



# McCullough and Marketplace 500 kV Circuit Breaker Upgrades

*Sushant Barave*  
*RTE Lead, Regional Transmission - South*

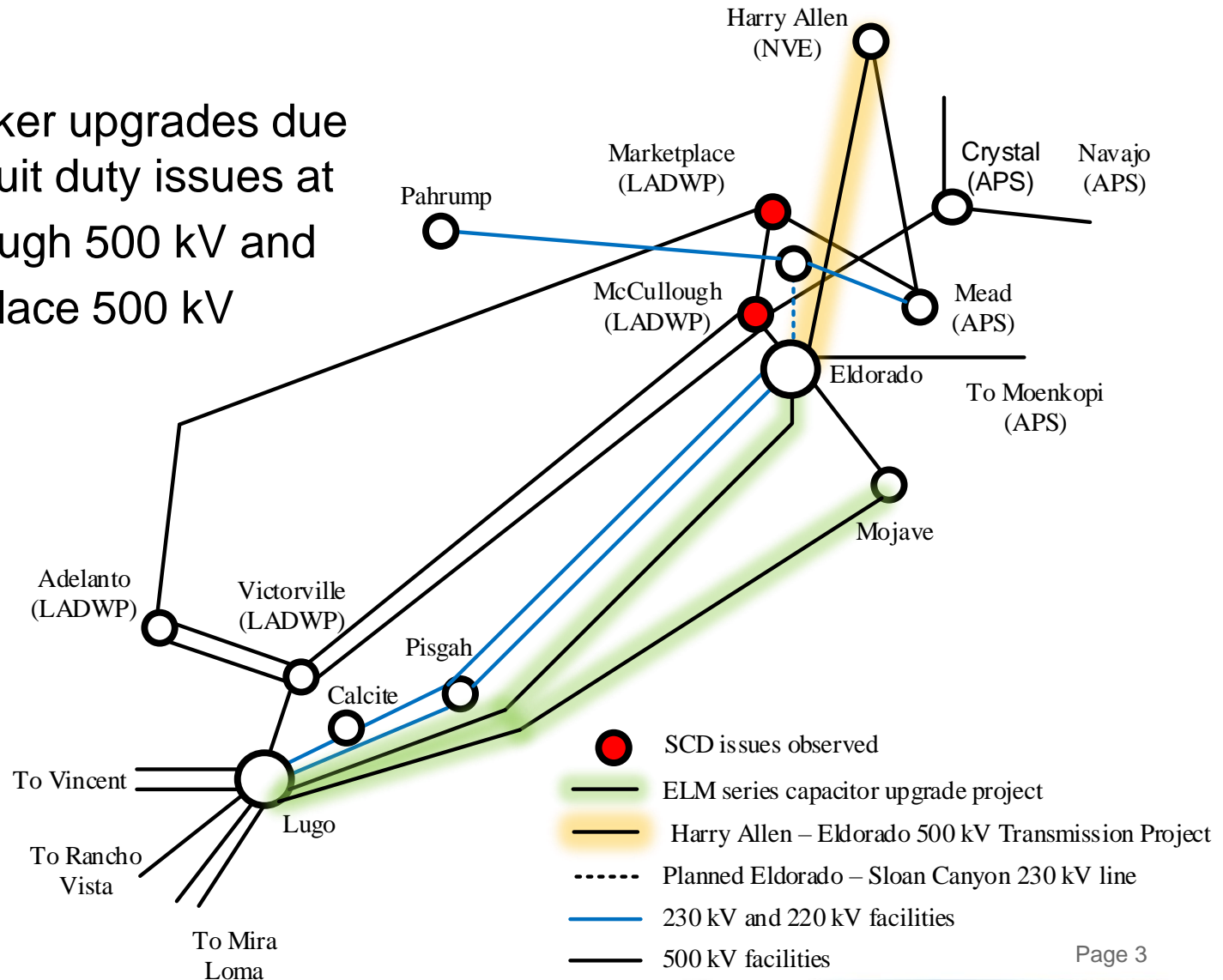
*2019-2020 Transmission Planning Process Stakeholder Call*  
*May 02, 2019*

Neighboring system facility upgrades are being triggered by Regional Transmission Facilities approved in prior ISO transmission planning processes

- The mitigations are a cost responsibility of the ISO – funded through a participating transmission owner
- The ISO's tariff calls for stakeholders to be informed and provided an opportunity to provide comments (section 24.10)
- Today's call is to:
  - Discuss the need for the identified upgrades
  - Describe the scope, cost and timelines
  - Provide stakeholders with an update and an opportunity to provide comments

# The two identified upgrades are on facilities operated by LADWP

- Circuit breaker upgrades due to short circuit duty issues at
  - McCullough 500 kV and
  - Marketplace 500 kV



# McCullough 500 kV circuit breaker upgrades are triggered by the increased short circuit duty (SCD) beyond the existing rating of 50 kA

- Projects contributing to the increase in (SCD) at McCullough 500 kV:
  - The Eldorado-Lugo-Mohave Series Capacitor Project (ELM project), approved as a policy-driven transmission project in the 2012-2013 TPP and 2013-2014 TPP.
  - New resources interconnecting in East of Pisgah and Southern NV areas
  - The Harry Allen – Eldorado 500 kV transmission project
- A sequential SCD study of aforementioned transmission and generation projects demonstrated that ELM project would trigger the need to upgrade McCullough circuit breakers.

# The scope, cost and timing of the McCullough circuit breaker upgrades

- Scope: Replace five existing 500 kV breakers with new 63 kA circuit breakers and associated facilities at LADWP's McCullough substation
- Cost: ~\$11.5 million
- Expected in-service date: June 2020

# The Marketplace 500 kV circuit breaker upgrades are triggered by the increased SCD beyond the existing rating of 50 kA

- Projects contributing to the increase in (SCD) at Marketplace 500 kV
  - Harry Allen – Eldorado 500 kV transmission project, approved as an economic project in the 2013-2014 TPP
  - New resources interconnecting in East of Pisgah and Southern NV areas
  - Eldorado-Lugo-Mohave Series Capacitor Project (ELM project)
- A sequential SCD study of aforementioned transmission and generation projects demonstrated that Harry Allen – Eldorado 500 kV transmission project would trigger the need to upgrade Marketplace circuit breakers.

# The scope, cost and timing of the Marketplace circuit breaker upgrades

- **Scope:** Replace three 500 kV breakers with new 63 kA circuit breakers and associated facilities at LADWP's Marketplace substation
- **Cost:** ~\$6.5 million
- **Expected in-service date:** June 2020

# Comments requested

- Please submit comments to [regionaltransmission@caisio.com](mailto:regionaltransmission@caisio.com)
- Stakeholder comments are to be submitted within two weeks after stakeholder meetings: **by May 16, 2019**