



November 18, 2019

Marybel Batjer, President
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Re: Cox's Response to November 13, 2019 Letter to Cox Communications et al.

Dear President Batjer,

Cox Communications ("Cox") writes in response to your November 13, 2019 letter to our President, Pat Esser, regarding the recent public safety power shut-off ("PSPS") events and the upcoming prehearing conference in Rulemaking 18-03-011. Both Cox's California Vice President of Network Engineering and I, along with our Executive Director of State Regulatory Affairs, will be present at the November 20 prehearing conference. Additionally, we have provided responses to your various questions in Confidential Attachment 1. Because some of the information is highly sensitive or deemed confidential by the Federal Communications Commission ("FCC"), we also include in Attachment 3 a request for confidential treatment and accompanying declaration pursuant to General Order 66-D. As an initial matter, however, it is important that I share some information about our company, our commitment to safety and to sustaining a resilient network, and of the PSPS impact on Cox's network and on our customers.

Company Background

As you have recently joined the California Public Utilities Commission ("Commission") and might not have information about Cox, I'd like to share with you some relevant background on our company. Cox is a privately-held, family-owned company, with a fourth-generation family member overseeing the Cox family of companies. Cox has been operating in California since 1962. We began offering phone service in 1997 – in fact our company launched phone service nationwide from Orange County – and today we employ 1800 Californians. In addition to phone, we offer video, broadband, security and automation, and transport services to residential and commercial customers in portions of Santa Barbara, Palos Verdes, southern Orange, and San Diego counties. If you overlaid the Commission's Fire Threat District Map over Cox's footprint, 90% of our facilities are in Tier 1, which has the lowest risk of fire in the state.

Coordination with Electric Utilities

Our footprint falls within service areas of San Diego Gas & Electric ("SDG&E") and Southern California Edison ("SCE"), as well as a small part of Los Angeles Department of Water and Power. As you probably know, SDG&E has done a tremendous amount of work in hardening its network and implementing fire mitigation measures, including weather stations that better predict the need for, and microgrids that reduce the impact of, a PSPS event. We feel very fortunate that about 65% of our California network footprint is within SDG&E's service area. Not only do we benefit from the work SDG&E has done with regard to PSPS, we also have

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developed a strong collaborative working relationship with SDG&E. For instance, this year as part of our annual Business Continuity Plan (“BCP”) practice session, we hosted seven members from SDG&E and one member from the San Diego Office of Emergency Services for a simulated PSPS event. This simulation gave us the opportunity to identify some critical issues and considerations in coordination with two key stakeholders, so that we would be better prepared for the actual events.

We also find that SDG&E has been receptive to our requests for critical information related to PSPS events. The communications we receive from SDG&E before, during, and after a PSPS event are timely, accurate and helpful. At our request, SDG&E also agreed to provide Cox with GIS information so that we can overlay areas of our network that could be impacted by a PSPS event. This not only helped us quickly identify what network assets and customers could be impacted, it also enabled us to easily identify which of our employees would be available and allowed us to prepare employee assistance as needed. With this information, we were able to best identify the resources and employees needed ahead of power ever being shut off.

While we understand that SCE is only now beginning to do the work that SDG&E has pioneered, we hope that they can very quickly adopt the same precise communications on potential impacts, GIS map sharing (which we currently do not receive) and especially microgrid practices. We believe these three practices are a good start in helping communications providers plan their response to PSPS events. The need for precise, timely, and accurate notification along with GIS maps cannot be understated as both allow us to focus our resources exactly where they are needed and not have to do some guess work to identify impacted areas. And use of microgrids significantly reduce the number of customers who lose power thereby minimizing the impact of the PSPS on a community.

Limited Impact of Recent PSPS Events on Cox’s Network

Although your November 13, 2019 letter describes significant communications network failures, this was not Cox’s experience. Cox received notices for four PSPS events from SDG&E and SCE that started on October 7, October 18, October 24, and October 29. However, we experienced power loss during only the last two events. As soon as we received initial notices, we began monitoring weather conditions, and once we received notice that power would be shut off, we activated our full BCP team. The group monitored the changing situation, and we were in close communications with SDG&E but had less opportunity from SCE for coordination. During both the October 24 and October 29 PSPS events, less than 1% of Cox’s customers were without service each instance.

It was not until the day before the third PSPS event, on October 23, that Cox first received a request from the Governor’s Office of Emergency Services (“OES”) to provide outage reports. Specifically, OES requested that we inform them within 30 minutes of a Cox phone outage due to a PSPS event, and to provide standing reports to OES three times a day. As we had never previously been asked to provide such information, and as our resources were dedicated to monitoring the weather events and communications from SCE and SDG&E, as well as preparing for the upcoming outages including customer support, we were challenged to meet the request,

which required manual collection of data. We contacted OES, who was understanding, and accepted alternative information from Cox over the next several days as power was shut off. For the last PSPS event, beginning on October 29, OES had modified the information it was requesting, and Cox had arranged to provide the information to OES via the California Utilities Emergency Association (“CUEA”), of which Cox is a member. To the best of our knowledge, OES was satisfied with Cox’s response, and we did not receive a letter or other communication stating otherwise. To help ensure that OES receives information it needs for future events, Cox has requested that CUEA arrange an in-person meeting with OES and Cox to discuss OES’ reporting needs.

Backup Power

As mentioned above, Cox did not experience widespread outages of its services. In Attachment 1, we discuss essentially two groups of equipment on our network that are within our control—Core Network and Field Equipment. Both are designed to work from commercial power. Our network also includes redundant paths and a variety of backup power to provide resiliency. While portions of our network can last several days on backup power, a communications network cannot operate fully, over a widespread area or an extended period of time without commercial power. To do so, requires an extensive amount of large generators, fuel and, oversized batteries to be deployed deep in the neighborhoods we serve. Not only are there great complexities and logistics associated with all of this equipment, but they also create a lot of noise and take up tremendous space on sidewalks, public rights-of-ways and private property easements. More importantly, as discussed in Attachment 1, in certain circumstances they present serious fire risks to our communities, which is what California is trying to avoid by allowing the investor-owned utilities to implement PSPS events.

This is not to say that Cox and other communications companies’ networks are not capable of operating without commercial power for an extended period of time. To the contrary, and as you will read in the attached responses, we have backup power in place at all of our Core Network facilities and most Field Equipment. Cox performs regular tests and maintenance, and deploys portable backup generators when needed if conditions are safe. However, in instances where PSPS creates massive, widespread outages, over large geographic areas for an extended period of time, it is infeasible and unsafe for communications providers to provide backup power to keep our entire network running without commercial power.

Additionally, in order for phone service to work on backup power, customers also need to have backup batteries in their phone modems as well as a corded phone, as most cordless phones do not work without commercial power. Business customers may also need backup batteries in any additional phone equipment they have on their premises. Customers can purchase the batteries from Cox and our LifeLine customers receive them at no charge. Last year we introduced a phone modem battery that lasts up to 24 hours on standby.

Commitment to Safety

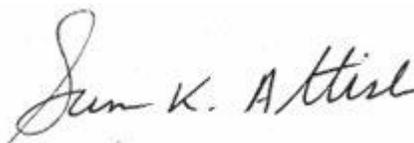
Cox is very mindful of the importance of our services. We know that our customers rely on our voice services to communicate with emergency responders and stay connected to their families and friends. We have stayed committed to our communities, over the many years that we have served California through fires, floods, mudslides, and earthquakes. We work hard to keep our network running as long as conditions are safe.

Cox is also continuing to invest heavily in safety and resiliency in our networks. We are spending an additional \$1 million to purchase: (i) additional generators (currently in process); (ii) acquire and install special switches for fiber rings that will isolate affected equipment that loses commercial power, thereby reducing the number of customers on the ring that lose service; and (iii) work with safety consultants to identify better, safer backup generators, enhance generator use/monitor training, and implement “fire watch” training, for technicians who monitor active generator use in fire areas.

Cox also knows what it is like to be involved in a fire. In 2007 Cox and SDG&E’s facilities came into contact during a Santa Ana wind event with Red Flag conditions, which sparked the Guejito Fire in San Diego. While PSPS events and fires are very different, that event changed our company and created an intensely-focused culture of safety that informs all that we do. You will read in the attached that as a result of that fire, Cox has inspected 100% of its plant annually for the past 10 years, and that our repair intervals most often exceed what is required by the Commission’s General Order 95. We have taken many other proactive steps to ensure that we are adopting safe practices whenever possible. In 2017, Cox enlisted the assistance of a public safety consulting firm, made up of former Cal Fire personnel, fire chiefs, and emergency personnel to assist us with developing best practices in terms of safety and reliability.

Cox agrees that the current state of PPS events cannot continue as-is. We believe that any solution considered by the Commission must balance avoiding a fire starting from electrical facilities with endangering communities by introducing other fire risks and concerns. Cox is strongly-engaged on these issues before the Commission, and committed to supporting our customers, communities and employees. We look forward to helping the Commission develop successful solutions that will keep Californians safe.

Sincerely,

A handwritten signature in black ink that reads "Sam K. Attisha". The signature is written in a cursive, flowing style.

Sam Attisha
Sr. Vice President & Region Manager
Cox Communications

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Cc: Honorable Governor Gavin Newsom, Governor of the State of California
Liane Randolph, Commissioner, California Public Utilities Commission
Martha Guzman Aceves, Commissioner, California Public Utilities Commission
Cliff Rechtschaffen, Commissioner, California Public Utilities Commission
Genevieve Shiroma, Commissioner, California Public Utilities Commission
Mark Ghilarducci, Director, California Governor's Office of Emergency Services
Thomas Porter, Director, California Dept. of Forestry and Fire Protection (CAL FIRE)
Amy Tong, Director, California Department of Technology
Service List of R.18-03-011

Confidential Attachment 1
Cox's Responses to Questions from November 13, 2019 Letter

Confidential Attachment 1 - Cox's Responses to Questions from November 13, 2019 Letter

1. Responsiveness during the latest wildfires and public safety power shutoffs to keep communications services on.

✦ **The amount and type of power available on site at your central offices, headends and wireless switches, indicating how long these facilities can operate at average load without main power and what your plan is to refuel, if a generator is present. Separately, indicate the number of remotes, field cabinets, nodes or other devices between the subscriber's homes and your central office and headends, and how long each of these devices can operate at average load without main power. Further, provide your refueling plans for these field cabinets, nodes, and remotes.**

Cox's Response:

Points of potential vulnerability in Cox's California network have been equipped with multi-tier power redundancy.

Core Network: Our Core Network facilities in California, which include [Begin Confidential ("BC")] [Redacted] [End Confidential ("EC")] Master Telecommunication Center ("MTCs") and [BC] [Redacted] [EC] Secondary Telecommunications Centers ("STCs"), house the network equipment associated with Cox's access network devices, metro network devices, metro transport, phone switches, RF combining networks, and the like. These facilities are all equipped with both DC battery backup systems, and two fixed redundant AC diesel-fueled generators on site, with each generator capable of powering the facility. Should one generator fail to become active, the second generator automatically assumes the load. DC battery backup systems are in place should the generators not operate properly. The batteries operate for a minimum of four hours and the generators, can — depending on the facility — last for several days to a week before requiring refueling. Cox ensures that the diesel fuel is always at capacity in all diesel generators, and has in place several fuel providers that will "top off" the diesel generators' fuel every other day during the time the generators are in use.

Cox also performs preventative, proactive tests on its generators and battery backup systems located at its Core Network facilities monthly to ensure their effectiveness during an outage.

Field Equipment: Between the Core Network facilities and the subscribers' home or business Cox has approximately [BC] [Redacted] [EC]. This Field Equipment is equipped with battery backup systems designed to keep services functioning from two to four hours, depending on the equipment, until deployable generators can be placed at an impacted site. (Cox has placed portable backup generators in strategic locations in its service territory that can be deployed to any portion of its California footprint in safe conditions should an extended power outage occur.) Once in place, these portable generators may operate on average for 12 hours before needing to be refueled. Cox also

has [BC] [REDACTED] [EC] natural gas fixed generators in place; these fixed generators automatically turn on once commercial power goes out and will run for as long as natural gas is available. Cox had planned to deploy far more of these fixed natural gas generators. However, because of permitting challenges and complaints from local government officials and residents regarding, the size, and sometimes noise, of the units, Cox ceased installing any new fixed natural gas generators in the early 2000s. Around the same time, Cox deployed 83 fixed propane generators in areas where natural gas was not available. Similar to the fixed natural gas generators, permitting became a challenge, along with complaints about their size, noise and other aspects of the generators. We removed the propane generators from our network as a result of the challenges discussed above.

Regardless of the type, it is important to understand that backup power capabilities may be limited during disasters or dangerous conditions if deploying and/or refueling generators presents risk to employees or our communities due to unsafe environmental conditions, such as high fire threat conditions, flooding, or lack of proper ventilation for carbon monoxide.¹

Additionally, for phone service to work on backup power, residential customers also need to have backup batteries in their phone modems as well as a corded phone, as most cordless do not work without commercial power. Business customers may also need backup batteries in any additional phone equipment they have on their premises. Customers can purchase the batteries from Cox and our Lifeline customers receive them at no charge. Last year we introduced a phone modem battery that lasts up to 24 hours on standby.

✦ For wireless providers, provide a list of the cell sites which you have located in the Tier 2 and Tier 3 fire threat areas and how long each facility can operate at average load with onsite power. If the site has a generator, how long can this site operate at average load without refueling and what are your refueling plans?

Cox's Response:

Cox is not a wireless provider.

✦ Describe the locations in your network where actions need to be taken to harden the communications infrastructure for risk, including but not limited to, wildfires and PSPS events. Provide a list of specific locations that allow emergency responders to understand where catastrophic events (wind, water, fire, earthquake and subsidence) may have local and regional reliability impacts. This must include areas and communities where fiber backhaul routes do not have adequate hardening or physical redundancy.

¹ For example, U.S. Forest Service specifically prohibits operation of internal combustion engine-driven equipment, including generators, during “red flag” fire conditions unless the equipment has an approved spark arresting device and is in an area completely devoid of vegetation. *See, e.g.*, U.S. Forest Service, Cleveland National Forest, Fire Restriction Frequently Asked Questions, available at <https://www.fs.usda.gov/cleveland>.

Cox's Response:

Network Hardening: Although only a small portion of Cox's service area is located in the Tiers 2 and 3 High Fire Threat Districts ("HFTDs"), Cox is acutely aware of the need to build and maintain its network to the highest standards. Since 2009, Cox has had in place a Safety and Compliance program that goes beyond the requirements set out in General Orders ("G.O.") 95, and Cox is continually investigating and evaluating ways to harden its network. For example, Cox employs a dedicated team of highly qualified, specially trained technicians to perform inspections and repair its outside plant facilities. The dedicated inspectors, whose only job is to perform inspections, inspect 100% of Cox's outside plant annually and in a manner that exceeds the requirements of G.O. 95. Cox also has in place a robust repair program, with established completion intervals often well ahead of the requirements of G.O. 95. Further, Cox has developed a comprehensive training program for all of its outside plant personnel (not just its dedicated inspection team) that includes initial and periodic refresher training to help ensure a safe and reliable G.O. 95compliant network.

Cox has also constructed redundant and diverse routing for its backbone network facilities in order to enhance the reliability and resiliency of its network. Additionally, in some high-fire risk areas, Cox has installed All-Dielectric Self-Supporting cable that contains no metal and, therefore, if hit by an electric facility, would not create an electrical arc that could start a fire. Cox also is exploring use of other fire-resistant materials that might be incorporated into our network.

As described in the response above, Cox has in place throughout its network a dual-powering approach that allows our services to remain working when commercial power is not available. However, continued operations of particularly important Field Equipment (i.e. not Core Network facilities) is dependent on where the equipment physically is located and the surroundings. For example, relying on the work of the Commission and Cal Fire in identifying California's highest fire risk areas, Cox has made the determination that it cannot today safely deploy portable generators within Tier 3 Extreme Fire Threat areas during weather events which may result in extreme fire behavior ("Red Flag events") due to the great risk that a fire may be started from such generators. And in Tier 2 Elevated areas during Red Flag events, Cox has made the determination that it must assign trained personnel to remain with deployed generators to help ensure that a fire may not start from such generators given the risk these areas present. However, if conditions are unsafe for our employees to remain with the generator, Cox will not deploy generators or will cease operation of them in Tier 2 areas. As explained above, in limited instances, Cox has in place fixed natural gas generators in Tiers 2 and 3, which will operate safely during a commercial power outage. Cox currently is working with a third-party fire safety consultant to identify both safer generator operational practices, and safer generation equipment, which Cox could more readily and widely deploy, even possibly in Tier 2 and 3 areas, for future PSPS events.

While designed and built to be resilient and reliable, Cox's network, was not designed to operate indefinitely, through every extreme and catastrophic event. For example, as explained above, conditions could be such that Cox could not safely deploy its generators, deploy personnel to

monitor its generators, and refuel the generators or obtain the necessary fuel. Further, in the case of particularly widespread PSPS events, Cox may not have enough generators in its inventory and trained personnel available, to maintain service throughout the impacted areas.

Location of Cox Facilities: The specific locations of Cox facilities is highly sensitive critical infrastructure data that could cause security issues if made publicly available.² Cox is willing to work with the Commission to consider if and how to securely provide specific locations of its Core Network that may have regional or local impacts on a confidential basis to first responders on a county-by-county basis.

✦ **Provide the reports of outages which you sent to the FCC for each day of the recent Disaster Information Reporting System (DIRS) activation in California.**

Cox's Response:

Copies of the reports Cox submitted to the FCC during the recent DIRS activation for California are attached as Attachment 2.

2. Engagement and timely responsiveness to requests from Cal OES and CAL FIRE.

Cal OES Director Ghilarducci has recently identified concerns related to information sharing and coordination with local governments, especially county emergency management departments during emergency events. The November 1, 2018 workshop identified problems that emergency agencies have with getting timely and correct information from the communications providers. They include, but are not limited to general communication processes and procedures, accuracy and timeliness of providing relevant information, and establishing two-way communication channels that enable the utilities to address local concerns. Though a representative of the communications companies through the California Utilities Emergency Association (CUEA), has a desk in the state warning center, the Director was clear that there was a lack of participation and transparency during the recent events. Therefore, communication providers are directed to take immediate corrective actions that, at a minimum, include:

✦ **Confirm the name of an Emergency Operations Center (EOC) liaison that can be present 24/7 in the state operations center during emergency response events. The EOC liaisons shall be trained in emergency response, in accordance with Standardized**

² See 47 C.F.R. § 0.457(d)(vi), (viii) (designating as “records not routinely available for public inspection” comparable information filed with the FCC, including outage reports and site-specific explanations provided with 911 reliability certifications).

Emergency Management System (SEMS) and have working knowledge of utility operations and business processes.

Cox's Response:

In order to have a presence at the state EOC for 24 hours a day, 7 days a week, Cox would need to send several trained employees outside of its operational footprint to the EOC in Sacramento. This would take place during an active PSPS event, when all resources are critical. To ensure it can devote all the necessary resources to address an emergency and at the same time provide emergency services agencies with the information they need, Cox believes a better solution would be for it to designate a member of the California Utilities Emergency Association ("CUEA") as its representative. CUEA is already located within the state OES, can be present as needed, and has direct communications with Cox's operations, including our own Incident Commander. The CUEA representative also can coordinate efforts with Cox local Recovery and Emergency Management Liaisons (see below).

✦ Develop and implement processes that will ensure that County EOC liaisons will have the latest information during PSPS and wildfire events and are enabled and empowered to resolve local issues as they arise.

Cox's Response:

Today, Cox has local Recovery and Emergency Management Liaisons, who are present at local EOCs as well as other incident command centers during emergencies as needed. The Liaisons are knowledgeable of Cox's service territory and network, and have direct access to Cox's Incident Commander during an emergency. The following is a description of the Liaison's role and responsibilities:

Recovery & Emergency Management Liaison:

This role is usually filled by a leader with knowledge of Plant Operations and/or Cox Business ("CB") Sales and handles the following items:

- Coordinates with the Planning and/or Operations Section Chiefs to prepare/provide updates on operations
- Coordinates with CB on restoration and/or escalations related FCC's Telecommunications Service Priority Restoral (TSP), first responders and other critical accounts
- Fosters relationships with external agencies that aid in restoration of telecommunications services and/or FEMA ESF-2 functions
- External relationships to maintain may include, but are not limited to:
 - State & Local Emergency Management Agency
 - Regional Electric, Gas, & Telecom Providers
 - Local & State Law Enforcement (Collaborate with Security team)
 - Department of Homeland Security Protective Advisors

- National Weather Service
- State Department of Transportation
- Staff Cox seat in Emergency Management Agencies (in conjunction with Government Affairs / Communications team)
- During large scale events, travel to State Emergency Operations Centers may be required
- Forward requests/inquiries made by media to Communications Section Chief
- Forward applicable requests and/or coordinate responses made by State/Federal agencies to Communications team
- Maintaining, all applicable CPNI and current company confidentiality guidelines, provide information to external agencies in conjunction with the Government Affairs / Communications team regarding restoration upon request

✦ **Establish a more effective communication structure with state, county and tribal government emergency management personnel. This communications structure shall be separate and unique from general updates to local governments and other stakeholders to allow for emergency personnel to receive the support and information required to properly respond.**

Cox's Response:

Cox has longstanding relationships with the communities we serve. We believe that we have in place today an effective communication structure with emergency responders through day-to-day operations, our Incident Commanders, and our Recovery and Emergency Management Liaisons. In response to this suggestion, however, we will contact state, local, and tribal emergency management personnel relevant to our service area, to determine whether additional communications measures need to be implemented and will work with them to do so.

3. Compliance with D.19-08-025.

Decision 19-08-025 directs communications carriers to provide a minimum level of consumer protections and safety actions in the case of a declared disaster. Based on responses we have received so far, the CPUC needs to hear more specifics about what you are doing, and provide specifics such as what equipment and when.

Cox's Response:

Cox confirms that it is in full compliance with the requirements of Decision 19-08-025. On October 11, 2019, Cox filed an Advice Letter with the Communications Division describing our plan to make customers aware of the consumer protection measures for disaster victims established in the Rulemaking 18-03-011, made permanent by D.19-08-025. While that Advice Letter was quite specific as to efforts to make customers aware of the consumer protection measures, Cox has included further detail on certain of Cox's outreach efforts:

- *Annual Notification:* Cox currently provides its telephone customers with an annual notice regarding important telephone information. Information detailing the Emergency Disaster Relief Program will be included in our annual customer notice.
- *MyAccount Notification:* During a disaster/emergency event, consumers accessing their online account (for billing or reviewing services, for example) will be notified if there is an emergency or disaster occurring in their area. Information regarding the Emergency Disaster Relief Program, in the languages established in Decision 19-08-25, is included with this alert.
- *Bill Messaging:* Annually, Cox will be providing to all its customers a specific tailored bill message that will refer them to our emergency disaster website. This website was developed to provide key information on all of the emergency disaster protections that will be made available to impacted customers during a declared state of emergency.
- *Social Media:* Cox will be providing key information during and after a declared state of emergency through social media outlets such as Facebook and Twitter. Such information is designed to keep customers apprised of various us conditions which can include possible PSPS activity in Cox service areas as well as information related to shelters and other assistance to the community.

On November 11, 2019, Cox filed an Advice Letter with the Communications Division clearly describing its implementation of specific consumer protection measures triggered by Governor Newsom’s October 27, 2019 statewide Emergency Proclamation precipitated by the “extreme fire weather conditions” and widespread PSPS events.³

³ The question asks for Cox to “provide specifics such as what equipment and when.” Cox interprets this as a reference to the requirements for wireless providers to provide certain equipment, and as Cox noted above, it is not a wireless provider.

Confidential Attachment 2

DIRS Reports

[NOT INCLUDED IN PUBLIC VERSION]

Attachment 3

Request for Confidential Treatment

[NOT INCLUDED IN PUBLIC VERSION]