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Mail Station 9708
PO Box 53999
Phoenix, Arizona 85072-3999
Tel 602-250-2709
Susan.Casady@aps.com

April 13, 2011

Arizona Corporation Commission
DOCKETED
APR 13 2011
DOCKETED BY

Docket Control
Arizona Corporation Commission
1200 W. Washington
Phoenix, AZ 85007

RE: Arizona Public Service Company 2011 Summer Energy Preparedness Special Open Meeting Presentation E-00000F-07-0199

Attached please find a copy of Arizona Public Service Company's 2011 Summer Energy Preparedness Presentation from the April 11, 2011, Special Open Meeting.

If you have any questions regarding this information, please contact Jennie Vega at (602) 250-2038.

Sincerely,

Susan Casady

Susan Casady

SC/kc
Attachment

Before the
Arizona Corporation Commission

Arizona Public Service Company
2011 Summer Readiness

April 11, 2011

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Presenters

- **Steve Norris**
  Director, Transmission Operations

- **Tom Carlson**
  Director, Fuels

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Agenda

- Loads and Resources
- Fuel and Purchase Power
- Planned Maintenance Activities
- Emergency Preparedness & Contingency Planning
- Conclusions

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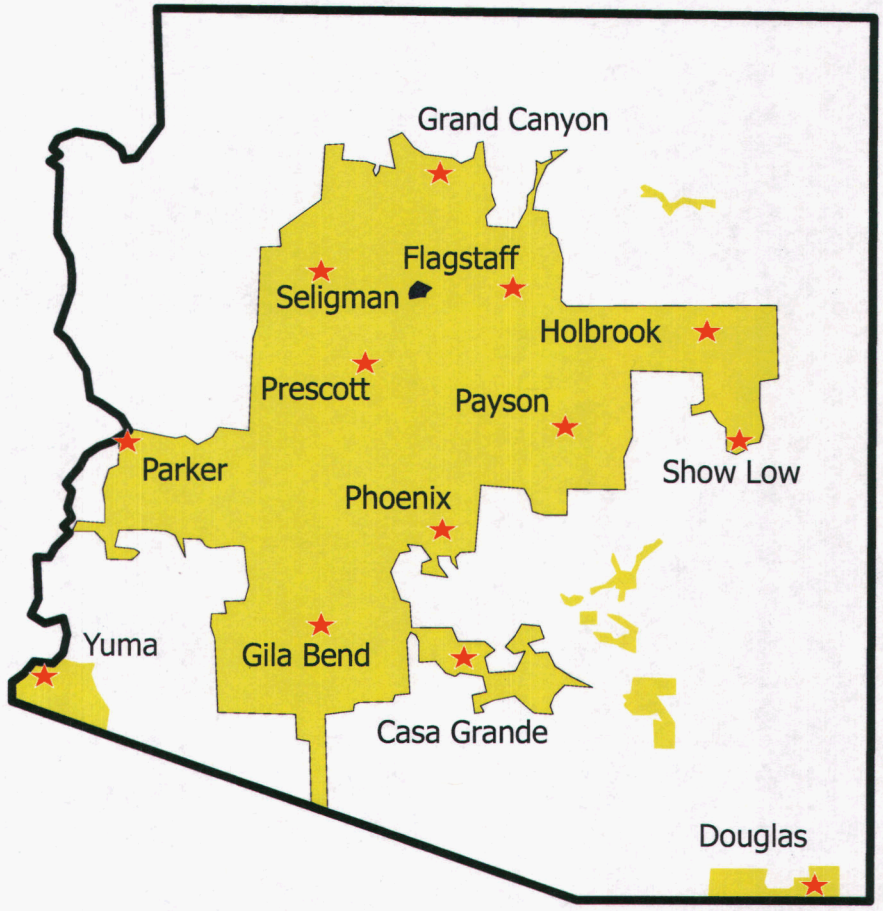
APS Service Statistics

- 11 counties
- 34,645 sq. mi. CC&N area
- 1.1 million customers
- 417 substations
- 28,515 distribution line miles
- 5,438 transmission line miles
- 54 generation units



APS Existing Generation

Fuel Source	Capacity - MW
Nuclear	1,146
Coal	1,753
Gas Combined Cycle	1,871
Gas/Oil CT, Steam	1,518
Solar	6
Total	6,294

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Renewable Resources

Resource	Peak Contribution	Capacity
Aragonne Mesa Wind	16.1	90.0
High Lonesome Wind	11.6	97.0
Salton Sea CE Turbo	10.0	10.0
SWMP Biomass	24.5	24.5
Glendale Landfill Biogas	2.6	2.8
Solar Generation	2.9	6.0
Total (MW)	67.7	230.3

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Generation Resources

	Capacity (MW)
Existing Generation	6,294
Long-term Contracts	
PacifiCorp Exchange	480
SRP - Firm	36
Reliability Purchases	1,594
Demand Response Contract	59
Market Contracts for ED3	104
Renewable Contracts	68
Subtotal	2,341
Total Resources	8,635

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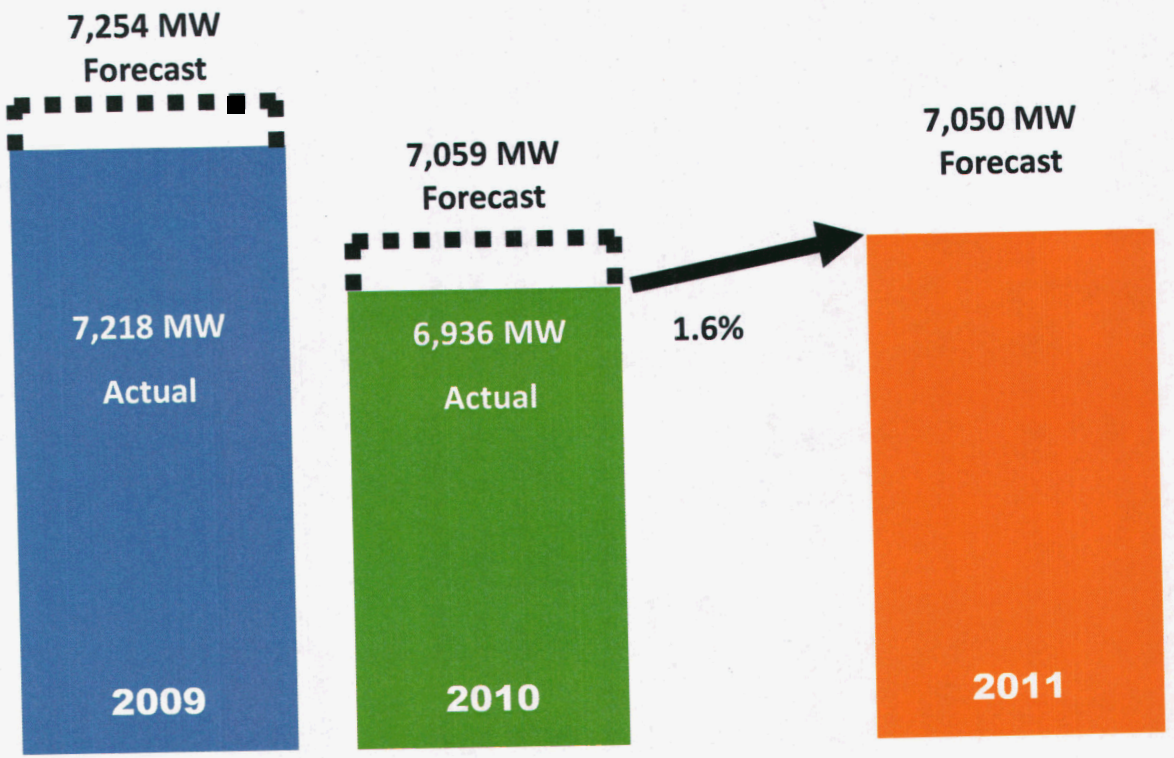
APS System Peak Loads



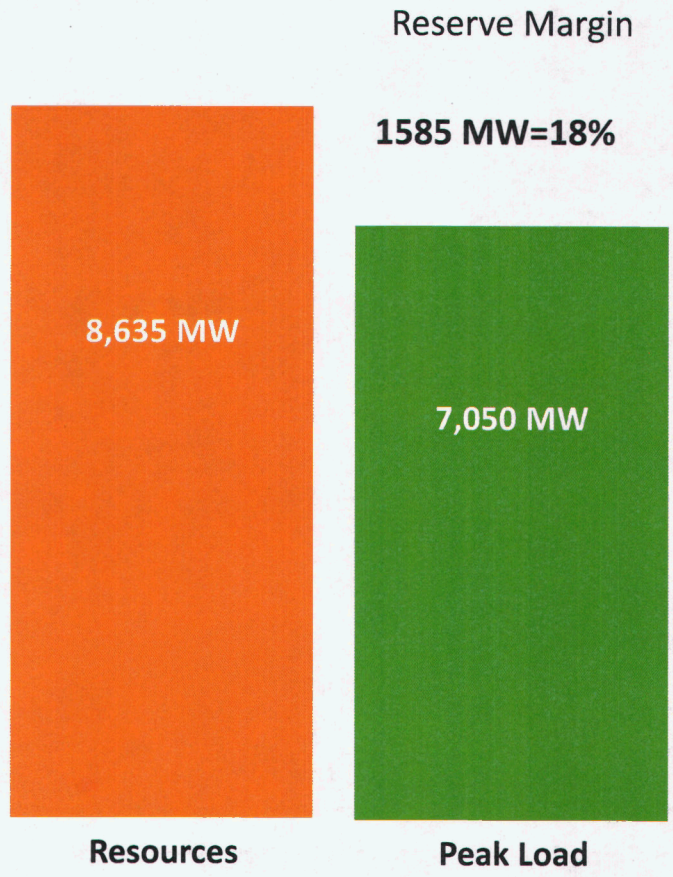
2011 Peak Generation Resources and Load

Planned Reserve Margin to manage uncertainties:

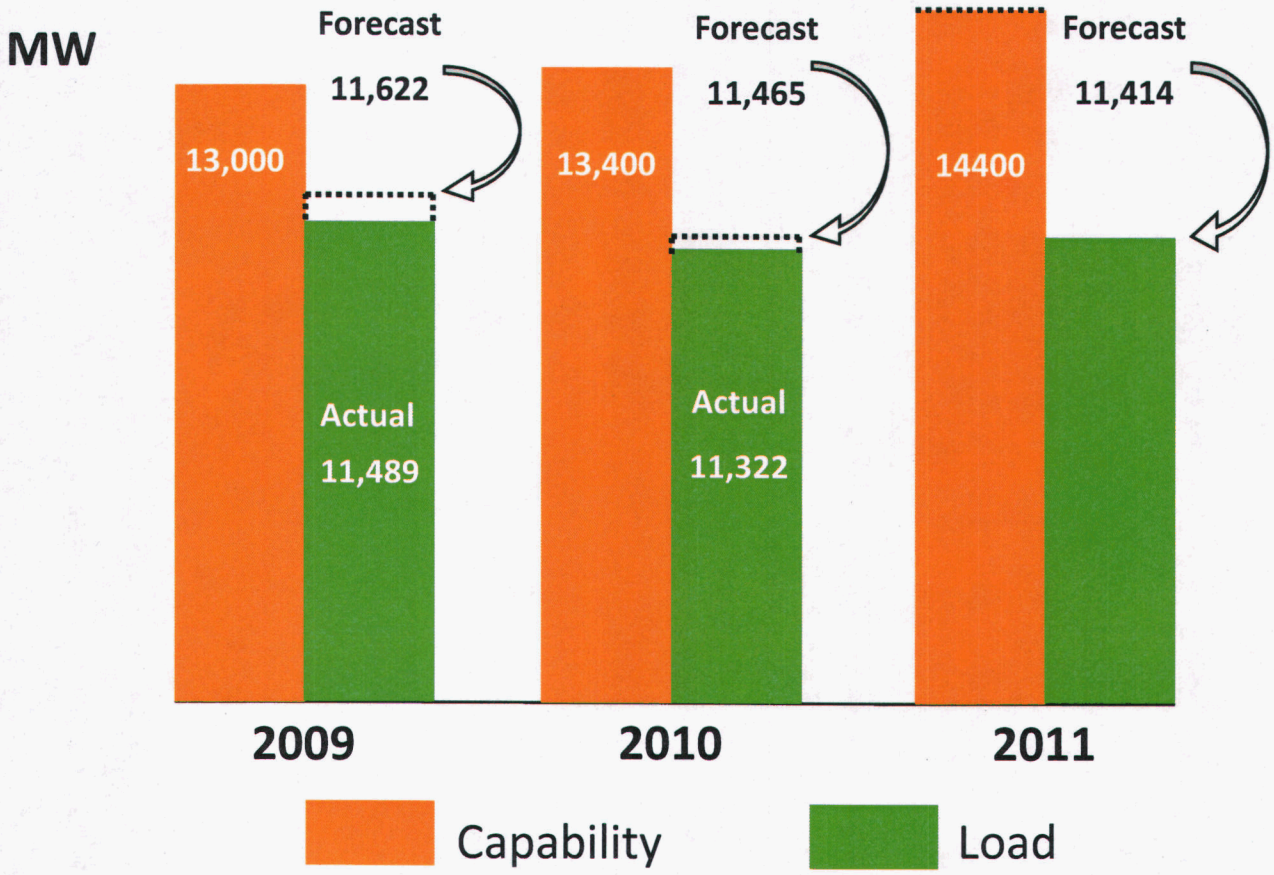
1. Load forecast uncertainties (weather, economy)

2. Multiple generator outages

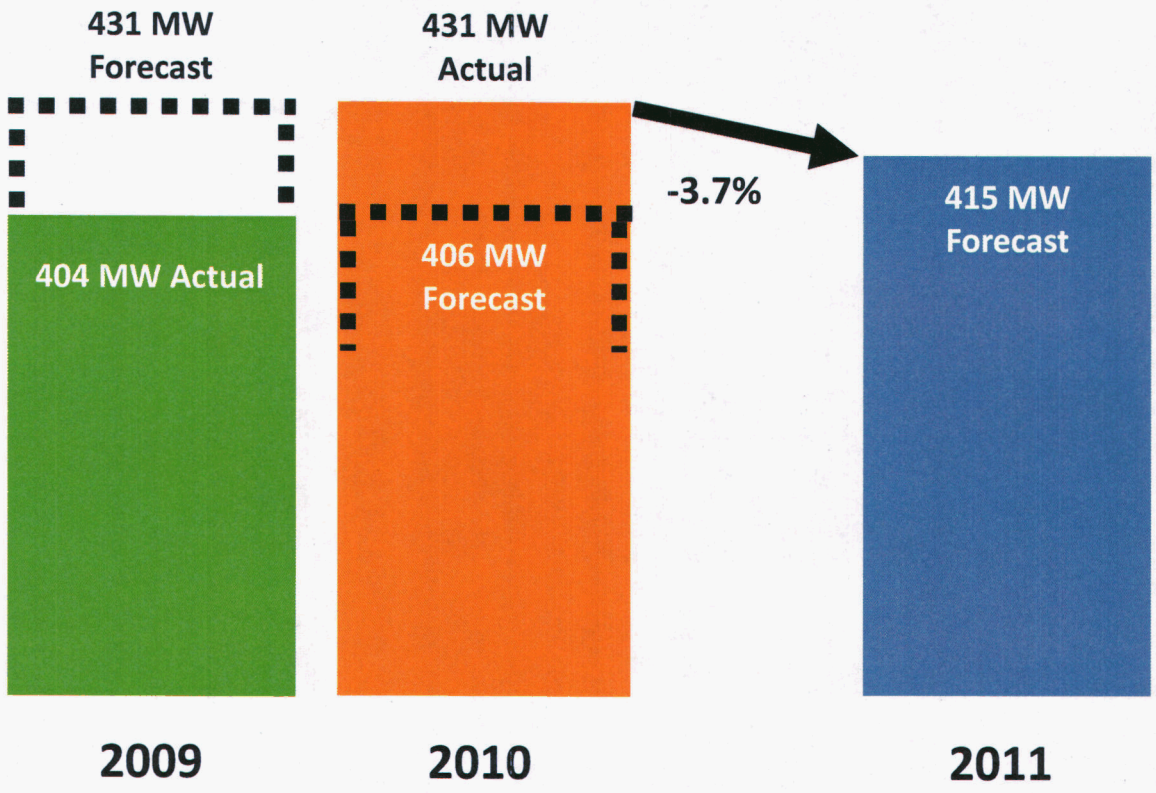
3.Transmission outages



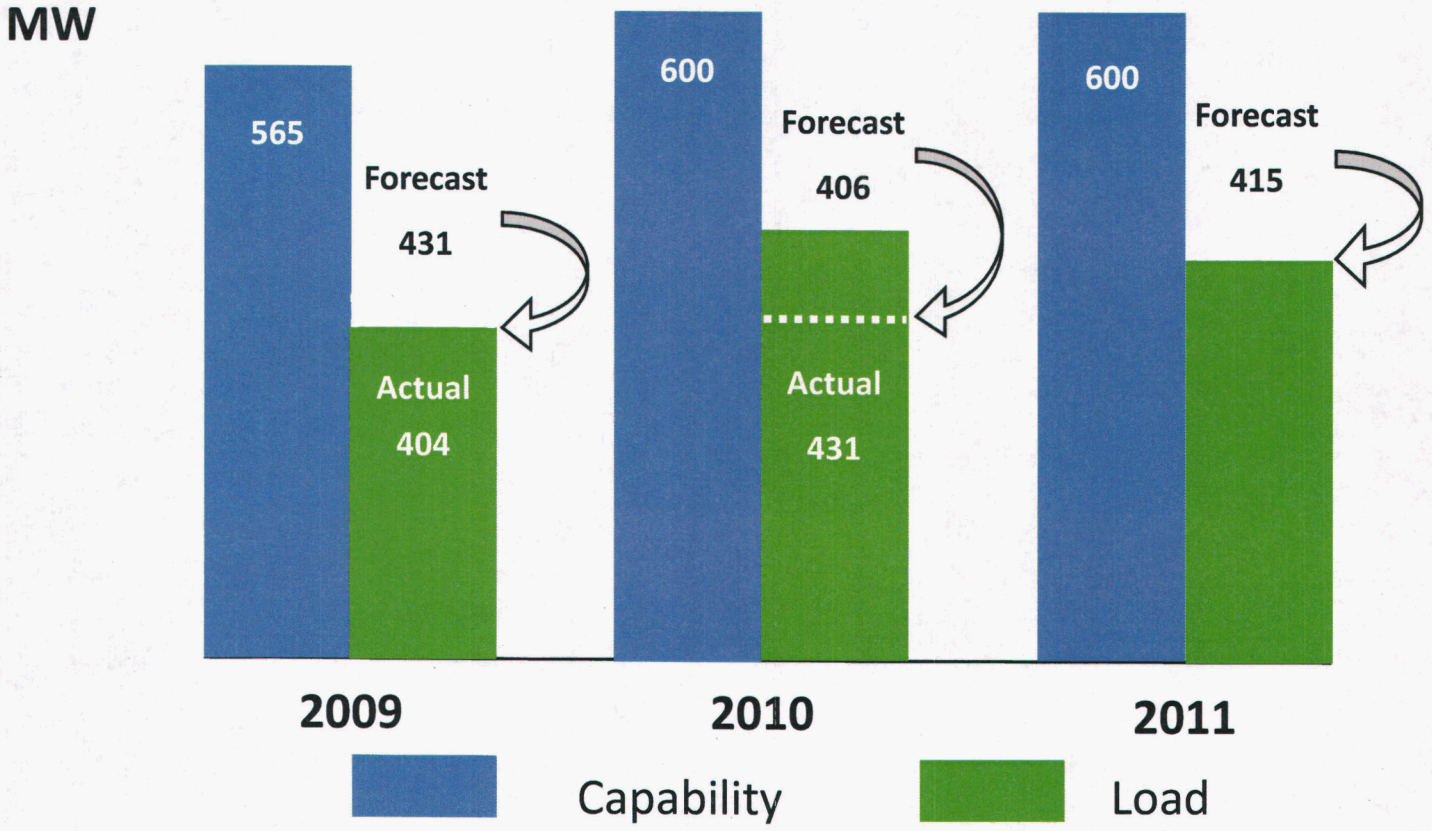
APS/SRP Maximum Load Serving Capability, Phoenix Valley



Yuma Area Peak Loads



Yuma Area Maximum Load Serving Capability

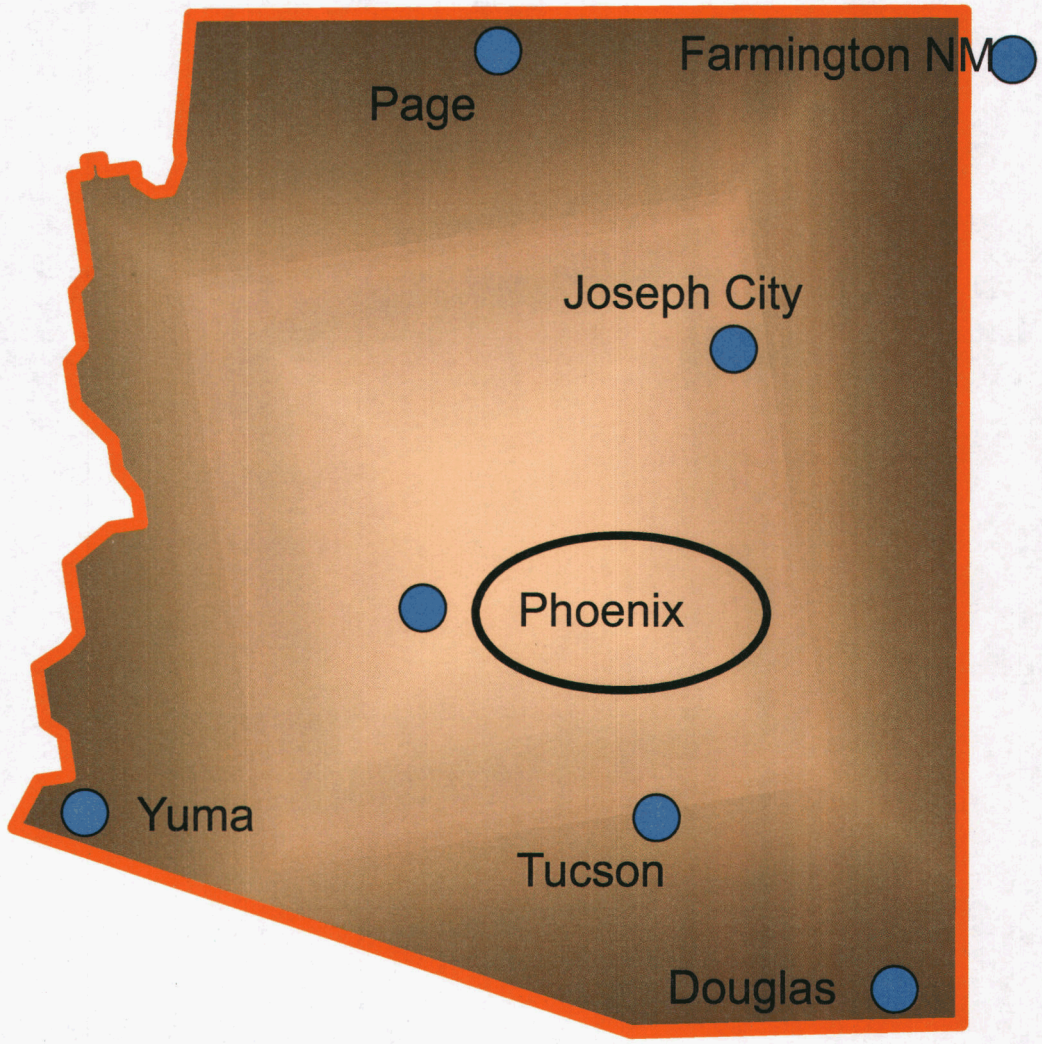


APS Fuels Procurement

- **Tom Carlson**
  Director, Fuels

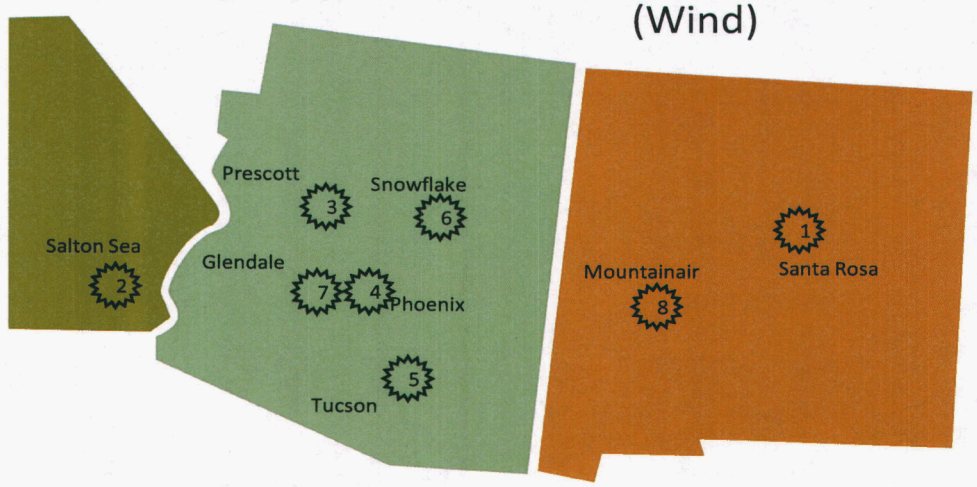
APS Generation

- Base Load, Nuclear
  - Palo Verde
- Base Load, Coal
  - Four Corners
  - Cholla
  - Navajo
- Intermediate and Peak Load, Gas, Oil back-up
  - Phoenix Area
    - West Phoenix
    - Sundance
    - Redhawk
    - Ocotillo
  - Saguaro
  - Yucca
  - Douglas

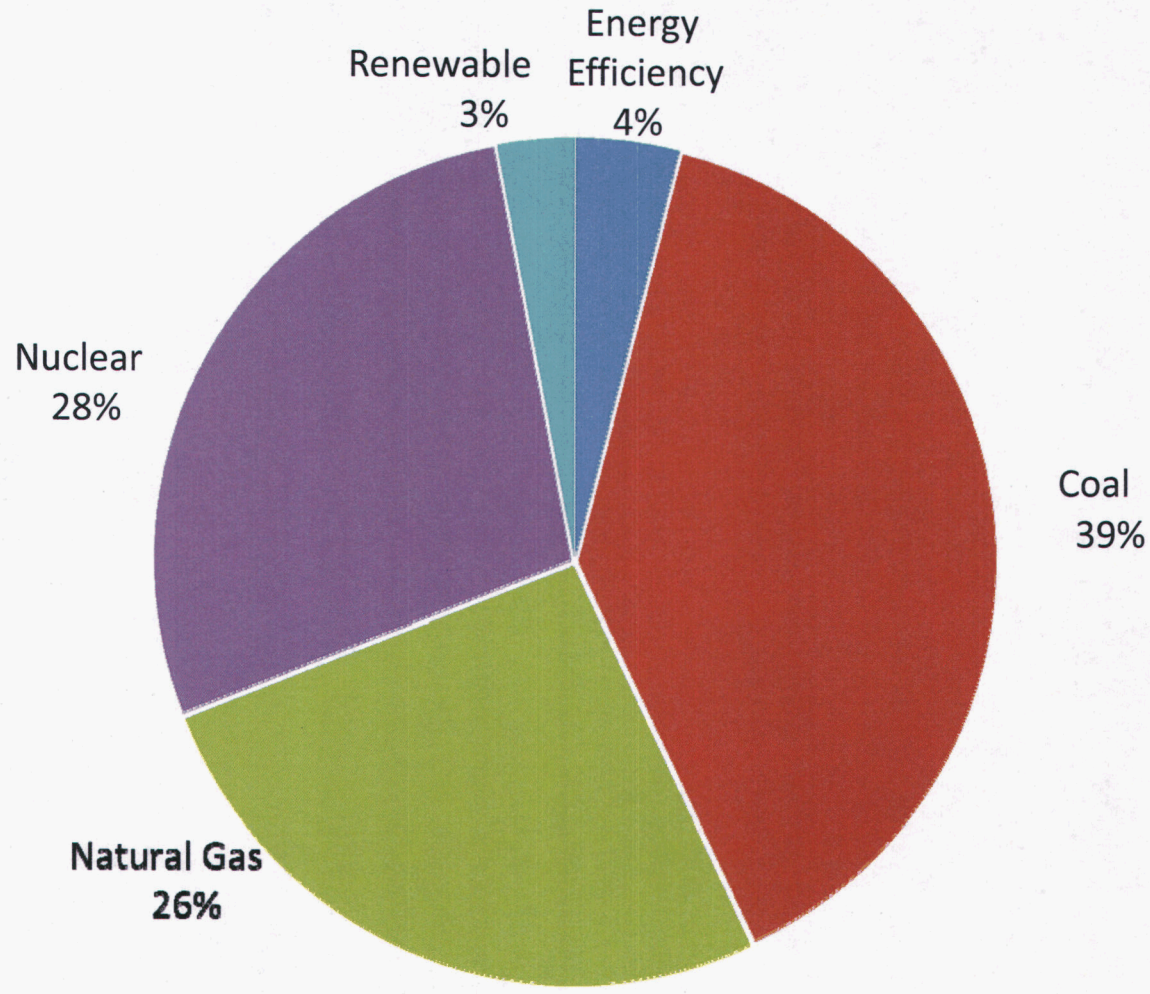


Renewable Resources

1. Aragonne Mesa, 90 MW (Wind)
2. Salton Sea, 10 MW (Geothermal)
3. Prescott Airport, 2.9 MW (Solar)
4. STAR Center, 1.8 MW (Solar)
5. Saguaro, 1 MW (Solar)
6. Snowflake, 25 MW (Biomass)
7. Glendale LFG, 2.8 MW
8. High Lonesome, 100 MW (Wind)



2011 Projected Energy Mix



Nuclear: Palo Verde

- Fuel sourced from multiple suppliers
- 100% of 2011 fuel inventory in place
- 100% of fuel requirements contracted through 2017
- Overall station capacity factor at 90.5% in 2010
- Unit 2 was world's top generator in 2010

Coal Supply

Four Corners Power Plant

- Mine mouth plant with BHP Navajo Mine
- Contract term currently runs through 2016
- 60-70 days of reserves

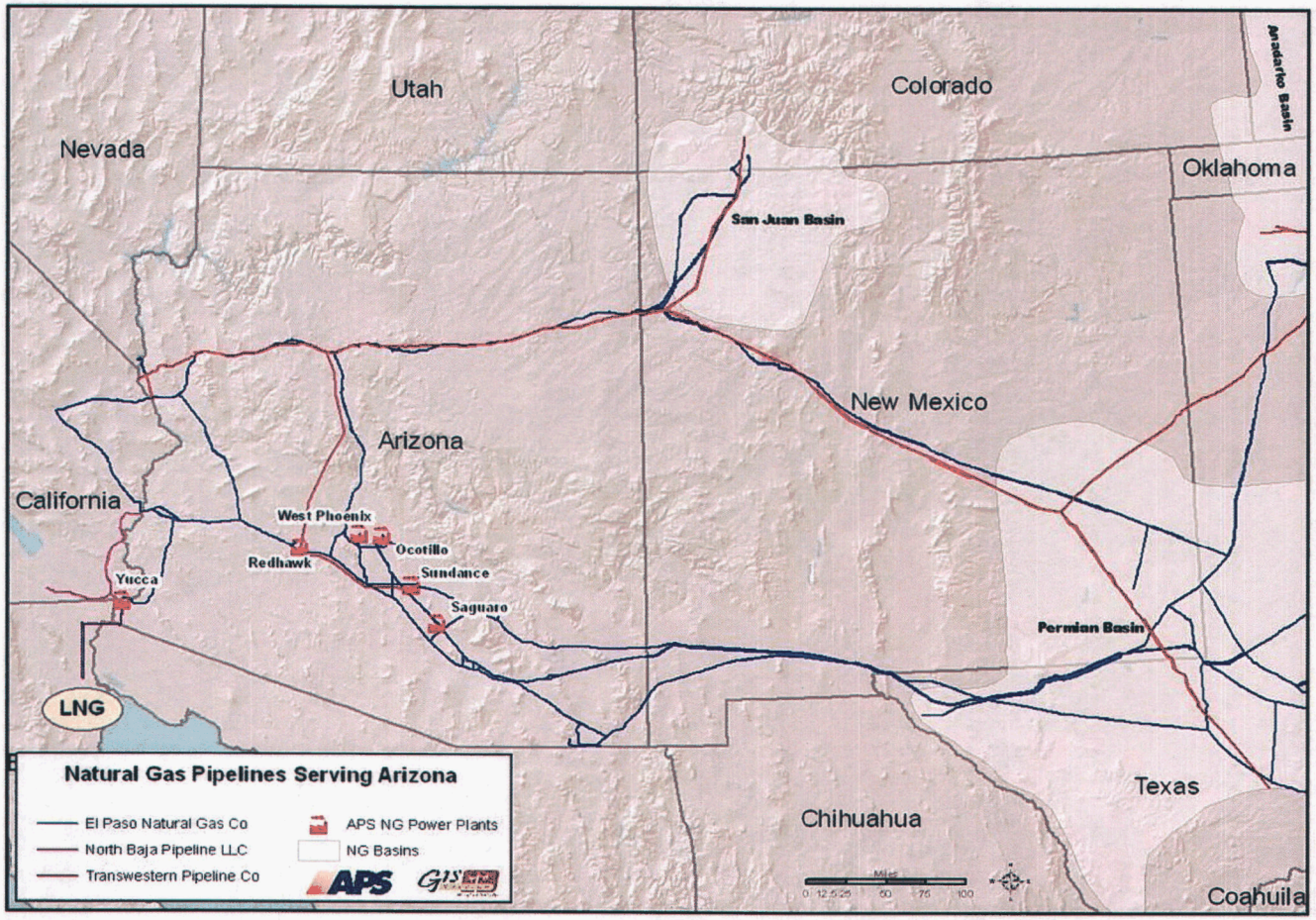
Cholla Power Plant

- Fuel Source: El Segundo mine near Grants, NM
- Contract commitments in place through 2024
- 45-60 days of reserves

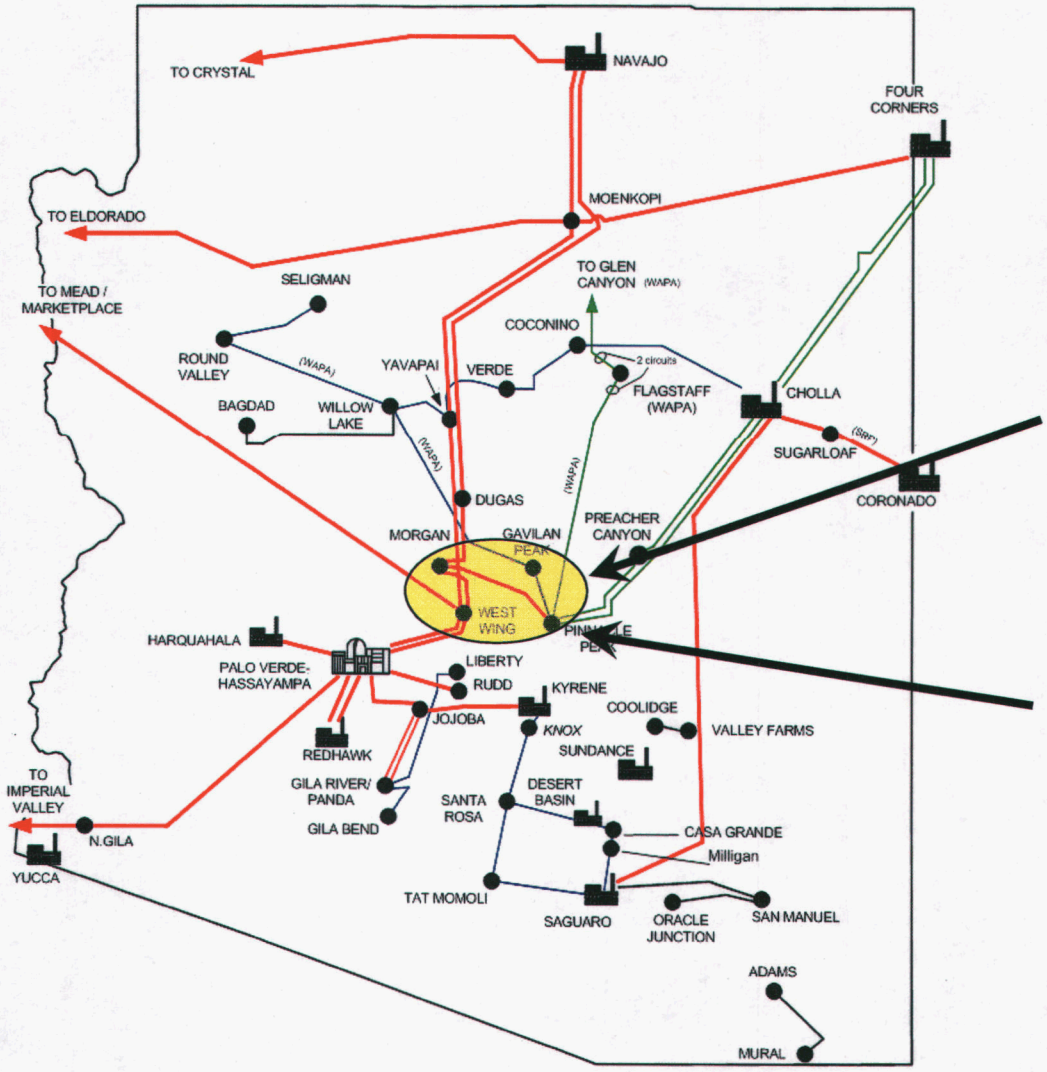
Natural Gas Supply

- APS has sufficient firm transport and supply under contract to meet peak system needs.
- El Paso Natural Gas supplies all APS natural gas plants.
- Transwestern Pipeline also supplies the APS Redhawk and Sundance power plants.
- North Baja Pipeline placed in service March 2010 - serves Yucca Units 5 & 6

Natural Gas Pipelines Serving Arizona



Transmission Additions 2011



Morgan-Pinnacle Peak 500/230kV double-circuit line

New Pinnacle Peak 500kV substation with new 500/230kV transformers

Planned Reliability Activities:

- Transmission / Distribution Maintenance, Monitoring:
  - U-Type Bushing Replacement Program
  - Web-based Software to Assess Substation Equipment Health for Strategic Maintenance
  - TOAN analysis software
  - Annual line inspections
  - Switchyard Equipment Maintenance / Relay Testing
  - Predictive Maintenance Expanded Scope to Include Line Scans as well as Substation Scans

Planned Reliability Activities

- Vegetation Management: Focus on safe, reliable power supply / reduction in wildfire risk
  - Wildfire planning
    - Annual Wildfire Academy, Prescott
    - Pre-wildfire Season Meetings with Five National Forests
    - On-Site Incident Command presence
  - Transmission corridor bulk clearing, 69 kV and above
  - Distribution line-clearing: trim and strategic removal
  - 2011 Fire Season above normal fire potential

Emergency Planning, Government:

- Government Engagement:
  - State-wide Emergency Mock Drills
  - Incident Command Training
  - Regular Emergency planning updates with Emergency Response partners: State, County, Municipal levels
    - Agency familiarization – facility layout (Westwing, Pinnacle Peak)
    - Review of Curtailment Plan annual filing

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Emergency, Business Planning - APS

- Business Continuity Plans updated, exercised
- Incident Command Training
- Emergency Operations Training
- Curtailment Plan: Development, Filing, Exercise
- ECC Disaster Recovery, Back-up Center Testing, Regional Black Start Drill
- State-wide Operations Coordination:
  - Joint Procedures: APS / SRP / WAPA / TEP
  - Begins May 15th

APS is Well Prepared

- Generation resources are in place to meet customer load and reserve requirements
- Transmission capacity in place to import remote generation and purchases
- Distribution infrastructure improvements on schedule to meet customer needs
- Plans in-place to respond to extreme conditions