

Arizona Public Service Company 2018 Summer Preparedness

Arizona Corporation Commission
April 24, 2018



Presenters

- **Jeff Burke**
Director, Resource Planning
- **Mikel Cole**
Director, Transmission and Distribution Statewide
Delivery

APS 2018 Summer Readiness Overview

Safe, Reliable, Affordable

01 | Service
Territory

02 | Peak Forecast
& Resources

03 | Fuel
Supplies

04 | Transmission
Overview

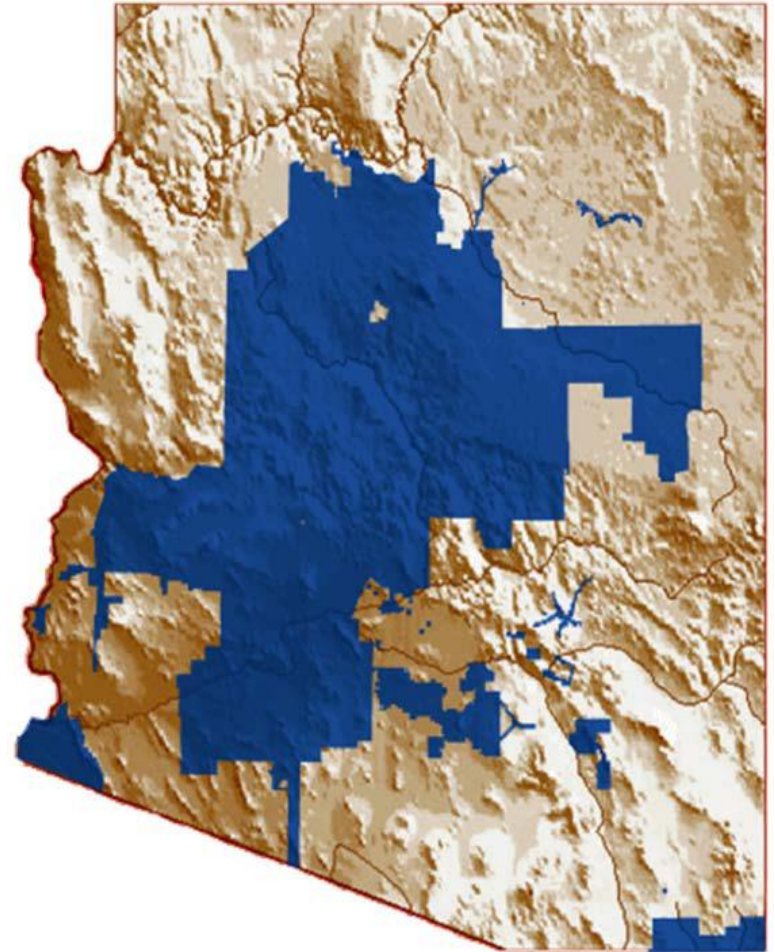
05 | Maintenance
& Summer
Tune-Up

06 | Planned
Reliability
Activities

Generation resources, fuel supplies and transmission capacity are in place to meet customer demand reliably.

APS Service Territory

- 11 of Arizona's 15 counties
- 34,646 square mile service area
- Serving about 2.7 million people
- Approximately 430 substations, 300,000 transformers and more than 550,000 poles and structures
- Approximately 9,000 MW of nameplate capacity
 - Includes 6,000 MW of reliable owned capacity

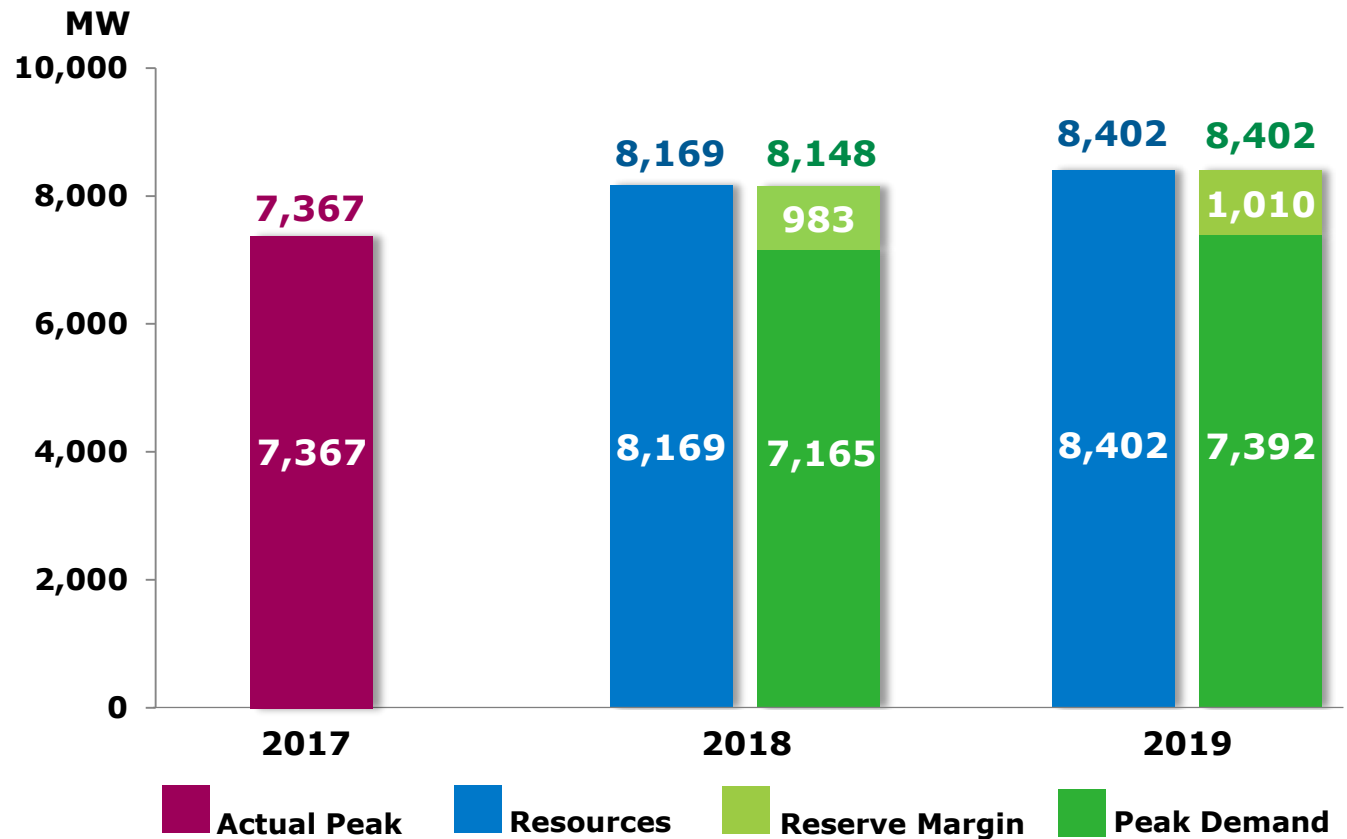


2017 - 2019

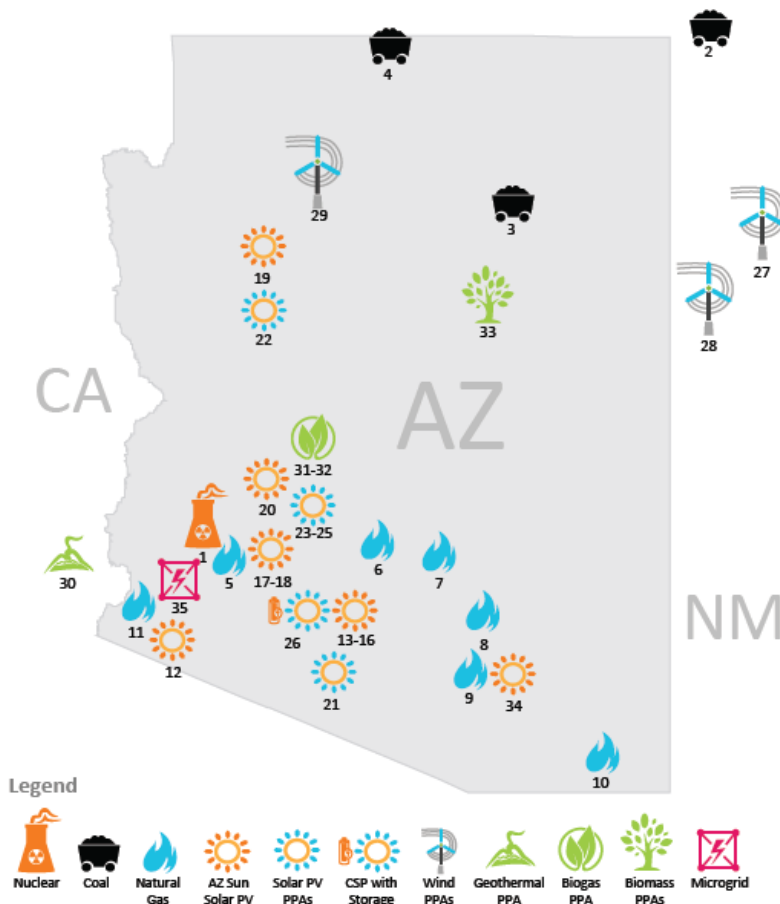
Peak Resources and Demand - System

Planned reserve margin to manage uncertainties

- Unplanned unit outages
- Varying levels of customer participation in resource standards
- New all-time peak in June
 - Extreme weather/ heat duration
- Peak continues to shift later in the evening



APS Resource Diversity



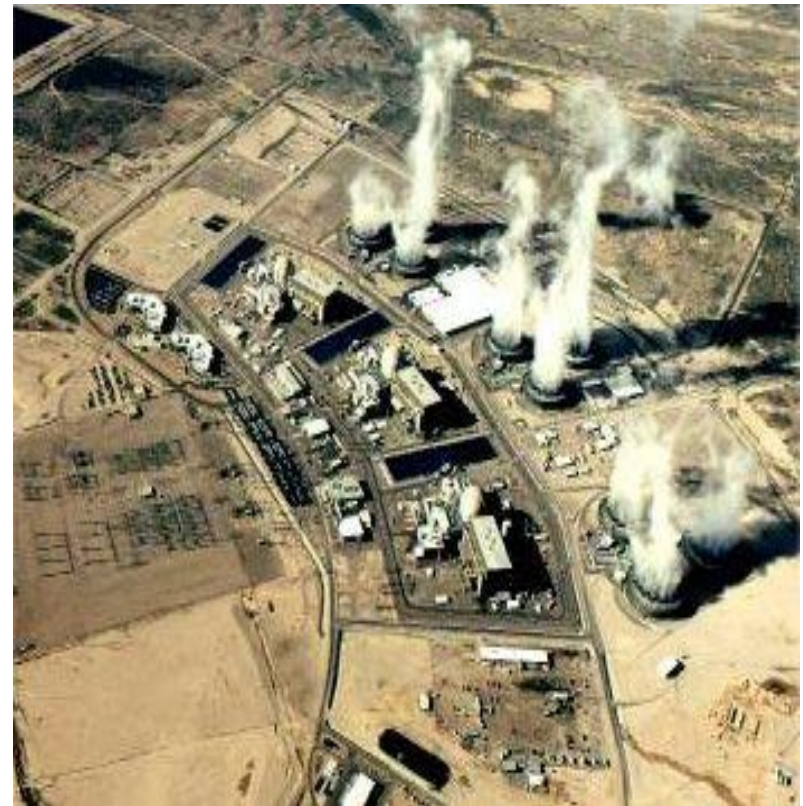
2018 Resources (MWs)

	PEAK CAPACITY	NAMEPLATE CAPACITY
Nuclear	1,146	1,146
Coal	1,672	1,672
Natural Gas	4,685	4,959
Owned	3,100	3,374
PPAs	1,585	1,585
Microgrid/ESS (Quick Start)	34	34
Renewables	512	889
Solar	428	570
Owned	141	252
PPAs	288	318
Wind (PPAs)	55	289
Other (PPAs)	29	30
Customer-Based	120	1,749
Energy Efficiency	90	827*
Distributed Energy	15	895*
Demand Response	15	26
TOTAL	8,169	10,448

*Cumulative total

APS Has Adequate Fuel Supply at All of its Generating Facilities

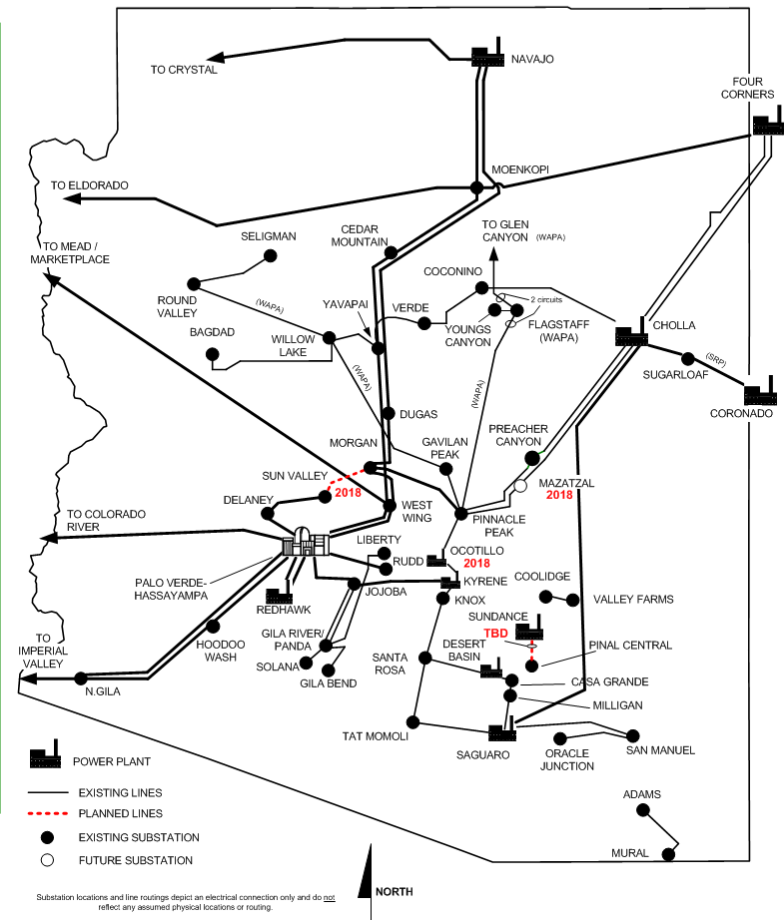
- **Palo Verde**
 - Fuel sourced from multiple suppliers
 - 100% of fuel requirements contracted through 2019
 - Overall station capacity factor 93.8% in 2017
- **Other Fossil Generation**
 - Contracts in place for all APS plants



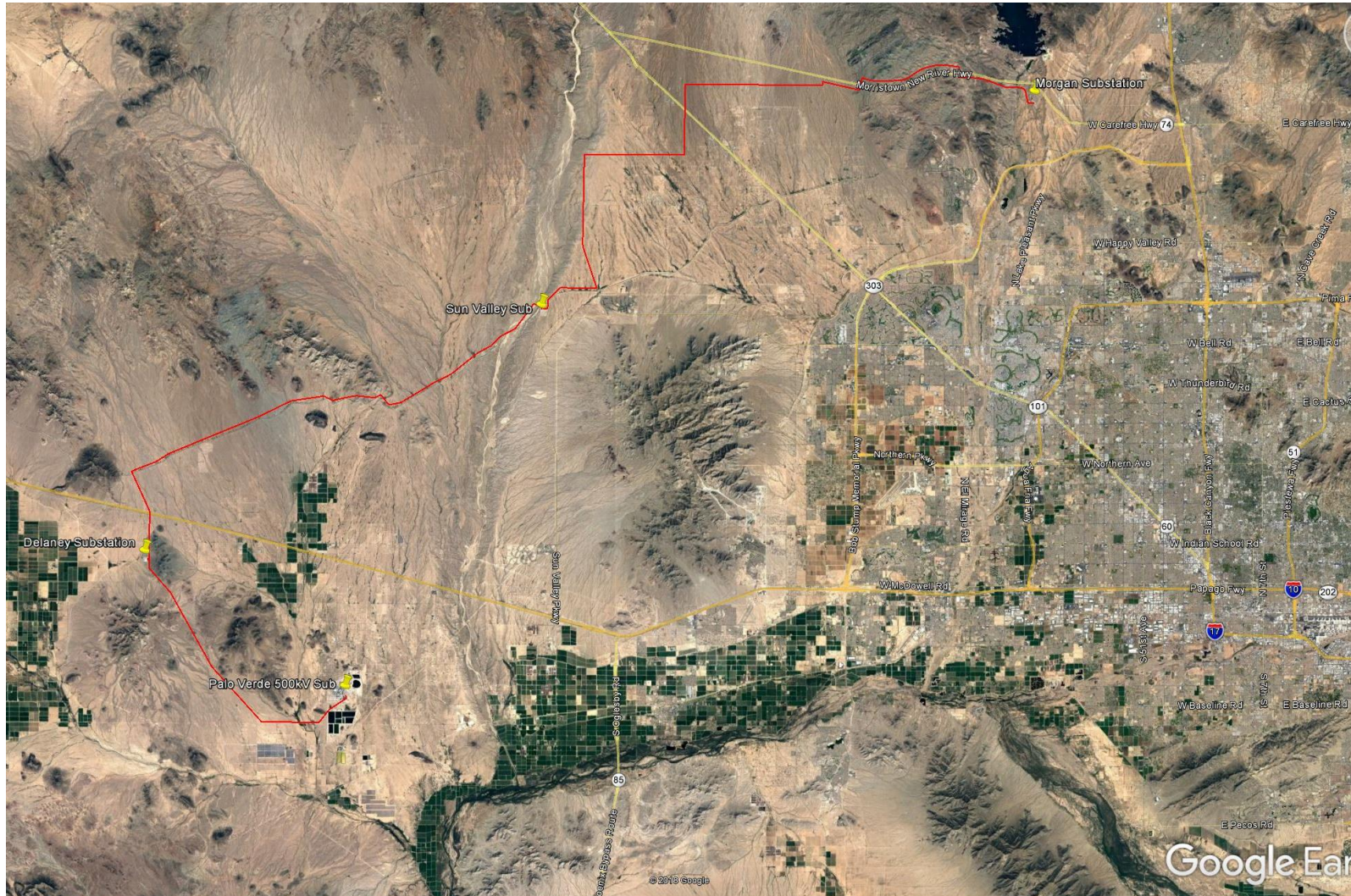
Transmission Planning

- Significant amount of coordination occurs for the transmission system
- Situational awareness of the transmission grid within the western interconnect
- Access to markets is an important factor in managing supply contingencies and bringing new resources to load

APS EHV & OUTER DIVISION TRANSMISSION PLANS



Sun Valley-Morgan 500kV Line



Sun Valley-Morgan 500kV Line



Planned Reliability Activities

Category	Activities
System preparation	<ul style="list-style-type: none"> • Line patrols and tower inspections • Predictive and preventative maintenance programs • Transmission peak load studies • Operations Preparation and response to elevated fire conditions
Vegetation management	<ul style="list-style-type: none"> • Tree trimming on cycle for all transmission circuits and distribution feeders • Wildfire prevention training with APS crews and first responders • Defensible Space Around Poles (DSAP) Program



Planned Reliability Activities

Category	Activities
External Emergency Preparedness and Response	<ul style="list-style-type: none"> • Contacts and process updated for mutual assistance with neighboring utilities (SRP & TEP) • Coordination of summer operating study with nearby utilities • Fire and emergency management coordination with various Federal, State, and Local agencies.
Internal Emergency Preparedness and Response	<ul style="list-style-type: none"> • Black start system restoration drill • Electric Load Curtailment Plan exercise • Disaster Recovery Plan exercise • Operations 101 for media and customer care teams



Summary

APS has adequate generation resources, fuel supplies and transmission capacity in place to reliably meet customer demand this summer.

