Date of Hearing: June 27, 2022

ASSEMBLY COMMITTEE ON EMERGENCY MANAGEMENT
Freddie Rodriguez, Chair
SB 468 (Dodd) – As Introduced February 16, 2021

SENATE VOTE: 37-0

SUBJECT: State of emergency: local emergency: electromagnetic pulse attack

SUMMARY: Designates an electromagnetic pulse attack as a condition constituting a state and local emergency. Specifically, **this bill**:

1) Adds an electromagnetic pulse attack to the list of existing conditions that justify proclaiming a state of emergency.

2) Adds an electromagnetic pulse attack to the list of existing conditions that justify proclaiming a local emergency.

EXISTING LAW:

1) Establishes the California Office of Emergency Services (Cal OES), under the office of the Governor, as the entity tasked with California's emergency and disaster response services for natural, technological, or manmade disasters and emergencies.

2) Authorizes the Governor to proclaim a state of emergency, when specified disaster conditions are met.

3) Authorizes local officials and local governments to proclaim a local emergency, when specified disaster conditions are met.

4) Grants the Governor or local government who have proclaimed an emergency to exercise certain powers in response to that emergency.

5) Defines "state of emergency" and "local emergency" to mean a duly proclaimed existence of conditions of disaster or of extreme peril to the safety of persons and property within the state or territorial limits of a local government.

FISCAL EFFECT: This bill has not been analyzed by a fiscal committee.

COMMENTS:

Purpose of the bill: According to the author, "SB 468 simply adds an electromagnetic pulse attack to the list of conditions that are named in the Emergency Services Act (ESA) constituting a state of emergency or local emergency. By adding electromagnetic pulse attacks to the ESA, this bill will provide the Governor and local governments with a necessary tool to quickly respond."

California Emergency Services Act: The California Emergency Services Act (ESA) was enacted in 1970, and established Cal OES within the Governor's Office. The ESA gives the Governor authority to proclaim a state of emergency in an area affected or likely to be affected when: conditions of disaster or extreme peril exist; the Governor is requested to do so upon request from a designated local government official; or the Governor finds that local authority is inadequate to cope with the emergency. Local governments may also issue local emergency proclamations, which is a prerequisite for requesting the Governor's Proclamation of a State of Emergency.

Emergency Preparedness and Response: Cal OES is responsible for addressing natural, technological, or manmade disasters and emergencies, and preparing the State to prevent, respond to, quickly recover from, and mitigate the effects of both intentional and natural disasters. As part of their overall preparedness mission, Cal OES is required to develop a State Emergency Plan (SEP), State Hazard Mitigation Plan (SHMP), and maintains Standardized Emergency Management System (SEMS) and the Emergency Management Mutual Aid System (EMMA). Cal OES, in coordination with FEMA and local partners, has developed four Catastrophic Plans to augment the State Emergency Plan.

Electromagnetic Pulse Incidents: Extreme electromagnetic incidents caused by an intentional electromagnetic pulse (EMP) attack or a naturally occurring geomagnetic disturbance (GMD), caused by severe space weather, could damage significant portions of the Nation's critical infrastructure, including the electrical grid, communications equipment, water and wastewater systems, and transportation modes. The impacts are likely to cascade, initially compromising one or more critical infrastructure sectors, spilling over into additional sectors, and expanding beyond the initial geographic regions adversely impacting millions of households and businesses.

Executive Order (E.O.) 13865: On March 26, 2019, the E.O. 13865 on Coordinating National Resilience to Electromagnetic Pulses was signed. The E.O. charges the Department of Homeland Security (DHS) with coordinating national resilience, preparedness, and response from an EMP and GMD event. The E.O. requires DHS along with other federal agencies to coordinate response and recovery efforts to mitigate the effects of EMPs or GMDs, including extreme space weather events, on critical infrastructure. The E.O. also outlines DHS' lead role in implementing the following activities:

- Providing timely information on credible EMP threats and events to stakeholders;
- Taking a risk-informed approach to understand and enhance resilience to the effects of EMP across all critical infrastructure sectors, including coordinating the identification of national critical functions and prioritization of associated critical infrastructure at greatest risk to the effects of EMP;
- Coordinating response to and recovery from the effects of EMP on critical infrastructure;
- Considering EMP scenarios as a factor in preparedness exercises;
- Conducting R&D to better understand and more effectively model the effects of EMP on national critical functions, and then developing technologies and guidelines to protect this critical infrastructure;
- Maintaining survivable means to provide necessary emergency information to the public during and after an EMP event; and
- Developing quadrennial EMP risk assessments, with the first risk assessment delivered within 1 year of this order.

Nature of the Electromagnetic Pulse Threat to the United States: According to the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack, "High-altitude EMP results from the detonation of a nuclear warhead at altitudes of about 40 to 400 kilometers above the Earth's surface. The immediate effects of EMP are disruption of, and damage to, electronic systems and electrical infrastructure. EMP is not reported in the scientific literature to have direct effects on people in the parameter range of present interest.

Early Testing of EMP in the United States and the Soviet Union: EMP and its effects were observed during the US and Soviet atmospheric test programs in 1962. During the Starfish nuclear detonation above the Johnston Island in the Pacific Ocean, electronic and electrical systems in the Hawaiian Islands, 1400 kilometers distant, were affected, causing the failure of street-lighting systems, tripping of circuit breakers, triggering of burglar alarms, and damage to a telecommunications relay facility.

In the same year, the Soviets executed a series of nuclear detonations in which they exploded 300 kiloton weapons at approximately 300, 150, and 60 kilometers above their test site in South Central Asia. The Soviets reported that on each shot they observed damage to overhead and underground buried cables at distances of 600 kilometers.

Significance of an EMP Attack on the United States: According to the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack, "What is significant about an EMP attack is that one or a few high-altitude nuclear detonations can produce EMP effects that can potentially disrupt or damage electronic and electrical systems over much of the United States, virtually simultaneously, at a time determined by an adversary.

Consequences of an EMP Attack: Some emergency planning scenarios outline the potential consequences of an EMP attack. While an EMP attack may be carried out in concert with a nuclear attack, a separate or coordinated EMP attack could render electronics across the country inoperable and completely shut down major portions of the electrical grid. The cascading impacts of an EMP attack would include inoperable automobiles, disrupted transportation and commodity systems, and a lack of food and medical stocks.

Russia and Weapons of Mass Destruction: The Director of National Intelligence (DNI), in the *Annual Threat Assessment of the U.S. Intelligence Community,* found, "We assess that Russia will remain the largest and most capable WMD rival to the United States for the foreseeable future as it expands and modernizes its nuclear weapons capabilities and increases the capabilities of its strategic and nonstrategic weapons. Russia also remains a nuclear-material security concern, despite improvements to material protection, control, and accounting at Russia's nuclear sites since the 1990s."

The DNI Report continued, "Moscow views its nuclear capabilities as necessary for maintaining deterrence and achieving its goals in a potential conflict against the United States and NATO, and it sees a credible nuclear weapons deterrent as the ultimate guarantor of the Russian Federation. Moscow continues to develop long-range nuclear-capable missile and underwater delivery systems meant to penetrate or bypass U.S. missile defenses. Russia is expanding and modernizing its large, diverse, and modern set of nonstrategic systems, which are capable of delivering nuclear or conventional warheads, because Moscow believes such systems offer options to deter adversaries, control the escalation of potential hostilities, and counter U.S. and allied troops near its border."

Mitigating against the consequences an EMP Attack: While deterrence, detection and intelligence is largely the responsibility of the federal government, there are precautions and preparedness actions local governments and individual citizens can take. For example, electronic devices can be hardened, backup transformers and nonperishable food can be stockpiled, and backup electronics can be stored in protection cages.

REGISTERED SUPPORT / OPPOSITION:

Support

None on file.

Opposition

None on file.

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