

# Texas A&M University System RELLIS Campus Reliability Project (25RPG001)

*Project overview for ERCOT RPG  
March 18, 2025*

THE  
TEXAS A&M  
UNIVERSITY  
SYSTEM



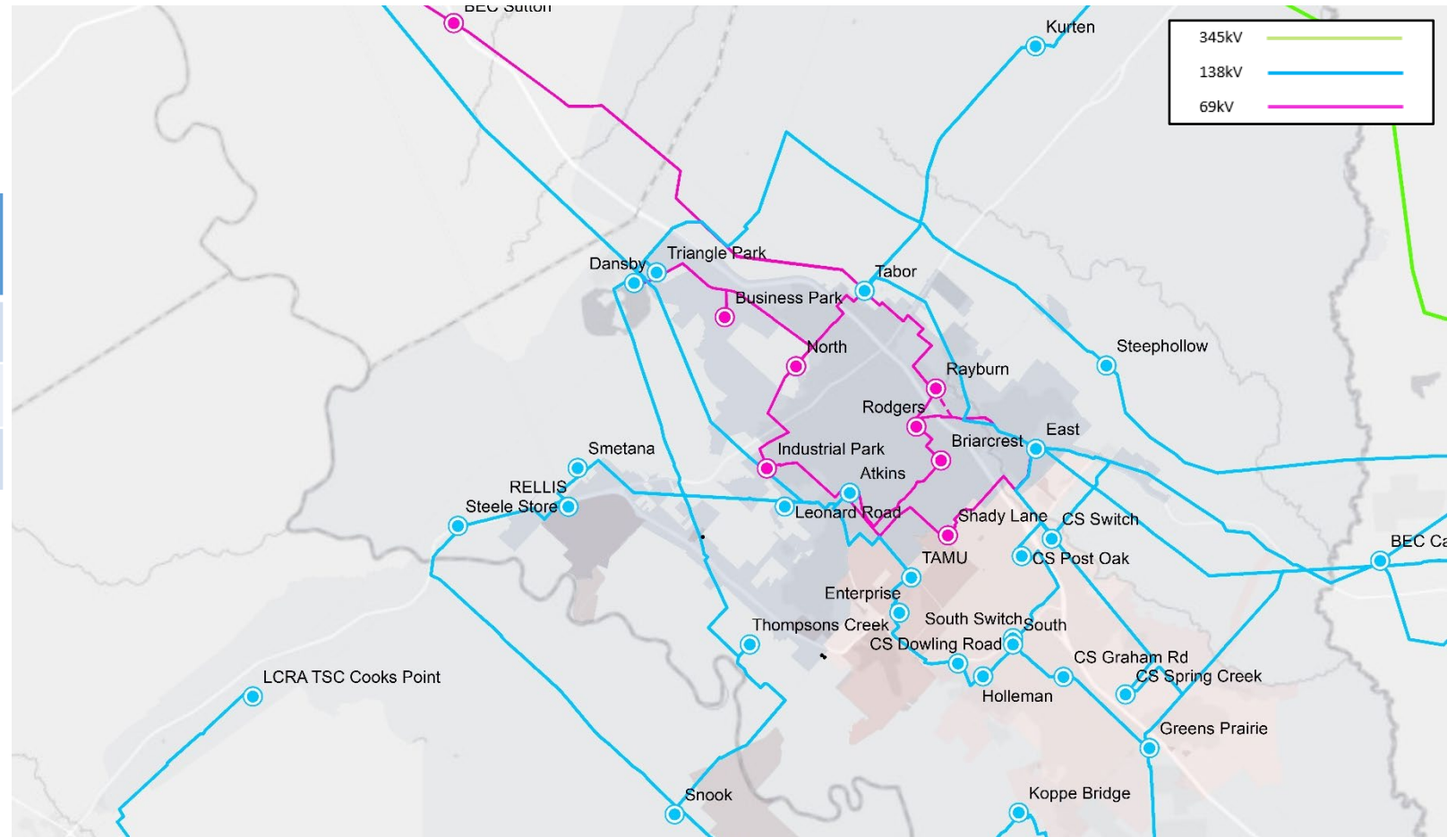
# Project Background

- Bryan Texas Utilities serves approximately 400 MW's of load in Brazos, Burleson, and Robertson Counties including Texas A&M University, Bryan and portions of College Station.
- Texas A&M University System RELLIS Campus located in Bryan is expected to undergo rapid load growth within the near and long term planning horizons.
- Total RELLIS Campus Load is anticipated to reach 377MW by 2030.
  - Data center load
  - Semiconductor research and manufacturing load
  - National defense research additions (Army Futures Command, Office of Navy Research, US Space Force, among others)

# Project Background

## RELLIS Campus Projected Load Ramp Schedule

Year	Load (MW)	Load (MVar)
2026	122.31	30.65
2027	147.36	36.93
2030	377.97	94.73



Existing System Configuration near RELLIS Campus

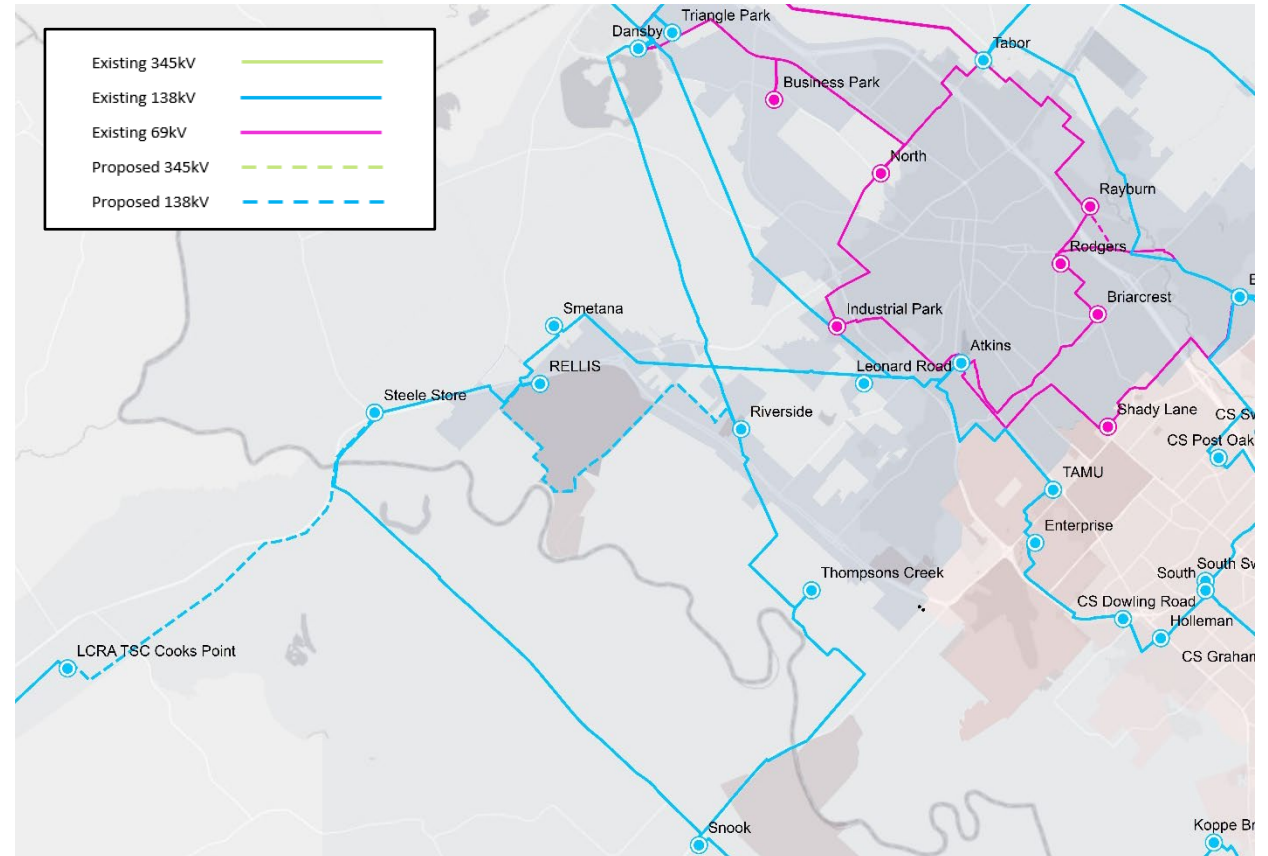
# Project Need

2030 System Case Violations\*:

NERC Category	# Voltage Violations	# Thermal Violations
P1	14	8
P2	16	15
P3 (G-1+N-1)	56	20
P4	15	7
P6 (A-1+N-1)	61	23
P6 (N-1-1)**	72	48
P7	2	4

\*RELLIS to Riverside and Steele Store to LCRA TSC Cooks Point 138kV line additions included in table.

\*\*P6 (N-1-1) contingencies: Numerous additional contingencies did not converge.

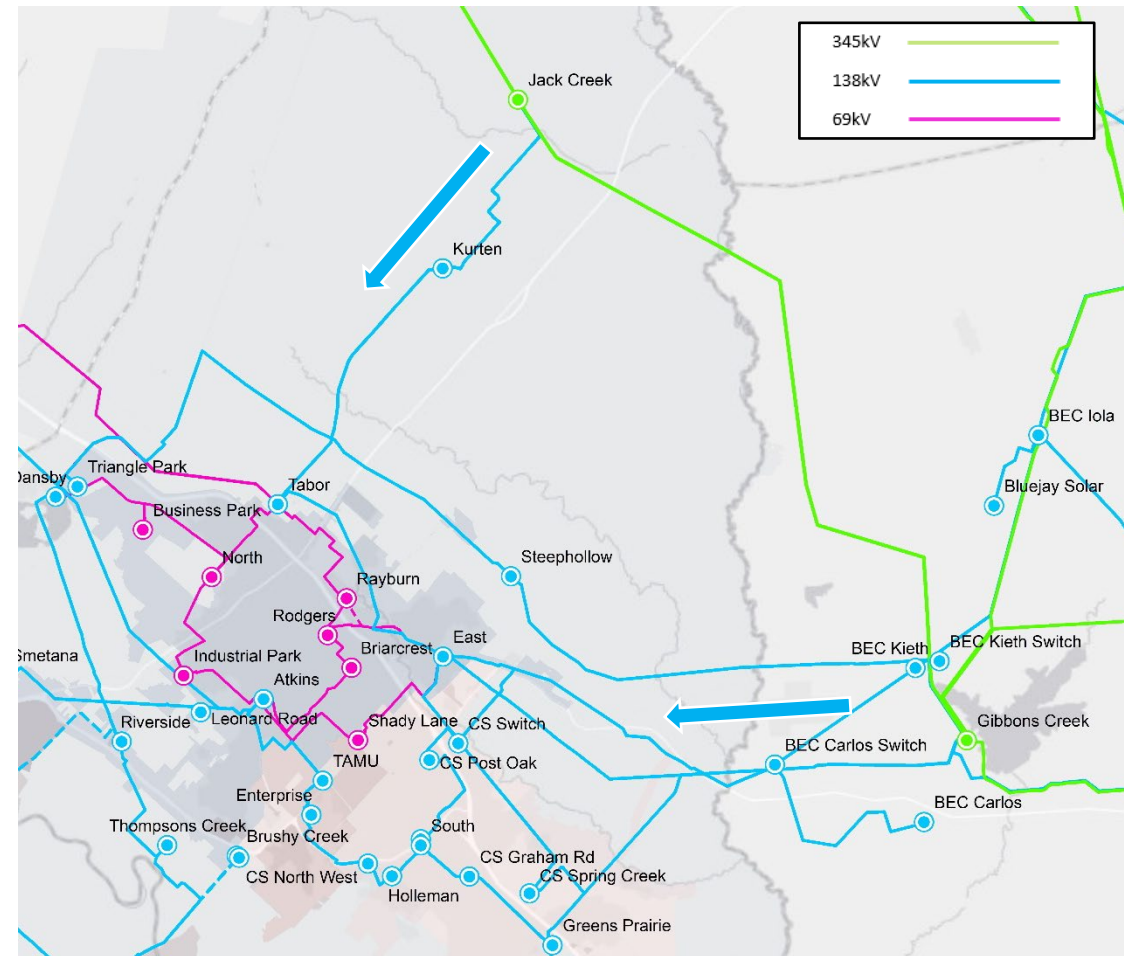


System Configuration near RELLIS Campus with localized upgrades

# Project Need

## Limited Import Paths

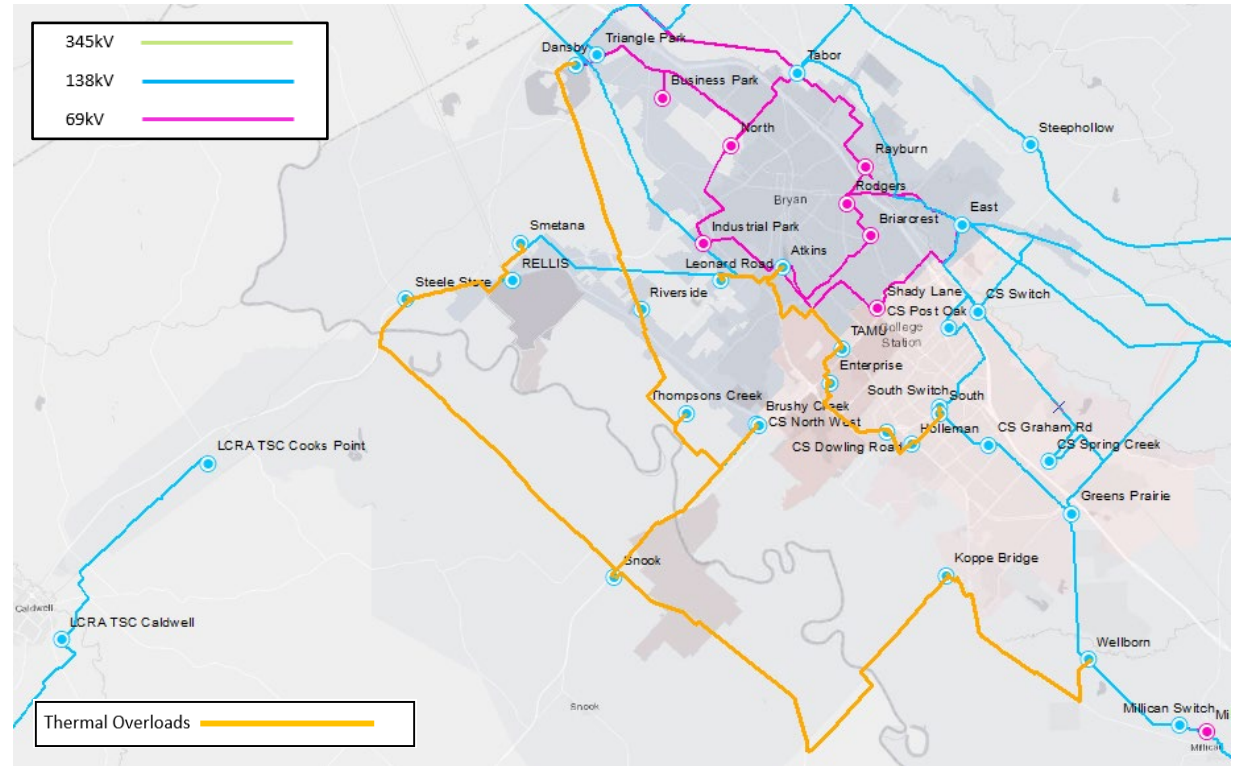
- The B/CS area transmission system has 138kV ties to the 345kV system at Jack Creek (TMPA) and Gibbons Creek (TMPA), both of which are on the far east side of the system.
- Upgrading tie line capacity to the existing 345kV sources does little to eliminate local transmission overloads under all NERC and ERCOT contingencies.
- All other ties are relatively weak in their ability to support long term load serving capability.



Bryan/College Station Import Paths

# Project Need

- ERCOT 2024 RTP study identified numerous thermal and voltage violations within the BTU system, driven primarily by the RELLIS load additions.
- RTP 2024-E4 “Bryan Area Project” placeholder project developed to address area reliability needs.



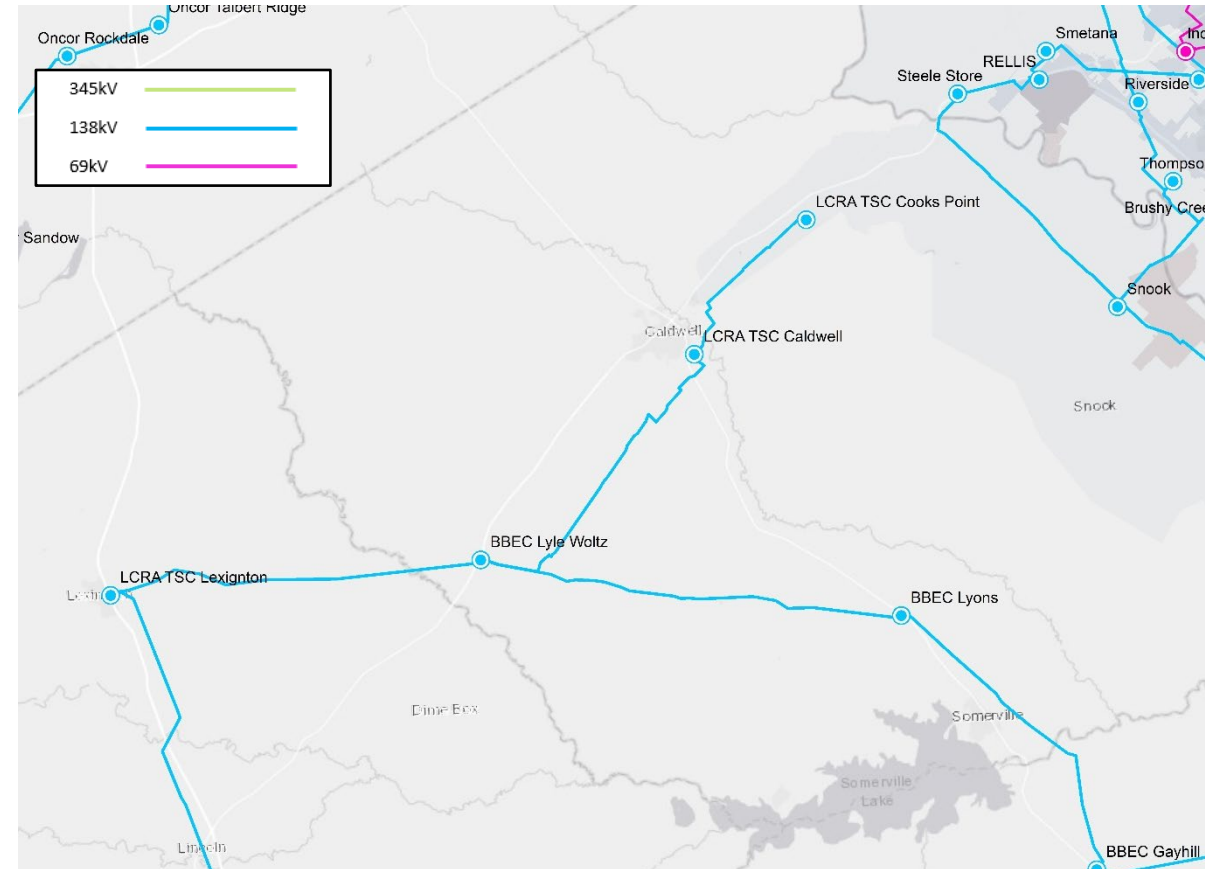
ERCOT 2024 RTP Thermal Violations

# Project Need

## LCRA TSC Planning Criteria

“No more than twenty (20) megawatts (MW) of peak load shall be interrupted for an event resulting in the loss of a single element, except when the event is the failure of a single power transformer with a peak load of greater than 20 MW”

- LCRA TSC provides radial service to 28 MW of combined load at Caldwell and Cooks Point Substations on a radial 138kV feed from Lyle Wolz Substation.
- BTU and LCRA TSC worked to provide looped transmission service to the area as part of this RPG project



LCRA TSC Radial Substations – Burleson County

# Study Analysis

- BTU studied eleven project alternatives to resolve thermal loading and low voltage concerns seen under NERC and ERCOT contingencies.
- BTU explored potential options for new import paths connecting to the 345kV and 138kV sources on the north, west, and south sides of its network.
- Four alternatives shortlisted for additional study.
- BTU evaluated the RTP placeholder project option.



# Study Analysis

BTU recommends to proceed with project Alternative 11 as it:

- mitigates all voltage and thermal criteria violations,
- resolves additional P6 violations that the RTP placeholder project does not,
- is the most cost effective option studied,
- requires the least amount new greenfield transmission construction and siting,
- provides a new 345kV source into the area, and
- creates potential for additional future 345kV expansion.

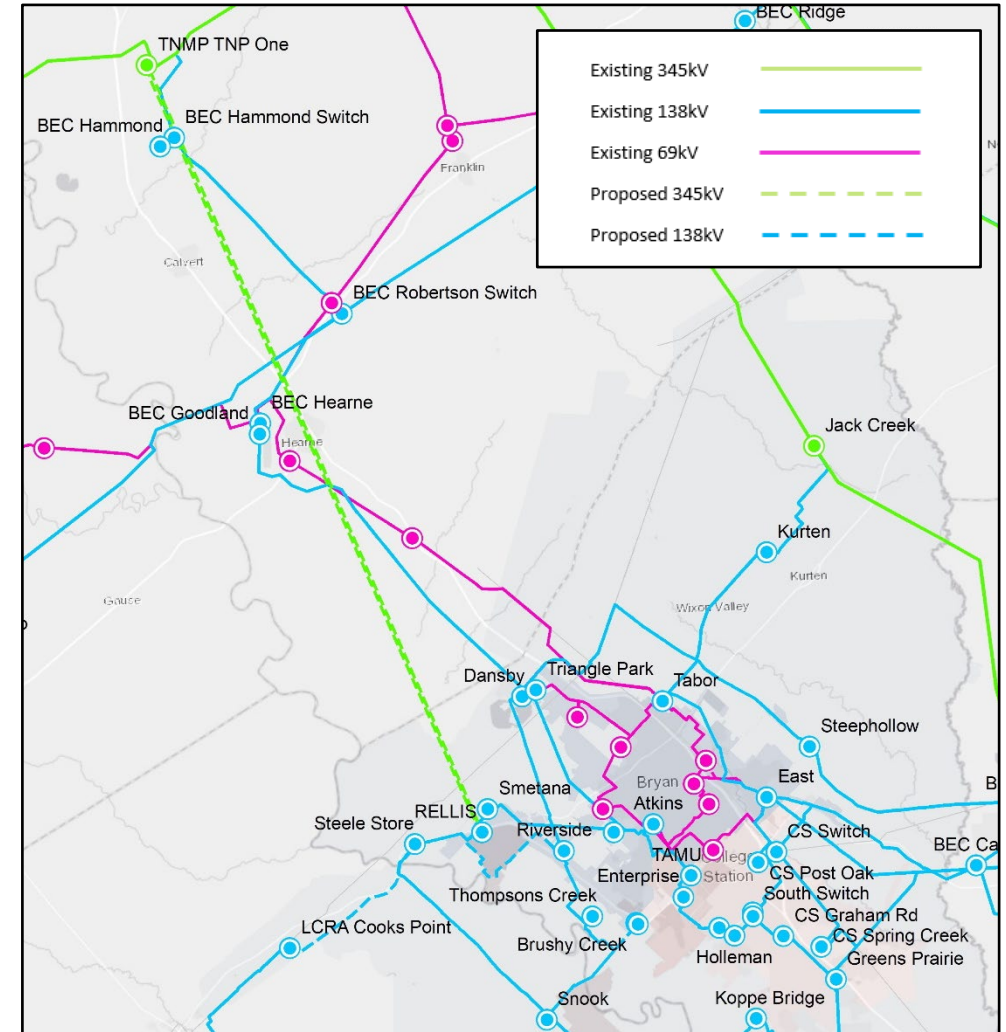
# Study Analysis

BTU recommends to proceed with project Alternative 11 as it:

- improves BTU load serving capability,
- provides looped transmission service to LCRA TSC loads in Burleson County, and
- improves LCRA TSC load serving capability and reliability of the 138kV loop from Giddings to Gay Hill in Burleson, Lee, and Washington Counties.

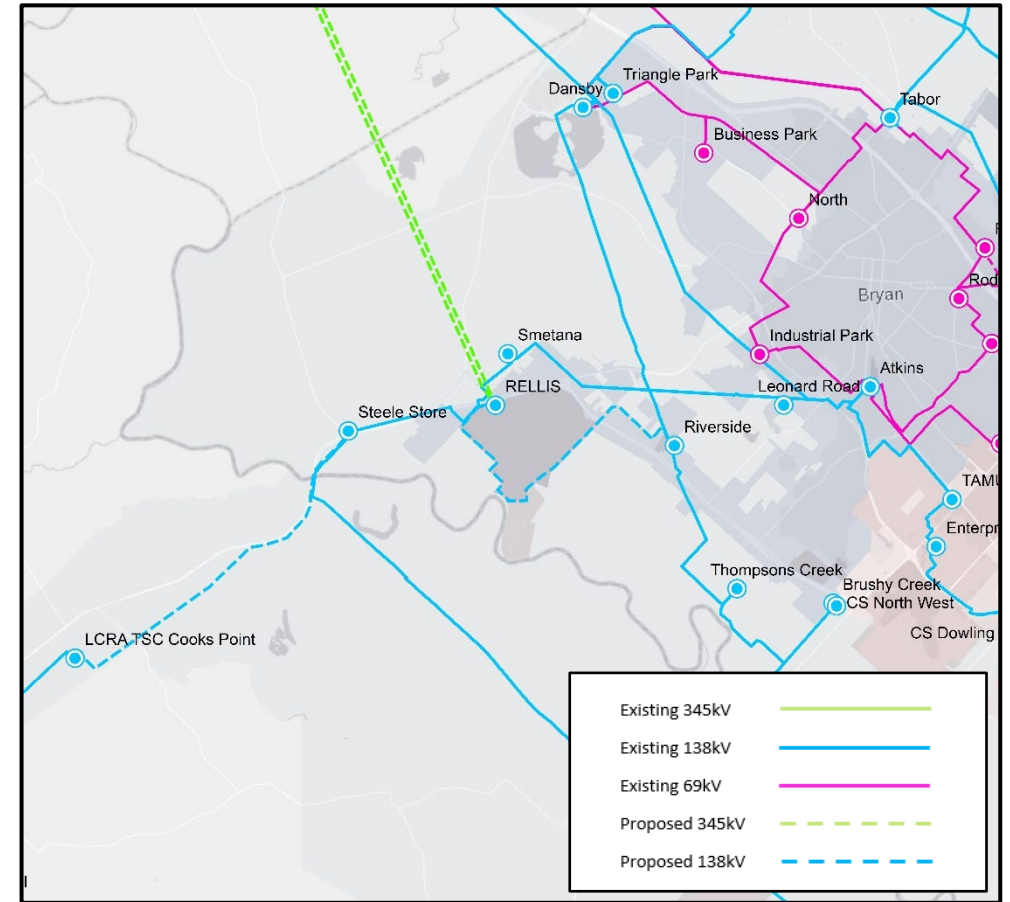
# Proposed Project Alternative 11 Scope

- BTU and TNMP will construct a new approximately 40-mile, 345kV double-circuit line from BTU RELLIS to TNMP TNP One (1,765 MVA or greater, each circuit) on double-circuit capable structures with both circuits in place within new right-of-way (CCN Required).
- TNMP will expand the TNP One Substation to accommodate two additional 345kV line terminals.
- BTU will expand the RELLIS 138kV Substation to establish the BTU RELLIS 345/138kV Switchyard by installing four additional 138kV breakers in the existing 138kV ring bus, and adding four 345kV breakers in a ring bus configuration.
- BTU will install at RELLIS Switchyard two 345/138kV autotransformers with a nameplate rating of 600 MVA or greater.
- BTU will install two 54MVAR 138kV capacitor banks at RELLIS 138kV Substation.



# Proposed Project Alternative 11 Scope

- BTU will construct a new 138kV BTU Riverside Switching Station using a 3-breaker ring bus configuration.
- BTU will construct a new 6.1-mile, 138kV single-circuit line from BTU RELLIS to BTU Riverside (495 MVA or greater) on double-circuit capable structures with one circuit in place.
- BTU and LCRA TSC will construct a new 7.2-mile, 138kV single-circuit line from BTU Steele Store to LCRA TSC Cooks Point (440 MVA or greater) with 5.7 miles on new single-circuit structures. The remaining 1.5 miles is proposed to utilize de-energized conductor already in place on existing BTU double-circuit structures.
- LCRA TSC will terminate the proposed BTU Steele Store to LCRA TSC Cooks Point line on the Cooks Point Substation 3-breaker ring bus using the existing open 138kV terminal.
- BTU will rebuild an existing 3.3-mile, 138kV single-circuit line from BTU Atkins to BTU TAMU (495 MVA or greater) on double-circuit capable structures with one circuit in place.



# Proposed Project Alternative 11 Overview

- This Tier 1 Project requires Certificate of Convenience and Necessity (CCN) filings with the Public Utility Commission of Texas (PUCT)
- Total cost of the proposed RPG project – \$271.5 million
  - BTU Scope \$166.9M
  - TNMP Scope \$96.0M
  - LCRA TSC Scope \$8.6M
- Anticipated to take 4 years to complete entire scope proposed within the RPG submittal.
- Proposed RPG Submittal comment period ended 2/5/2025
- ERCOT Independent Review to be completed by 7/5/2025

# Questions?