

Hartring – Upland 138 kV Double-Circuit Line & Benedum 345/138 kV Autotransformer Addition Project Overview

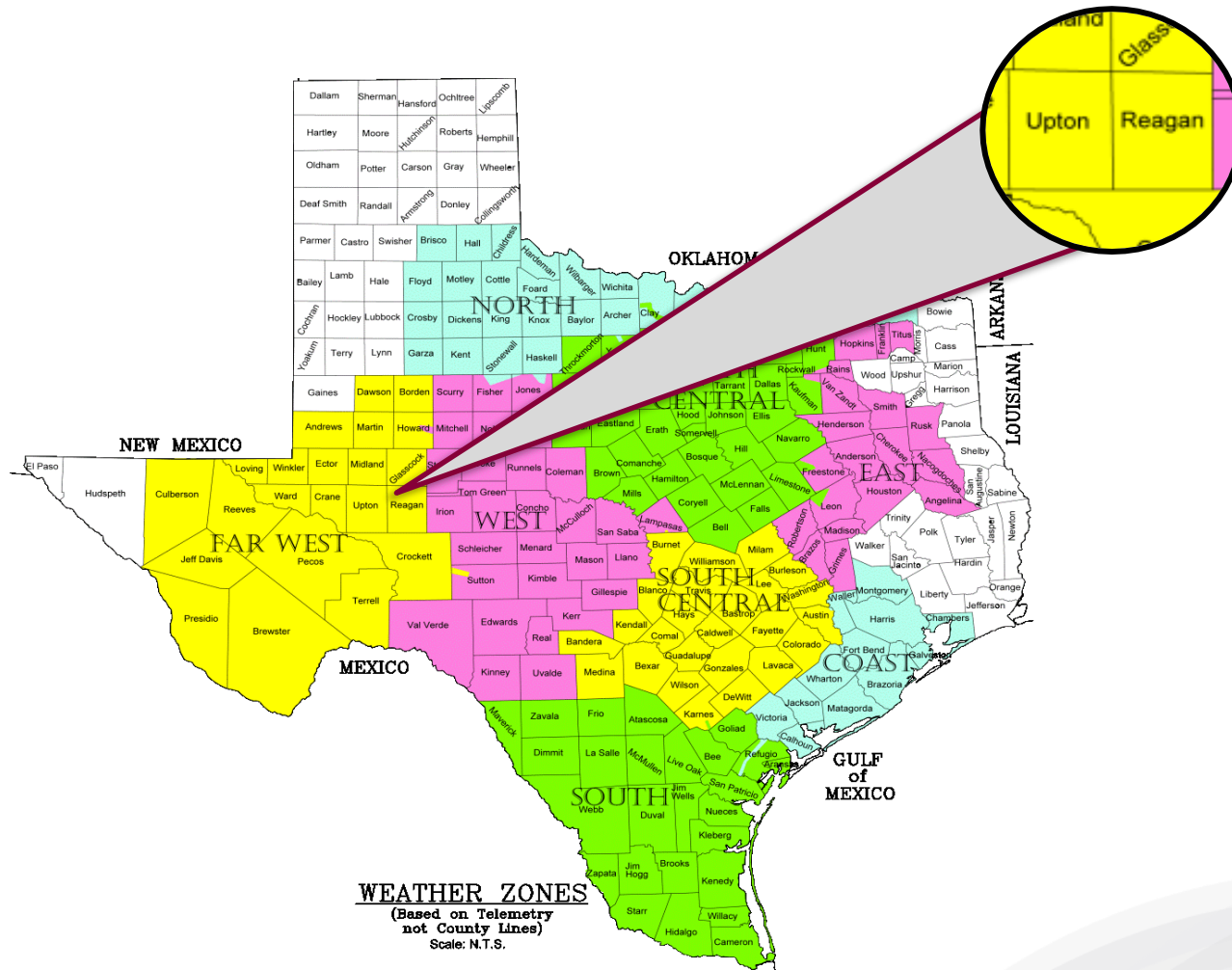
ERCOT RPG Meeting
10/16/2024



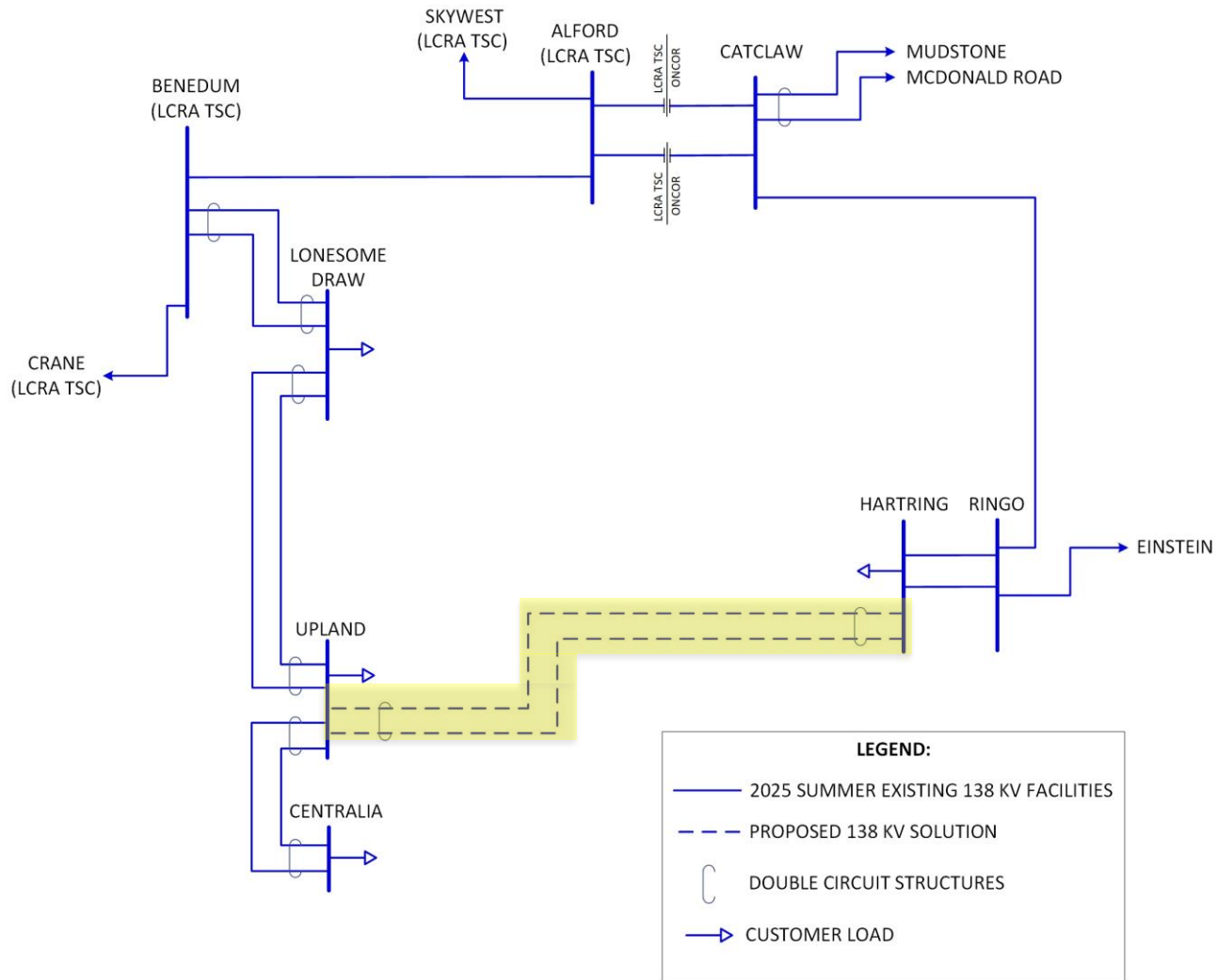
Project Overview (Oncor Portion)

- Substantial load growth in Oncor's southern Stanton Loop area introduces post-contingency planning criteria violations.
- P1, P2 and P6 contingencies cause severe area low voltages.
- P1 and P6 contingencies cause a thermal violation on LCRA TSC Benedum – Oncor Midkiff 138 kV line.
- Oncor proposes the following system upgrades to reliably meet the growing load demands in this area:
 - 9 miles of greenfield 138 kV DCKT transmission line
 - 1 existing 138 kV station reconfiguration (Ringo)
- Total cost for Oncor's portion of the Proposed RPG Project - **\$25 million**

RPG Project Vicinity (Oncor Portion)

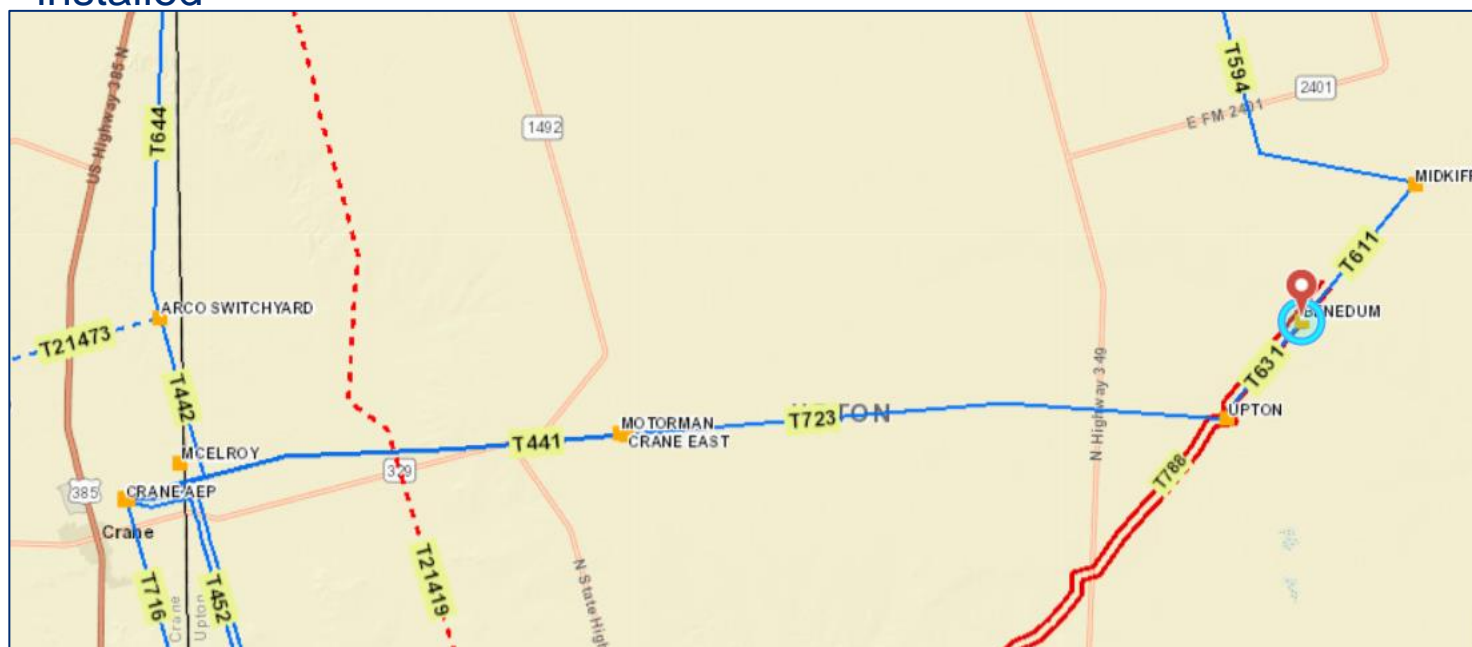


RPG Project Oneline (Oncor Portion)



Project Overview (LCRA TSC Portion)

- LCRA TSC identified a need to install a new 345-kV source in the Upton County load pocket (nearly 500 MW existing or planned load), which is vulnerable to low voltage under NERC P6 contingency events that disconnect or weaken the connection to LCRA Crane, Einstein, or Consavvy, or to the planned Catclaw STATCOM
- Install a Benedum 345-kV station connected to one circuit of the PUCT-approved Bearkat to North McCamey 345-kV double-circuit line with two 345/138-kV ATs installed

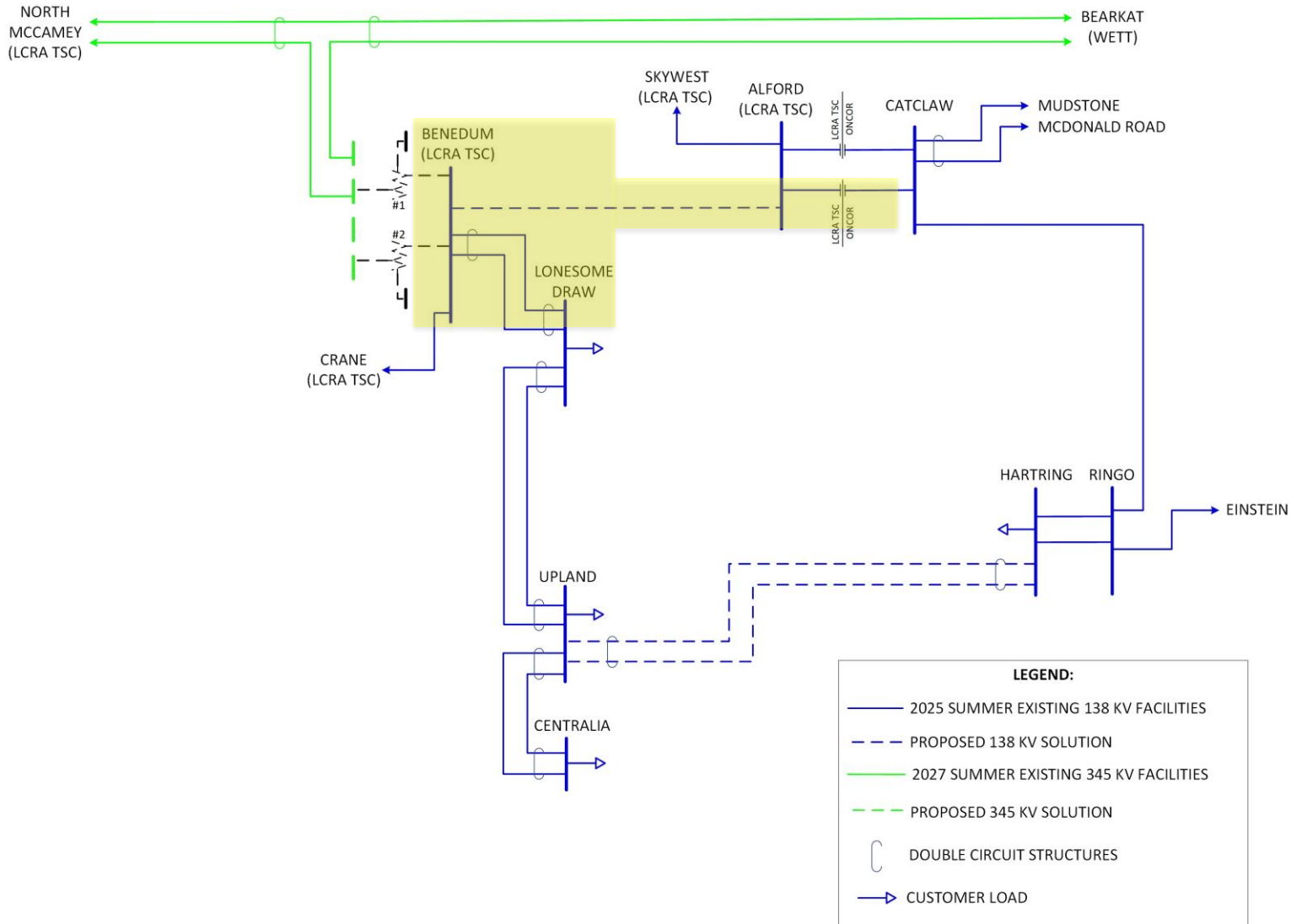


Project Scope (LCRA TSC Portion)

- Install a new 345-kV yard adjacent to the existing 138-kV Benedum Substation with minimum 5000 A terminal equipment in a breaker-and-a-half configuration;
- Cut-in one circuit in the PUCT-approved Bearkat – North McCamey 345-kV double-circuit transmission line to the new Benedum 345-kV yard;
- Install two new 800/880 MVA 345/138-kV autotransformers at Benedum;
- Upgrade the existing 4.3-mile Benedum – Alford 138-kV single-circuit transmission line to a minimum 942 MVA rating using bundled 959 ACSR Suwannee conductor and double-circuit capable transmission structures; and
- Upgrade 138-kV terminal equipment at Benedum to achieve a 4000 A minimum rating.

Total cost for LCRA TSC's portion of the Proposed RPG Project is **\$69 million**

RPG Project Oneline (LCRA TSC Portion)



Project Benefits

- Mitigate voltage and thermal criteria violations
- Create a strong 345-kV source into the center of the load-serving 138-kV network in Upton and Reagan counties
- Increase diversity and resiliency in the 138-kV and 345-kV network
- Mitigate the need for additional reactive power devices to regulate and support voltage
- Efficiently use existing and planned transmission right-of-way
- Serve as a robust component of long-term load-serving needs in the project area, including future 138-kV and 345-kV facility upgrades and additions

Progress

- Anticipating one CCN application/submittal
- Construction expected to begin in 2025
- Anticipated to take 2 to 3 years to complete the entire scope in the Proposed RPG Submittal
- Total cost is \$25 million + \$69 million = \$94 million (Tier 2)
- Proposed RPG Submittal comment period ended on 9/3/2024
- ERCOT Independent Review to be complete by 1/1/2025



Questions?

