price risk due to a better balanced generation portfolio</td>
<td>Reduces other emissions in addition to NOx—better positions State for future EPA regulations</td>
<td>PNM will provide over $1 million for job retraining and economic development in Four Corners area</td>
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In addition, there will be an estimated 50% reduction in fresh water consumption and an estimated 48% reduction in coal ash generation. With the two-unit shutdown, and planned additions of other resources, the PNM system will have a reduction in Greenhouse Gas emissions that will meet or exceed the President’s goal of 17 percent below 2005 levels by 2020.
**PNM RENEWABLE RESOURCES: EXISTING, UNDER DEVELOPMENT AND PROPOSED**

### Solar Centers (PNM-owned)
- **Algodones** - 25 kW, 2006
- **Alamogordo** – 5 MW, 2011
- ** Albuquerque** – 2 MW, 2011
- **Prosperity (ABQ)** – 500 kW, 2011
- **Las Vegas** – 5 MW, 2011
- **Deming** – 5 MW, 2011/ Exp. to 9 MW, 2013
- **Los Lunas** – 5 MW, 2011/Exp. to 7 MW, 2013
- **Otero County** – 7.5 MW 2013
- **Manzanao Center** – 8 MW 2013

#### 2014
- 23 MW in Greater ABQ Metro

#### 2014

### Wind
- **NM Wind Energy Center** – 200 MW, 2003
- **Red Mesa** – 102.4 MW, Jan. 1, 2015

### Geothermal
- **Lightning Dock** – 10 MW, July 2014

Plus 22 MW PV installed by 3,300 customers
COMPREHENSIVE ANALYSIS

MANY FACTORS TO CONSIDER

Utility cost test
Electric vehicles
Regional haze rule
Stochastic analysis
Energy efficiency potential
Microturbines
Fuel prices
O & M
Coal ash
Customer needs
Construction planning, design and schedules
Scenario analysis
Existing resources
Transmission planning standards
Balancing area coordinator
Existing resources
PV panel cost
Transmission availability

Previous PRC cases
WECC-BAL-STD-002-0
Net present value
Western Electricity Coordinating Council
Interest rates
The economy
Disturbance control standards
Variable energy resource
Sensitivity analysis
Qualitative analysis
Power plant emissions
Baseload duty cycle
Wind speed
Reserve sharing agreements

Cost of capital
Control performance standards
Wecc path 48
Tax incentives
Demand response
Reserve margin
Loss of load probability
Price volatility
Emerging technologies
Carbon capture and sequestration
Climate change
North American Electric Reliability Council
Smart grid
Peaking duty cycle
GHG regulations
Reserve sharing agreements

Public comment
Environment
The economy
The economy
Price volatility
National Ambient Air Quality Standards
GHG regulations
Weather forecasts
Renewable portfolio standard
Clean Air Act
Electric demand
Pat O’Connell
PNM Director, Planning and Resources
INTEGRATED RESOURCE PLAN

AGENDA

• What is an IRP?
• Planning Process
• PNM’s 2014-2033 IRP schedule
• Opportunities to Provide Your Input
INTEGRATED RESOURCE PLAN

A plan to create the most cost-effective resource portfolio that meets the energy needs for a 20-year period.

• Four year action plan
• New IRP every three years
• Our planning is improved by public input
IRP PROCESS

Collect Assumptions
- Data
  - Existing System
  - Known Technologies
- Uncertainties
  - Demand
  - Prices
  - Regulations

Plan to Understand Risks
- Define Scenarios
- Identify Sensitivities

Analyze
- Model Potential Solutions
- Identify best solutions using a range of criteria
- Test best solutions under range of uncertainties

Evaluate
- What works best under most conditions?
- Which risks are easiest to mitigate?
- Most cost effective portfolio
- 4 year action plan

Report
- Document the process
- File with NMPRC by June 30, 2014
2014-2033 IRP PROCESS

Will present analysis examples early in process:

- Provide foundation for public input
- Examples will be IRP analysis of portfolios that can meet Regional Haze Rule Requirements

Next step is to show IRP analysis for two scenarios:

- Install SCR technology on all 4 units at SJGS
- Retire 2 units and install SNCR technology on other two units at SJGS
SCHEDULE JULY - SEPTEMBER

Preliminaries

- Kick off the IRP Process
- Assemble data
- Prepare analysis plan
- Model SJGS scenarios
Present:

- Show modeling process in detail
- Show results of modeling two scenarios for SJGS
- Present analysis plan
- Provide foundation for public advisory comments

SCHEDULE: SEPTEMBER-OCTOBER

Sept - Oct 2013

Preliminaries

Present

Complete Analysis

Report
OPPORTUNITIES TO PROVIDE INPUT

WE ARE REQUESTING YOUR INPUT

www.pnm.com/irp for documents
irp@pnm.com for e-mails

Register your email on sign-in sheets for alerts of upcoming meetings and notices that we have posted new information to the website.
Thank you