

Date of Hearing: August 3, 2020

ASSEMBLY COMMITTEE ON COMMUNICATIONS AND CONVEYANCE

Miguel Santiago, Chair

SB 431 (McGuire) – As Amended July 27, 2020

SENATE VOTE: Not Relevant

SUBJECT: Telecommunications service: backup electrical supply rules

SUMMARY: Requires the California Public Utilities Commission (CPUC) to develop and implement backup power rules for telecommunications service that is provided within a Tier 2 or Tier 3 High Fire Threat District. Specifically, **this bill:**

- 1) Requires the CPUC, in consultation with the Office of Emergency Services (OES) and the telecommunications industry, by July 1, 2021, to develop and implement backup power rules for telecommunications service that is provided within a commission-designated Tier 2 or Tier 3 High Fire Threat District.
- 2) Requires the specified backup power rules to do all of the following:
 - a) For mobile telephony service, require the provision of backup power where feasible to maintain minimum service for at least 72 hours, which may be achieved using best practices;
 - b) For telecommunications service, other than mobile telephony service, require the provision of backup power where feasible to maintain minimum service for at least 72 hours for each of the following customers:
 - i) An emergency communication dispatch center;
 - ii) An emergency operations center;
 - iii) A federally-qualified health center, as specified;
 - iv) A fire station;
 - v) A general acute care hospital, as specified;
 - vi) A police station, California Highway Patrol office, or sheriff's office;
 - vii) A mobile telephony services provider to whom backhaul services are provided;
 - viii) A rural health clinic, as specified; and,
 - ix) A utility, including all of the following:
 - (1) An electrical corporation;

- (2) A local publicly owned electric utility;
 - (3) An operator of a sewer system, whether operated by a sewer system corporation or a publicly owned entity; and,
 - (4) An operator of a water system, whether operated by a water corporation or a publicly owned entity.
- c) Requires a mobile telephony service provider, upon notification from an electric utility of a deenergization event, to notify its customers that access to 911 emergency services and emergency notifications may be impacted; and,
 - d) Require a provider of Voice over Internet Protocol (VoIP) to notify its customers that access to 911 emergency services and emergency notifications may be impacted by a deenergization event. Requires the notification to be affixed to a customer's VoIP device and be provided annually by the provider.
- 3) Requires the CPUC, in developing and implementing the specified backup power rules, to establish a process whereby a telecommunications service provider can identify facilities within its network for which it is unable to comply with the specified 72 hour backup power requirement because of inaccessibility, lack of permitting, infeasibility, or significant risk to life or health, or of incurring damage.
 - 4) Authorizes the CPUC to waive or delay implementation of any portion of this bill if it determines that a mobile telephony service provider or provider of VoIP meets any of the following conditions:
 - a) The provider's facilities do not require 72 hour backup power to maintain overall coverage and minimum service;
 - b) The provider is unable to comply with the 72 hour backup power requirement because of significant risk to life or health, or doing so would violate a specific federal, state, tribal, or local law;
 - c) It is objectively impossible or infeasible for the provider to provide 72 hour backup power to a specific facility; or,
 - d) The provider makes a good faith effort, but is unable to obtain the necessary access, permits, or other relevant approval to meet the requirements of this bill.
 - 5) Requires the CPUC, in developing and implementing the specified backup power rules, to consider current best practices and the feasibility of the rules.
 - 6) Defines "minimum service" to mean service sufficient to access 911 emergency services, access emergency information, and to use voice communication and text messaging services.
 - 7) Defines "access emergency information" to mean mobile data service sufficient to access emergency notices and access basic internet browsing for emergency notices for their customers.

EXISTING LAW:

- 1) Establishes the Warren-911 Emergency Assistance Act, which establishes the number “911” as the primary emergency telephone number for use in the state and to encourage units of local government and combinations of such units to develop and improve emergency communication procedures and facilities in such a manner as to be able to quickly respond to any person calling the telephone number “911” seeking police, fire, medical, rescue, and other emergency services. (Government Code Section 53100, et seq.)
- 2) Authorizes the CPUC to supervise and regulate every public utility in the State and may do all things necessary and convenient in the exercise of such power and jurisdiction. (Public Utilities Code (PUC) Section 701)
- 3) Defines a “public utility” to include every common carrier, toll bridge corporation, pipeline corporation, gas corporation, electrical corporation, telephone corporation, telegraph corporation, water corporation, sewer system corporation, and heat corporation, where the service is performed for, or the commodity is delivered to, the public or any portion thereof. (PUC Section 216)
- 4) Authorizes the CPUC, upon making a specified determination, develop and implement performance reliability standards for all backup power systems installed on the property of residential and small commercial customers by a facilities-based provider of telephony services. (PUC Section 776)
- 5) Specifies that whenever the CPUC, after a hearing, finds that the rules, practices, equipment, appliances, facilities, or service of any public utility, or the methods of manufacture, distribution, transmission, storage, or supply employed by it, are unjust, unreasonable, unsafe, improper, inadequate, or insufficient, the CPUC shall determine and, by order or rule, fix the rules, practices, equipment, appliances, facilities, service, or methods to be observed, furnished, constructed, enforced, or employed. (PUC Section 761)
- 6) Specifies that whenever the CPUC, after a hearing, finds that additions, extensions, repairs, or improvements to, or changes in, the existing plant, equipment, apparatus, facilities, or other physical property of any public utility or of any two or more public utilities ought reasonably to be made, or that new structures should be erected, to promote the security or convenience of its employees or the public, or in any other way to secure adequate service or facilities, the CPUC shall make and serve an order directing that such additions, extensions, repairs, improvements, or changes be made or such structures be erected in the manner and within the time specified in the order. (PUC Section 762)
- 7) Requires the CPUC, by rule or order, require all local exchange carriers to do both of the following:
 - a) Include in their telephone directory information concerning emergency situations which may affect the telephone network. The information shall include the procedures which the corporation will follow during emergencies, how telephone subscribers can best use

the telephone network in an emergency situation, and the emergency services available by dialing “911;” and,

- b) Annually provide to all subscribers in the form of a billing insert, which need not be a separate document, information concerning emergency situations which may affect the telephone network. The information shall include the procedures which the corporation will follow during emergencies, how telephone subscribers can best use the telephone network in an emergency situation, and the emergency services available by dialing “911.” The billing insert shall additionally direct the subscriber to consult the telephone directory for similar information concerning the use of the telephone in emergency situations. (PUC Section 2889.6)

FISCAL EFFECT: Unknown. This bill has been keyed fiscal by the Legislative Counsel.

COMMENTS:

- 1) **Authors Statement:** According to the author, “During last year’s power outage debacle, nearly two million Northern California residents had their landline, cell phone, and cable service interrupted. Our phones are our lifelines. It’s how we keep in touch with the rest of the world and how we receive emergency alerts. Telecom representatives assured us this worst case scenario, hundreds of cell towers and landlines going down due to the lack of power, wouldn’t happen. It’s simply not true. It’s time California steps up and mandates backup power. This bill isn’t about checking your Facebook status. It’s about life and death.”
- 2) **Background:** The CPUC has certain regulatory authority over public utilities including common carriers, telephone corporations, and telegraph corporations. Current law requires the CPUC upon finding that a public utility’s facility is unsafe or in need of repairs in order to secure adequate service for the public to require the public utility to make improvements. In addition, the Warren-911 Emergency Assistance Act established California’s 911 emergency telephone response system by providing a single, primary three-digit emergency number through which emergency service could quickly and efficiently be obtained. OES is tasked with coordinating the overall state response to disasters which includes oversight of the State’s 911 system.

Currently, the Federal Communications Commission (FCC) requires all telecommunications service providers to report information through the federal Network Outages Reporting System, about significant disruptions or outages to their communications systems. In 2019, the Legislature passed SB 670 (McGuire) Chapter 412, Statutes of 2019, which additionally required telecommunications service providers to submit outage notifications to OES whenever a community isolation outage occurs that limits the ability for customers to make 911 calls or receive emergency notifications.

- 3) **California Wildfires:** California continues to suffer from unprecedented wildfires. Although the state is no stranger to such disasters, the scale and frequency of these wildfires has made them the new normal in years to come. These wildfires have dramatically impacted our communities and pose a continuous threat to public health and safety. Over the past three years, California has experienced several major wildfires and public safety power shutoff (PSPS) or deenergization events. In 2017, the Tubbs Fire burned over 36,807 acres, resulting

in 22 deaths, while the Thomas Fire resulted in 281,893 acres burned and 23 deaths. In 2018, the Camp Fire destroyed the town of Paradise and resulted in 18,804 structures damaged and 85 deaths. In addition, the Woolsey Fire burned 96,949 acres and destroyed 1,643 structures. In 2019, a total of 860 wildfires burned over 259,823 acres, damaged over 732 structures, and resulted in three deaths. During the same period, the states investor owned utilities began implementing PSPS events in order to reduce the probability of a utility caused wildfire. The first major PSPS event took place from October 9 to 11, while the second and third PSPS events took place from October 26 to 31.

- 4) **Telecommunications Networks:** Telecommunications networks have evolved dramatically since the days of the old telegraph system. At the time, batteries and generators located in a provider's central office could power both the central office and the customer's telephone in the event of a power outage. The evolution of telecommunications services to include wireless and IP-related services has expanded our capabilities beyond our reliance on only traditional landline service. Today, the number of landline customers have steadily decreased as consumer increasingly rely more on wireless service. In 2019, approximately 27.4 million 911 calls were placed using a wireless service compared to approximately 3.6 million by landline. In addition, many customers have transitioned to VoIP services for their home telephone service. The combination of the wireline, wireless and cable provider infrastructure comprise our telecommunications network.

Wireless telecommunications companies operate by broadcasting broadband data via cell sites. These sites can range in sizes from large base transceivers stations (cell towers) that include physical buildings and multiple antennas as part of their construction, to small cell nodes, which are lower-power, lower-range receivers generally placed on utility light and existing power poles. Wireless telecommunications uses radio frequency waves to transmit data between phones and cell sites. Wireless towers rely on fiber optic cables to provide high-speed broadband service.

Traditional copper and cable wireline providers operate by delivering fixed, interconnected service that supply some voice service. Wireline facilities generally transmit data from a central office to a local exchange facility (switching stations and remote terminals) before it is delivered to the customer over lines known as the "last mile." Cable providers use a network of fiber nodes to distribute data to the last mile, however not all broadband networks are comprised of fiber optic cables as a significant number of networks are still comprised of copper lines.

- 5) **Telecommunications Outages during Disasters:** In addition to destroying homes and business, wildfires can also cause damage to utility infrastructures including telecommunications service facilities making it more difficult for communities to rebuild and recover in its aftermath. Customers rely on their phones to do business, communicate, and carry out essential services. But during a disaster, when people are trying to escape from threatened areas, their phones become a critical life-saving tool. During a disaster customers rely on their phones to access 911 and receive vital safety or emergency information.

Following Hurricane Katrina, in 2006 the FCC established the Katrina Panel to review the impact of Hurricane Katrina on the telecommunications infrastructure. The Katrina Panel found that power outages contributed heavily to the failure of the telecommunications network. In 2007, the FCC released its Panel Order which required telecommunications

providers to have 24 hour emergency backup power for central offices and eight hours for cell sites and other facilities. The Order was challenged by the wireless industry and the FCC eventually abandoned the rules. Following Superstorm Sandy in 2012, the FCC found that approximately 25 percent of all cell towers across 10 states were out of service at the peak of the storm. In 2016, the FCC adopted a voluntary framework put forth by the wireless industry to enhance coordination and communications to advance wireless service continuity and information sharing during disasters.

In addition, in 2006, the Legislature passed AB 2393 (Levine) Chapter 776, Statutes of 2006, which required the CPUC to consider the needs for backup power for telecommunications services facilities. In 2008, the CPUC issued a report to the Legislature on *Reliability Standards for Telecommunications Emergency Backup Power Systems and Emergency Notification Systems*, but declined to adopt any standards, instead deferring to the FCC requirements at the time.

In January 2020, the Senate Energy, Utilities and Communications Committee held an oversight hearing on Telecommunications Service Outages. The hearing highlighted the impact the loss of electric power had in causing telecommunications outages during California wildfires. According to the CPUC, during the October 2019 PSPS events, carriers reported outages for nearly half a million wireline customers and almost a million wireless customers. Hundreds of cell sites were out of service for various lengths of time, and wireline facilities including cable providers were also down.

Data reported by the FCC and OES showed that telecommunications outages disproportionately impacted certain communities. For example, Marin County had 57 percent of its 280 cellular towers out of service at one point during the PSPS on October 28. In the Bay Area's San Mateo and Contra Costa Counties, 11 percent of cell towers failed to work, according to reports from the FCC. Sonoma, Lake, Humboldt, Santa Cruz and Calaveras counties had days where over 20 percent of cell towers were out.

- 6) **CPUC Proceedings:** In May 2019, the CPUC held an en banc hearing titled, *The Future of California's Communications Grid*, to discuss the importance of communications services during California wildfires. In March 2019, the CPUC began soliciting comments for its Emergency Disaster Relief proceeding on whether it should require communications service providers to deploy backup power at key facilities across the state.

In July 2020, the CPUC adopted a Decision (D. 19-08-025) ordering wireless providers to develop comprehensive resiliency plans to ensure network facilities are able to maintain service to customers during a disaster or power outage, including PSPS events. The Decision required wireless providers to:

- Adopt a 72 hour backup power requirement to ensure that a minimum level of service and coverage is maintained during disasters or power outages in Tier 2 and Tier 3 High Fire Threat Districts;
- Submit to the CPUC within 60 days emergency operations plans that detail their protocols for responding to a disaster, to the CPUC, OES, and local emergency response agencies; and,

- File comprehensive Communications Resiliency Plans with the CPUC that detail their ability to maintain a minimum level of service and coverage during a disaster or power outage.

This bill requires the CPUC to develop and implement backup power rules for telecommunications services in Tier 2 or Tier 3 High Fire Threat Districts. The bill requires wireless providers to provide 72 hours of backup power where feasible to maintain minimum service. The bill is largely consistent with the direction of the CPUC's Decision.

The bill defines minimum service as service that is sufficient to access 911 emergency services, emergency information, and to use voice and text services. Furthermore, the bill defines emergency information to mean mobile data sufficient to access emergency notice and access basic internet browsing for emergency notice. The author argues that the purpose is not to offer the ability to stream videos but to provide enough bandwidth to allow customers the ability to receive critical emergency alerts, include those outside of traditional emergency alerting system such as reverse 911 and the federal wireless emergency alerts system.

Basic internet service is critical in order to access emergency information on government and public safety websites such as identifying evacuation routes and emergency shelters, as well as to access new forms of emergency alerts currently being developed. Many new emergency alert are IP-based or are provided through a smartphone application, such as Nixle and CodeRed. Ensuring that minimum service captures the various alerts available to customers ensures that the redundancy exist for customers to receive emergency information regardless of the technology they use.

This bill also requires the CPUC backup power rules to require non-wireless providers to provide 72 hours of backup power to specified facilities that provide public safety, health, utilities type services, as well as to the backhaul that provide wireless service. In July 2020, the CPUC began requesting comments on wireline provider resiliency strategies including whether it should adopt rules for wireline providers regarding backup power; redundancy; hardening; temporary facilities; communications and coordination with emergency responders; and preparedness planning.

- 7) **Telecommunications Network Resiliency:** Not all telecommunications outages are caused by circumstances within a provider's control. In many cases, telecommunications providers attempt to restore service from outages caused by natural disaster as quickly as possible. But there are many factors that can inhabit their ability to restore service, including safety concerns, resource availability, geography, and requirements to prioritize services for emergency management purposes. Some natural disaster can cause damage to the degree in which facilities need to be completely replaced.

Telecommunications services rely on electric power for operation. When electric power is lost, some facilities have backup power; however, not all facilities have the same amount of backup power and some facilities have no backup power at all. As a result, many telecommunications facilities depend solely on power from electric utilities to operate. Differing technologies, service territories, and regulatory oversight contribute to differing needs and responses between telecommunications companies. Wireless providers generally ensure that major telecommunication hubs (e.g. high-capacity cells sites) have at least 48 to

72 hours of on-site power generation. Wireless providers also deploy mobile generators to facilities where permanent electric generation cannot be installed. However, not all providers are able to provide backup power due to inaccessibility, permitting, infeasibility, safety, damage, or existing laws. For example, not all cell sites can accommodate mobile generators. These sites can include cell facilities on building tops, cell facilities where the property owners does not permit the installation of generators, and facilities where space and topography limits the placement of large generators.

This bill requires the CPUC to develop a process where telecommunications service providers can identify facilities within its network where it is unable to comply with the backup power requirements. The bill authorizes the CPUC to waive or delay the requirements of this bill for any of the following condition: (1) the facilities does not require 72 hour backup power to maintain coverage and minimum service; (2) the provide is unable to comply because of safety or existing laws; (3) where it is impossible or infeasible to provide 72 hour backup power; or (4) where a provider, after a good faith effort, is unable to obtain the necessary access or permits.

- 8) **PSPS Notifications:** Whereas copper-based communications can retain service with backup power at central offices and remote terminals-regardless of whether there is electricity at the customer’s residence or business; IP-based communications must have electricity at all points of the network, including at the customer’s address. However many Californians still assume they have traditional copper-based landlines but are unaware that their home phone service is provided through an IP-based service and are hence unprepared to lose communications during a power outage. If an IP-based service providers facilities loses power, all the customers served by those facilities will lose telecommunications services as well. In addition, wireless towers rely on the IP telecommunications infrastructure to transmit broadband data. In the event a major fiber backhaul facility loses service, wireless facilities may also lose service regardless of whether those wireless towers have backup power.

This bill require wireless providers, upon notice by an electric utility of a PSPS event, notify its customers that access to 911 and emergency notification may be impacted. In addition, the bill requires, VoIP providers to notify its customers that 911 and emergency notifications may be impacted by a PSPS event through a notice affixed to a customer device and a notice provided annually.

- 9) **Arguments in Support:** According to the California State Sheriffs’ Association, “In recent years, California has experienced some of the most devastating wildfires in state history. As the state adjusts to the “new normal” of year-long fire seasons, it is imperative that communications infrastructure remains intact and reliable, and addressing backup power requirements for critical infrastructure will assist toward that end. SB 431 will establish backup power rules for cell towers and other communications infrastructure statewide by July 2021. This bill will reduce the likelihood of cell tower outages and help ensure that communities and first responders in wildfire areas remain connected to vital information and emergency services during natural disasters.”
- 10) **Arguments in Opposition:** According to CTIA, “[SB 431] continues to impose a series of unnecessary and unworkable processes and mandates that will diminish, rather than enhance, wireless carriers ‘ability to manage their networks in the most efficient way to support

consumers [...] SB 431 as amended fails to adequately recognize that all wireless networks have different architectures and does not provide the flexibility needed to confront the myriad of different emergency and PSPS events. The industry has submitted several sets of amendments to the authors that would advance the development of a workable and effective policy. Those amendments recognize that wireless carriers need flexibility to manage network performance and coverage objectives as these are uniquely designed networks, each of which will require its own set of backup power solutions and are based on several wireless engineering fundamental.”

11) **Prior Legislation:** SB 670 (McGuire) of 2019 required telecommunications service providers to submit an outage notification to OES whenever a community isolation outage occurs that limits the ability to make 911 calls or receive emergency notifications. *Status: Chaptered by the Secretary of State – Chapter 412, Statutes of 2019.*

SB 560 (McGuire) of 2019 expanded the protocols required during a deenergizing event initiated by an electric utility, including requiring wireless carriers to undertake specified steps in preparation for receiving notifications from utilities and communicating relevant situational information during the projected outage. *Status: Chaptered by the Secretary of State – Chapter 410, Statutes of 2019.*

SB 833 (McGuire) of 2018 required OES to work with specified stakeholders to develop guidelines around emergency alerts and required additional training for local emergency office personnel. *Status: Chaptered by the Secretary of State – Chapter 617, Statutes of 2018.*

AB 2393 (Levine) of 2006 required the CPUC to develop performance reliability standards for backup power systems on residential and small commercial customer property installed by telephone companies. *Status: Chaptered by the Secretary of State – 776, Statutes of 2006.*

REGISTERED SUPPORT / OPPOSITION:

Support

Association of California Water Agencies
 California Assisted Living Association
 California Chapter National Emergency Number Association
 California Fire Chiefs Association
 California Professional Firefighters
 California Solar & Storage Association
 California State Sheriffs' Association
 City of Thousand Oaks
 County of Santa Clara
 Fire District Association of California
 League of California Cities
 Northern California Power Agency
 Orange County Fire Authority
 Rural county Representatives of California
 The Utility Reform Network

Town of Fairfax

Opposition

California Cable & Telecommunications Association (unless amended)

CTIA

Frontier Communications (unless amended)

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