San Juan Generating Station Update 2017

Kevin Mataczynski Director, Plant Management – San Juan
OVERVIEW

SAN JUAN GENERATING STATION UPDATE

• PNMR Profile
• Capacity Mix
• Annual Emissions
• San Juan Generating Station
  • Current
  • 2017 Changes
• What’s Ahead
PNMR PROFILE

NM AND TX SERVICE TERRITORIES

- New Mexico
- More than 500,000 customers
- Fully integrated generation, transmission and distribution company
- San Juan Generating Station serves 2M customers in Southwest

- Texas/ERCOT region
- About 235,000 end users
- Transmission and distribution company
RESOURCE MIX

CAPACITY MIX

Current Capacity Mix (% MW), 2015

- Renewables: 35%
- Coal: 35%
- Natural Gas: 15%
- Nuclear: 15%

Forecasted Capacity Mix (% MW), 2018

- Renewables: 40%
- Coal: 29%
- Natural Gas: 16%
- Nuclear: 15%
SAN JUAN GENERATING STATION

CURRENT STATE

• San Juan Generating Station is a four unit coal-fired generator located west of Farmington, New Mexico.

• The plant has a net capacity of 1,674 megawatts:
  
  • Unit 1, 340 MW
  • Unit 2, 340 MW
  • Unit 3, 497 MW
  • Unit 4, 497 MW
  • The oldest unit (Unit 2) online in 1973, and the newest unit (Unit 4) online in 1982.
SAN JUAN GENERATING STATION

REGIONAL HAZE

• Consent Decree
  • Retire U2 & U3
    • Dec 31, 2017
  • Install SNCR U1 & U4
    • Completed Dec 2015
ANNUAL EMISSIONS

San Juan Generating Station: EMISSIONS 2005 - 2016

NOx and SO2 Annual Emissions

Mercury Annual Emissions
### SAN JUAN UNITS 2 & 3 RETIREMENT

**2017 San Juan Units 2 and 3 Retirement**

- Will reduce CO2 emissions by approximately 6 million metric tons per year
- Reduces PNM’s carbon dioxide emissions system-wide by about 23%
- Operating & fuel supply agreements run until 2022

#### SAN JUAN GENERATING STATION EMISSIONS REDUCTIONS (BASED UPON PERMIT LIMITS*)

<table>
<thead>
<tr>
<th></th>
<th>NOx</th>
<th>SO₂</th>
<th>Particulate Matter</th>
<th>Mercury</th>
<th>CO₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Reductions after 2009 Environmental Pollution Control Upgrades</td>
<td>44% ↓</td>
<td>71% ↓</td>
<td>&gt; 72% ↓</td>
<td>99% ↓</td>
<td>N/A</td>
</tr>
<tr>
<td>2012** Emissions (tons per year)</td>
<td>21,000</td>
<td>10,500</td>
<td>2,380</td>
<td>0.005</td>
<td>11,906,236</td>
</tr>
<tr>
<td>Emission Reductions from 2012 to 2018 Revised State Implementation Plan (2 unit shutdown/2 unit selective non-catalytic reduction)</td>
<td>62% ↓</td>
<td>67% ↓</td>
<td>50% ↓</td>
<td>50% ↓</td>
<td>47% ↓</td>
</tr>
<tr>
<td>Projected Emissions in 2018 (tons per year)</td>
<td>8,011</td>
<td>3,483</td>
<td>1,184</td>
<td>0.002</td>
<td>6,359,750</td>
</tr>
</tbody>
</table>

* Mercury and CO₂ numbers are based upon actual emissions since there are currently no permit limits for these constituents.
** 2012 chosen as base year to match the base year of EPA’s Clean Power Plan for reduction of CO₂ emissions for fossil generation.
WHAT’S AHEAD

INTEGRATED RESOURCE PLAN (IRP)

• PNM’s 2017 – 2036 Integrated Resource Plan underway
  • Examines a 20-yr resource plan horizon- revisiting every 3 years
  • Analysis elements includes analyzing San Juan under two scenarios:
    • Continuation
    • Abandonment after current fuel supply agreement in 2022
  • Results – It is in the customers best interest to retire the remaining units in 2022
  • Filed with NM PRC for review & acceptance
    • July 3, 2017

• For more information, go to www.pnm.com/irp
WHAT’S AHEAD

REQUEST FOR PROPOSAL (RFP)

• RPF in development
  • Evaluated Bid Process
    • Capital Cost
    • O&M Cost
    • Meet Daily load Profile
    • Filed with NM PRC for review & acceptance

• Schedule
  • Q3 2017 – RFP for new generation to replace SJGS in development
  • Q4 – Request for Bids
  • 2018 – Receive and evaluate options
WHAT’S AHEAD

Technologies Being Considered

• Renewables
• Battery
• Gas Turbines
• Reciprocating Engines
• Combine Cycle (gas)
• Other Options
Thank you