

REU Survives Fire & Ice

Mutual Aid is Key

www.reupower.com

Presentation to CUEA

June 13, 2019

Carr Fire - July 2018



"In 2018, more than 1,846,000 acres burned, over 22,000 structures were destroyed and sadly, 100 lives were lost," Gov. Gavin Newsom With REU service territory 265 residences were either destroyed or deemed uninhabitable 8th most destructive fire in the state's history

Lessons Learned



We found that most Practice Drills were set up to prepare for City Emergency response. We were not prepared to handle the coordination and disruption of an extended recovery without the City EOC. REU is creating their own EOC for emergency events not relying on City to lead. After the initial shock has past,

Winter Storm Nadia - Feb 2019

Circling Outage Peak Occurred at 0417 on 2/13/2019. Total Customers out - 31,554. Customers out at 0417 on 2/14 - 7,942 (24hrs later). Customers out at 0417 on 2/15 - 5,344 (48 hrs later).

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Carr Fire Statistics

- Began July 23, Fire hit Redding July 26
- 359 Square miles burned in total
- 1079 Homes Lost - County
- 265 Homes Lost - Redding
- 8th most destructive in Cal history
- Evacuation of City West side, gridlock
- City load maintained by Generation
- Shasta Lake City, black-out



*Damage
Photos*

*Mutual
Aid*

*Mutual Aid
Statistics*

*Recovery
Photos*

*Recovery
Stats*

Video courtesy: Cal Fire



Video courtesy: Cal Fire







Day After Assessment



WAPA Interconnect



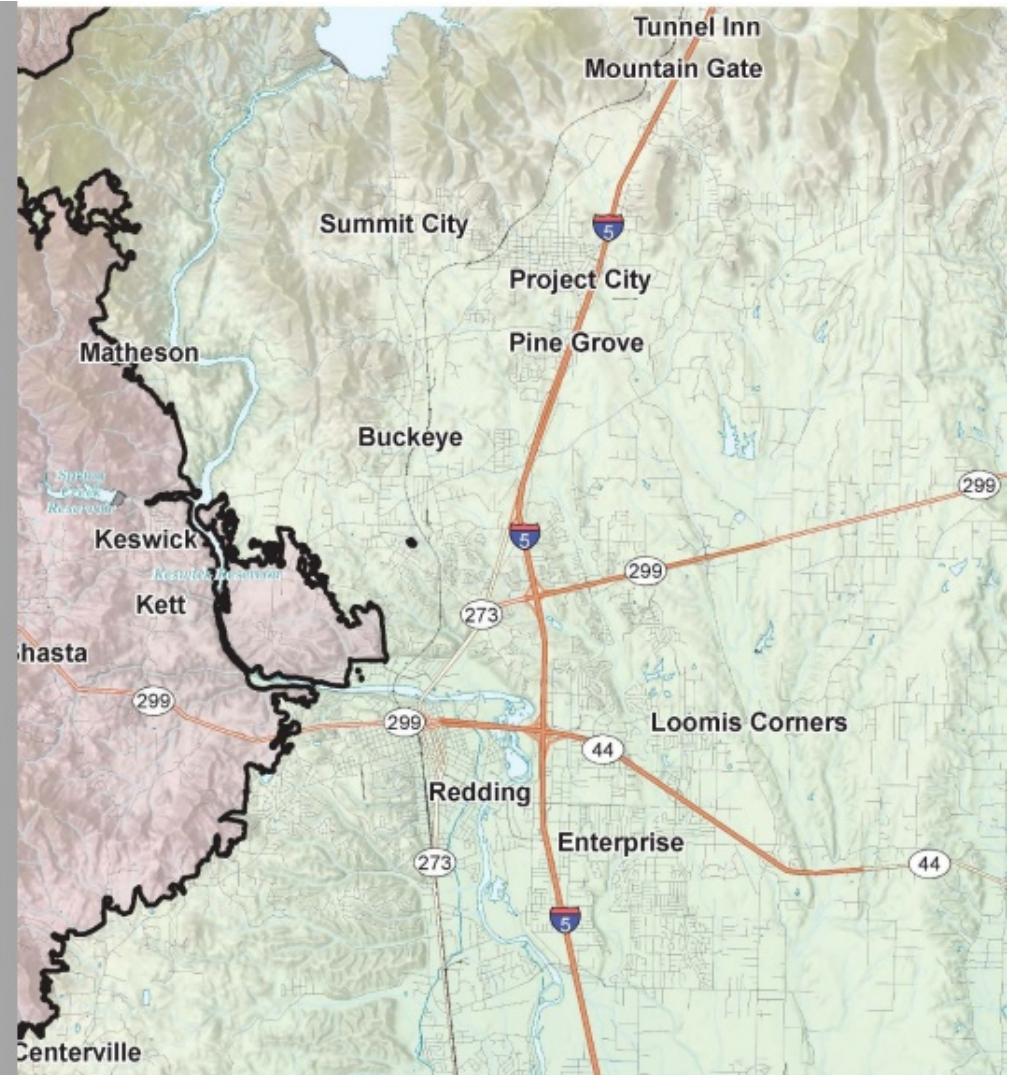
View from Weaverville, Trinity Co.



Carr Fire Map



Redding Damage Map







Mutual Aid Response

- 12 Mutual Aid crews on site by day 3
- Bringing materials as well as Determination
- 16 hour days min, 23 days straight
- Each crew guided by REU Foreman

Necessary repair:

- Lost 12 Miles - 115 KV Line
- Lost 12 Mile -12 KV Line
- 270 Power Poles destroyed
- Lost River Crossing Structure at Keswick
- WAPA also Lost 4 transmission lines Keswick Area

Recovery





Rugged Country



Recovery TimeLine

- Day 1 & 2: Gain access and assess damage and priorities
- Day 3: WAPA established 2nd line, Ending Rolling Blackouts
- Week 1: 270 Damage isolate, Partial circuits re-energized
- Week 2: All remaining undamaged services energized
- Week 3: All but one, 115 KV Line fully restored.
- Week 5: System Full Redundancy restored
- Week 6: Whiskeytown Generation plant restored.

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Winter Storm 2019

Event Statistics

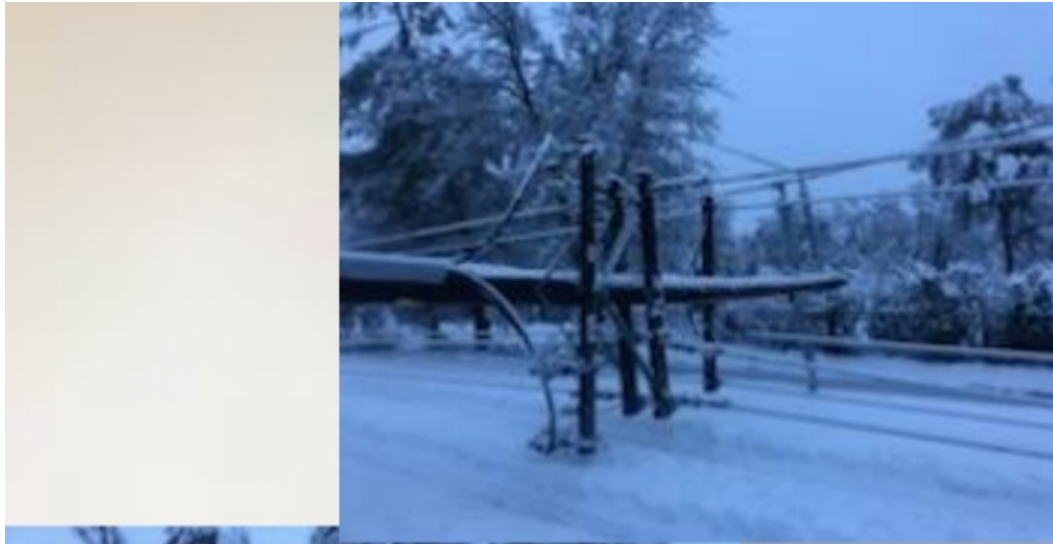
- Outage Peak Occurred at 4 AM on Wed, Feb 13
- 31, 554 Customer outage, Approximately 75%
 - Major business districts,
 - Hotels, Restaurants
 - Large Grocery Stores
 - Gas Stations
- Difficulty finding rooms for Mutual Aid Crews

*Damage
Photos*

*Mutual
Aid
Logos*

*Recovery
Photos*

*Recovery
Statistics*

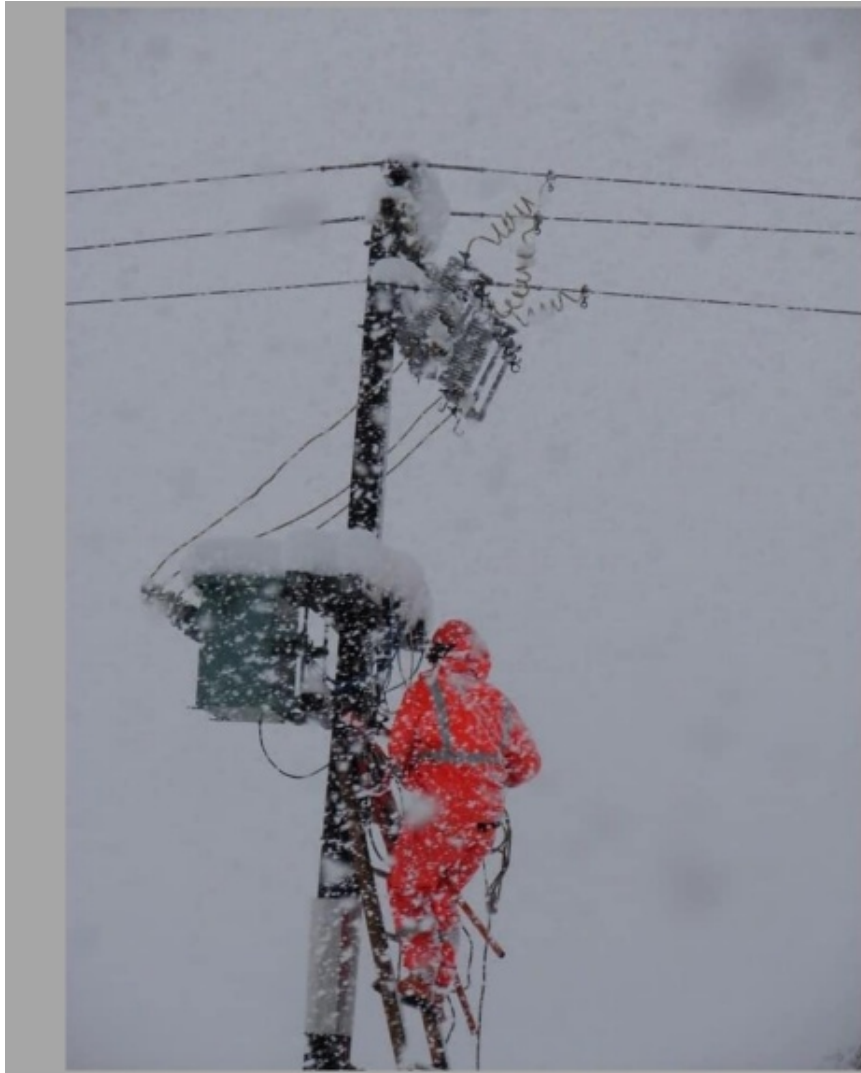














Recovery Statistics

- Outage Peak Occurred at 4 AM on Wed, Feb 13, 31, 554 Customer outage, 8 Substations Black
- After 1 day - 8000 Customers
- After 2 days - 5700 Customers,
- Mutual Aid crews begin arriving
- 3 days later - 550 Customers
- 5 days later - Less than 300 Customers
- 7 days later - Approx 200, with Damaged Services

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Lessons Learned

- Emergency Operations Center
- Emergency Drills vs Recovery
- Outage Management System
- Outsourced Customer Call Center - Nebraska
- Social Media Pro's & Con's



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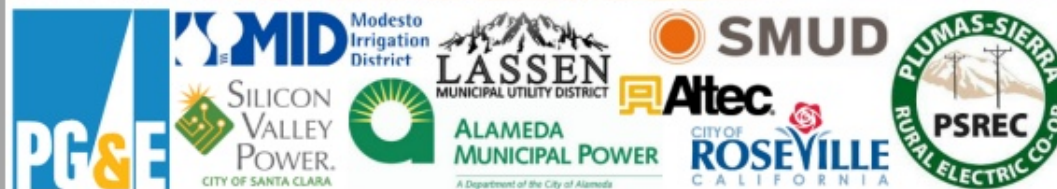


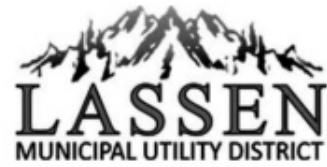
Mutual Aid Benefits

- Impressive Response Time, 1-2 Day
- Pre-arranged agreements cut through Red Tape and delays
- Impressive Work Ethic of crews
- Willing To Stay Until Complete
- Members are not Competitors, they are there to help
- REU Crews enjoy the Friendships made

***Carr Fire
2018***

***Winter
Storm
2019***





WATER | ENERGY | LIFE



PUBLIC UTILITIES



REU Redding Electric Utility Thanks You



Thank You CUEA & Members



From REU and the Citizens of Redding

Questions ??

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