



# Overview of WETT Synchronous Condenser Project

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Transmission Planning, WETT  
ERCOT RPG Meeting  
October 18, 2023

# Project Overview

- **Project Background:**

- Motivation: addressing the operational challenges like 2021 and 2022 Odessa Events.
- ERCOT recommends synchronous condensers at six 345 kV substations:  
Cottonwood, Long Draw, Bearkat, Tonkawa, Reiter, and Bakersfield.

- **The project will enhance system reliability and resiliency in West Texas by:**

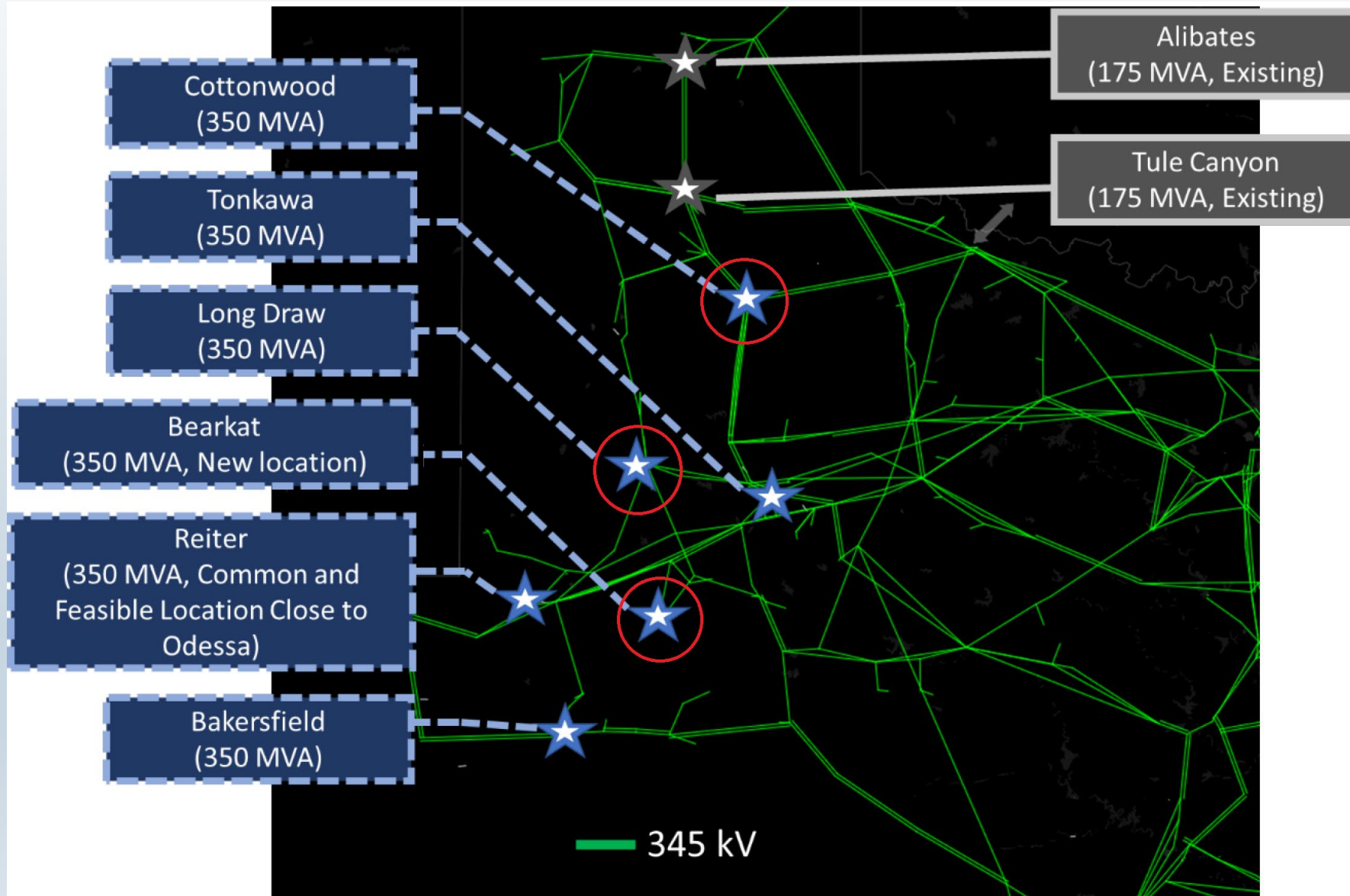
- Providing dynamic voltage support
- Increasing system strength
- Providing inertia

# Project Overview

- **Synchronous Condensers at Long Draw, Bearkat, and Cottonwood 345 kV substations**
- **Reliability Driven Tier-1 Project in West Texas**
- **Cost Estimate \$467.7M**
- **Estimated In-service Date October 2027**
- **Critical Status Designation Requested**
- **CCN not required**

| <b>Scope</b>                                      | <b>Cost</b>     | <b>In-Service Date</b> |
|---------------------------------------------------|-----------------|------------------------|
| <b>Two 175 MVA Sync. Condensers at Long Draw</b>  | <b>\$156.9M</b> | <b>October 2027</b>    |
| <b>Two 175 MVA Sync. Condensers at Bearkat</b>    | <b>\$155.2M</b> | <b>October 2027</b>    |
| <b>Two 175 MVA Sync. Condensers at Cottonwood</b> | <b>\$155.6M</b> | <b>October 2027</b>    |

# Project Overview



# System Impact Assessment

- **System Impact Assessment:**
  - Synchronous Condensers at six 345 kV locations modeled.
  - Power Flow, Short Circuit, and Stability studies performed.
  - Contingencies covering P1 through P7 and some extreme events.
  - No negative system impacts identified.
  - No need to upgrade other WETT facilities.
  - SSR study will be performed prior to the energization, if required.

# **WETT's Recommendation**

- **Installing Synchronous Condensers at Long Draw, Bearkat, and Cottonwood 345 kV substations**
- **Approximately 350 MVar capacity (two 175 MVA or above condensers) at each location**
- **Around 3,600 Ampere (A) of three-phase fault current contribution**
- **A total inertia of approximately 2,000 MW-seconds at each location, install flywheel if necessary**