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Dear Appropriations Committee Members:

As a physician I am writing to ask you to oppose AB2395 for several reasons which revolve around public safety, access to emergency services, deregulation, consumer protection and a dependence on wireless communications. **AB 2395 - Telecommunications: Replacement of Public Switched Telephone Network,** backed by AT&T, is slated to remove regulated landlines (switched telephone network services) to deregulated Internet Protocol (IP) enabled services and networks by 2020 (complete by 2021). Plain old telephone service through copper wires (POTS as the industry calls it) has been and continues to be the safest, most private, most reliable and least expensive way to keep us all connected at home, internationally and in emergencies.
I join the California Public Utilities Commission, Communications Workers of America, AARP, California Labor Federation, California Alliance of Retired Americans, the Rural County Representatives of California, the Mendocino County Board of Supervisors and The Utility Reform Network (TURN) in opposing this bill for the reasons listed below.

1) **Majority of Californians still have landlines.** AT&T states

that only 6% of Californians have only a landline for telephone service, and each year there are more people who give up their landline as they use their cell phone as their primary number. While there may be a yearly decline in landline subscriptions, there is still a majority of Californians who use it and keep it for emergencies. The latest data from the CDC in 2014 shows that 57% of Californians still have a traditional landline and 7% have only a landline for communication, especially in rural areas.

2) **Emergency response in jeopardy.** Landlines are important as a back up for emergencies and power outages. If people have only internet or cell tower phone service and lose power they will need to have back up generators or batteries in order to communicate. The cell towers also need back up generators or batteries in case of a power outage or other cause of failure. 911 wasn't built for cell phones. First responders are concerned as the call-tracing software used by firefighters, ambulance services and police works only on landlines. This accuracy insures the most rapid response for medical or other emergencies. In order to locate someone with a cell phone in an emergency cell tower triangulation is required and it doesn't give you exact location. Enhanced 911 routes a call to a public safety answering point (PSAP) so the name and address of the caller can be identified however it is not wireless 911 service. "If you don't quite get the right information for where the pizza shop is, no one dies. For 911, people die." Roger Hixson, technical director of the National Emergency Number Association (NENA) (2) After a major Alaskan power outage on March 2016, the Anchorage police advised residents "Don't cut the cord." (3)

3) **The elderly and disabled people will loose emergency lifeline and medical devices/monitors and home alarms attached to the landlines.** Some fiber based and IP systems won't work with medical alert devices, fax machines or home alarms. People will need to purchase new devices if they can that are compatible with internet protocol. Some may loose these emergency services all together. The Rural County

Representatives of California wrote a letter to the author of the bill, on April 11, 2016 stating stating “Unfortunately, modern communications systems are either non-existent, unreliable, or cost-prohibitive in many of our member counties. Subsequently, traditional landline phone service remains the backbone and only reliable two-way communication mode. (4)

4) **No fiberoptics in rural areas- Cell towers and cell phones only.** Rural residents are most at risk as they depend on landline service. Those from rural communities who are largely dependent on landlines for regular phone service and emergency services are very worried. Although AT&T states they will make sure everyone has phone service, there are no assurances that they will have services in the current state of the bill. The bill gives residents one year to get Voice Over Internet Protocols (VOIP) after 2020 and if they do not have it by 2021 the cord will then be cut. There is no mandate to keep landlines. In fact fiberoptics are too expensive in rural areas to run. That means folks in these areas will be dependent on cell towers and battery backup. For first responders as mentioned above this could prove deadly especially in a natural disaster when trying to locate someone with information on cell tower alone. “Everyday we receive calls where we get a (cell) tower address, and that’s all.” Carl Hall, chief of technology, Alpharetta Public Safety Department. (19) New rules by the FCC to improve accuracy for outdoor and indoor 911 calls have been initiated in 2015 but there are still issues related to compatibility of types of global satellite positioning systems and interference. (22) This is not to mention that GPS technology to locate a particular phone can be complicated as it depends on how many satellites are available, calibrated and warmed up to get data and what type of phone a person is using.

5) **Fewer and more expensive choices for consumers.** This will force customers into using internet based services for communications that may be more expensive, with poorer voice quality and poorer service. Rather than modernizing communication systems it would return us to a time of

dependency on a limited amount of carriers.

6) **Digital Devices Use a Surprising Amount of Energy.** It appears AB 2395 is masked as an environmental bill. As fiberoptics replace landlines more data and information will be transmitted. With regards to energy use some studies suggest that the electrical needs of digital devices towers over traditional devices. Energy consumption has risen dramatically as digital data is created, used and transmitted. A study by Digital Power Group in 2013 found that the average I phone used more electricity than a medium sized energy star rated refrigerator. (5,6) Although criticized for its overestimation there is still a significant and growing energy demand from digital devices and cell tower transmitters that are always powered on. Although the fiberoptic transmission perhaps may reduce energy costs, this is not the whole story. Are the use of digital phones themselves taken into account as well as the servers and cell towers required to power them and transmit a tidal wave of data? Energy costs may be much more if the total system costs are taken into account.

7) **California Public Utilities Commission (CPUC) Opposes AB 2395.** The CPUC, who has a fundamental duty to provide safe and reliable utility service embodied in PU Code § 451, opposes this bill. The CPUC division analysis states the bill would undermine the California and federal commitment to universal service, negatively impact public safety and undermines the CPUC authority over safe and reliable services as it would essentially deregulate phone lines. A CPUC memorandum dated March 17, 2016 states “The adoption of this bill would leave thousands of Californians, predominantly rural customers, without access to landline telephone service, and hence access to 9-1-1 and other necessary communications.” In addition the CPUC states the bill is not necessary to promote IP services as infrastructure is already being upgraded. (7)

8) **Security, Privacy and Hackability Concerns.** Some people keep landlines as they are less likely to be hacked. Removing landlines pushes us further into the wireless era which is certainly convenient but has its downsides. These are becoming more and more apparent with time. In a “60 Minutes Overtime” episode from April 16, 2016 mobile security expert showed how strangers can hack the phone in your pocket, not to mention computers. (17) Security issues have not been addressed with current wireless technology. According to tech experts, cordless phones, I phones, smart meters and a host of other wireless devices face hacking risks. Encryption can help but is expensive and not foolproof. Wireless routers in the home are susceptible to phish attacks and unwanted ads via the Internet. Large internet service providers may not be able to easily find or fix the problem, and home visits may be difficult to schedule. Ted Harrington, marketing head of Independent Security Evaluators of Baltimore explains why router hacking could turn into a big problem based on a new study of wireless routers and hacking risks. "What's notable about this is that if you compromise the router, then you're inside the firewall. You can pick credit card numbers out of e-mails, confidential documents, passwords, photos, just about anything," he said. (18)

9) **Wireless Communications and Public Health.** There has been exponential worldwide expansion and dependence on wireless communication networks and infrastructure including cell phones, cell towers, wireless routers, medical devices and utility smart meters throughout our homes and communities. Scientists, physicians and the public are increasingly concerned about the long term impact on public health due to this relentless rising exposure of the population to wireless radiation.
More cell phone towers will be built to provide wireless service with the passage of this bill. AB57 (2105) passed the California legislature clearing the way for fast tracking cell towers. This is problematic from a public health standpoint as the Telecommunications Act of 1996 illogically states that

environmental or human health concerns cannot be taken into consideration in placement of cell towers despite the fact that many studies demonstrate adverse effects of cell tower radiation on humans and birds.

In May 2015 an International Scientist Appeal signed by more than 200 published scientists who study electromagnetic frequency (EMF) was sent to the World Health Organization to ask that they "initiate an assessment of alternatives to current exposure standards and practices that could substantially lower human exposures to non-ionizing radiation." (8)

The scientific community has for several decades now demonstrated adverse biological, cellular and clinical effects from of wireless EMF at or below our current approved exposure standards including single and double stranded DNA breaks, creation of reactive oxygen species, immune dysfunction, cognitive processing effects, stress protein synthesis, altered brain development, sleep and memory disturbances, ADHD, sperm dysfunction, brain tumors, abnormal animal behavior and bee colony collapse. (9-14, 20) An exponential rise in the number of studies on EMF showing biological harm is truly disturbing. A major problem is the long latency period of years to decades to study and identify adverse health effects such as brain cancer and neurodegenerative damage. For these reasons an enlarging number of people wish not to overexpose themselves to wireless communications and choose to keep a landline. (20) We need to start listening to our reputable independent scientists on this looming public health issue.

Organizations Concerned About Wireless Technology and Public Health

The World Health Organization (WHO) in 2011 designated radiofrequency electromagnetic fields used in wireless communications including cell phones to be a Group 2B carcinogen. (15)

European Parliament -Resolution 1815- In a 2011 report " Potential Dangers of Electromagnetic Fields and Their Effect on the Environment." The Council of Europe issued a call to

European governments to “take all reasonable measures” to reduce exposure to electromagnetic fields “particularly the exposure to children and young people who seem to be most at risk. (16)

This bill would eliminate the communications safety net we all depend on. Nothing can replace this sophisticated, accurate, secure, private system for emergencies and routine conversation. We will regret a decision to remove our landlines. Instead we should be considering ways to improve maintenance, service and preserve this important asset to our communities.

Respectfully submitted,
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