



Tri-County Electric Cooperative Update/Report

Keller City Council

August 18, 2020

Update/Briefing –Agenda

Welcome-Introductions

- Here Today to address your concerns
- Keller Outages
- Our Work Plans and System Maintenance
- Operations of TCEC / Abilities to work 24/7/365
- What is an electric cooperative?
- Tri-County Electric Cooperative
- How TCEC operates in the market
- Questions and Answers

Lauren Baucus

Director of Community Affairs

Update/Briefing –Agenda

Recent Major Outage in Keller-Southlake area

Daren Curry
Director of Engineering

- Cause of Major Outage to the Area
- Why the same people were affected by this outage pattern
- TCEC Plans to Address the Outages
 - Emergency Plan enacted by TCEC
 - Capital Budget Workplan progress
- How did the system get to this point: Solutions
- Maintenance work/Construction work/Work plan 2019-2023
- Reliability
- Future Plans in the area for TCEC

System Outages/Recent Outages in Keller

Timeline:

Mid June –Notified by Transmission Provider (Brazos)

July 2nd – Switch of loads to alleviate transmission congestion / RAS prevention

July 9th- First member outage with a failure in one of our underground vaults
Root cause was equipment failure –no other system faults

**July 23rd –Second member outage with a failure. Appeared to be no weather effects.
Attempt to move our fall construction work progress to a quicker timeframe
Attempt to design another solution that could be enacted as an emergency**

August 7th-Third outage with a similar failure. No weather effects.

August 8th –Emergency plans are expedited to address system failures

August 10th, August 12th –Fourth and Fifth outages while Emergency plans were underway

**Notice to members of intent to take a planned outage for the 11th, 12th, 13th, or 14th for line clearance
Cancelled Before the 11th, 12th and 13th days for outages because work could be performed**

Noticed and enacted a planned outage for Friday, 14th

System Planning/Work Plans in Keller

Portions of our Construction Work Plan

Planning about 5-8 years ahead of growth and congestion

Complete work plan changes yearly to assess work progress and budget

Work Plan –Internal working plan for TCEC

ROW and easement work coordinated with local government, state, etc.

Confidential when acquiring property for utility plant work

Work with developers and planning authorities to address our needs for infrastructure

Developers are great to assist us with accommodations

TCEC works hard with developers to grow the area and allow for expedited progress

New Construction Work

CODE 200 PROJECTS

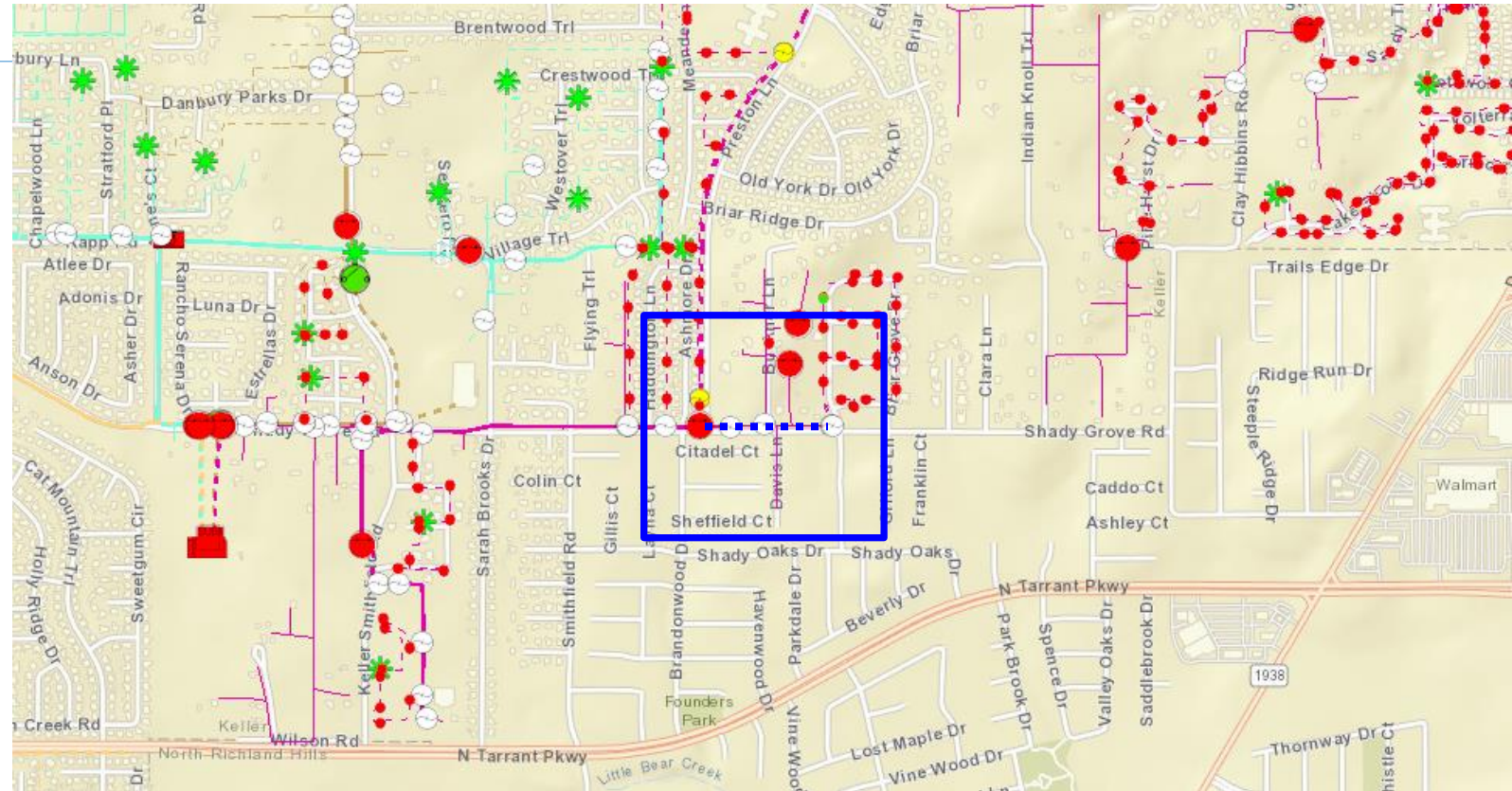
Cherry Grove 1 - 2413

Upgrade conductor from 1-ph 4
ACSR to 1-ph 1/0 ACSR

0.55 miles - \$8,500

In conjunction with new 1/0
ACSR tie line to re-feed
neighborhood, existing 4 ACSR
needs to be upgraded to
support load properly

2020 Priority Project



Reconductor Projects

CODE 300 PROJECTS

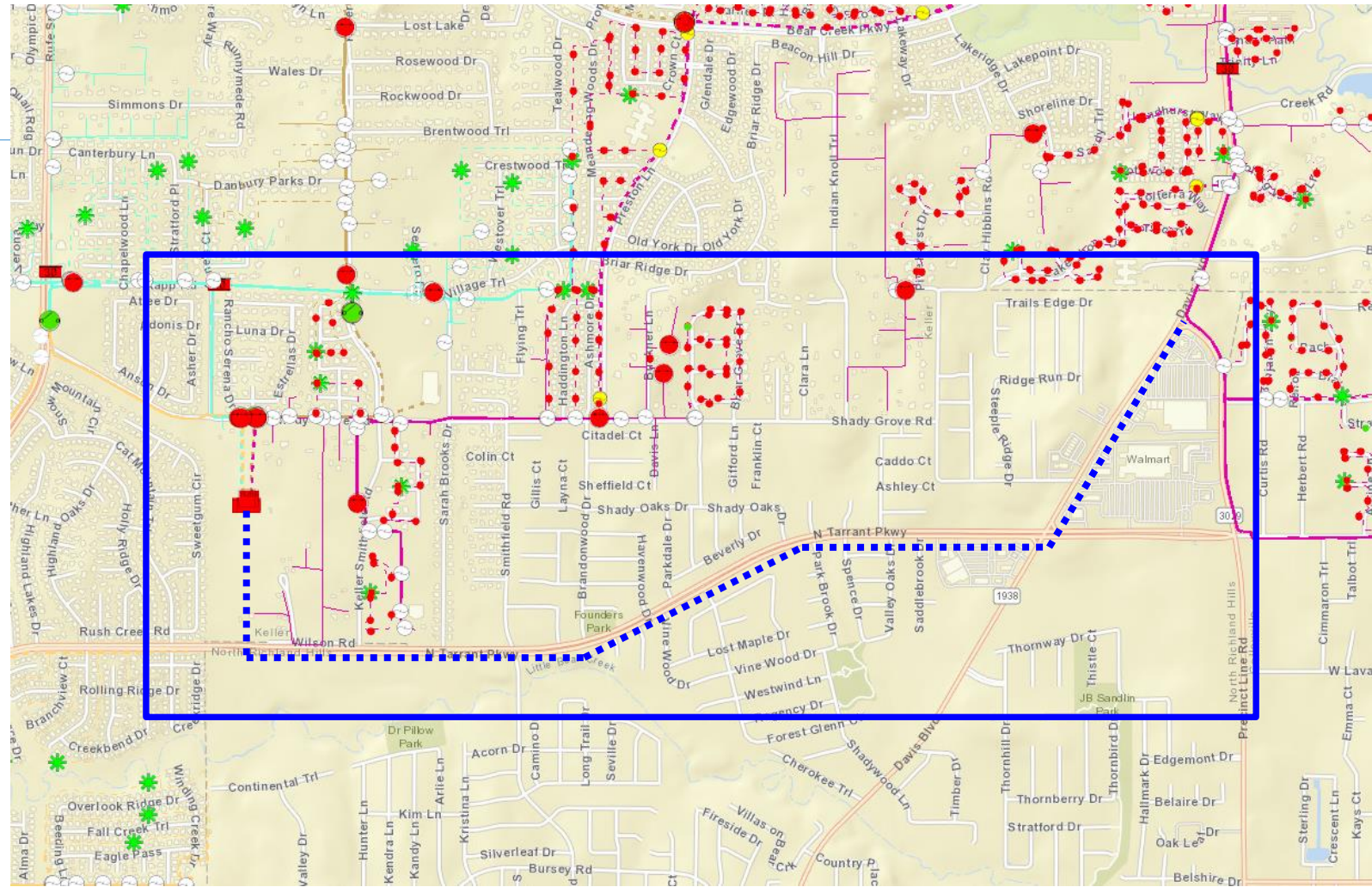
Cherry Grove 1

Third Feeder Project

Build 3-ph 1000 MCM circuit going from Cherry Grove 1 south to Tarrant Pkwy, east to Davis Blvd, then north to tie into existing CG 2413 feeder

2.75 miles - \$565,000

- Work Plan Allocation as a priority to build for future redundancy
- New route for this project increased cost



Load Shifts & Switches

Adjusting Our Loads to Accommodate Operation of the Local and State Grid

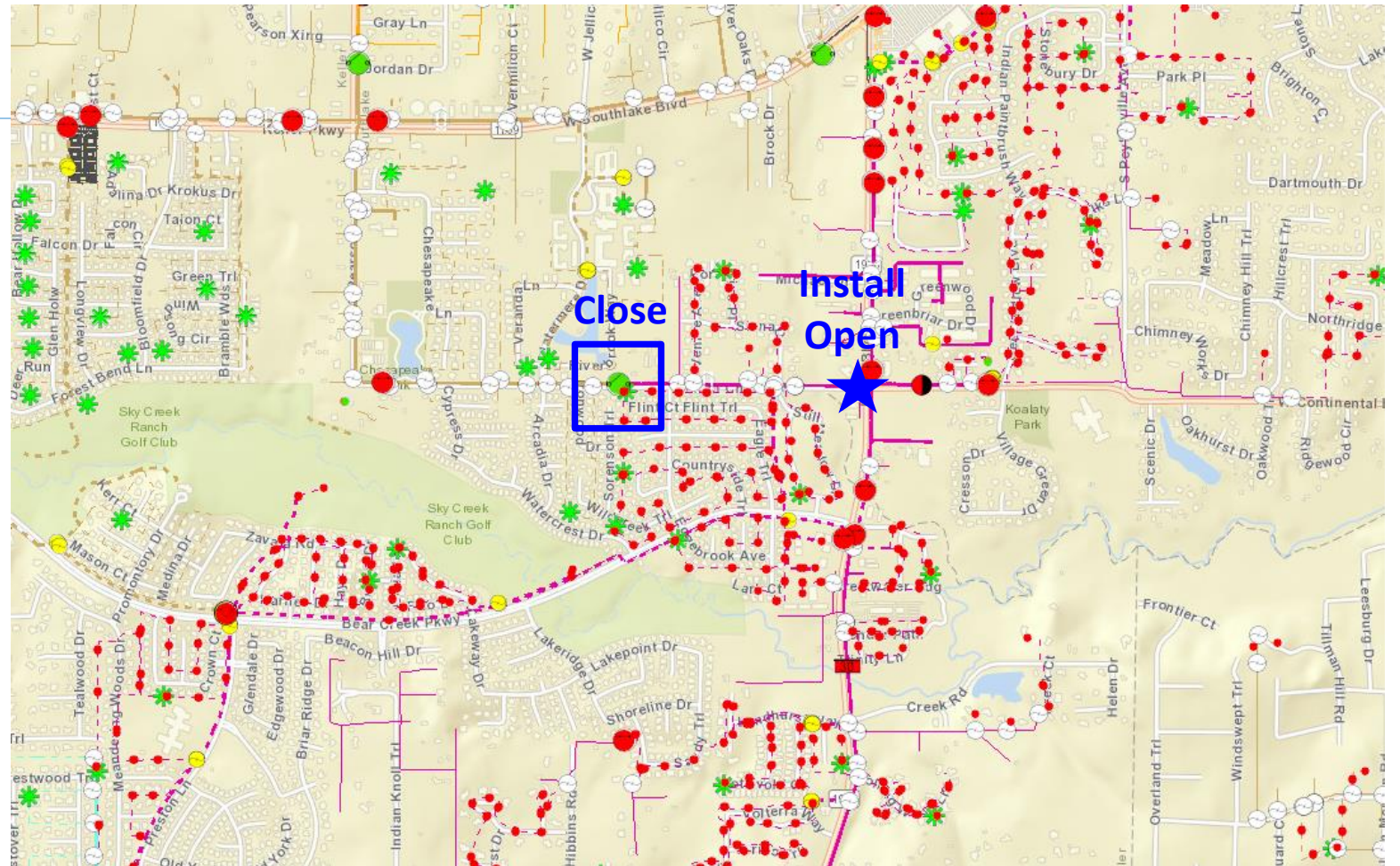
Cherry Grove 1 – 2413 Feeder Relief

Close normal open on Union Church Road and install normal open recloser and SEL-651R controller just west of Davis Blvd.

This moves 3.3 MW from 2413 to 2414 and balances phases making peak loading as follows:

- 2413: 18.60 MW
- 2414: 18.75 MW
- Cherry Grove 1: 37.35 MW

Recloser cost - \$40,000



ReCap: Engineering

Work Plan for Keller area: _____\$3,805,500

- Aggressive construction plans with additional capacity created to address the data
- Timely progress on construction work in progress
- Detailed planning internally since 2018

System Operations Center 24/7/365

Future Projects: SCADA changes, Distribution Automation, AMI system, Yearly Work Plans to continue to improve reliability, and continued maintenance programs.

Update/Briefing –Agenda

Recent Major Outage in Keller-Southlake area

Wesley Scheets

Chief Operations Officer

- Workforce response to the major outages in Keller/Finding the problem
- Difficulties involved with making repairs (underground vault work)
- TCEC use of workforce, contractors and suppliers to assist
 - Time to make repairs with unplanned outages vs coordination of planned outage windows to get work done
 - Supply chain deliveries expedited
- What were your delays if any with restoration
- Operations plans to keep the cooperative ahead of the curve

- Reliability due to Linemen response and knowledge of the system
- The future of Operations at TCEC

Workforce Response to Outages

During Working Hours –Responses to Outages

After Working Hours –Responses to Outages, Time to Respond, Data to Track

Distribution Line Service Challenges

- Extreme Rural, Rural, Suburban and Urban services system wide
- Unique Challenges for utilities like TCEC

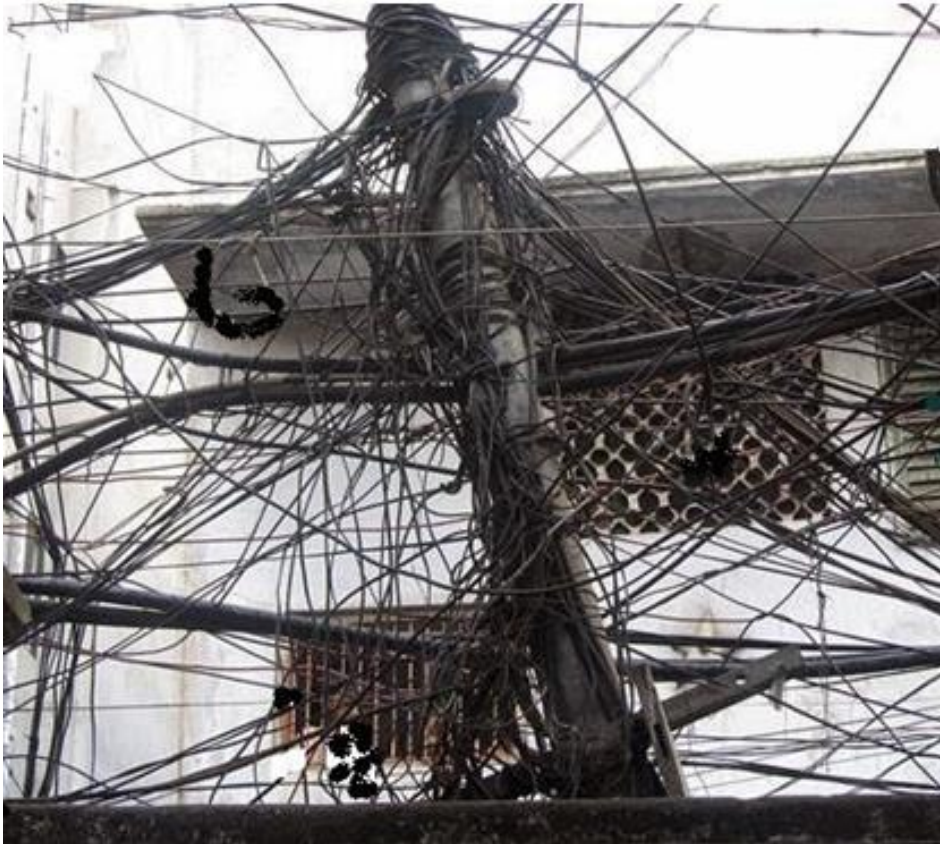
Working in Underground Vaults



Working Aerial



What we Try to Avoid



Our Checks and Balances:

Industry Specifications/Manufact. Designs for Equipment/Supplies

Engineered Designs for our System

National Electric Safety Code (NESC)

OSHA Standards and Regulations

North American Reliability Council (NERC)

Public Utility Commission

ERCOT

Outages-Accountability





Outage Statistics

“Measurements We Use to Benchmark our Reliability”

2019 Measurements

View Start Date

1/1/2019 12:00:00 AM

View End Date

12/31/2019 12:00:00 AM

KPIs All

Customer Hours	SAIDI	CAIDI	SAIFI	ASAI
293,561.58	164.068	137.139	1.196	98.12%

KPIs Central

Customer Hours	SAIDI	CAIDI	SAIFI	ASAI
26,251.65	14.672	198.699	0.074	99.83%

KPIs NE

Customer Hours	SAIDI	CAIDI	SAIFI	ASAI
76,889.93	42.973	101.642	0.423	99.51%

KPIs SW

Customer Hours	SAIDI	CAIDI	SAIFI	ASAI
49,654.65	27.751	139.107	0.199	99.68%

KPIs BK

Customer Hours	SAIDI	CAIDI	SAIFI	ASAI
573.97	0.321	55.278	0.006	100.00%



Outage Statistics

First Six Months of 2020
Before Transmission Changes to TCEC

View Start Date

1/1/2020 12:00:00 AM

View End Date

6/30/2020 2:00:00 AM

KPIs All

Customer Hours	SAIDI	CAIDI	SAIFI	ASAI
117,274.94	59.948	114.754	0.522	98.62%

KPIs Central

Customer Hours	SAIDI	CAIDI	SAIFI	ASAI
43,945.53	22.464	113.227	0.198	99.48%

KPIs NE

Customer Hours	SAIDI	CAIDI	SAIFI	ASAI
33,966.79	17.363	76.363	0.227	99.60%

KPIs SW

Customer Hours	SAIDI	CAIDI	SAIFI	ASAI
30,617.83	15.651	186.906	0.084	99.64%

KPIs BK

Customer Hours	SAIDI	CAIDI	SAIFI	ASAI
8,744.80	4.470	346.557	0.013	99.90%



Outage Statistics

View Start Date

1/1/2020 12:00:00 AM

View End Date

12/31/2020 2:00:00 AM

First Six Months of 2020

After Transmission Changes to TCEC

KPIs All

Customer Hours	SAIDI	CAIDI	SAIFI	ASAI
214,475.90	109.634	128.393	0.854	98.75%

KPIs Central

Customer Hours	SAIDI	CAIDI	SAIFI	ASAI
53,312.71	27.252	114.279	0.238	99.69%

KPIs NE

Customer Hours	SAIDI	CAIDI	SAIFI	ASAI
110,164.88	56.313	113.479	0.496	99.36%

KPIs SW

Customer Hours	SAIDI	CAIDI	SAIFI	ASAI
33,478.11	17.113	179.398	0.095	99.80%

KPIs BK

Customer Hours	SAIDI	CAIDI	SAIFI	ASAI
17,520.20	8.956	376.509	0.024	99.90%

TCEC Response to All Outages

- **TCEC use of workforce, contractors and suppliers to assist**
 - **Challenges:**
 - Keep the power restored while system failures were occurring while building the emergency plan
 - Safety for linemen, Struggles with Heat and heat exhaustion, long extra hours
 - Keep the spirits of the workforce high with so much negativity going on with social media
 - Linemen know what is said on social media – these are families who dedicate their lives to this work!
 - Supply chain deliveries expedited
 - **What were your delays if any with restoration**
 - The unplanned outages taking workforce hours to restore power
- **Operations plans to keep the cooperative ahead of the curve**
 - Continue to maintain a steady, aggressive construction plan for our system work plans
- Reliability due to Linemen response and knowledge of the system

ReCap

Operations Top Priorities:

Keep the Lights On

“If the Lights don’t stay-the Lineman is Away!”

Grow our workforce/Keep them Trained

Proper Safety: Top Tier PPE and Equipment

Keep the Linemen Safe and Working Safe To Go Home

Take Care of our Members



Update/Briefing –Agenda

Tri-County Electric Cooperative

Darryl W. Schriver

Chief Executive Officer

General Manager

- Keller outages in July and August 2020
- The Electric Cooperative Model
- How Electric Cooperatives operate in Texas/U.S.
 - Deregulation/Re-regulation-Customer Choice-Consumer driven model of ownership
 - Purpose of Electric Cooperatives
- Tri-County Electric Cooperative
 - Cooperative Operations
 - Governance/Oversight
 - Board of Directors / Public Utility Commission / TRE / NERC /FERC
 - Wrap – Up

The Electric Cooperative Network



National Cooperative Branding/Marketing



Touchstone Energy
Cooperatives

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3 Models for Electricity: Texas

City/Municipal Electric



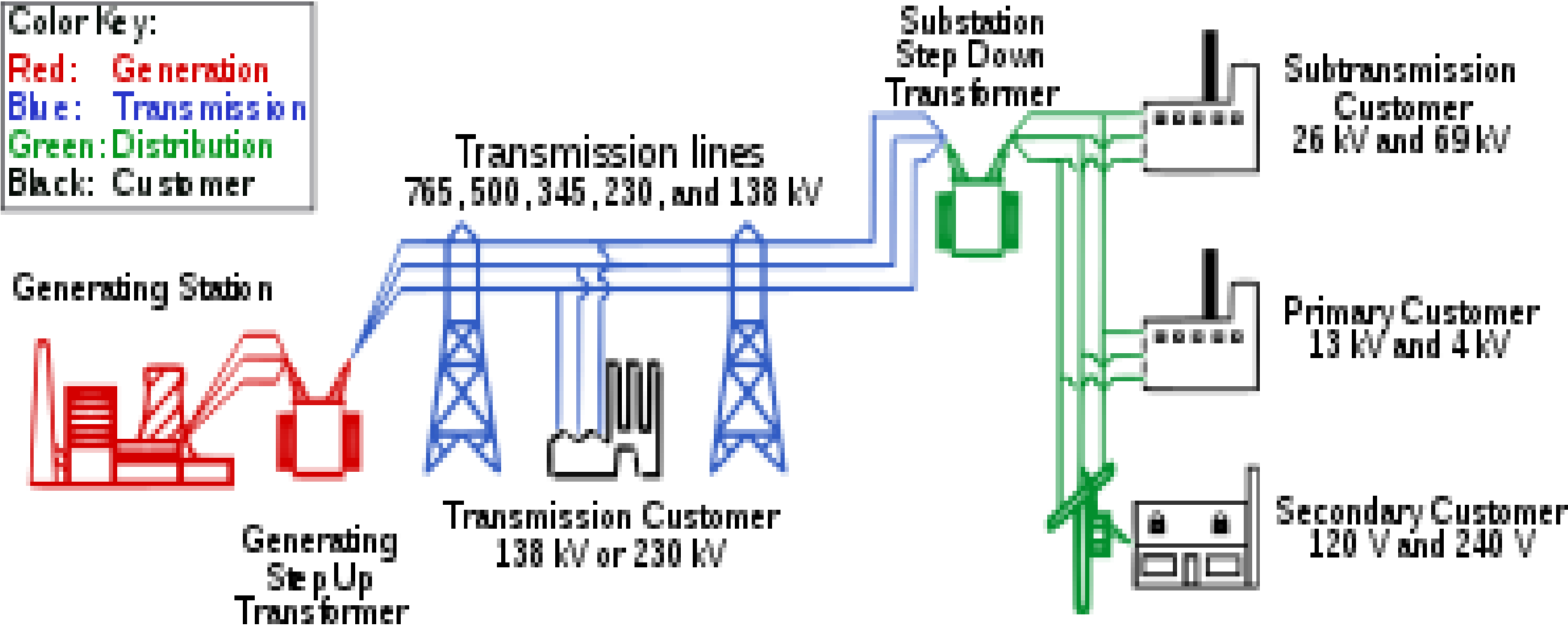
Electric Cooperative



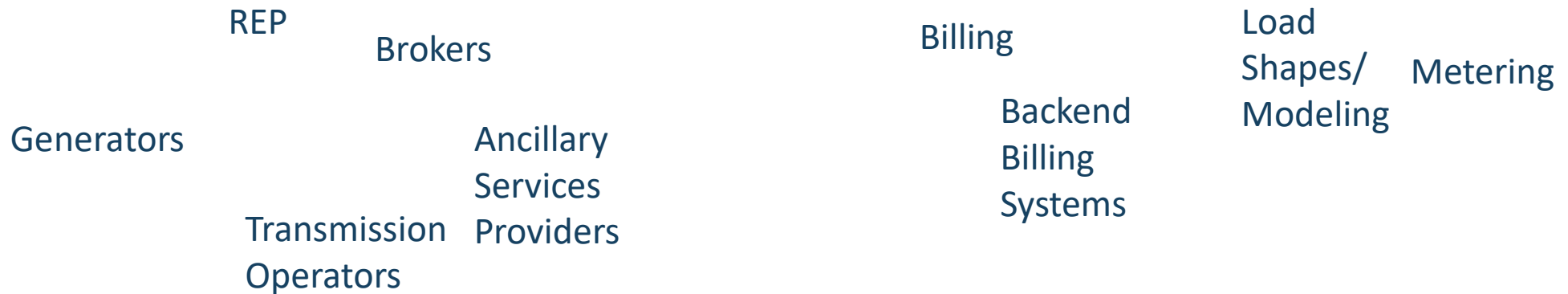
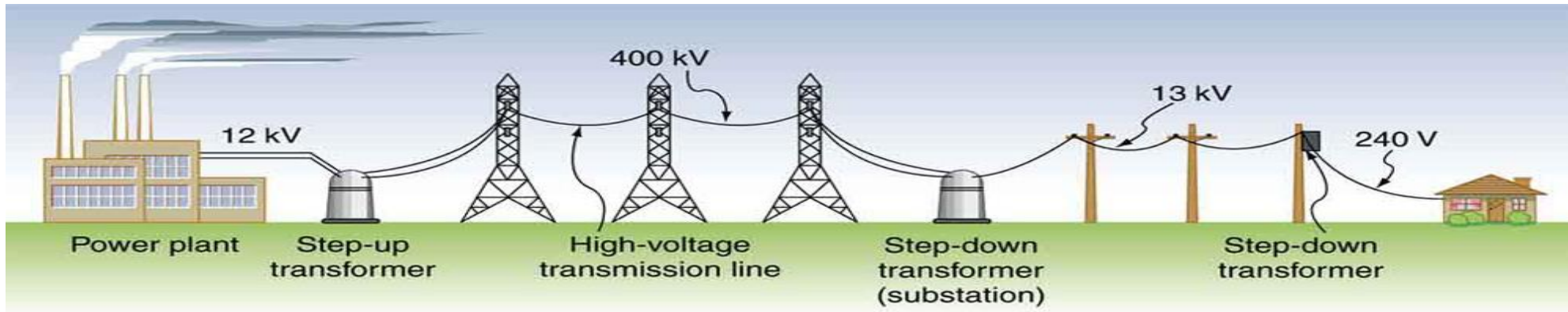
Investor-Owned Utility



Vertically Integrated Model: Pre-1999

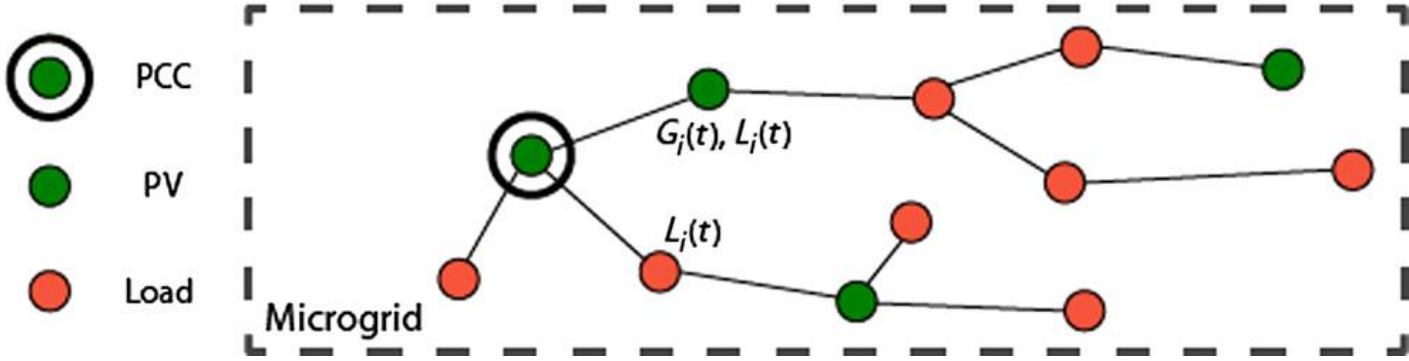
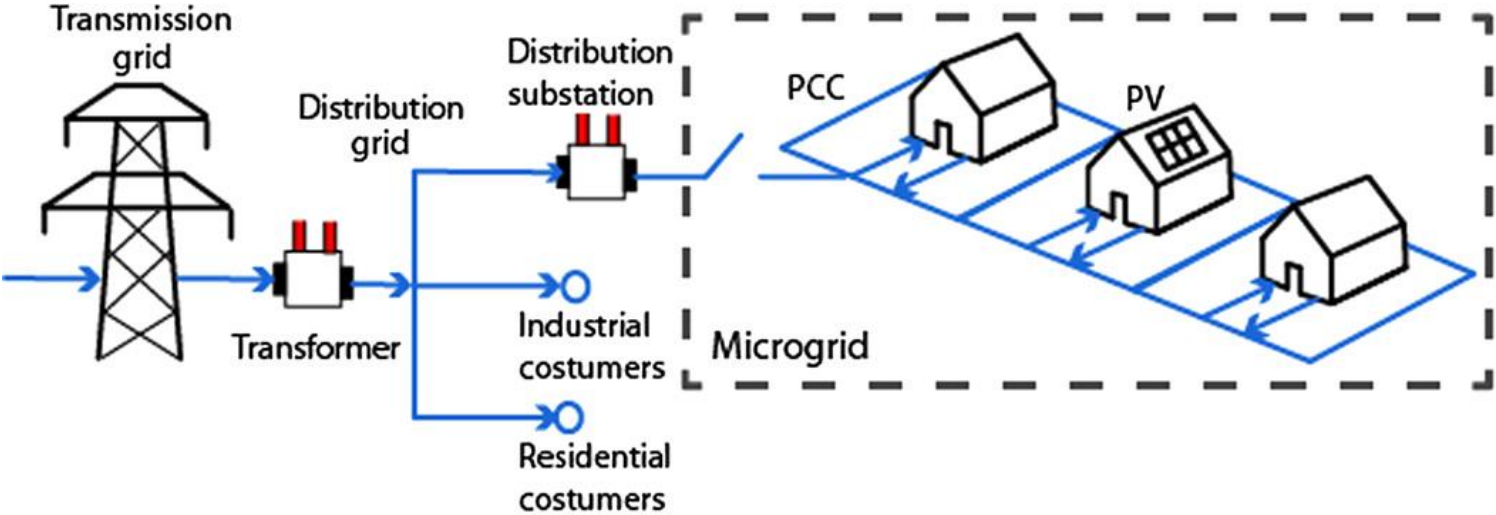


Electric Re-Structuring: Competition



Electrically- The Grid and how power is delivered has not changed

Changes to the Grid: Consumer Driven



Renewables

Beat the Peak

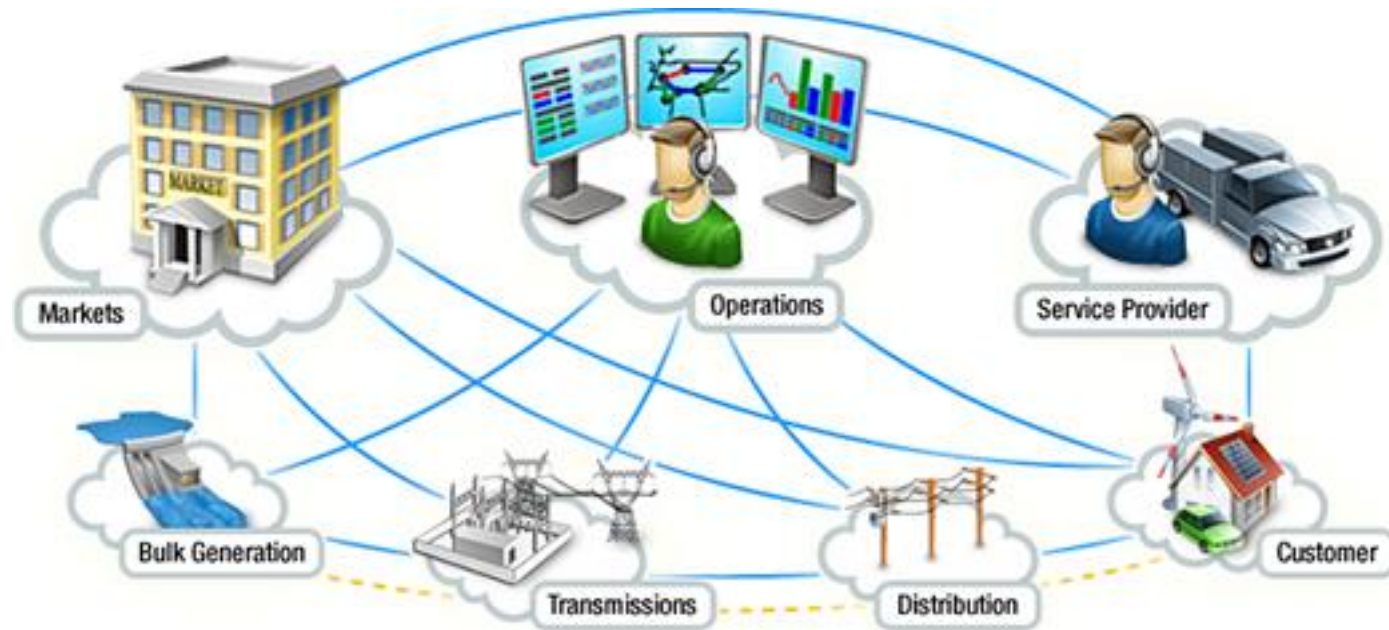
Smart Devices

Battery Storage

Electric Vehicles

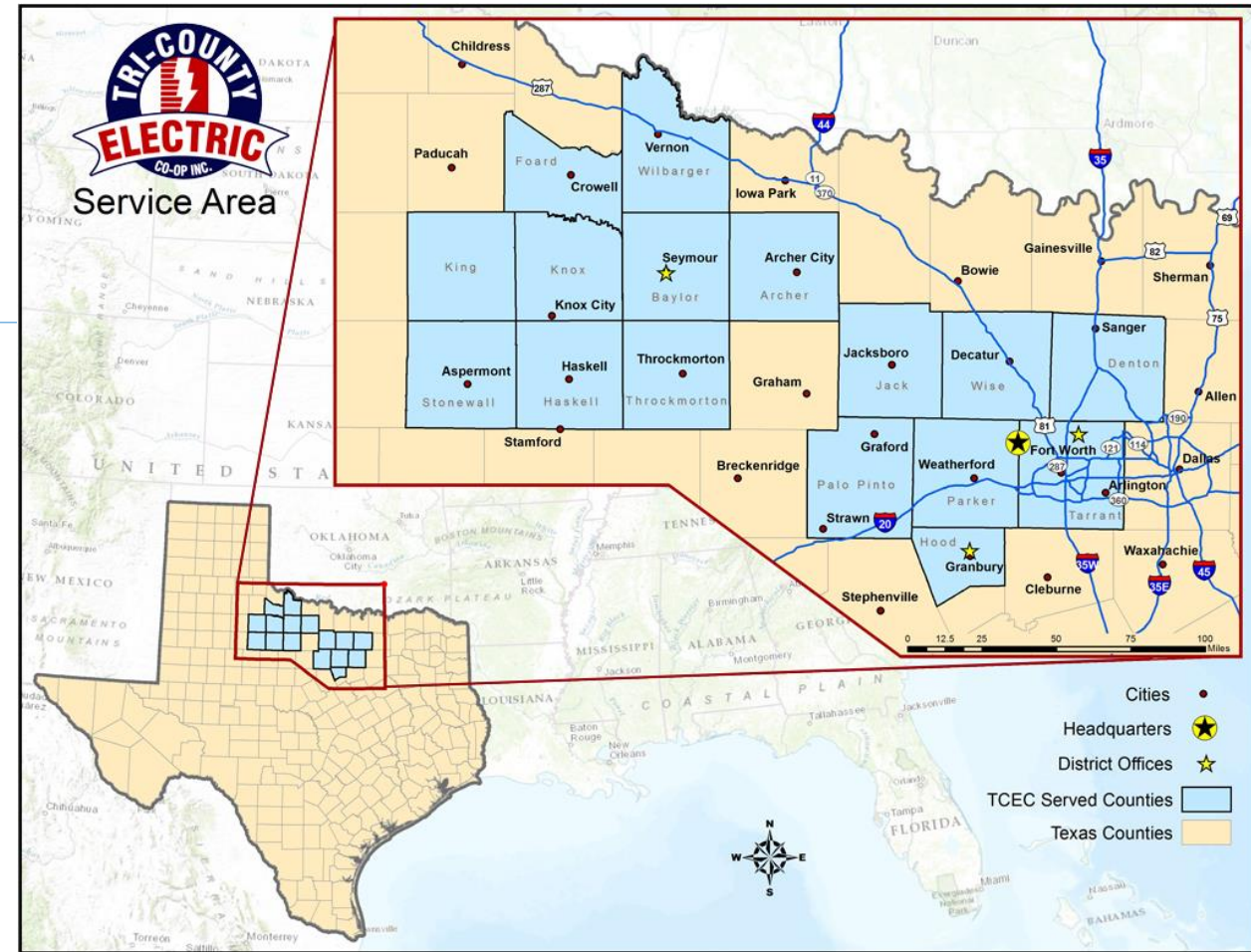
Others

Today's Cooperative: The Total Package



Tri-County Electric Cooperative

- 90,500 member-owners
- 114,300 meters
- 9,100 miles of line
- 16 counties
- 208 employees
 - 7 Contractor companies
 - 8 Cooperative Partnerships
- Growth Average: 2-3% yearly
- Governed by Member Elected Board of Directors



Taking Care of our Member-Owners!

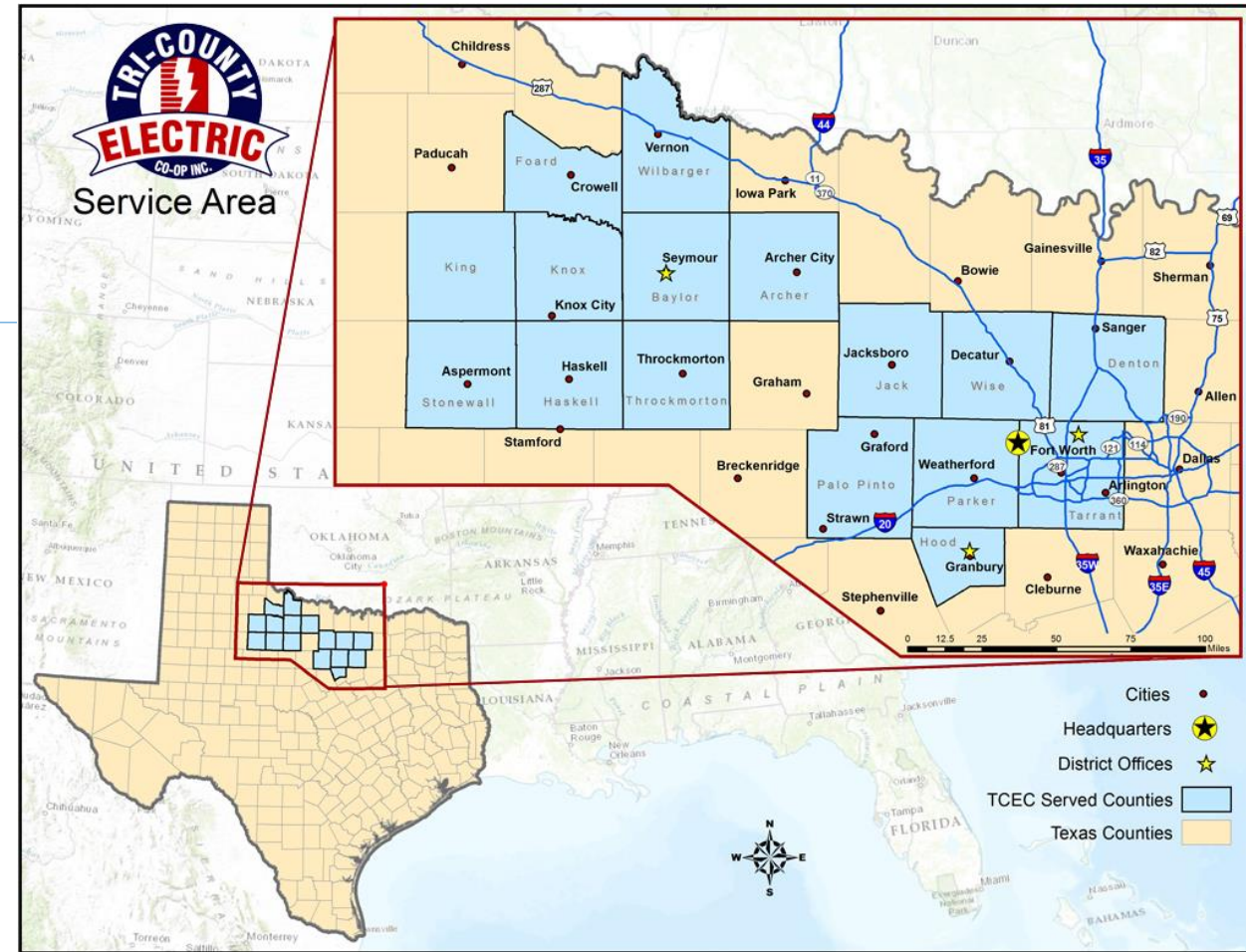
- Reliable
- Responsible
- Integrity
- Accountability
- Respectful
- Committed

The mission of our cooperative family is to enhance the quality of life in our diverse communities by providing safe, reliable, and competitive electric and customer service to our member-owners as good stewards of the environment.



Tri-County Electric Cooperative

- 90,500 member-owners
- One Member-One Vote
- 8 Member Board of Directors
 - Dr. Jarrett Armstrong
 - Dr. Max Waddell
- Member Elected Board/3 year terms
- District Meetings
- Annual Membership Meeting-October
- PUC Oversight: Health, Safety, Reliability, Transmission



Member Benefits

- Consumers are Members and Owners
- Board Governed
- Local Offices & Local Service
- Reliable Service & Fast Restoration
- Capital Credits
- Stable Rates
- Dedicated Employees
- Annual Meeting and District Meetings
 - Updates on the cooperative



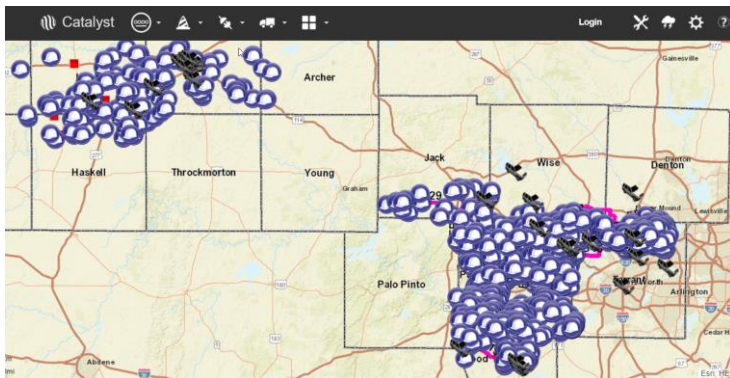
Technology

- Advanced Member Power
 - New AMI system
- Enterprise System
 - Staking, work orders, mapping, outage management
- TCEC Connect
 - Mobile Member App



Search

“TCEC Connect”



Safety Strong

- Very dangerous profession
- Goals:
 - Make sure each employee makes it home
 - Establish a safety culture



TRI-COUNTY EC SAFETY STRONG

Three Rules to *Live* by

RULE 1

I am **RESPONSIBLE** for
safety education

RULE 2

I am **ACCOUNTABLE** for my safety
and the safety of those around me,
including the community

RULE 3

I am **COMMITTED** to safety 24/7...
walk it, talk it, live it!

Own it!



Communication & Community

- Member Communications
 - Facebook
 - *Texas Co-op Power Magazine*
 - Member Bulletin
 - Social Media
 - TCEC APP-Apple or Android
 - Member notification texts
- Internal Communications
 - Keeping our Employees Informed
- Community
 - Scholarships for Seniors
 - Youth Tour for Sophomores and Juniors
 - Career Days and Safety Presentations



Challenges

- Similar to any Business in the area
- COVID-19 setbacks and challenges
- Workforce: Different generations with different needs
- Cost of doing Business
- Rising Property Taxes
- Vendor cost Increases
- Rate Increases
- Keeping Members from many generations informed





A Touchstone Energy® Cooperative 

Questions?

Thank you!