

# **Arizona Corporation Commission Workshop**

## **Ninth Biennial Transmission Assessment**

### ***SRP Ten Year Transmission Plan 2016-2025***

**Justin Lee, Manager  
SRP Transmission Planning**

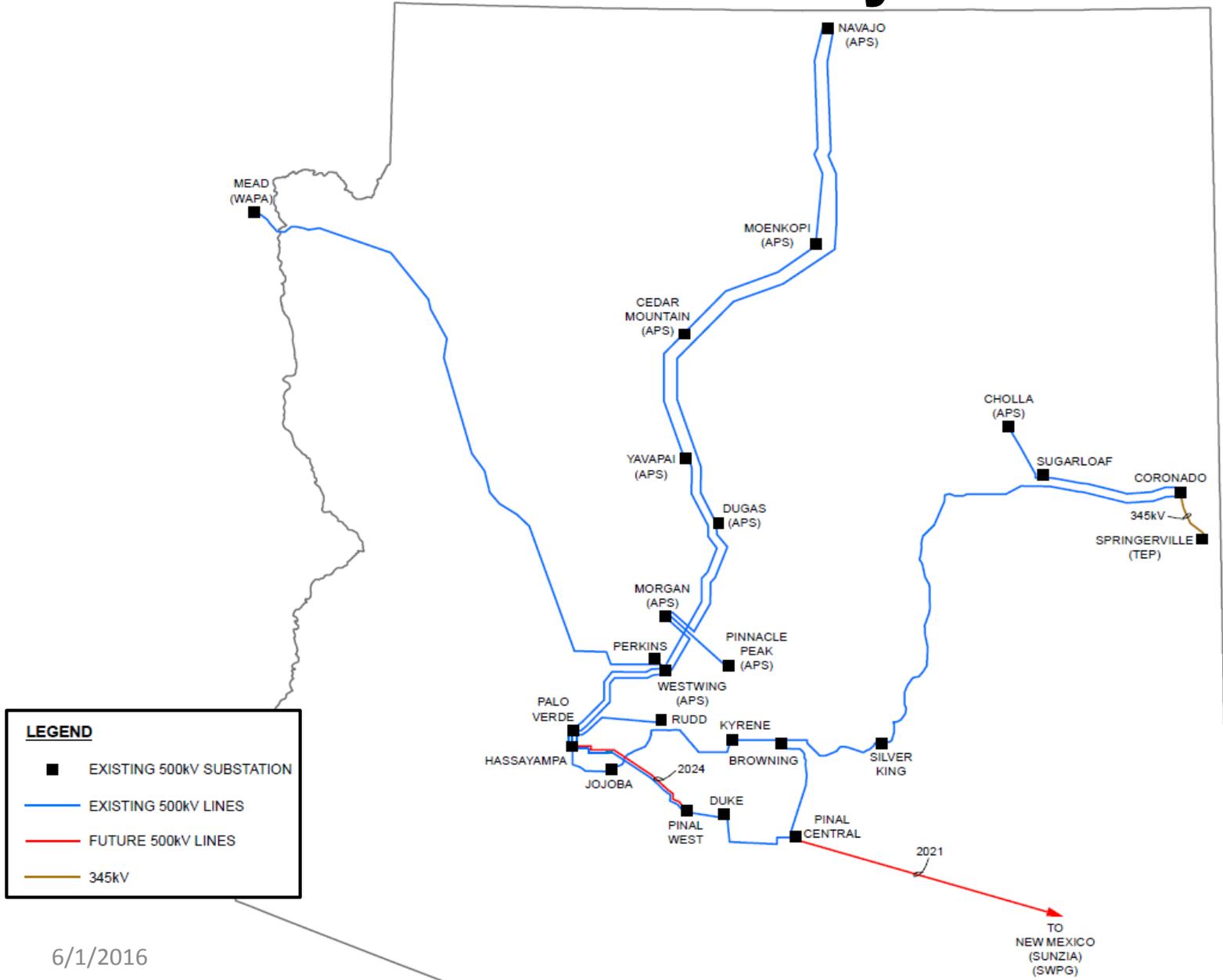
**Arizona Corporation Commission, Phoenix, AZ  
June 1, 2016**



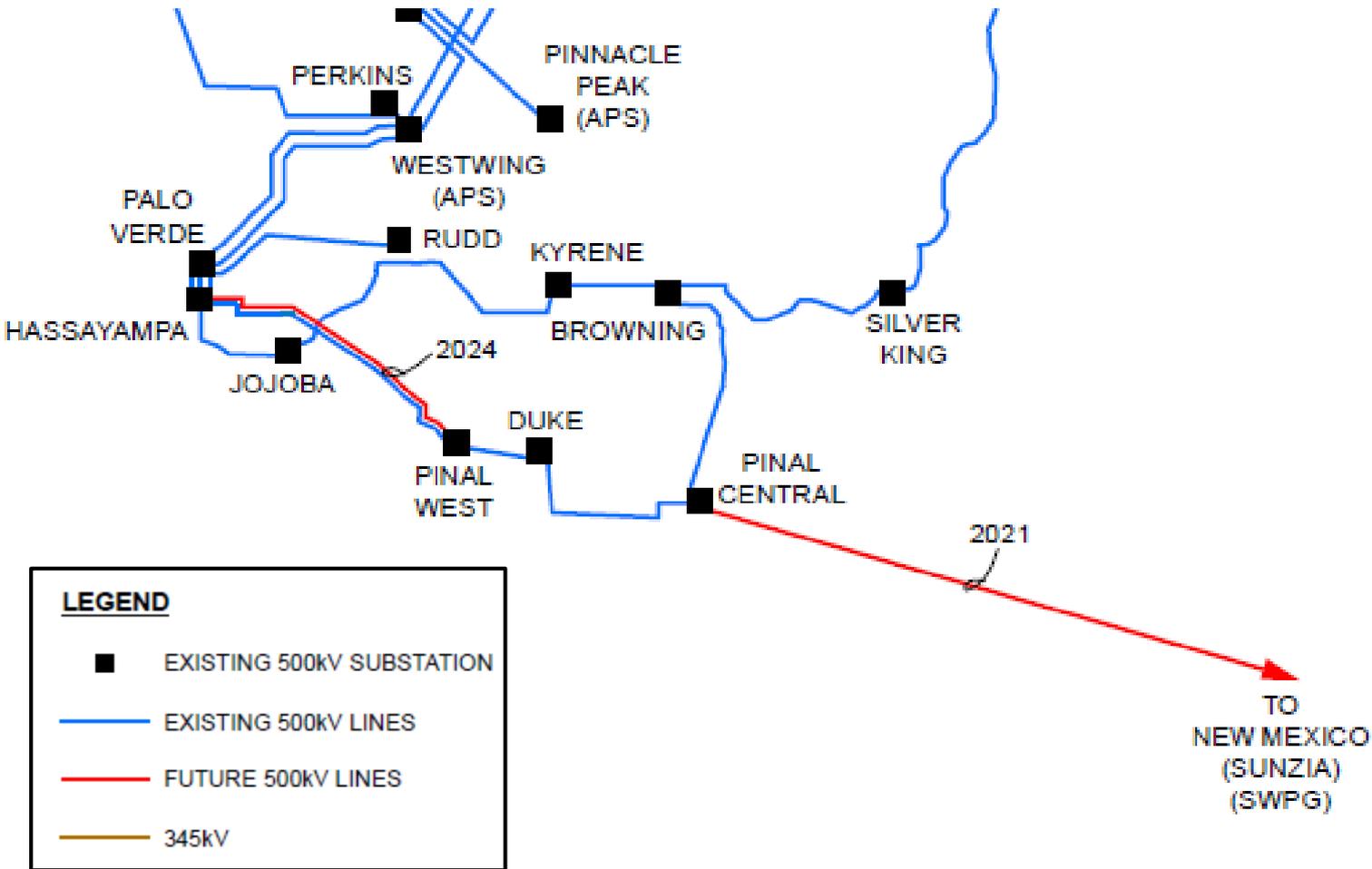
# Agenda

- Review current projects included in 2016 report
- Discuss SRP's changes from 2014 to 2016 BTA
- Response to ACC questions

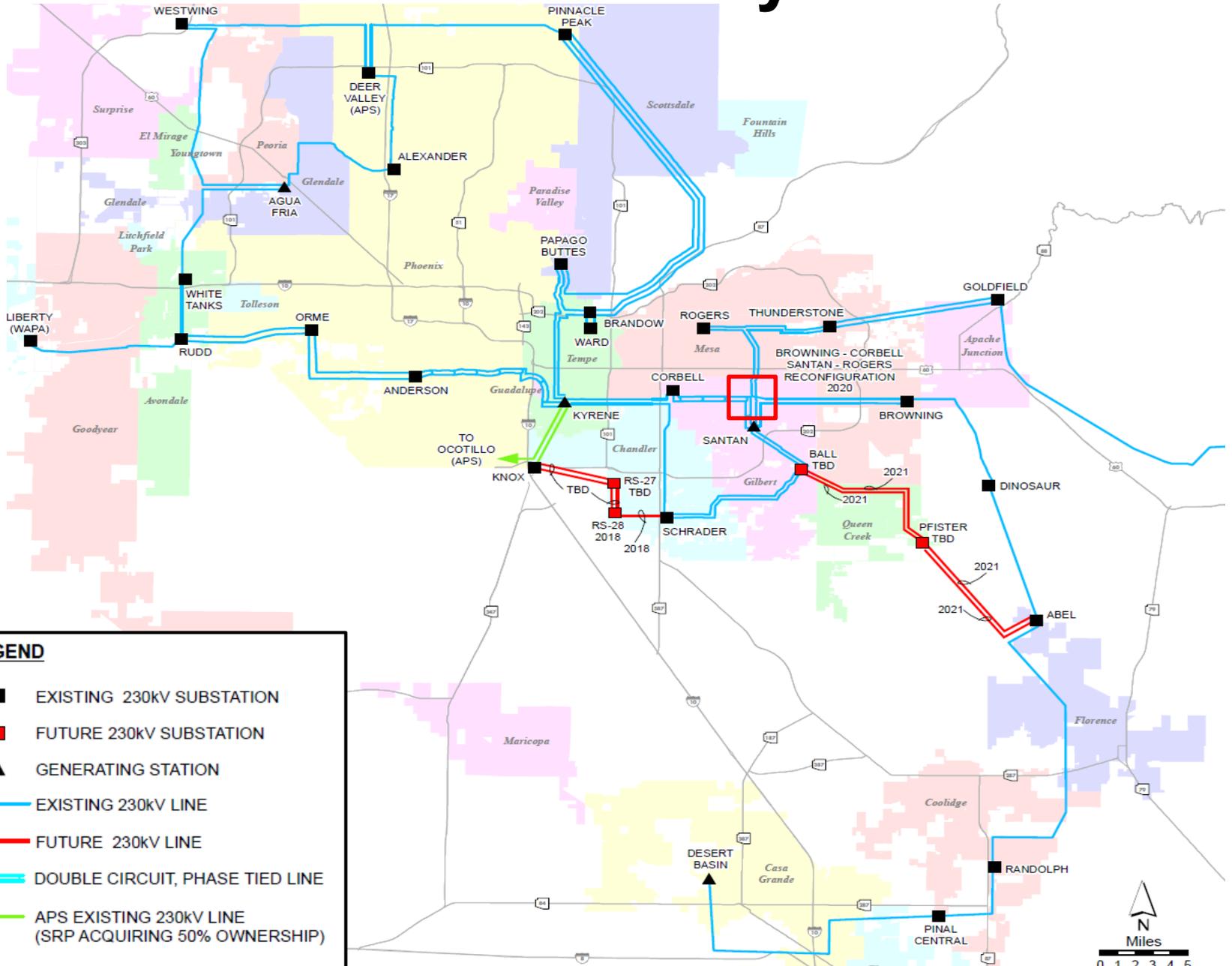
# SRP's 500kV System



# SRP's 500kV System



# SRP's 230kV System



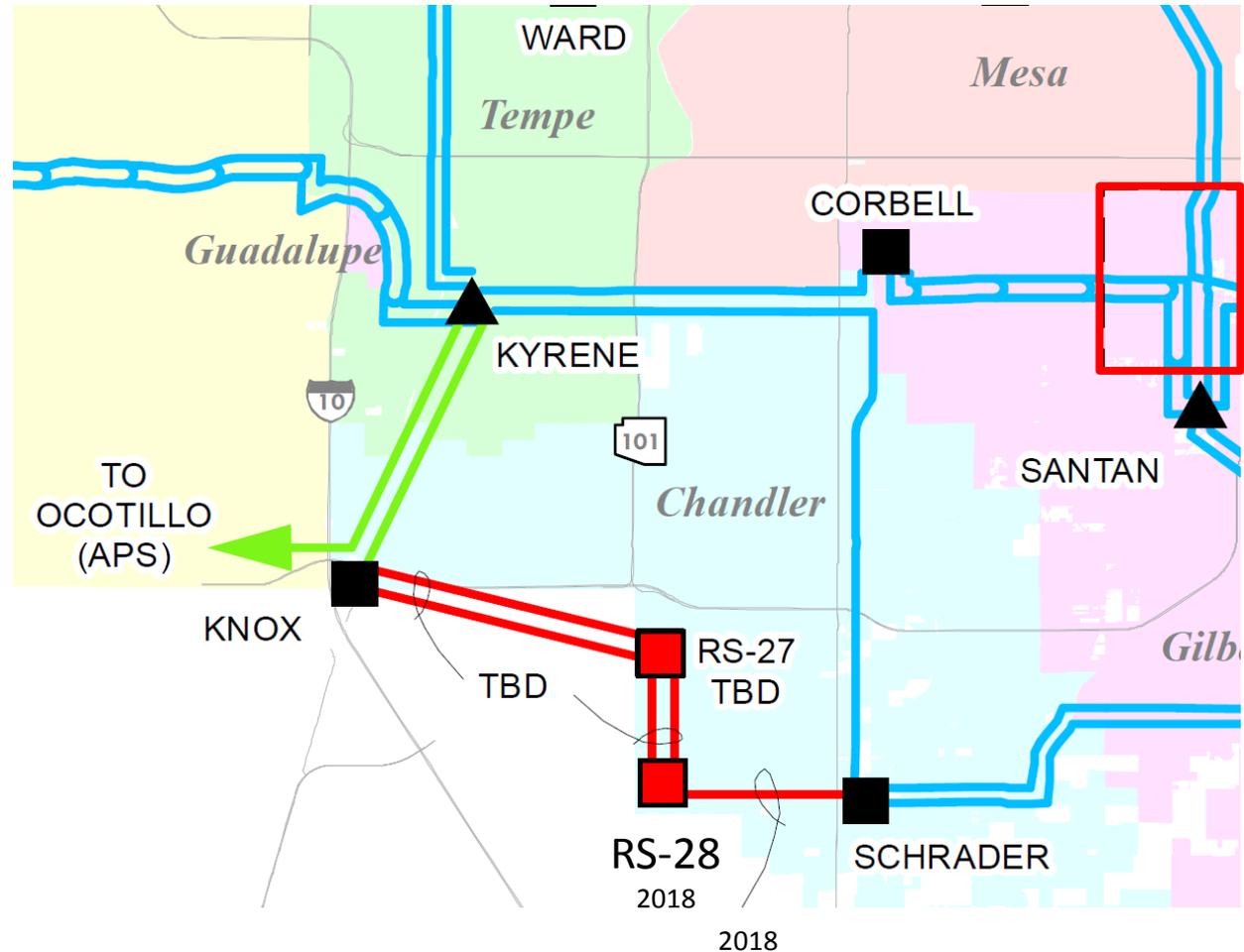
**LEGEND**

- EXISTING 230kV SUBSTATION
- FUTURE 230kV SUBSTATION
- ▲ GENERATING STATION
- EXISTING 230kV LINE
- FUTURE 230kV LINE
- DOUBLE CIRCUIT, PHASE TIED LINE
- APS EXISTING 230kV LINE (SRP ACQUIRING 50% OWNERSHIP)

# SRP's 230kV System

## 2018:

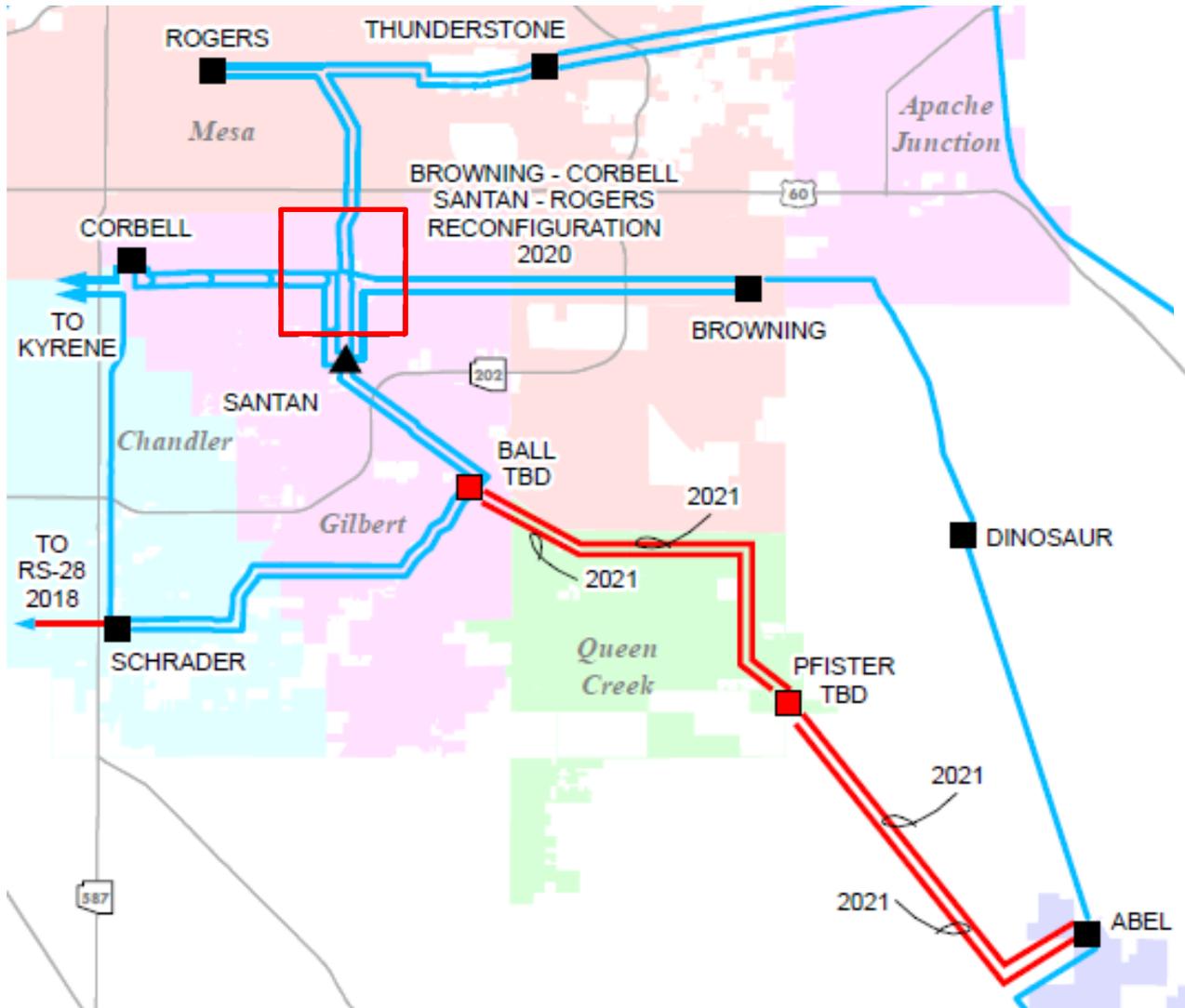
- Price Road Corridor



**LEGEND**

- EXISTING 230kV SUBSTATION
- FUTURE 230kV SUBSTATION
- ▲ GENERATING STATION
- EXISTING 230kV LINE
- FUTURE 230kV LINE
- DOUBLE CIRCUIT, PHASE TIED LINE
- APS EXISTING 230kV LINE (SRP ACQUIRING 50% OWNERSHIP)

# SRP's 230kV System



## 2020:

- Browning – Corbell 230kV and Santan – Rogers 230kV Line Reconfiguration

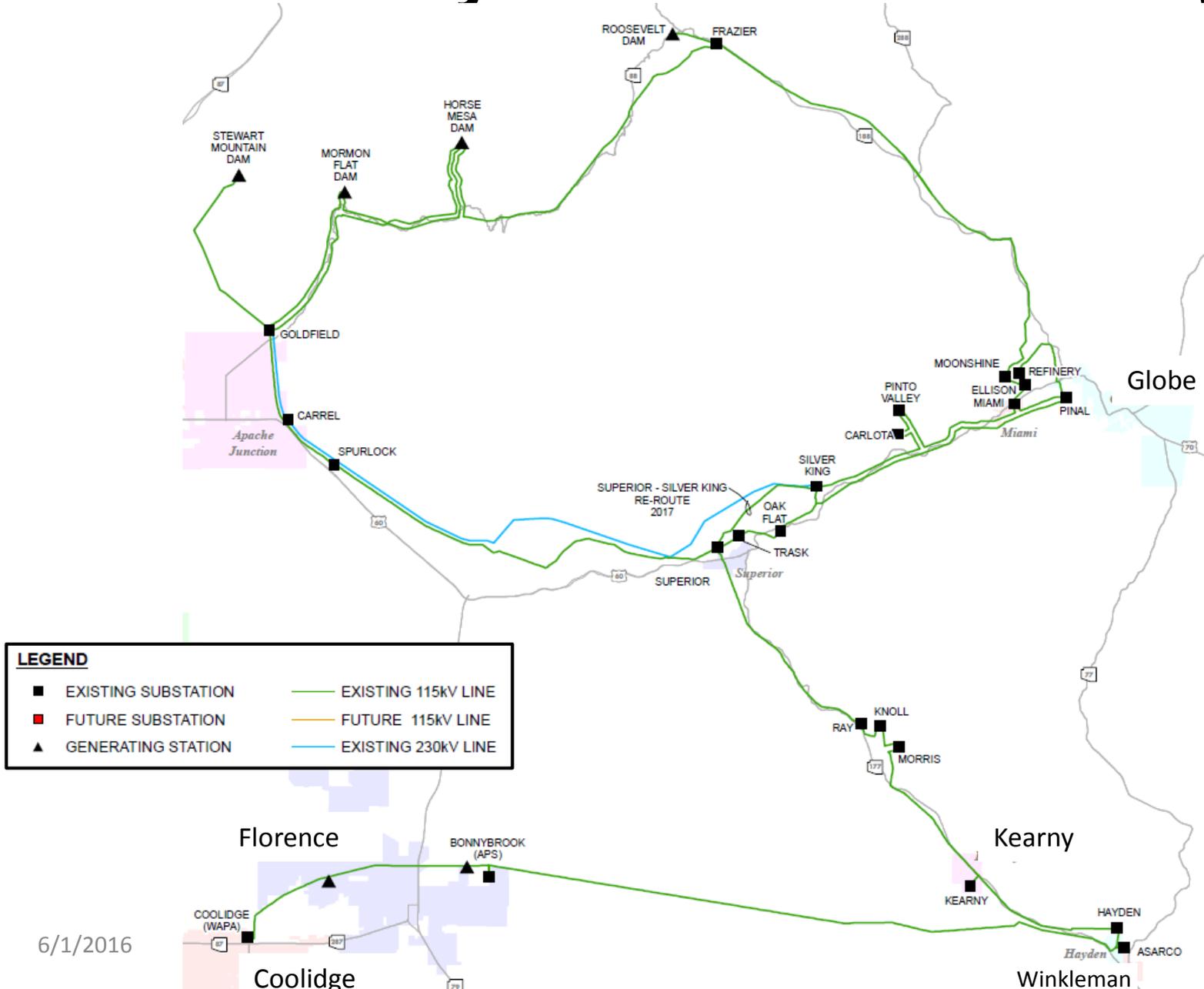
## 2021:

- Abel – Pfister – Ball 230kV

### LEGEND

- EXISTING 230kV SUBSTATION
- FUTURE 230kV SUBSTATION
- ▲ GENERATING STATION
- EXISTING 230kV LINE
- FUTURE 230kV LINE
- DOUBLE CIRCUIT, PHASE TIED LINE
- APS EXISTING 230kV LINE (SRP ACQUIRING 50% OWNERSHIP)

# SRP's 115kV System – Eastern Mining Area

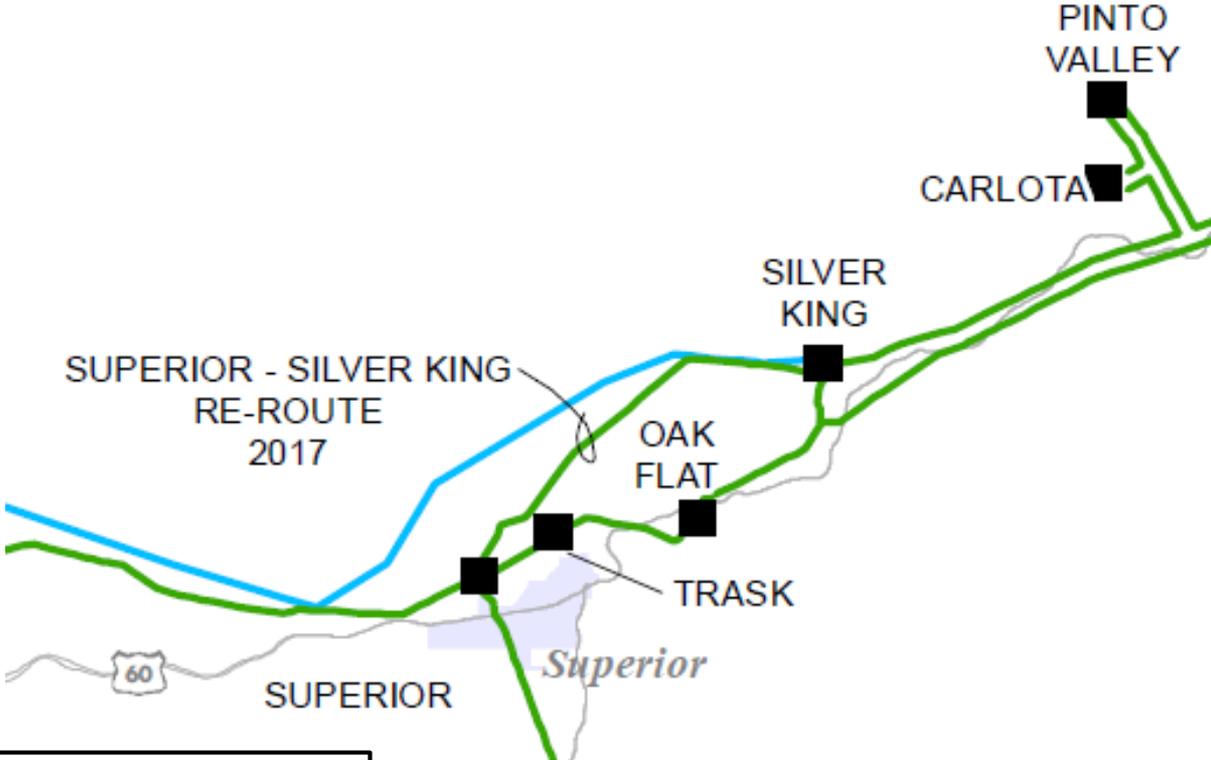


**LEGEND**

■ EXISTING SUBSTATION	— EXISTING 115kV LINE
■ FUTURE SUBSTATION	— FUTURE 115kV LINE
▲ GENERATING STATION	— EXISTING 230kV LINE

6/1/2016

# SRP's 115kV System – Eastern Mining Area



LEGEND	
■	EXISTING SUBSTATION
■	FUTURE SUBSTATION
▲	GENERATING STATION
—	EXISTING 115kV LINE
—	FUTURE 115kV LINE
—	EXISTING 230kV LINE

# Electric System Additions/Upgrades

<b>Equipment</b>	<b>Year</b>
Rudd 230/69kV transformer	<b>2019</b>
Browning 230/69kV transformer	<b>2020</b>

# SRP Changes from Last BTA: Projects Placed in Service

- Components of the Southeast Valley Project (2014)
- Desert Basin – Pinal Central 230kV line (2014)
- Browning – Rogers 230kV line (2015)

# SRP Changes from Last BTA Revised In-Service Dates

- Superior – Silver King 115kV re-route was 2015, now 2017
- Price Road Corridor was 2016-TBD, now 2018-TBD
- SunZia Southwest Transmission 500kV Project was 2017, now 2021
- Abel – Pfister – Ball was 2021, now 2021 - TBD

# SRP Changes from Last BTA New Projects

- Browning – Corbell and Santan – Rogers 230kV line reconfiguration (2020)

# SRP Changes from Last BTA: Projects Delayed

- Eastern Mining Expansion was 2018
- Ellsworth Technology Corridor was 2019
- Abel 500kV Substation (part of Southeast Valley Project)
- New Superior – New Oakflat 230kV was 2021
- New Oak Flat – Silver King 230kV, was 2021

# Technical Studies

## Ten Year Plan Technical Study

- Years 2016-2025
- Performed Power Flow & Stability

## Ten Year Snapshot Study

- 2025
- Multiple Outage Conditions

## Energy Efficiency/Distributed Generation Study

- 2020
- Removed impact of forecasted Energy Efficiency and Distributed Generation

# Projects Excluded from Reports/Studies

## Hassayampa – Pinal West #2 500kV line

- Uncertainty of load growth and future resource placement
- Mentioned in Ten Year Plan to raise awareness of existing CEC
- Will be included in future studies/reports once more certainty of loads and resources are known

# Stakeholder Input

- APS/SRP joint FERC Order 890 (OATT) stakeholder meetings held 2<sup>nd</sup> and 4<sup>th</sup> quarters each year
- WestConnect meetings held 1<sup>st</sup> and 3<sup>rd</sup> quarters each year
- Regional/Subregional base case coordination
- No stakeholder input received

# Subregional Transmission Planning

- WestConnect
- Southwest Area Transmission (SWAT)
- All planned projects were incorporated
- Conceptual projects not incorporated
  - Hassayampa – Pinal West #2

# Projects Seeking WECC Path Rating

- No SRP projects are seeking a WECC path rating

# Coal Retirement Impacts

- SRP removes announced coal retirements from study cases
- SRP incorporates planned generation into cases
- SRP has no transmission project directly related to coal retirement

# Out of State Renewables

- Planned generation incorporated in Regional/Subregional base case coordination
- SRP has no transmission project directly related to the renewable portfolio standards in neighboring states