

## TEXAS SENATOR TAKES ACTION TO PROTECT CRITICAL INFRASTRUCTURE

[BEGIN FILE]

### SENATOR BOB HALL:

– you allow me this opportunity to have this bill heard in committee. And I truly appreciate Chairwoman Nelson and Senator Colcourse [PH] for being co-authors on this bill and I appreciate their enthusiastic support for it. Members, 21<sup>st</sup> Century technology in today's geopolitical environment has significantly elevated the threat of a catastrophic electromagnetic pulse event, either man made or natural. This threat could dramatically and irreversibly change life as we know it. A highly destructive EMP can occur from either a natural event or a man made weapon. A natural EMP would be the result of an intense solar activity. A man made EMP could be generated by the detonation of a small nuclear weapon above the earth's atmosphere or a portable non-nuclear electronic weapon. Either source would render completely inoperative all unprotected electronic devices. Cars and trucks will stop running, stand-by generators would not start, and water pumps would cease to work. There would be no communication and no electrical – nothing electrical would operate. The seriousness of an EMP threat is not something new. Congress and the US military have known about the widespread and catastrophic damage an EMP could cause for many years. The military began requiring that most of their electronic equipment be designed and built to survive an EMP event in the early 1970s. The military calls for design specifications hardening the requirement. Recently, it's been reported that the military has taken action to safeguard sensitive servers from a potential electromagnetic pulse attack by moving those components to the Cheyenne Mountain base in Colorado. And I have a handout on this article. This is a particularly serious warning. This is what I call a red flag when the military starts taking positive action to do something and for those of you who are familiar with the military, Cheyenne Mountain was used during the Cold War to protect key parts of our command structure from the event of a ground nuclear attack. It has been basically abandoned for several years because really the military did not see a ground based nuclear attack as a viable threat to the United States. They are now moving electronic equipment back into the mountain because of the protection it will provide to that equipment from an EMP attack. The officials admitted the military's dependence on computer networks and digital communications where its operations makes them vulnerable to an EMP, since the use of EMP is one of the least expensive – least expensive ways to cause the most amount of damage to American infrastructure and economy. The economy. It is a very appealing weapon for rogue states like Iran and North Korea to take. In addition – and I have another handout for you, is another step that the military is taking. And that is because the electrical industry has refused to take the threat seriously once again, putting profits ahead of responsibility, the military has been forced to begin a program of creating nuclear hardened micro-grids for critical military facilities such as Fort Bliss. Two flags have now gone up. Red flags that the military is taking this threat of an attack very seriously. And it is time that we start taking it very seriously. Scientists have been warning congress that our civilian infrastructure is also vulnerable to an EMP event and that action should be taken to harden the country's electrical grid system. But again, the federal government has failed to take the necessary actions to implement what experts say are easy and relatively low cost fixes to protect the American people. Hardening our grid will increase our – and there is a real positive benefit on the economic side to doing this. It's not just the protection for survival, but hardening our grid will also increase our economic advantage over other states. When businesses consider moving to Texas, they have to consider the issues of severe weather. Businesses already here are concerned about the damages from severe weather and power outages. Hardening our grid will further incentivize businesses to move to Texas and stay in Texas instead of looking to move to other states. But we must act now. You see, Texas spends a lot of money trying to attract businesses to come to Texas. And I'll say that we have a very reliable grid system that's part of the package they get when they come here. We have sufficient electric power and we have reliable power in a benign environment. By hardening our grid, we will be able to offer to businesses that would be concerned about outages a grid system that would operate in a hostile environment. That would come back and they could be back in business in a very short period of time. That is a very attractive carrot for bringing businesses to Texas. Maine and Wisconsin have already begun the process to hardening their electrical grids. If Texas delays any longer, we risk losing this economic advantage. We also risk losing a stronger appeal as a prime location for military bases. Military bases annually contribute approximately a hundred and fifty billion dollars to the Texas economy. Having a secure electrical grid will go a long way to insuring these bases will remain in Texas. During the next round of base closures, and there will be another round of base closures, Texas military bases would likely be spared from those closures if Texas had an electrical grid system that could withstand the natural and man made EMP scenarios that threaten our national security. Texas really does stand alone in its ability to protect its electrical grid system. By hardening the Texas electrical grid, we will further distinguish Texas from other states as a premier place with reliable electrical service even in a hostile environment. Texas must not stand in the shadow of other states in securing these economic opportunities. Texas should instead lead the nation with model legislation that will set the example for congress and other states to follow. Mr. Chairman, I have witnesses from Homeland Security, the PUC and Irkat [PH] and I'm honoured to have my invited witnesses here, including secretary Frank Gaffney and Kevin Freeman are here today. Ready to take questions.

MAN:

Would you like to call – is it Kevin Freeman and, you said Gassney?

**SENATOR BOB HALL:**

Gaffney.

**MAN:**

I'm sorry. [UNCLEAR] Members, questions of the senator? Senator, we may hear of this from the witnesses. You got – I see the fiscal note on the state, starts out at about three million a year. Do we know the cost on the grid itself, of the electric companies, what the cost will be?

**SENATOR BOB HALL:**

Don't – we don't have the exact, and Mr. Chairman, on that fiscal note, we're looking to do some redundancies in the bill that need to be cleaned up. And I think we can probably pare that down quite a bit here. But the national estimates were made. Were something in the neighbourhood of two billion dollars for the entire nation. And it has been estimated that Texas would probably be about eleven percent of that.

**MAN:**

Members, any other questions for Senator Hall? No? Now the public testimony is now open on committee substitute senate bill 1398. The chair will call Frank Gaffney and Kevin Freeman. Welcome to our committee and whoever wants to go first can go if you'll identify yourself for the record, please.

**FRANK GAFFNEY:**

Mr. Chairman, thank you, my name is Frank Gaffney. I'm the president of the Center for Security Policy. I'm delighted to have with me a senior fellow of our organization. It's an old adage that people say they're from Washington and they're here to help. I'm here from Washington, all right, but I'm asking for your help. For reasons that Senator Hall has mentioned. The United States government, sadly, is a little schizophrenic on the problem of our electric grid. The military has for decades, in fact Senator Hall was involved in this, protected parts of its military capabilities against the threat of electromagnetic pulse. And yet we've done essentially nothing to protect the civilian infrastructure and, most especially, the electric grid, the most critical of our critical infrastructures against this phenomenon.

**MAN:**

Is that true all over the United States?

**FRANK GAFFNEY:**

Yes, sir. It's a function of two forces, both the sort of enemy action phenomenon and also a naturally occurring phenomenon. And I think it's fair to say that we are unprepared against either. This is, with all due respect, the single most important piece of legislation that will be considered in this legislative session. And I say that with all humility for the simple reason that if you don't get the grid fixed, nothing else you do will matter. In fact, you won't even probably get to worry about the rest of it if you don't fix this. We have had in the past couple of days reports that the Islamic State is now operating across the border in Mexico. There are abundant reasons to believe jihadists are operating inside the United States as well. We have had attacks on physical infrastructure notably, but not exclusively, a major substation in northern California just about two years ago to the day. We've had abundant evidence of cyber threats and there is now unfortunately growing evidence that enemies of this country understand that by using electromagnetic forces, either in a localized way through radio frequency weapons or in a strategic way by detonating a nuclear weapon over the United States, you could effect the end of the United States. This is something that is not simply speculation, this is the result of a series of studies, eleven of them to be exact, that have been conducted by or for the federal government over the past eleven years. I'd be happy to provide a copy of this book to you. It just summarizes the executive summaries of them. It's called *Guilty Knowledge: What the US Government Knows About the Vulnerability of the Electric Grid But Refuses to Fix*. Each of them concludes whichever aspect of the threat they studied, the naturally occurring or the man caused, that it would constitute a nation ending problem if the grid goes down and stays down for protracted periods of time. As Senator Hall knows personally from his first hand experience, we know how to fix this vulnerability. Unlike a lot of other problems, this one lends itself to fix. We also can afford it. In fact, I think it's fair to say we cannot afford not to fix it. Lives are to be saved and I believe money is to be made if in fact we fix the grid. If Texas leads, the nation will follow. The next defence industry could well be based here in Texas if it leads. Thank you very much, sir.

**MAN:**

Thank you. The question I would ask of you, all the utilities are subject to mandatory reliability standards that are developed by both, developed by NERC [PH] and approved by FERC [PH]. If those standards approved by the federal government and are put in place by NERC, are you implying that they're not preparing themselves?

**FRANK GAFFNEY:**

I'd go further, sir. I would say they are not preparing themselves. I'm not implying it. I'm stating it. That the standards have consistently been set unduly low. There are all kinds of scientific bases for challenging them. Unfortunately, the process – this may come as a shock to you, is somewhat rigged in favour of the utilities. And as a result, we are not seeing I think the regulatory agencies such as they are – and it's to be noted that this North American Electrical Reliability Corporation is in fact a trade association of the electric utilities themselves. This is sort of a throwback to a sort of pre-trust busting, pre-muckraking, pre-Teddy Roosevelt form of self regulation and it doesn't work, frankly. And I think that's true with the FERC level, a sort of regulatory capture is taking place there.

**MAN:**

Senator Hall?

**SENATOR BOB HALL:**

Yeah. Thank you, Mr. Chairman. Mr. Gaffney, as I understand it, what specifications that NERC and FERC have adopted, the scientific community that understands this problem set the bar much, much higher. But what came out of NERC and FERC were greatly watered down in order to make it easier to so-call comply with the federal regulation as opposed to actually provide any meaningful protection. Is that your understanding?

**FRANK GAFFNEY:**

That is indeed my understanding. And I would commend to the committee the terrific work of a group called The Foundation for Resilient Societies which has a long record of challenging the docket of the FERC and the NERC and showing the inadequacies. I personally must tell you that the principle purpose of these standards seems to be to protect against liability rather than to protect the assets of these industries and I have to say this sounds unbelievable, but unfortunately, if you're driven by sort of a quarterly profits statement mentality, sadly, decisions that may be in the long term interests, even of the company let alone of the country, seem to take second place.

**SENATOR BOB HALL:**

And we talked about the – mostly focused on the threat from a hostile man made, would you tell us what you know about the other threat that exists that we have absolutely no control over and that's a natural threat?

**FRANK GAFFNEY:**

I was, as was mentioned, acted as an assistant secretary in Reagan's Pentagon. This is where I first came across this phenomenon of enemy action inducing an electromagnetic pulse. What really captured my attention was a couple of years ago when I really came to understand that even if no enemy attacks the United States in any of the ways that I've mentioned, physical sabotage, cyber attacks, electromagnetic pulse, we are going to be subjected one hundred percent certitude, at some point in the foreseeable future, by an intense solar storm, geomagnetic disturbance it's called, that will have the effect in many respects of the worst kind of electromagnetic pulse induced by nuclear action. The problem with this is it happens roughly every one hundred and fifty years. And the last time it occurred was a hundred and fifty-six years ago. So we're in the zone. And we know it's coming. We don't know precisely when. NASA has estimated that it's a probability of twelve percent that it will occur some time in the next decade. That's a little bit better than the odds of Russian roulette, but not appreciably so. And I don't know anybody in their right mind who would play Russian roulette, let alone with the country.

**MAN:**

Any other questions –

**SENATOR BOB HALL:**

[OVERLAP] No, sir. That's not speculation. We have documented – I believe it's called the Carrington Effect.

**FRANK GAFFNEY:**

That's correct.

**SENATOR BOB HALL:**

And it's been documented, the first –

**FRANK GAFFNEY:**

The last, as I say, the last one was observed by Dr. Robert Carrington in Britain and witnessed the correlation between solar flares that he was observing on the surface of the sun and telegraph offices and wires catching into flame. This was a phenomenon that was not nearly as severe as today's would be because we didn't have any electric infrastructure, apart from those telegraph wires.

**SENATOR BOB HALL:**

Thank you, sir.

**FRANK GAFFNEY:**

Thank you, sir.

**MAN:**

Members, I would like – I would ask unanimous consent that we limit testimony to three minutes. Is there any objection? Here noted, so ordered. Mr. Freeman, would you introduce yourself, please?

**KEVIN FREEMAN:**

Yes. My name is Kevin Freeman. I'm from Keller, Texas. My area of focus is cyber economic warfare. I've been hired by the Department of Defence for multiple studies on this subject. I'm the author of two books that were best sellers. I've been called in by the FBI, Darpa [PH] and the Defence Intelligence Agency among others. In short, I study non-conventional forms of warfare. In particular, cyber economic weapons. And I write and comment on those. Why I drove to Austin today is to share with you the fact that our nation's power and electric grid is perceived by enemies and adversaries as a potential Achilles heel and a legitimate target. There's specific writings that have been published and in some cases acquired by our intelligence community that clearly delineate the purpose and the capability to attack our electrical infrastructure via electromagnetic pulse weapons, terror attacks, cyber attacks, and other means. This isn't conjecture. As Senator Hall mentioned, the Department of Defence has virtually acknowledged this certainty of the risk when they re-commissioned the Cheyenne Mountain facility for US Northern Command as announced just March 30<sup>th</sup> with a seven hundred million dollar contract. The stated reason, according to Admiral William Gortney was to protect NORCOM and the Northern Command from EMP attack. We have the Chinese doctrine of unrestricted warfare that was published in 1999 by the People's Liberation Army. Here is a translated copy that I brought with me. This book has been used as a handbook by terrorists, we believe including Osama bin Laden. In fact, his name is mentioned in here more than a dozen times. This clearly lists EMP weapons as a potential means of destroying any nation, especially the United States. We also have captured and translated Iranian military documents. One made its way into the public media recently and has twenty times mentioning the possibility of an EMP attack on the United States. It's not a propaganda document. It is an actual military planning document. We have reports from negotiations with the Russian government where the negotiators clearly referenced, you know we have EMP capabilities and could take out the United States. We – very recently, we have Chinese domestic reports that I found and translated that list EMP as their ultimate cyber weapon. Of course, beyond this, cyber weapons – other cyber weapons can be used against our power grid. Operation Cleaver was identified by cyber security firm Cylance as an Iranian intrusion into much of our national infrastructure, including our power grid. The risks to our power grid are serious. Our enemies have contemplated, understand, and targeted the grid. And SB-1938 is a great start to acknowledging these risks and beginning to address them.

**MAN:**

Members, questions of Mr. Freeman? Thanks for being here today.

**SENATOR BOB HALL:**

Yes, Mr. Freeman. What nations have the capability? Is that limited to just the major countries?

**KEVIN FREEMAN:**

Well, actually, all nations in the nuclear club have the capability. But I was corresponding with Lieutenant General Michael Flynn over the weekend. And Lieutenant General Flynn is the immediate past head of the Defence Intelligence Agency. A three star general, just retired. And he said that we know that numerous nation state adversaries have developed serious and debilitating EMP capabilities. Many of these actors are also state sponsors of terrorism. But he went on to say that non-state actors also have acquired capabilities. And so it could be North Korea, Iran, Russia, China, but ISIS as Secretary Gaffney mentioned, and many others have the ability either currently or to acquire them with the dollars that they've obtained. So it is not limited to nation states.

**SENATOR BOB HALL:**

So would you say there's a difference in the threat itself between someone like Russia and China where we essentially are in a MAD situation, Mutually Assured Destruction relationship, and the rogue nations that would do it possibly just for the fun of taking down the Great Satan? Either one of you could answer that.

**FRANK GAFFNEY:**

Could I just mention as I did allude to earlier that quite apart from the use of a nuclear weapon in space, one of the exercises that the blue ribbon commission, one of those that we summarized here, did was to see whether individuals who wanted to and knew what they were doing could, just at Radio Shack, obtain the elements of a radio frequency weapon, cobble them together and create the kinds of loads in a localized area that would have a similar kind of effect to a strategic attack. That would not be limited even to nation states, that could in fact include terrorist organizations or even individuals.

**SENATOR BOB HALL:**

Okay. Thank you.

**MAN:**

Any other questions for Mr. Freeman? Thank you for being here. The chair will now call John Boehner –

**[END OF FILE]**