

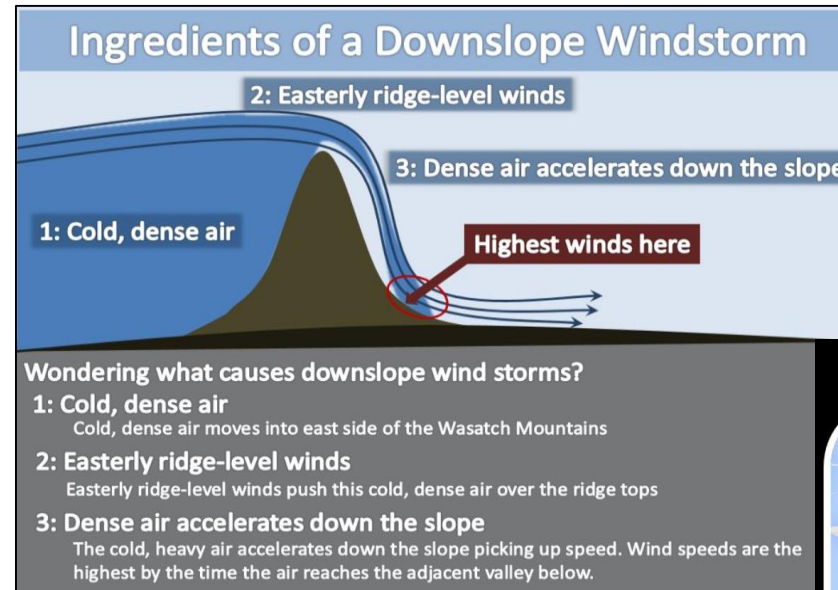
Utah Public Utilities, Energy and Technology Interim Committee

October 20, 2020



Storm Information

- On September 7, 2020, the National Weather Service forecasted a dry cold front would cross northern Utah with northwest wind gusts of 45 mph
- At 11:52 p.m. September 7, 2020, the National Weather Service updated their forecast with strong downslope winds from the east that would impact the Wasatch Front around 3:00 a.m.
- The University of Utah confirmed 112 mph wind gusts
- East downslope winds of 60 to 90 mph continued throughout the day September 8, 2020
- Wind gusts hampered aerial restoration efforts September 8, 2020
- Snow in the higher elevations closed I-80 limiting the ability to move resources from the east for mutual assistance across Wyoming



Strong Winds: Wasatch Front

Legend:

- Yellow: Gusts 30-60 mph
- Red: Gusts 60-85+ mph

Timing:
The strongest winds will occur tonight into Tuesday morning. There will be a lull Tuesday afternoon before winds pick up again Tuesday night into Wednesday morning.

Impacts:

- Strong crosswinds along I-15 in Davis, Weber, and northern Salt Lake counties as well as U.S. Highway 89 and Legacy Parkway
- Possible power outages and property damage – with decorations, trampolines, and other outdoor objects most vulnerable.
Take action to secure loose objects!

Weather Forecast Office
Salt Lake City, UT
9/7/2020 4:15 pm MDT

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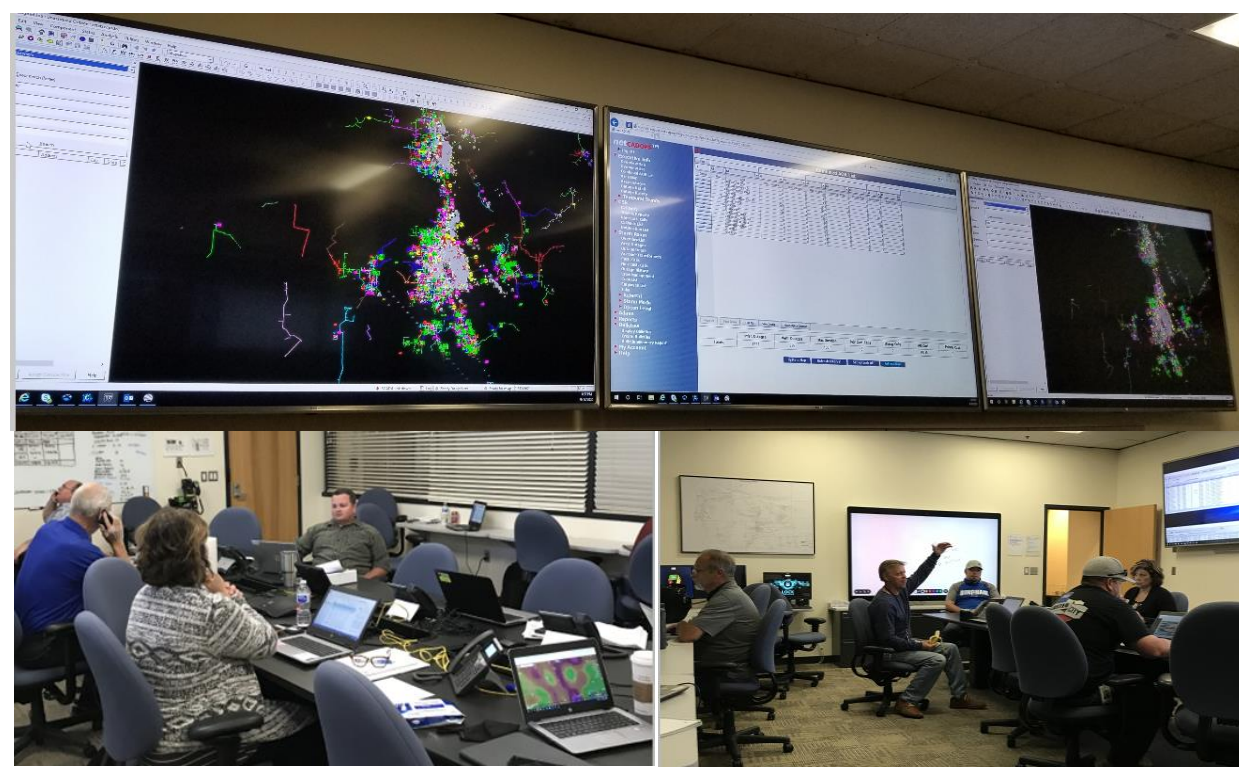
Electrical Service Impact

Emergency Operations Center:

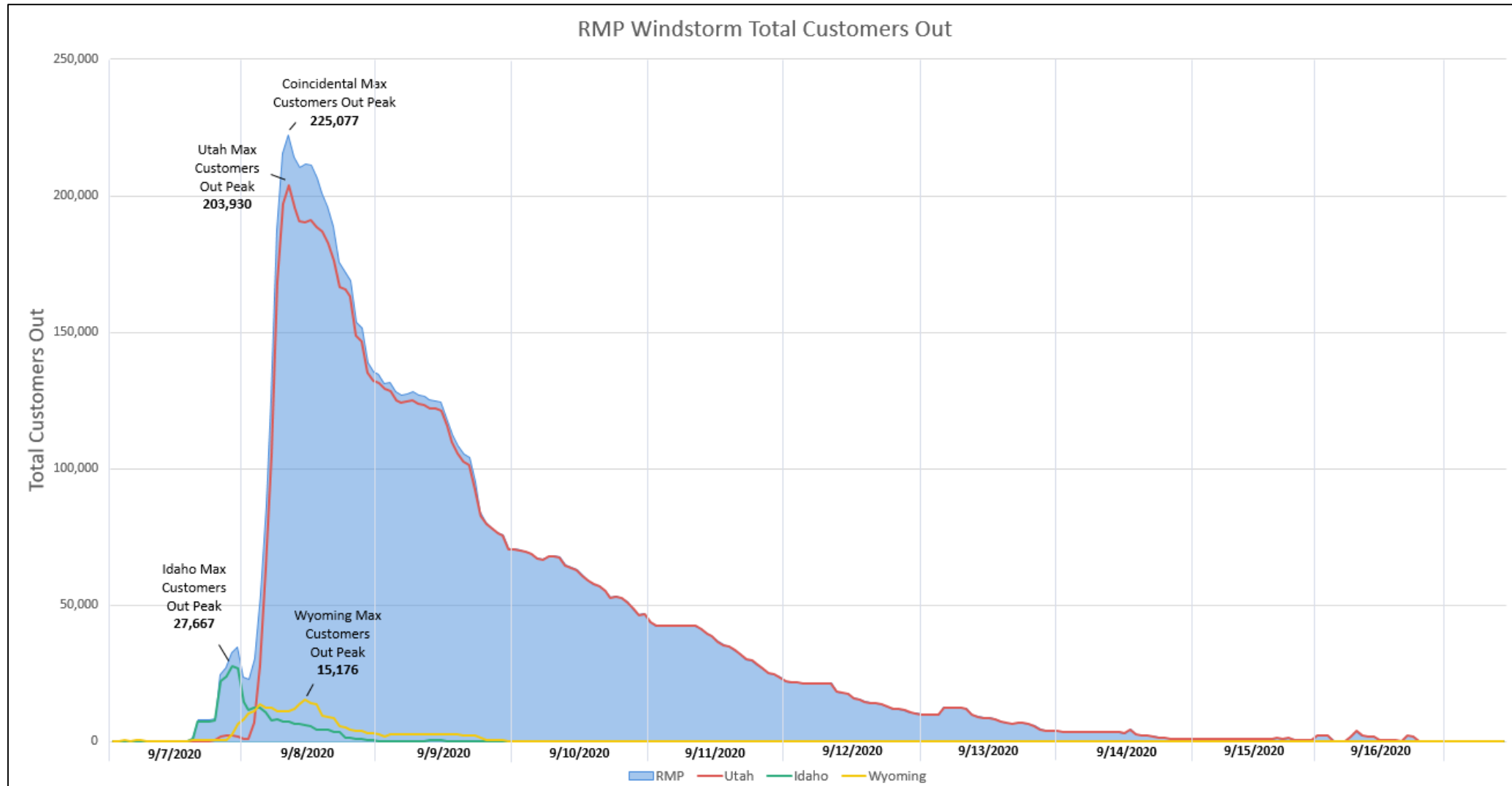
- Placed on alert 12:00 a.m. MDT September 8, 2020
- Activated 4:30 a.m. MDT September 8, 2020
- Suspended 5:17 p.m. MDT September 15, 2020

Customer Impact:

- 104,000 – Customer outages at start of event
- 225,077 – Total customer outages at peak

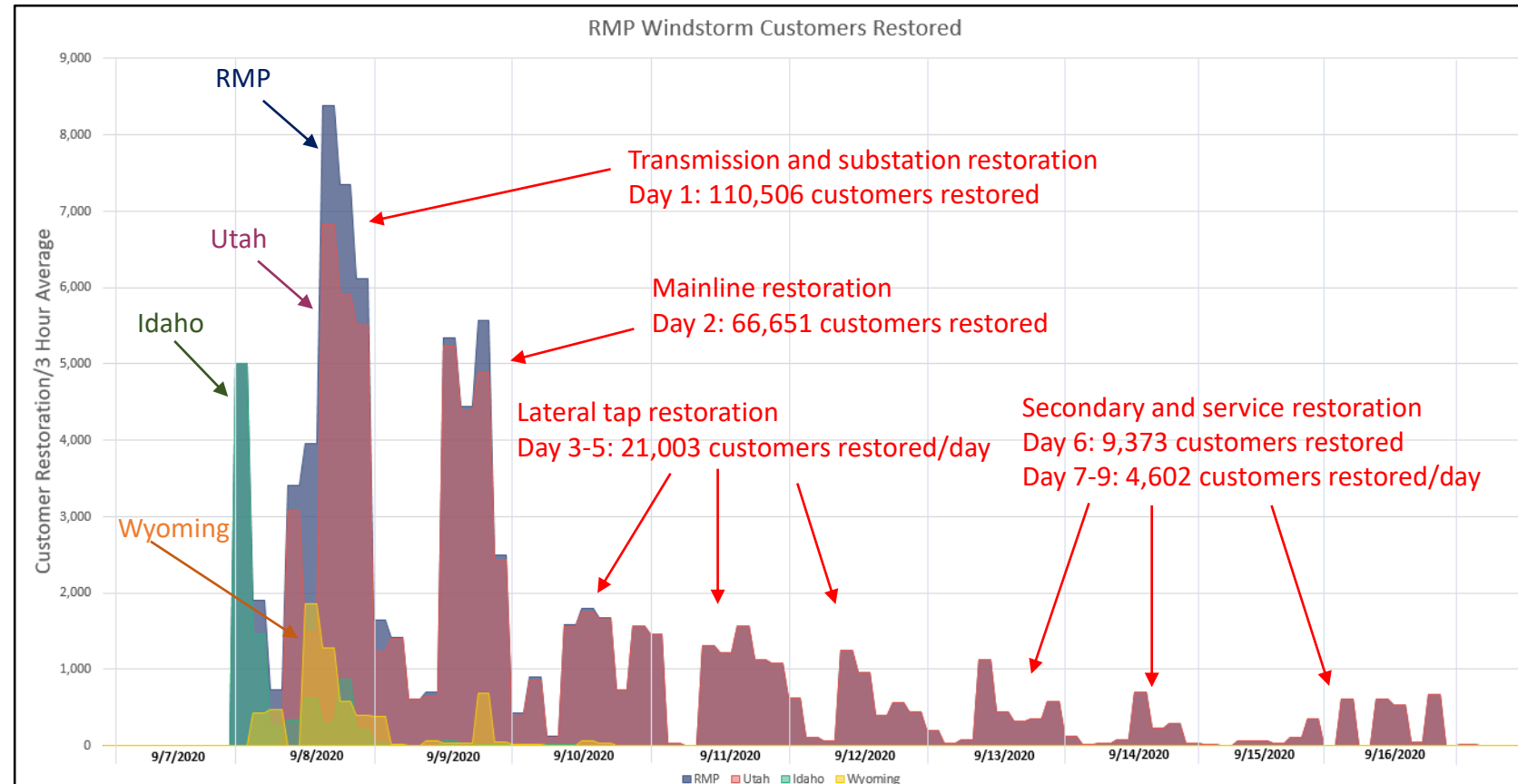


Total Customers Out



Outage Restoration Stages

- A large uprooted tree tore down the fiber communication ring on the east bench, resulting in a loss of communication to multiple substations; resources were sent out to record and update dispatch with the status of the system
- Resources from southern Utah, Idaho and Wyoming were brought in on day one to assist with the restoration efforts
- Mutual aid resources arrived on day three
- Mutual aid resources were released on day seven



Electric System Impact

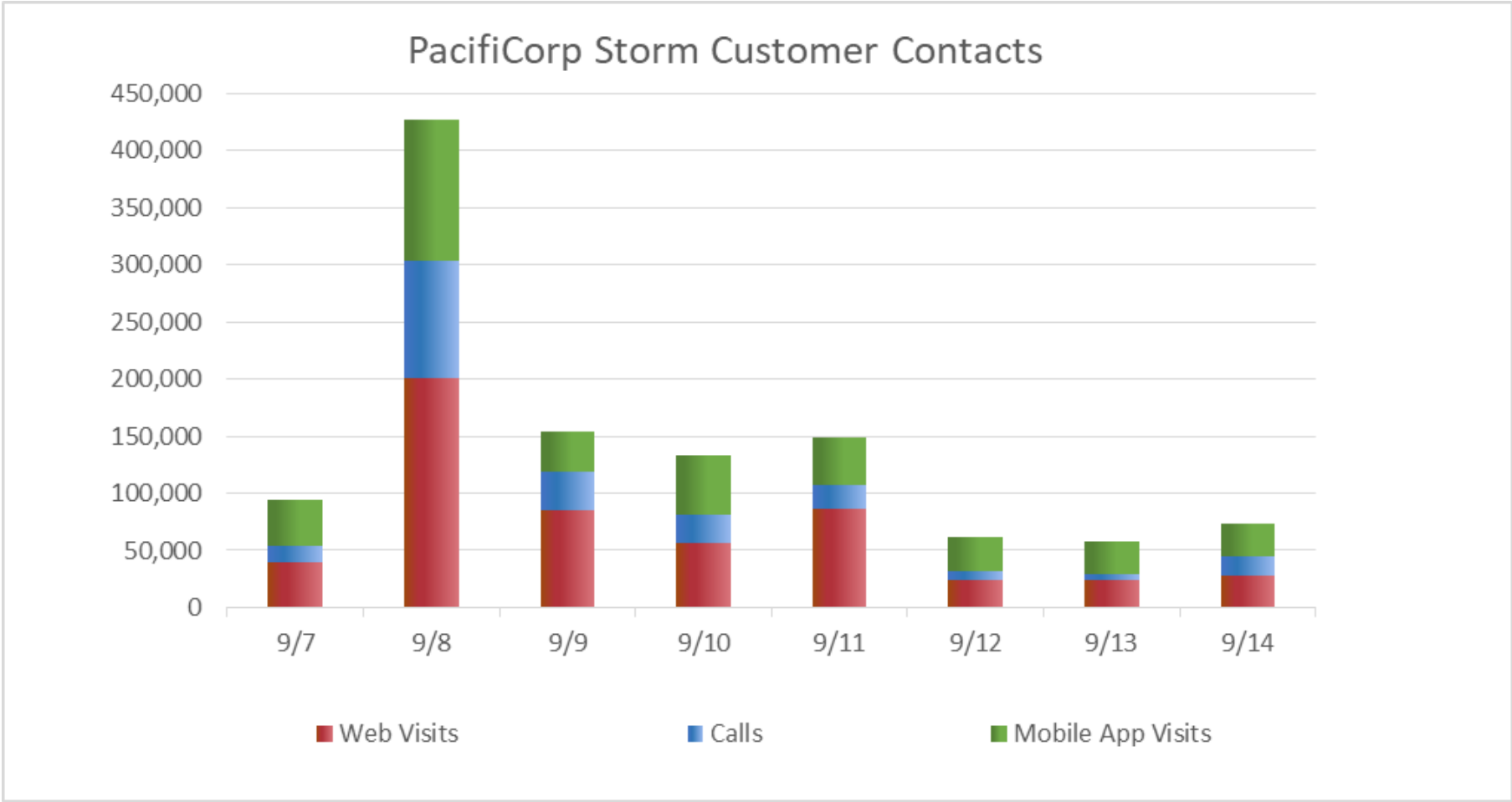
- The September 7, 2020, windstorm was the most significant storm in terms of customer outages in recent history and affected 32% of the total customer base
- Total customer outage minutes were 525,809,788 which equates to approximately 3.7 years' worth of average outage minutes

	December 25-31, 2003	November 20-22, 2010	December 1-3, 2011	April 14-16, 2015	May 19-21, 2016	September 22-24, 2016	September 7-17, 2020
	Windstorm	Snowstorm	Windstorm	Snowstorm	Lightning Storm	Thunderstorm	Windstorm
Peak Customers Out	80k	21k	69k	35k	95k	44k	225k
Total Customer Interruptions	190k	87k	84k	86k	101k	77k	382k

Material Impact

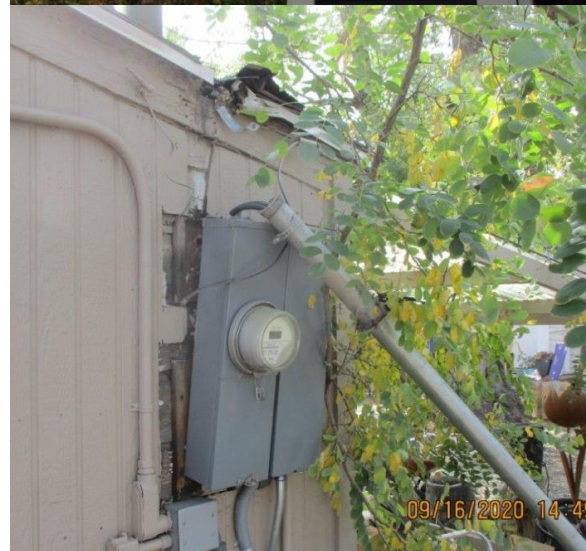
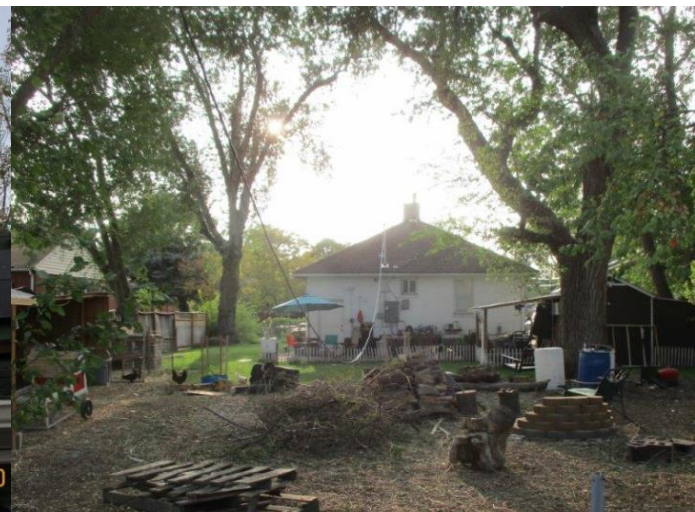
- 193 poles
- 15,768 splices
- 289,478 feet of overhead conductor
- 1,866 fuses
- 2,620 insulators
- 776 crossarms
- 187 transformers

Customer Service Contacts



Post-Restoration Inspection

- Post-restoration circuit inspections were conducted to inspect for hazards, including areas that sustained damage but remained in-service with a targeted review of:
 - Damaged meter bases
 - Low service wires
 - Broken service masts
 - Damaged crossarms
 - Damaged primary wire
 - Trees on line



Backlot Damage

- Most of the damage was a result of tree damage to backlot construction, which required a staged restoration process
 - Field assessment of damage was conducted by a circuit captain, engineer and estimator
 - Tree hazard assessment was conducted and removal activity often required crews to bring in cranes
 - Primary system rebuild required cranes and/or hand carrying poles into backyards
 - Secondary and service rebuild
- The Utah National Guard was deployed to assist in tree cleanup and disposal



Mutual Aid Agreements

Mutual aid is an agreement through which other utilities offer their restoration services after natural disasters strike. Factors considered in determining the extent of mutual assistance use:

- Number of trouble locations (actual or forecasted)
 - By type of damage
 - Damage location and type of terrain
 - Wires down
- Total customers out and customers restored
- Weather forecast (potential vs. actual outages, timing of the impact, potential secondary events, etc.)
- Forecasted restoration time
- Travel time
- Geographic proximity
- Pre-existing relationships with contractors
- Skills of the resources required for restoration



Mutual Aid Agreements

Rocky Mountain Power mutual aid prioritization:

- Internal Allocation
- Contractors
- Berkshire Hathaway Energy (Sister Utilities)
- National Associations
- Regional Associations
- Local Agreements

