



Report of Communication Carriers' Impact and Mitigations from October 2017 Fires



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Overview of Impacts

- Loss of Commercial Power to
 - Central Offices
 - Cell Sites
- Fire Damage to Facilities
 - Last mile drops to homes and businesses
 - High capacity circuits feeding central offices and cell sites (backhaul)
 - Cell sites and associated support structures
 - Telephone poles

Preliminary Impact Assessments from Impacted Carriers





Carriers Reporting Fire Impact

- AT&T California
- Frontier Communications
- Comcast
- Level3
- Verizon Wireless
- AT&T Mobility
- Sprint
- T-Mobile
- US Cellular

*According to Major Service Interruption rules of
General Order 133D*





Overview of Reported Impact at Peak Outage

- About 160,000 wireline customers from October 9
 - Three central offices were isolated (no ability to dial out of the CO area, but dialing within area works)
 - Many remote terminals damaged
 - Many blocked calls due to loss of transport and power, and capacity overload
- About 85,000 wireless customers
 - Many blocked calls due to capacity overload
- About 57 DS3s high capacity circuits
 - Some of which impacted areas outside the fire area





911 Infrastructure and Impacts

- 11-15 Public Safety Answering Points (PSAPs)
 - Loss of number/location only
 - Impacting approx. 72,000 customers
 - Reroutes possible for most
- Much call blocking
 - Trunk congestion at PSAPs
 - Analysis underway at 911 office
- TSP Telecom Service Priority circuits
 - Hundreds were affected





Verizon Wireless

- Over Oct 9/10, lost over 100 cell sites at peak
 - 17 were back up Tuesday, 99% coverage back up by Sunday 15th
 - Deployed generators, extra microwave
 - Added capacity to sites in Lake, Mendocino, Napa, Solano, Sonoma counties
- Consumer Programs Oct 10-18
 - Prepaid customers: extra 3GB data
 - Postpaid customers: talk, text, data relief
- Agency Assistance
 - WIFI, charging stations, laptops to Red Cross Centers
 - Finley, Petaluma, Napa, Sonoma, Santa Rosa
 - \$500K donated to relief fund





Verizon Wireless Temp Facilities

- COWs (Cell on Wheels)
 - Sonoma County Fairgrounds in Santa Rosa
 - Additional COWs deployed to replace coverage lost by impacted cell sites
- SPOT (Satellite Picocell On Trailer)
 - Elsie Allen High School in Santa Rosa
 - PG&E yard, Potter Valley
- RAT (Repeater Antenna Trailer)
 - Kaiser Permanente in Petaluma and Rohnert Park
- eFemto (wireless base station)
 - 22 units provided to support the following first responders and local officials and evacuation centers:
 - Kaiser hospital & clinics in the North Bay, Hopland Casino, Sonoma County Fairgrounds, Sonoma County sheriff's office, Napa County sheriff's office, Cal Fire base camp / Napa Fairgrounds, City of Santa Rosa EOC, Santa Rosa Police Department
- GOATs (Generator on a Trailer)
 - Santa Rosa Police Department





Sprint Wireless

- Oct 9/10/11, lost 55 cell sites in 46 zip codes
 - Most back up by 10/11/12
 - Deployed generators, temporary microwave
 - One site completely burned and has cell on wheels
- Consumer Programs Oct 10-12
 - Waived text call and data overage fees for Sprint, Boost Mobile, Virgin Mobile in affected areas
 - Reactive crediting for prepaid customers for the month
- Agency Assistance
 - Assistance to health care agency with internet and phone bank for patients with satellite cell on light truck
 - Handsets and free service to Go Kits for state and local government





T-Mobile

- Lost 99 cell sites at peak
 - Butte, Placer, Nevada and Yuba facilities were restored within 3 days of impact
 - Deployed generators, extra microwave
 - 2 sites are without restoral estimates due to either telco, power and/or burned area
- Consumer Programs
 - Waived service restoration fees, bill credits for lack of service
 - 10-day collection hold for time to pay before suspension
- Agency Assistance
 - 2 mobile retail trucks deployed to 9 evacuation centers to give 800 phones, 1000 chargers, 400 battery packs, masks and pet food.





AT&T Mobility

- Oct 9/10/11, Lost 86 cell sites
 - Oct 12, 99% normal service restored
 - As of Oct 30, all are restored with three still on generator power
- Temporary Facilities Deployed
 - Cell on Wheels (COW) in Santa Rosa until site rebuilt
 - Satellite Cell on Light Truck (COLT) in Santa Rosa for boosted signal until repairs complete
 - Approximately 200 generators and 10 fuel trucks were deployed
- Agency Assistance
 - WIFI, charging, telephone use, live news, account support, snacks at 5 largest shelters
 - \$300K donated to local charities and relief





AT&T Landline

- 17 central offices in wildfire areas are operational
 - 3 Central offices were isolated (no calls out of CO) for ~ 3 days during the event
- Some have emergency communications equipment and generators
 - As of Nov 2, AT&T has replaced
 - 17,195' copper and 125,172' fiber
- Approx. 200 employees still working in the field





AT&T Consumer Programs

- Wireless
 - Postpaid: Text, talk and data overage charges waived in affected counties waived Oct 9-18
 - Suspension of collections postponed
 - Extended payment plans accepted by cust reps
 - Prepaid: Zero rated voice and text, extended payment date in affected counties
- Wireline
 - Through Nov 11, waived install, jack, and activation fees, monthly rate for supplemental services waived
 - Suspension of collections postponed
 - Extended payment plans accepted by cust reps
 - Special promotions for activation of wireless service





Frontier Communications

- Napa County
 - Kenwood Central office lost power
 - Generator took over, but 6 days later the generator clogged with ash (power back up Oct 17)
 - 2 hours downtime for about 54 customers
 - 50 homes destroyed in Frontier service area
 - Approx. 11,000 ft of cable and 60 poles
- Northern California Impact
 - Fiber outage in Santa Rosa from 3rd party impacted Frontier North Coast customers with long distance and internet from Oct 9-11
- Santa Cruz: Bear Fire
 - Minor infrastructure damage





Comcast

- Oct 9 midday, 130,000 customers had lost service
 - Mostly due to power outages
 - Power restored to 90,000 by that evening
 - By Oct 26, most of the remaining 40,000 were brought into service
- Lost outside plant facilities
 - Miles of coax last mile, fiber feeder/ nodes, power supplies, amplifiers
 - Some number of total structures destroyed had Comcast service





Comcast Consumer, Agency Assistance

- Consumer Programs
 - Full refunds for time w/o service, waiving trouble call charges, temporary suspension of service with access to Xfinity using mobile apps for \$10/mo, waiving overage data charges, no charge for burned equipment, waiving transfer fees, waiving early termination fees, suspended late payment fees
- Agency Assistance
 - Free hotspot (78,500) usage in No Cal region for subscribers and non-subscribers
 - TV, WIFI, telephone at some evacuation centers
 - 1,000 relief kits to Marin fairgrounds evacuees
 - \$500,000 donation to North Bay Fire Relief Fund, \$100,000 to Band Together concert and \$1M in kind donations





Emergency Alerting to People

- Emergency Alerting System (EAS)
 - FCC system nationwide, 47 CFR 11
 - Disasters with national scope, activated by US Pres. (delegated to FEMA); can be used for local disasters
 - All broadcaster carriers with voice, President can address the nation
- Wireless Emergency Alerts (WEA), most common use for Amber Alerts
 - FCC system with nationwide (FEMA) and local inputs, 47 CFR 10
 - Cellular carriers with text message only
 - Messages sent to an aggregator, which then pushes alerts to cellular
- Emergency Telephone Notification System (ETNS)
 - Local only jurisdiction and implementation, optional
 - Usually with Public Safety Answering Point (PSAP)
- Public sirens, optional voice speaker systems
- Social media, including all kinds of apps and notifiers
- Enterprise communication systems for offices, hotels, etc.

