

# APS Ten-Year Transmission Plan 2016-2025

Arizona Corporation Commission  
2016 Biennial Transmission Assessment

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Arizona Public Service  
9<sup>th</sup> BTA Workshop #1  
June 1, 2016

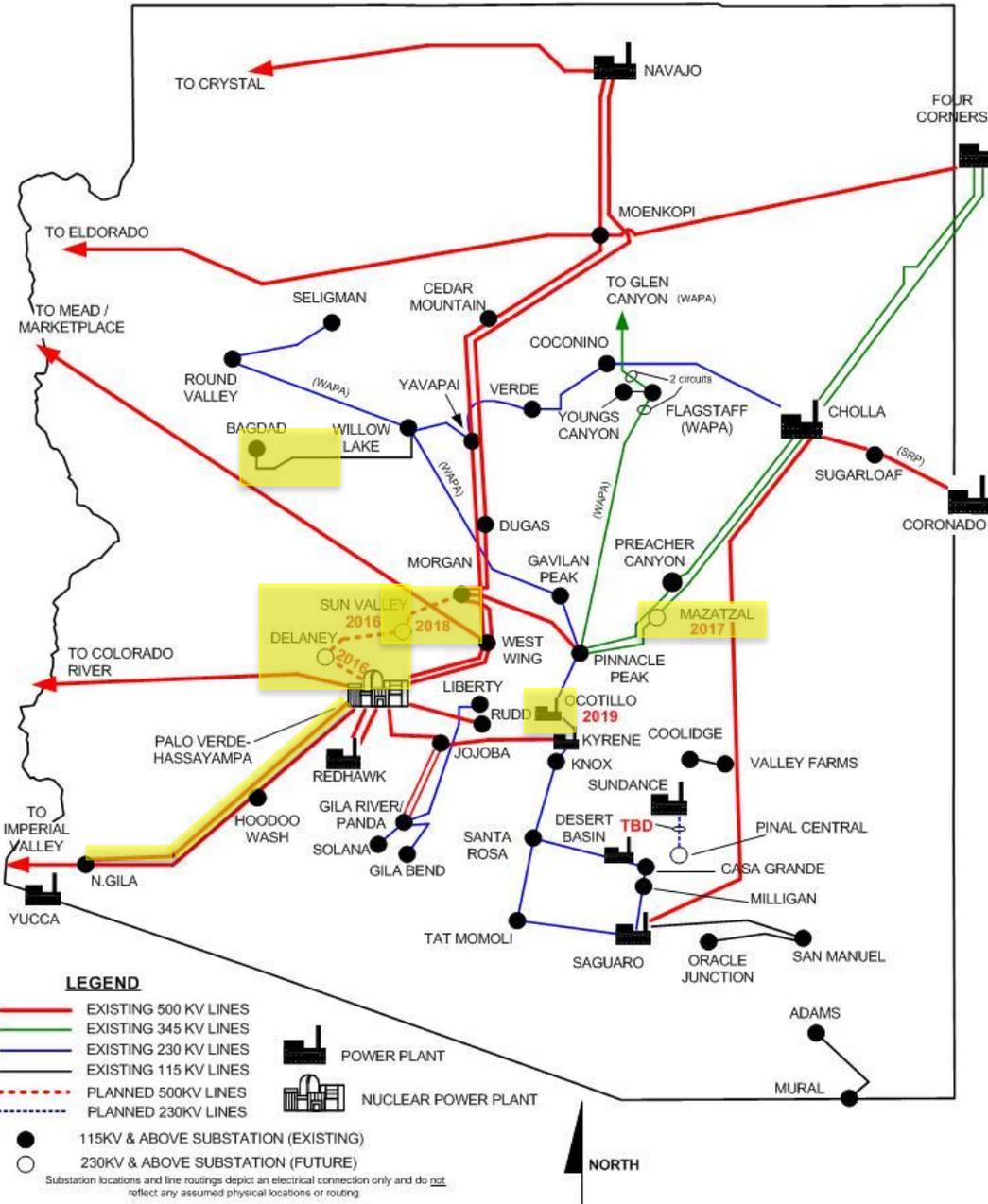


# Agenda

1. Review APS's filed 2016-2025 Transmission Plan
2. Highlight changes since 8<sup>th</sup> BTA
3. Responses to preliminary questions



# APS EHV & OUTER DIVISION 115/230 KV TRANSMISSION PLANS 2016 - 2025



## In-Service:

- Hassayampa-North Gila 500kV #2 Line
- Bagdad 115kV Line Relocation

## 2016: Energized 5/23

- Delaney-Palo Verde 500kV Line
- Delaney-Sun Valley 500kV Line

## 2017:

- Mazatzal 345/69kV Substation

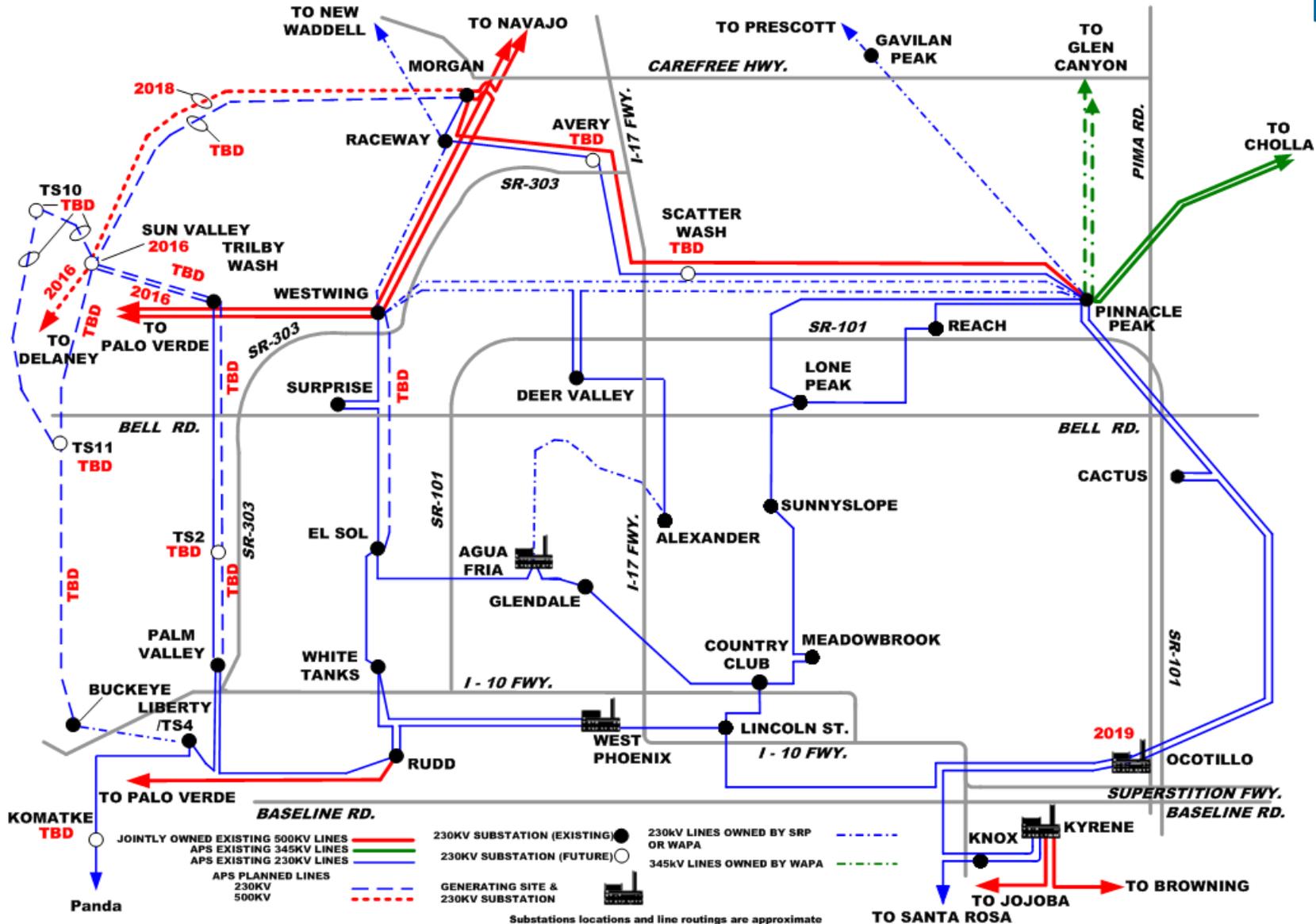
## 2018:

- Morgan-Sun Valley 500kV Line

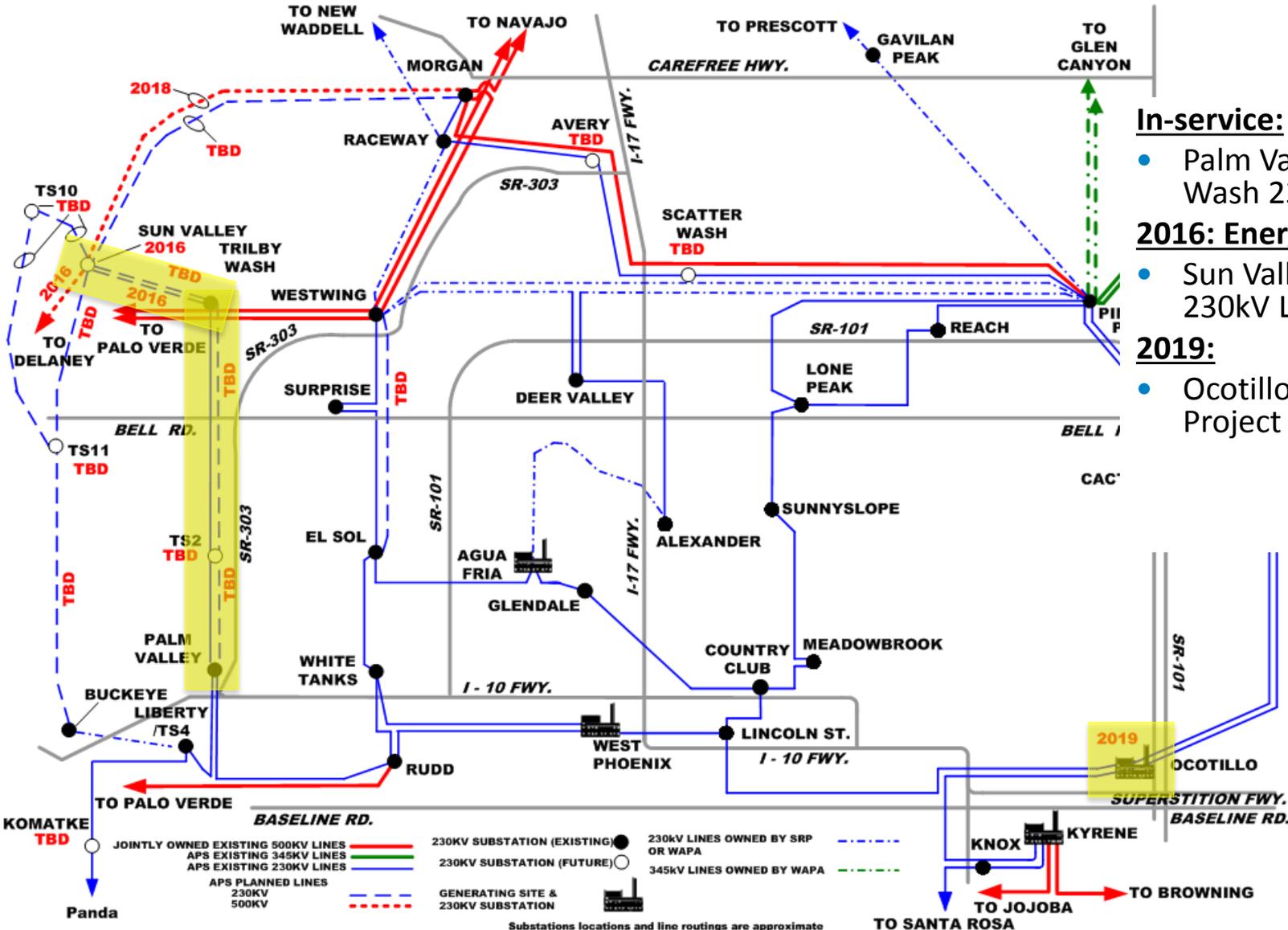
## 2019:

- Ocotillo Modernization Project

# PHOENIX METROPOLITAN AREA TRANSMISSION PLANS 2016-2025



# PHOENIX METROPOLITAN AREA TRANSMISSION PLANS 2016-2025



## In-service:

- Palm Valley-Trilby Wash 230kV Line

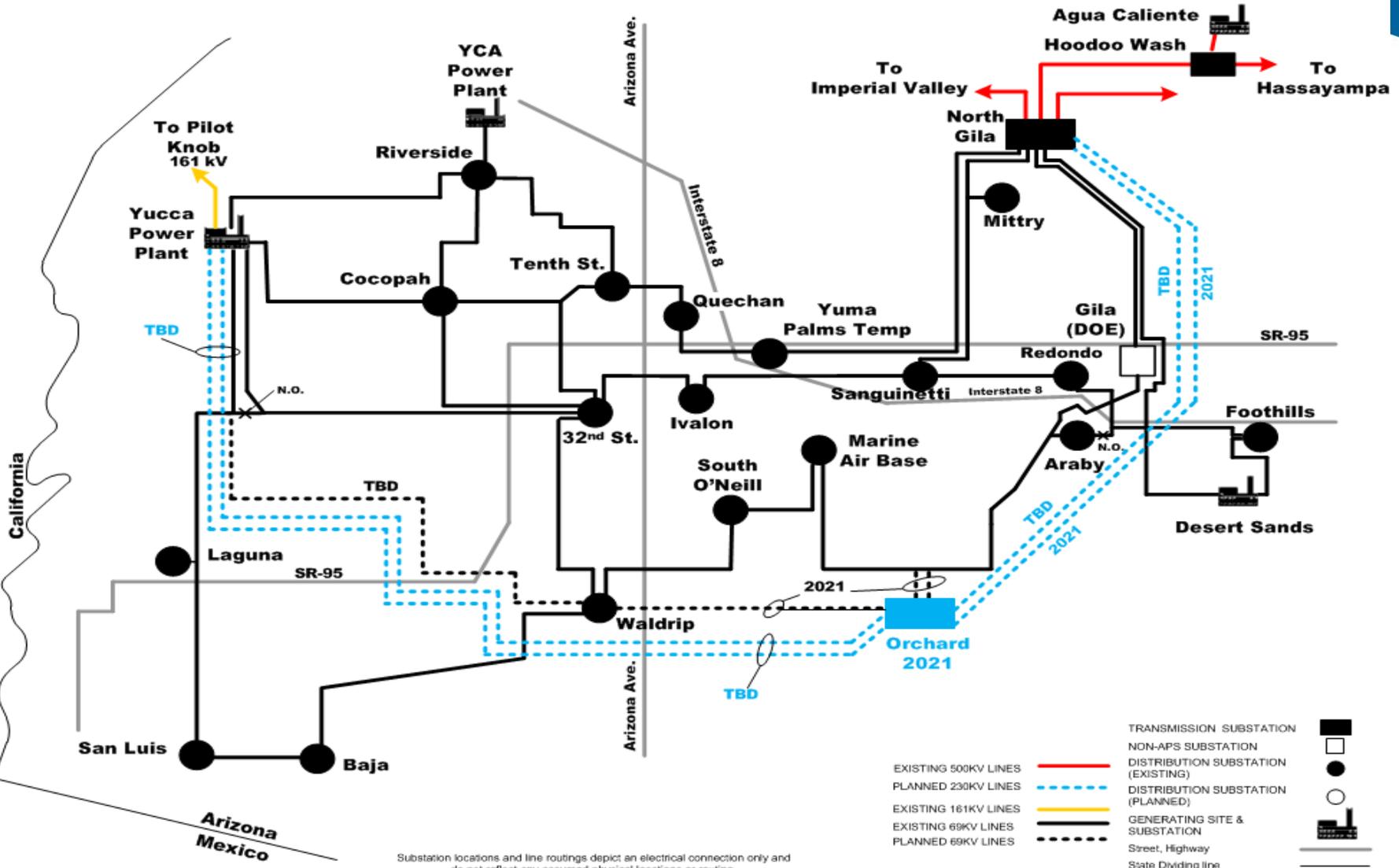
## 2016: Energized 5/23

- Sun Valley-Trilby Wash 230kV Line

## 2019:

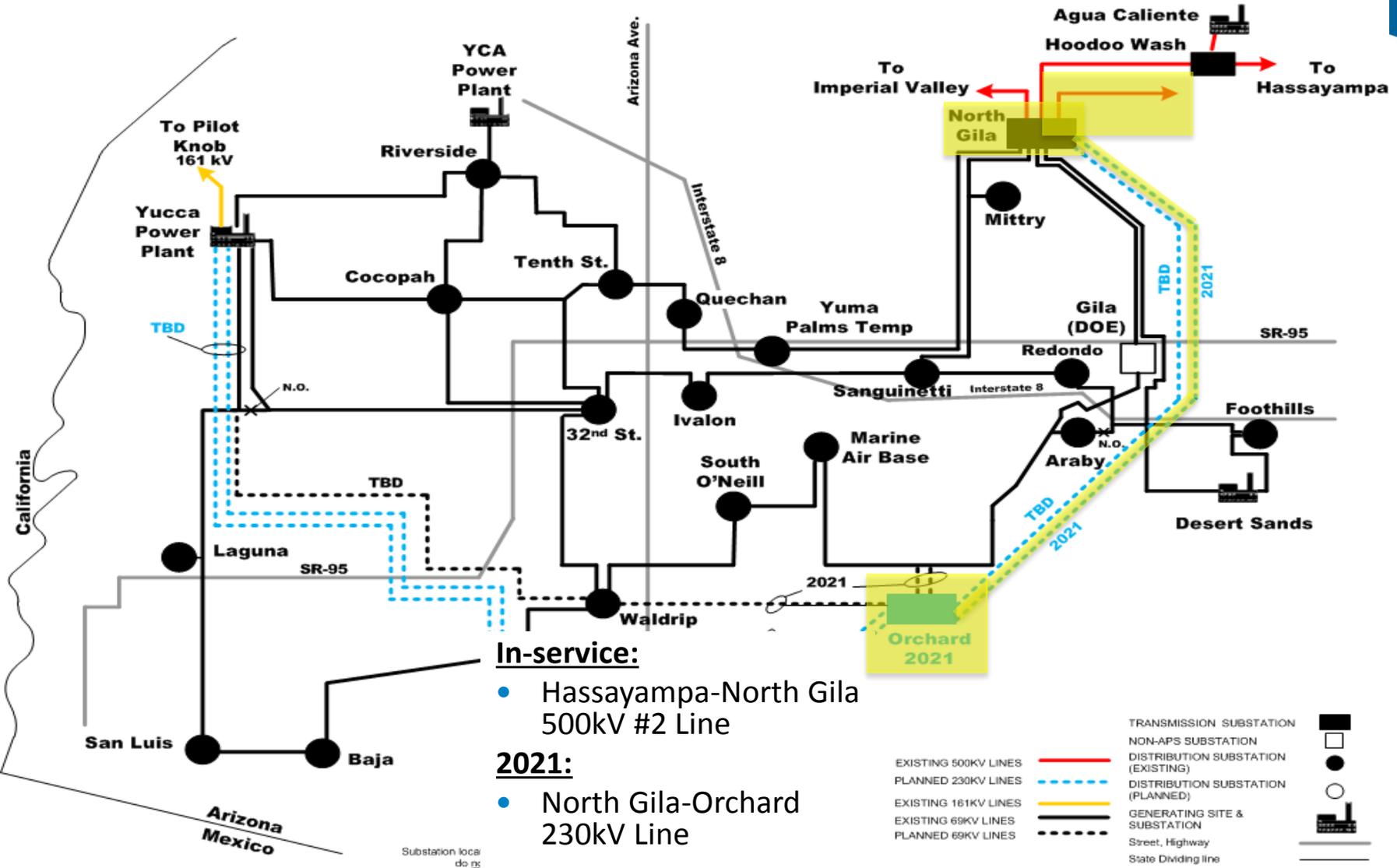
- Ocotillo Modernization Project

# Yuma Area Transmission Plans 2016-2025



Substation locations and line routings depict an electrical connection only and do not reflect any assumed physical locations or routing.

## Yuma Area Transmission Plans 2016-2025



**In-service:**

- Hassayampa-North Gila 500kV #2 Line

**2021:**

- North Gila-Orchard 230kV Line

# Equipment Additions / Replacements

| Description   | Year |
|---|------|
| Two 100MVAR Reactors at Four Corners 230kV (in-service) | 2015 |
| Trilby Wash 230/69kV Transformer (in-service)           | 2015 |
| Sun Valley 500/230kV Transformer (in-service)           | 2016 |
| Delaney 500/69kV Transformer (in-service)               | 2016 |
| Mazatzal 345/69kV Transformer                           | 2017 |
| Four Corners 500/345kV Transformer                      | 2017 |
| North Gila 500/230kV Transformer                        | 2021 |
| Orchard 230/69kV Transformer                            | 2021 |
| Orchard 230/69kV Transformer #2                         | 2021 |
| Saguaro 230/69kV Transformer                            | 2021 |
| Prescott 230/115kV Transformer #3                       | TBD  |

## Changes since 8<sup>th</sup> BTA

- Six projects completed
  - Palm Valley-Trilby Wash 230kV line – Energized 4/2015
  - Hassayampa-North Gila #2 500kV line – Energized 5/2015
  - Bagdad 115kV Relocation – Energized 9/2015
  - Four Corners 230kV reactors – Energized 12/2015
  - Palo Verde-Delaney-Sun Valley 500kV – Energized 5/2016
  - Sun Valley-Trilby Wash 230kV – Energized 5/2016
- Actively under construction
  - Mazatzal 345/69kV substation

## Changes since 8<sup>th</sup> BTA (con't)

- Project changes
  - Ocotillo Modernization Project in-service pushed back from 2018 to 2019
  - North Gila-Orchard 230kV line in-service pushed back from 2018 to 2021
  - Scatter Wash substation in-service changed from 2021 to TBD
  - Jojoba 230/69kV substation name changed to Komatke
- New Additions/Replacements
  - Delaney 500/69 transformer: Energized 5/23/16
  - Four Corners 500/345kV transformer #2

## Sub regional & Stakeholders

- APS projects are modeled in all WECC cases
- APS/SRP Joint Stakeholder meetings (FERC Order 890)
  - 6/18/2015 and 12/15/2015
- APS's projects are included in Southwest Area Transmission (SWAT), WestConnect, and Transmission Planning Expansion Planning Policy Committee (TEPPC) plans
- Projects included in WestConnect Regional Model and WestConnect Regional Planning

## WECC Path Rating

- APS planning to add a second 500/345kV transformer at Four Corners
- Currently being studied and will be reviewed by Four Corners Technical Task Force as the Project Review Group (PRG)
- After PRG review and acceptance it will be submitted to WECC and will request expedited path rating

## Coal Retirements

- APS has not identified any specific transmission projects at this time directly related to actual, planned, or potential coal retirements.
- The system functions as part of a larger portfolio which is continuously evaluated based on a number of factors including resource requirements and the location of existing and new generating units.
- Evaluations are on-going as part of the IRP and BTA processes

## **Neighboring States' Renewable Portfolio Standards**

- WestConnect planning study included Public Policy Needs Assessment
- Load and resource plans for neighboring systems included in WECC cases
- Regional transmission projects included in system models when warranted
- Multiple Transmission Service Requests into Four Corners in order to deliver power to the west

# Questions ?

Contact:

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