Senate Bill No. 1076

CHAPTER 353

An act to add Section 8570.6 to the Government Code, relating to emergency preparedness.

[Approved by Governor September 11, 2018. Filed with Secretary of State September 11, 2018.]

LEGISLATIVE COUNSEL'S DIGEST

SB 1076, Hertzberg. Emergency preparedness: electrical utilities: electromagnetic pulse attacks and geomagnetic storm events.

The California Emergency Services Act creates within the office of the Governor the Office of Emergency Services, which is responsible for the state's emergency and disaster response services, as specified. Existing federal law requires a state mitigation plan as a condition for disaster assistance and authorizes the Federal Emergency Management Agency to condition mitigation grant assistance upon state, local, and Indian tribal governments undertaking coordinated disaster mitigation planning and implementation measures.

This bill would require the office to include an evaluation of risks from an electromagnetic pulse attack, a geomagnetic storm event, and from other potential causes of a long-term electrical outage in the next update of the State Hazard Mitigation Plan undertaken to comply with the federal requirements. As necessary, based on that analysis, the bill would require the plan to identify cost-effective and feasible measures to lessen risks from those hazards, including hardening the critical infrastructure of electrical utilities.

The people of the State of California do enact as follows:

SECTION 1. The Legislature finds and declares all of the following:

(a) It is the fundamental role of government to ensure public safety and protect public investments. Modern and effective governance anticipates and defends against natural and manmade threats, including wildfires, earthquakes, terrorist attacks, floods, and cybersecurity.

(b) Years ago, a large burst of energy from the sun called the "Carrington Storm" struck Earth, destroying telegraph systems across Europe and North America. Telegraph operators received electric shocks and telegraph pylons sparked and failed. Because society in the late 19th century did not depend on electricity, economic consequences were small. However, the solar weather that caused these effects was not a one-off. The sun emits the same kind of energy bursts, known as coronal mass ejections or CMEs, every

day. Just like regular weather, this "solar weather" is usually mild. But roughly once every 150 years, a very strong CME from the sun, like the Carrington Storm, strikes Earth.

(c) Other threats to the electrical system include extreme weather and fires, which are exacerbated by drought and a changing climate. The seriousness of the situation was exemplified in the fall and winter of 2017, with the fires that engulfed the Counties of Napa, Lake, Sonoma, Mendocino, Butte, and Solano in northern California and the Counties of Los Angeles and Ventura in southern California.

(d) Today, Californian society depends on a continual supply of electricity for virtually all of its most basic functions: the delivery of food and water, internet and cellular communications, the provision of basic governmental services, and more. If a long-term outage were to strike California today, as a result of Carrington-level storm or other disaster that could permanently incapacitate vital parts of the electrical grid, the damage would be catastrophic.

(e) Water would stop running, food would stop arriving at the supermarket, telephone lines and traffic lights would fail, and the blackout could last months. Businesses would shut down and cities like Los Angeles would run out of food in a matter of days.

(f) The congressional Commission to Assess the Threat to the United States from Electromagnetic Pulse Attack, which studies the effects of a sustained nationwide blackout, predicted that the loss of electrical power could lead to millions of deaths. Additionally, the National Academy of Sciences predicted a nationwide economic cost of two trillion dollars would result from such an outage.

(g) Experts agree that this threat is a matter of "when," not "if." The National Aeronautics and Space Administration predicts approximately a one-in-eight chance of a Carrington-level storm striking Earth within the next decade. The odds of an earthquake with a magnitude of at least 6.7 within the next 30 years is 70 percent. On January 25, 2018, the Doomsday Clock, set since 1947 by the Bulletin of the Atomic Scientists, moved to two minutes until midnight, signaling the highest threat level since the height of the arms race in the 1950s. The cost of doing nothing in the face of these looming threats would be colossal. Thankfully, preparing for this problem is technologically and financially feasible.

(h) Yet gridlock and partisanship in Washington, D.C., have prevented comprehensive national action on this issue. Over the past 10 years, Congress has failed to pass the Secure High-voltage Infrastructure for Electricity from Lethal Damage Act (SHIELD Act) and the Grid Reliability and Infrastructure Defense Act (GRID Act). The Federal Energy Regulatory Commission has issued reliability standards that ameliorate the problem, but do not solve it. Where Washington, D.C., fails to protect the American people, it falls to the states to act.

(i) Washington's inability to act has shifted responsibility to the states. Some states, such as Maine and Virginia, have taken up this mantle and acted to harden their electrical grids. California has the opportunity to do

the same, and in doing so, to lead the country and the world yet again in adopting prudent and sensible solutions to create stability for our residents.

(j) California's innovation and technology leads the world. It is time the state take common sense precautions to protect its people, its business community, and the very fabric of its advanced electrical society from potential disaster.

(k) It is in the public interest to include defense against electromagnetic pulse attacks, geomagnetic storm events, and other disasters in the state's preparedness planning because such attacks and events lie within the full range of risks, threats, and hazards confronting the state and are areas of vital concern with regard to the state's energy policy and emergency and disaster preparedness.

(*l*) It is in the public interest to educate Californians about the threat of electromagnetic pulse attacks because an attack could cause a massive loss of electrical supply and disruption to telecommunications and other vital services, including health, safety, food, and transportation services, which depend on a reliable supply of electricity.

(m) It is in the public interest to encourage local governments and private industry to educate themselves on the consequences of electromagnetic pulse attacks, geomagnetic storms, and other disasters, to examine critical vulnerabilities in their infrastructures, and to prepare for the massive disruptions that could be caused by electromagnetic pulse attacks, geomagnetic storms, and other disasters.

SEC. 2. Section 8570.6 is added to the Government Code, to read:

8570.6. (a) The Office of Emergency Services shall include in the next update of the State Hazard Mitigation Plan required pursuant to the federal Disaster Mitigation Act of 2000 (Public Law 106-390), within its hazard identification and risk analysis, an evaluation of risks from an electromagnetic pulse attack, a geomagnetic storm event, and from other potential causes of a long-term electrical outage. As necessary, based on that analysis, the plan shall identify cost-effective and feasible measures to lessen risks from those hazards, including, but not limited to, hardening the critical infrastructure of electrical utilities.

(b) Nothing in this section limits the authority or responsibilities of the Public Utilities Commission with respect to disaster and emergency preparedness plans pursuant to Section 768.6 of the Public Utilities Code.

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