

Make just one late payment, and you can face a penalty interest rate of more than 30 percent. The fine print in most disclosure statements says that issuers can change the terms of the cardholder's agreement at any time, for any reason. There is no other contract in the world that can change its terms at any time."

In Tennessee, the Knox News reports: "The proposed regulations should curb some of the more unfair practices, and if effective, it may help consumers."

The St. Petersburg Times in Florida reports: "Americans owe more than \$800 billion in credit card debt, and more than 1 in 3 cardholders are unable to make timely payment on accumulated balances. What is troublesome for banks can be tragic for families. With falling home values, stagnant wages and rising prices for basics such as food and fuel, Americans are relying more on credit cards to pay for necessities. Some lenders have taken advantage of that situation by bumping up fees and interest rates on credit cards, even for those who pay on time. Somebody needs to regulate a market that is out of control and takes advantage of the most naive and vulnerable consumers and is threatening an already fragile economy."

Then in Pennsylvania, on May 10, the Daily and Sunday Review stated: "Intervention is necessary if Americans under the thumb of the credit card industry are to have any hope of solvency, and even though the Fed's proposals are welcomed, they should not supplant far broader relief envisioned in the credit card bill of rights."

The Charleston Gazette writes: "Yes, too many accepted cards they could not afford, and charged more than they earned. As the old saying goes, 'It's easier to sign a note than to pay for it.' However, tricking customers who carry a balance into paying dubious fees and penalties is unethical."

The Dallas Morning News says: "There's a huge difference between charging cardholders who have missed payments and willfully creating a system to generate unnecessary penalties. We deserve change. We should pass change."

On May 6, the Baltimore Sun said: "Amid a severe mortgage crisis and credit crunch, the rules should help prevent many cardholders from going under because of some of the industry's worst practices, including high interest rates and high fees. These proposals, which don't take effect until the end of the year, should not prevent Congress from acting on its own and passing needed credit card reform."

I would like to say that credit cards are important. They benefit many families, and I would say that some industry groups and some banks have instituted best practices and have said that they voluntarily will no longer impose any time/any reason increases on customers who pay on time and who don't go over their limits. They say they will no longer practice double cycle billing,

but many credit card companies still practice these really harmful and unfair policies, so we need to pass this legislation, and we need to give relief to consumers and level the playing field, not only between the consumer and the cardholder but between companies that are doing the right thing and those that are still abusing the consumers.

I would like to say that I thank my colleagues. One hundred fifty-five of my colleagues have joined me on the Credit Cardholders' Bill of Rights and over 45 editorials from across this country. I hope that my colleagues will read the bill, those who are not on it, and will join us in this effort to bring relief to America's working families.

I yield back the balance of my time.

THE IRANIAN THREAT

The SPEAKER pro tempore (Ms. WATSON). Under the Speaker's announced policy of January 18, 2007, the gentleman from Maryland (Mr. BARTLETT) is recognized for 60 minutes as the designee of the minority leader.

Mr. BARTLETT of Maryland. Madam Speaker, there was a very interesting editorial in the Wall Street Journal today. Let me read a bit from it. Talk about timing. It is, perhaps, fortuitous.

"On Tuesday, Secretary of State Condoleezza Rice was in Prague, signing an agreement that's a first step toward protecting Europe from ballistic missile attack. As if on cue, Tehran, yesterday, tested nine missiles, including several capable of reaching southern Europe as well as Israel and U.S. troops stationed in the Middle East. Remind us. Who says Iran isn't a threat?"

Yesterday's test offered no big surprises about Iran's missile technology, but they are a useful reminder of just how real the Iranian threat is and how rapidly it is growing. One of the missiles tested was the latest update, the Shahab-3, which has a range of about 1,250 miles. Replace the payload with a lighter one, say, a nuclear warhead, and the range gains 1,000 miles.

□ 1815

Add a booster, and the range can be extended even farther. North Korea did just that with its Taepodong-2 missile.

Technology that is passed along to Iran. U.S. intelligence estimates that Iran will have a ballistic missile capable of reaching New York or Washington by about 2015. But Iran may already have the capability to target the U.S. with a short-range missile by launching it from a freighter off the east coast. A few years ago, it was observed practicing the launch of Scuds from a barge in the Caspian Sea.

This would be especially troubling if Tehran is developing EMP, electromagnetic pulse technology. A nuclear weapon detonated 100 miles over U.S. territory would create an electromagnetic pulse that would virtually shut down the U.S. economy by de-

stroying electronic circuits on the ground. William Graham, head of a congressional commission to assess the EMP threat, testifies before the House Armed Services Committee this morning. We hope someone asks him about that.

I attended that hearing. And he was asked about that.

Let me give you a few quotes from his testimony this morning.

"Several potential adversaries of the capability to attack the United States with a high altitude nuclear weapon generated electromagnetic pulse, and others appear to be pursuing efforts to obtain that capability. A determined adversary," he says, "can achieve an EMP attack capability without having a high level of sophistication. For example, an adversary would not have to have long-range ballistic missiles to conduct an EMP attack against the United States. Such an attack could be launched from a freighter off the U.S. coast using a short- or medium-range missile to loft a nuclear warhead to high altitude.

"Terrorists sponsored by a rogue state could attempt to execute such an attack without revealing the identity of the perpetrators.

"Iran, the world's leading sponsor of international terrorism, has practiced launching a mobile ballistic missile from a vessel in the Caspian Sea. Iran," he says, "has also tested high altitude explosives of the Shahab-3, a test mode consistent with EMP attack, and Iran described the test as being 'successful.' Iranian military writings explicitly discuss a nuclear EMP attack that would gravely harm the United States.

"While the Commission," he says, "does not know the intention of Iran in conducting these activities, we are disturbed by the capability that emerges when we connect the dots."

Dr. Graham was the principal author of a report produced by the Commission to assess the threat to the United States from electromagnetic pulse attack.

And let me read a single statement from the introduction to this study. "The electromagnetic pulse generated by a high altitude nuclear explosion is one of a small number of threats that can hold our society at risk of catastrophic consequences."

And a little later we'll have a chance to note what those catastrophic consequences are.

Here is a report, the CRS report for Congress. "High Altitude Electromagnetic Pulse, HEMP, and High Power Microwave, HPM, devices threat assessments." And they discuss also this electromagnetic pulse.

The first chart shows us a quote from one of our now Senators that I had the privilege of serving with on the Armed Services Committee in the Congress before he went to the Senate, JOHN KYL. He says, "Last week the Senate Judiciary Committee's Subcommittee on Terrorism, Technology and Homeland Security, which I chair," he says,

"held a hearing on a major threat to the United States, not only from terrorists but from rogue nations like North Korea," and he might have added Iran.

"An electromagnetic pulse (EMP) attack . . . is one of only a few ways America could essentially be defeated by our enemies, terrorists or otherwise . . . Few if any people would die right away. But the long-term loss of electricity would essentially bring our society to a halt . . . few can conceive of the possibility that terrorists could bring American society to its knees by knocking out our power supply from several miles in the atmosphere. But this time we've been warned, and we better be prepared to respond."

The next chart is a quote from Major Franz Gayl, "The impact of EMP is asymmetric in relation to our adversaries. The less-developed societies of North Korea, Iran and other potential EMP attack perpetrators are less electronically dependent and less specialized while more capable of continued functionality in the absence of modern conveniences."

What they're saying is that if this EMP attack was made in one of these countries, that they would not be hurt anywhere near as much as we because they have a much less sophisticated infrastructure.

"Conversely, the United States would be subject to widespread paralysis and doubtful recovery," doubtful recovery, "following a surprise EMP attack. Therefore, terrorists and their coincidentally allied state sponsors may determine that given just a few nuclear weapons and delivery vehicles the subjection of the United States to a potentially non-attributable EMP attack is more desirable than the destruction of selected cities. Delayed mass lethality is assured over time through the cascade of EMP's indirect effects that would bring our highly specialized and urbanized society to a disorderly halt."

What is this EMP that these several reports and articles have been talking about?

The next chart, and this comes from the U.S. Defense Nuclear Agency, and this shows how an EMP is produced. Our first exposure to this was way back in the early 1960s, 1961, I believe, over Johnston Island in a test, and then we were testing nuclear weapons in a test called Starfish. I think that was one in the series of the Fishbowl tests. And this test was the first one that we had conducted above the atmosphere. All of the other tests had been on a tower or underground. This one was above the atmosphere.

And we had some very surprising results from that. It was about, I think, 800 miles away from Hawaii and almost instantaneously, there were effects, electronic and electrical effects, in Hawaii from this extra atmospheric detonation of a nuclear weapon.

This chart shows what happens when the nuclear weapon explodes. There are some gamma rays that come out. They

produce Compton electrons. And these Compton electrons then flow at the speed of light, line of sight, and if the weapon is, say, 300 miles high above the United States, that would cover all of the United States.

This EMP wave is like a lightning strike, although different than lightning. Or a static electricity. A really strong static electricity everywhere all at once. It's just hard to conceive of something like this, that there would be a simultaneous over all of the United States lightning strike, although not quite like lightning, that would destroy, if it were strong enough, all of the electronic devices in our country.

The features in EMP from a high altitude burst they say is wide-area coverage, high-field strengths, and they note here 50 kilovolts per meter. A little later we will talk about what the EMP Commission learned from a couple of Russians, Soviet generals who are now Russian generals, who said that the Soviets had developed 200-kilovolts-per-meter weapons. We will discuss a little later what that means.

Broad frequency band of a very broad range or frequency from D.C. to 100 MHz. "Absence of most other nuclear weapons effects." There isn't any fallout because there is nothing to fall out. Fallout is produced when a weapon is detonated at the surface or near the surface and it blows a lot of radioactivity up in the air. In this case, there isn't any material blown up in the air so there really isn't any conventional fallout.

The next chart shows us the range, what would be covered by a weapon detonated at various altitudes. And this is looking at the center of our country near Iowa and Nebraska. And the surface, little red dot here in the middle, if it's detonated on the surface, very small area is impacted. If it is 60 miles up, you'd get a broader area; 200 miles up, you get a still broader area. And if you go 300 miles up, it covers all of the United States, the tip of Maine and Florida and the State of Washington.

The next chart shows, again, the coverage of an EMP, and this one shows how the intensity of the field degrades with distance. And there is this so-called "smile effect" from it. And the color coding over there shows the degradation of the intensity. It starts out with red in the middle, which is 100 percent, and then we get to the purple out here, and that's 50 percent. And you see that the degradation is cut into about half by the time you reach the margins of our country.

That's important when we look at the next chart because the next chart redacted the names of the Soviet generals, and now Russian generals is now redacted. The Commission—this is from the EMP Commission report.

"The Commission met with Russian Generals 'blank' and 'blank' who claimed: Russia designed a 'Super-EMP' nuclear weapon capable of gener-

ating 200 kilovolts per meter. Russian, Chinese and Pakistani scientists are working in North Korea and could enable that country to develop an EMP weapon in the near future."

And one needs to note the close working relationship between North Korea and Iran.

The next chart further looks at this threat. And this again is from the EMP Commission, a Commission set up 4 years ago by legislation that I initiated. They have been working for 4 years now, and we are planning this year to extend their life another 4 years because it is absolutely essential, as you will see as we go on with the discussion, that both our military and our national infrastructure be aware of this threat and do reasonable things to protect our military and our country against this threat.

"EMP is one of a small number of threats that may," they say, "hold at risk the continued existence of today's U.S. civil society." That is quite a statement. What that means is that EMP is one of a small number of threats that may end life as we know it. It could "disrupt our military forces and our ability to project military power."

"The number of U.S. adversaries capable of EMP attack is greater than during the Cold War." Then there was only one adversary. Today there are potentially many who have nuclear weapons or could acquire nuclear weapons and missiles and even short-range missiles, as was pointed out, that could be launched from a tramp steamer off our coast.

□ 1830

Potential adversaries are aware of the EMP's strategic attack option. My wife raised this question: Should you really be talking about this because you are giving these people ideas? And I assured her that every one of our potential enemies has in their open literature detailed discussions of an EMP attack and how it could be used and how they would use it.

A little later I'm going to show you a chart which is in Russian writing, and we can show you from the open literature of any of these countries that might launch an attack against us, in their open literature they know. Ninety-eight percent of the people in our country may know nothing about EMP and what it could do to us, but I will assure you that 100 percent of our potential enemies know all about EMP and what it could do.

The threat is not adequately addressed in U.S. national and homeland security programs. Dr. Graham is a scientist, and scientists frequently are capable of understatement. This is a gross understatement. The threat is not adequately addressed. The threat is not addressed.

You know, some things are too good to be true, and usually if something is too good to be true, it's not true. This thing is so bad, the potential is so

enormous, that some people think, gee, that's just too bad to be true, so it can't be true, like that's too good to be true so it can't be true, but I'm afraid this is true.

The next chart, and I'm really pleased at the quality of the nine members of this commission. These are top people with many, many years of experience. When I was just finishing my first two years of teaching medical school, 56 years ago now, Dr. Johnny Foster was designing nuclear weapons for our country, and he was the director of LLNL and the director of DDR&E.

Mr. Earl Gjelde, chief engineer and acting director, Bonneville Power Administration, very knowledgeable in our grid and its vulnerabilities.

Dr. Bill Graham, who was the chairman, he's had a long, long experience, has been appointed by a couple of different administrations. He was a science advisor, for instance, to President Reagan. He was Rumsfeld's deputy in their very important study on the emerging threat of ballistic missiles.

Dr. Robert Hermann, director of NRO. NRO is very interesting. Of course, just a moment to talk about NRO, National Reconnaissance Organization. Until just a few years ago even that name was secret, and they spend probably more money than almost any other agency in our country. There were several billion dollars that they couldn't account for, and we finally decided, gee, for what they do, that's small change, and we won't worry about that. You see, the NRO is the organization that buys and launches all of our incredibly expensive spy satellites, and he was the director of NRO; principal deputy assistant secretary to the Air Force; senior vice president, United Technologies.

Hank Kleupfel, advisor to the President's NSTAC; vice president of the very prestigious International Science Applications International Corporation.

General Lawson, a four star general, with a lot of experience.

Gordon Soper, who has a lifetime of experience, is director of the Nuclear Forces C3, the chief scientist at DCA.

And one of my favorites is Dr. Lowell Wood, director's staff, LLNL; technical advisor, SSCI and the House committee, the committee on which I serve.

When I first became interested in EMP, I called Tom Clancy, whom I know, and I knew that he had an EMP sequence in one of his books. And so I knew he knew something about it. And so I called to ask him about it. He said, well, if you read my book you know all I know about it because I put it all in the book. But he referred me to the person who he said was the smartest person hired by the U.S. government. That's a tall order because we hire a lot of people, but this Dr. Lowell Wood, he said, is the smartest person hired by the U.S. government.

And then Dr. John Woodard, who is executive vice president and deputy director of Sandia National Labs. That's an interesting one because I went out to visit the last of our 10 children who has a Ph.D. in computers working at the Sandia National Labs, and he brought home from work some little things that they had sent him that led me to believe there might be some expertise in Sandia National Labs that would be of use in our evaluations of this EMP threat.

So I asked him to inquire about that, and the next day I was over there I think for four or five hours for a classified briefing. Well, I didn't know when I went there that Dr. John Woodard, who is the executive vice president, was one of the nine members of this commission. So that was a very, very fortuitous trip.

I just wanted to note how impressive this group of people are.

Potential adversaries know about EMP. I wanted to spend just a moment on this because I don't want anybody to believe that we're somehow letting the cat out of the bag here in telling people what they don't know, and this is from the EMP Commission itself.

"Hypothetically, if Russia really wanted to hurt the United States"—oh, let me tell you about this. I was there and I think there were about nine of us, a code, and we were in Vienna, Austria, with three members of the Russian Duma, Vladimir Lukin, who was ambassador here at the end of Bush I, and the beginning of the Clinton administration; the third ranking Communist, a tall, handsome blonde, Alexander Shabonof; and a bright, rising star in one of their parties there, Vladimir Rushkoff.

And we were there in Vienna with a personal representative of Slobodan Milosevic, and Slobodan Milosevic had the three captives, remember, and he wanted rid of them. And his personal representative there said, you understand how important it is for him to get rid of those three people, because if any harm comes to them while they're under his control, that's going to be bad news for him.

Jesse Jackson was there, and they really did not want to release them to Jesse Jackson. They wanted to release them to us. The head of our code had promised that he wouldn't go there. I had not promised I wouldn't go, and so I volunteered to go. Other members of our code said, gee, I wonder if we really ought to go, and maybe there will be several additional captives there if we go.

I assured them that if the Russians went with us—and by the way, the Russians joined the G-7 to become the G-8, and 6 days later, the framework agreement which we negotiated there was approved by the G-8. The only large country in whom the Serbs had confidence was Russia, and Russia told us, whatever we agree to in these negotiations, the Serbs will agree to.

Well, Vladimir Lukin sat in this hotel room in Vienna, Austria, for a

couple of days during these talks, with his arms folded across his chest. He was very angry. He was looking at the ceiling. He said, you spit on us; now, why should we help you? And he made that statement because the United States had kind of said, you know, then oil wasn't \$140 a barrel and Russia was very poor and their military was in decay, and we essentially told them, you know, we're the big boy, we'll take care of this, we don't need you.

And so Vladimir Lukin was kind of smarting under that, and he said, You spit on us; now, why should we help you? And then he made this statement. He said, If we really wanted to hurt you, with no fear of retaliation, we'd launch an SLBM, submarine launch missile. We wouldn't know where it came from; it came from the sea. And we'd detonate a nuclear weapon high above your country, and it would shut down your power grid and your communications for 6 months or so.

Alexander Shabonof, the third ranking Communist who was there, smiled and said, And if one weapon wouldn't do it, we have some spares, like about 10,000 is how many spares they had.

So I was there when they made that statement. The Chinese military writings describe EMP as the key to victory and describes scenarios where EMP is used against U.S. aircraft carriers in a conflict over Taiwan. They read all statements from the EMP Commission.

A survey of worldwide military and scientific literature sponsored by the Commission found widespread knowledge about EMP and its potential military utility, including in Taiwan, Israel, Egypt, India, Pakistan, Iran and North Korea.

As I said earlier, maybe 98 percent of our people don't know much, if anything, about EMP, but I can assure you that 100 percent of our potential adversaries know everything about EMP.

Terrorist information warfare includes using the technology of directed energy weapons or electromagnetic pulse. This is from the Iranian Journal, March of 2001.

Iran has tested launching a Scud missile from a surface vessel, a launch mode that could support a national or transnational terrorist EMP attack against the United States.

And the next chart shows a continuation of these statements to assure us that when we talk about EMP and the fact that we are vulnerable and we really need to do something about that that we're not letting the cat out of the bag.

This is from an Iranian Journal, December of 1998. "If the world's industrial countries fail to devise effective ways to defend themselves against dangerous electronic assaults, then they will disintegrate within a few years. 150,000 computers [belong] to the U.S. Army. If the enemy forces succeeded in infiltrating the information network of the U.S. Army, then the whole organization would collapse, and the American soldiers could not find food to eat

nor would they be able to fire a single shot."

This, by the way, is one of the other—when the report said there were just a few weapons that could bring us to our knees and end life as we know it, a really aggressive cyber attack that brought down all of our computers—and our computers control everything. They control your power grid. They control your communication. That is what they're talking about here.

"Terrorist information warfare [includes] using the technology of directed energy weapons or electromagnetic pulse." This is the Iranian Journal.

Terrorists have attempted to acquire non-nuclear radio frequency weapons.

What we're talking about specifically today and what our hearing was about and what the editorial in *The Wall Street Journal* was about was nuclear-produced electromagnetic pulse. We can produce here on Earth a very focused, targeted EMP. It is conceivable, for instance, that you can mount one of those in a van and go down Wall Street and shut down all the computers in the buildings right next to you. That is a very local thing. It would be hurtful, but we could recover from that.

The next chart really is an interesting one. To convince you that our potential enemies really do know about this, this is from a Russian journal, and there it is in Russian and it's obviously EMP. You can see the detonation of the weapon. You can see the sparks here in the power grid. You can see the resisters here, the fuses probably, they're all exploding.

The next chart shows an American translation of what the Russians were saying in this chart, and you will notice the same two figures here.

Electromagnetic fields arise from nuclear explosions which produce impulsive electrical currents and stress in aerial and ground conductors and cables—this is a direct translation, and it's sometimes hard to translate into smooth English words in another language—and in radio station antennas. Radio waves are also produced which propagate to large distances. And boy, they do propagate to large distances.

Electromagnetic fields and currents in the atmosphere arise as the result of the formation near the explosion of a shining region and a large region of ionized atmosphere produced by penetration radiation.

This is our translation of their description of the nuclear detonation and the production of these alpha particles and these Compton electrons.

Source, currents and stresses exhibit transient impulse with characteristics close to the impulse caused by lightning discharges. Its duration is a few milliseconds.

Well, some of the pulses, as a matter of fact, last a couple of minutes. There are some very long wavelengths in this that will couple with railroad tracks, for instance. There's some very, very short wavelengths which will couple with the tiniest fields in a chip.

For ground and aerial explosions, at a radius of a few kilometers from the center of the explosion, overstress between conducting aerial lines or electrical supplies and grounds reach tens and hundreds of thousands of volts.

□ 1845

While between the arteries of underground cables—ah, that's another thing, burying your cables won't protect you. Some of these long wavelengths reach underground and couple with the cables underground. So essentially everything is taken down. The one thing that is immune to it is fiberoptics. But unless you're using optical switching, it will do no good to use fiberoptics because the EMP will take out the switching. So if you have optical switching and fiberoptics, then you're immune to it.

But we can make all of our systems immune to it. It costs some money. Our fighter planes are all immune to it. The President's Air Force One is EMP hardened. We have a few satellites up there that are EMP hardened. But about 95 percent of all of our military communications go over commercial satellites. And the satellites are the weakest link in the chain because it is very expensive to put stuff in space; it costs \$5,000, \$10,000 a pound. And hardening increases weight as well as expense. And so nothing of our civilian infrastructure, space infrastructure is hardened.

A single detonation 300 miles high above our country would take out all low Earth orbit satellites that are a line of sight. The prompt effects take that out. And then the Van Allen belts are pumped up, and the other satellites will all be dead in a few days to a week or two. And it would do you no good to launch other satellites even if you could because the Van Allen belts will stay pumped up for a year or so.

Of course this effects everybody. This is the strike that comes back to bite you. And so your enemy would have to be prepared that they would also have no satellites because a single weapon would take out all of the Earth's low orbit satellites; no more GPS, for instance.

The next chart is a look at why EMP? Why would an adversary use electromagnetic pulse? States or terrorists may well calculate that using a nuclear weapon for EMP attacks offers the greatest utility. EMP offers a bigger bang for the buck against the U.S. military forces in a regional conflict or a means of damaging the U.S. homeland.

There is no way that a nuclear weapon could be used at ground level that would produce anywhere near the effects that are produced by a nuclear weapon detonated in space, producing this EMP pulse.

EMP may be less provocative of U.S. massive retaliation compared to a nuclear attack in a U.S. city that inflicts many prompt casualties.

If there was an EMP attack on our country, all that it has done is to take

out all of our computers, which means we have no power grid, we have no communications. How do you respond to that? Are we now justified in vaporizing the grandmothers and babies in the country from which it was launched? By the way, unless it's launched by Russia, which has thousands of missiles, or by China in the future, I don't think we will know who launched it because I don't think that any nation will launch against us from their soil because our satellites would detect the launch and we would know where it came from. And why should they? They're a long way off. Our shores are close to the oceans, and there are thousands of ships in the north Atlantic shipping lanes. It is impossible to keep track of those ships. It would be very easy to—and their literature talks about this—using a short range or a medium range missile, to launch from a ship.

There is a very interesting story—I hope that it is published, I was given a prepublication copy of it—called "One Second After." And it's a story of what happens in our country with an EMP attack. It's a very well written story. It's in the hills of North Carolina. And there is a retired colonel who is there teaching in a university there. And on his child's 12th birthday, I think it was, they're having the birthday party and the lights go out. And he notices in a few minutes that there is no noise from the interstate, which is just over the hill. And he walks over to where he can look down on the interstate and he sees that all the cars are parked on the interstate and people are walking around the cars.

The story runs for a year. And at the end of the year—and I asked the members of the commission, they said, well, it might not be quite that bad, but at the end of the year in this story called *One Second After* there are only 25,000 people still alive in New York City, 90 percent of the country's population is dead, only 80 percent of the population in the area in which the story is set in North Carolina is dead. I said that for many people this is just too bad to be true, and so they don't even want to think about it.

During the Clinton administration he had a commission to set up, headed by General Marsh, to look at critical infrastructure. And they came to testify before our Armed Services Committee and we asked them, did you look at EMP? He said yes, we looked at EMP. Well? Well, we decided there was not a high probability of an EMP attack, so we didn't look at it anymore. I said, well, gee, with that attitude, if you haven't already, when you go home tonight you're going to cancel your fire insurance. I mean, that's why we have insurance, when there is a low probability, high-impact event. And I know of nobody at the end of the year, I've never heard anybody come and complain, gee, you know, I bought that fire insurance and my house didn't burn.

All that I want my country to do is to make the kind of an investment

that represents the equivalent of buying fire insurance on your house. Now, I have fire insurance on my house, I wouldn't sleep well tonight if I didn't, but I haven't hired somebody to stand there and to yell "fire, fire," when he sees a fire. I'm content with my smoke alarms and so forth. But I've done what I think is a reasonable thing. But as the EMP Commission pointed out, our country has not done what would appear to be a reasonable thing in preparing for this eventuality, neither in the military nor in the private sector.

And these two studies that I referred to, the one by CRS, the Congressional Research Service, and the other by this commission, both of them paint the same picture, that an EMP attack on our country would be catastrophic. Now, there is something that we can do about that. And the Commission ends with a number of recommendations.

What would we do if there was an EMP attack on us? Not a building is hurt, you are not hurt—for the moment. Although, if it was really this 200 kilovolt per meter weapon—and we have not tested anything more than a fourth of that, about 50 kilovolts per meter—if it really was that weapon, the members of the commission are fairly confident that everything comes down, which means that you're in a world where the only person you can talk to is the person next to you, unless, by the way, you happen to be a ham operator with a vacuum tube set because vacuum tubes are a million times less susceptible to EMP.

I remember a number of years ago a Soviet MiG pilot defected to Japan, and you may remember that. And we were disdainful of the Russians because their planes still had vacuum tubes; they're a million times less susceptible to EMP. And the only way you could go anywhere after this really robust EMP laydown is to walk, unless you happen to have an old car that has coil and distributor. These are really tough; they almost certainly would be immune to this.

EMP could compare to a nuclear attack on a city, kill many more Americans in the long run—nobody immediately—and we die in the long run because we do not have any electricity, we do not have any transportation. The average city has 3 days supply of food. And go to any of our major cities and have the lights go out for a few hours and you will see how thin the veneer of civilization is.

EMP could, compared to a nuclear attack on a city, kill many more Americans in the long run from indirect effects of collapsed infrastructure, power, communications, transportation, food and water. City water is not flowing, the septic system is not working.

What do you do? There are a number of recommendations—we'll look at a few of those in a few moments—that they make. But the commission is convinced that, with reasonable expenditure, we can do something meaningful

to protect ourselves against this. And by the way, our very vulnerability invites this attack. They know how vulnerable we are, it's in their public writings. They know that.

Strategically and politically, an EMP attack can threaten entire regional or national infrastructures that are vital to U.S. military strength and societal survival—vital to survival, they're making the point—challenge the integrity of allied regional coalitions and pose an asymmetrical threat more dangerous to the high-tech West than to rogue states.

To a state without our sophisticated infrastructure, losing electricity wouldn't matter much. There are many countries in the world that have a few hours of electricity in the morning and a few hours of electricity in the evening, that may have only water at certain hours of the day. And when they do that, they plan to store that water so that they will have enough for the rest of the day. So cultures like that would be nowhere near as much affected by an EMP attack as we would.

Technically, an operational EMP attack can compensate for deficiencies in missile accuracy—if you miss by 100 miles, it doesn't matter; it really doesn't matter if you miss by 100 miles—fusing range, reentry vehicle design, target location intelligence, and missile defense penetration. It really doesn't matter. None of these things matter. You just shoot a weapon. If a scud launcher goes up about 180 miles, that's plenty high to shut down the whole northeast and well down the mid coast. And it really doesn't matter if you miss where you would like it to detonate by 100 miles, it really doesn't make any difference.

The next chart shows the kind of technology we used to have during the Cold War. This is a trestle on which we have a large airplane. And we are doing simulated EMP attacks on that airplane to make sure that we have hardened the airplane. That's all mothball now, we aren't doing that anymore. By the way, it was impossible to really simulate an EMP attack because of the long line effect. There isn't any way, with this EMP burst created here on Earth, that we could cover an area miles long. And railroad tracks, power lines, any of these things are antennas. And there are some very long wavelengths here that, coupled with very strong structures like miles of power lines or miles of railroad tracks, and you really can't simulate the line effect. But we've done as good as we can do. And after hardening, we would test the planes to make sure that we had hardened them.

The next chart is one that is from this study of the EMP Commission. They started out looking at the military, but since all of our military bases are surrounded by towns and cities and suburbs and so forth, and since none of our military bases are stand-alone, as far as how power is concerned, they

have some UPS units, some units that will produce temporary power, but few of them will last more than 48 hours and then their tank of fuel has run out and the generators stop working.

And so they started looking at the interface between the military and the civilian infrastructure, and they became very, very concerned about how interrelated and how fragile our national infrastructure was. It has grown to accommodate the growth of our population and our increased demands for energy, and it is not designed as an integrated system as it would be if you didn't have any of this and you started from scratch and put the whole thing in; it's kind of added on to and added on to. And so they have this little chart which shows, like a house of cards, the interrelationships between oil and gas and communications and water and banking and finance and government services and emergency services and transportation and electrical power and fuel. Look at the lines that run there, they all run from electrical power. If you don't have electrical power in our world, you don't have anything. Very few things operate without electrical power. So they were very concerned about the vulnerability of our national infrastructure.

One of a very few high-altitude nuclear detonations can produce EMPs simultaneously over wide geographical areas. Just one will do, as the previous chart showed, if you detonate it about 300 miles high over Iowa or Nebraska. Unprecedented cascading failure of our electronics-dependent infrastructure could result. As a matter of fact, if one of these super EMP-enhanced bombs is used, you will change that word to "would" result because there is no question but that that would bring down our whole infrastructure.

□ 1900

Power, energy, transport, telecommunications, and financial systems are particularly vulnerable and interdependent, and they would all come down. EMP disruption of these sectors could cause large-scale infrastructure failures for all aspects of the Nation's life.

Again, I say you would essentially, if this biggest weapon was used that produces 200 kilovolts per weapon, you would be in a world where largely the only person you could talk to is the person next to you unless you had that ham radio with a vacuum tube in it, and the only way you could go anywhere is to walk unless you happened to have a car that had a coil and a condenser.

Both civilian and military capabilities depend on these infrastructures, almost totally. Without adequate protection, recovery could be prolonged months to years. That's a very long time to hold your breath in a situation like this.

Now we will look at the conclusions and they had a number of conclusions. One of the conclusions was the EMP

threat is one of a few potentially catastrophic threats to the United States. By taking action, the EMP threat can be reduced to manageable levels. U.S. strategy to address the EMP threat should balance prevention, preparation, protection, and recovery. And one of the first things that we should do is to look at recovery. Should it happen, what would you do?

I remember that during the Cold War, I was working for IBM corporation, and I was concerned about what we would do when we came out of the fallout shelter. And then those fallout shelters were so prevalent, so omnipresent, that IBM was giving their employees interest-free loans to build a backyard fallout shelter. And I asked myself what would I do when I come out of the fallout shelter because it's going to be a whole different world? Then we were looking at perhaps hundreds of nuclear weapons falling on our cities and taking them out, but we had all of the fallout shelters, the civil defense things. Any public building you went into, there were brochures there telling you what you ought to do and how to do it. So people were really thinking about it. And in schools you practiced what you would do if there was an attack. You would put your head down between your knees and so forth. I remember that when I worked for the National Institutes of Health, we had drills there because our big research hospital there was going to become, I think, a 500-bed hospital for casualties. Then we developed and the Soviets developed the hydrogen bomb, and we weren't even sure that the hospital was going to be there after that. It was certainly going to be there after the conventional nuclear weapon. But we were preparing for that. So we can do something to prepare.

Critical military capabilities must be survivable and durable to underwrite U.S. strategy. If the enemy knows that they cannot shut down our retaliatory force, they will be much less inclined to do this unless they plan to do it in a very covert way. By the way, the book that I mentioned, this attack on our country, "One Second After," the attack comes from a missile which is launched at sea, and then after the missile is launched, the ship is sunk so there are no fingerprints.

The next chart shows some conclusions, some action items. The 2006 defense authorization bill contains a provision extending the EMP Commission, and now we have the 2008 bill, and we are hoping to extend it now until 2012. The commission has been very effective. I will tell you that your military now is acutely aware of this and the Pentagon is aggressively addressing it. I come from Maryland, and I was pleased when the commission members told me today that Maryland is one of two States in the country that is as a State doing something about this. And so we hope the Commission will be very active in the next 4 years, and they are going to States, they are going to ro-

tary clubs, they are going everywhere they can go to tell the people about this and what we can do and should do.

Terrorists are looking for vulnerabilities to attack, and our civilian infrastructure is particularly susceptible to this kind of attack. As I mentioned, our very vulnerability invites attack, and we can reduce the probability of attack if we do something meaningful to protect ourselves.

The Department of Homeland Security needs to identify critical infrastructures. Indeed they do. I have been concerned that our Homeland Security Department is doing essentially nothing in the area of civil defense. And I remember very well the Cold War. I was born in 1926, and I grew up during the Depression and then the long World War II and the long Cold War after that. And I remember we would have blackout drills, and one of the neighbors would be assigned on a volunteer basis to make sure that everything was blacked out. This was during the war when there was some threat that enemy bombers might be coming over our country. And then during the Cold War that followed that, every public building you went into would have literature telling you how to produce a fallout shelter, how to improvise one in your basement if you hadn't built one outside, the kind of food to store. It was available for sale at many places. How much water you needed. They had pictures of the fallout shelter and the beds and so forth and how you would make due there for the several days to a couple of weeks. And they made available monitoring equipment so that you would know when it was safe to go out when the radiation levels had fallen down to where it was safe to go out. So everybody—we practiced in schools. At our workplaces we practiced. And today there is essentially no attention given to advising individuals, businesses, churches, social clubs what they can do individually and collectively, and I will tell you that our strength is going to be determined not so much by our military, which is going to be okay, but our strength as a country is going to be determined by what we have done individually as families, as small communities to protect ourselves so that we do not become immediately a ward of the State.

And they asked Dr. Bill Graham what he had personally done. He has a generator which is not plugged in. Plug it in. It's hooked to the electrical system. It's a long line, effective, a big antenna. It's much more likely to be damaged if it's plugged in. With 200 kilovolts per meter, by the way, it's probably all gone anyhow. But if it's a lesser intense weapon than that, not plugging in it would make a difference. He has food and water for several days.

The average city has 3 days supply of food, 3 days supply of food. And I noted in the hearing today that if in anticipation of this, a year or 2 before and even a decade because this food, nitrogen packed and freeze dried, will last a

very long time, then you are a patriot because now you're stimulating the economy. But if you wait until the hurricane is at the door or the missile attack is imminent and you do exactly the same thing, now you're a horder. Have you thought about that difference? You've done exactly the same thing. You put away food and water and essentials for survival. If you do it well ahead of the event, now you're a patriot, doing the right thing. If you do it immediately before the event, now you've become a horder. And nobody likes a horder.

The Department of Homeland Security also needs to develop a plan to help citizens deal with such an attack should it occur. This is not me saying that. It is the EMP Commission saying that. Citizens need to become as self-sufficient as possible. And they note something which is really very important. There are a number of things, a Hurricane Katrina, almost nobody there had made any preparation for this. And with hours they now were dependent on services from a government that wasn't there, that couldn't get there. And the Federal Government will tell you don't count on us for at least 72 hours. You need to be on your own. And I think that the really wise thing to do would be to be prepared for several days to several weeks. And there are any number of natural events or human-caused events that could result. Suppose it was a major strike. Oil is now 141 or so dollars a barrel, gas is over \$4 a gallon, diesel nearly \$5 a gallon. At some point the trucker may decide enough is enough, we quit, in protest, you've got to do something about this. A 3-day supply of food in the stores. Wouldn't it be nice if you had a meaningful supply in your home so there are a number of storms that you could weather in addition to this one? Citizens need to become as self-sufficient as possible.

Well, I have been concerned about electromagnetic pulse now for a number of years. I am very pleased that we were able to get this commission set up. I am really pleased with the quality of the commission and what they have been able to do. And now we are extending it. We have already passed the bill in the House here. We're extending it now for 4 more years, to 2012, and I look forward to the commission's being active. And this is really very stimulating and challenging, and meeting a big challenge like this and overcoming it is exhilarating. And I will tell you, rather than watching silly programs on television, the family would be much better rewarded and would feel better if they would sit down and say what can we do to prepare for this? Because our country is going to be stronger if I am self-sufficient and maybe I have enough to help somebody else, so that I'm not a ward of the State. And I hope that your government—the Homeland Security is the right place to look—is going to become more active in telling you what you need to do. But if they

don't, go back and look at the advice given during the Cold War. What we were encouraged to do then, what we did then is precisely the kind of thing we need to do now. Now, there was lots of preparation. There were fallout shelters that would accommodate hundreds of people. If you went to Switzerland, if you go today, you will find that all of Switzerland can go underground with enough food and water to last them for quite a while. Now, we never had that level of preparedness, but we were enormously better prepared then than we are now.

Well, Madam Speaker, I am pleased for this opportunity to talk about this very important subject, and I hope that we become less and less vulnerable, which will reduce the threat more and more.

OUR TWIN PILLARS OF FREEDOM: THE DECLARATION AND CONSTITUTION

The SPEAKER pro tempore. Under the Speaker's announced policy of January 18, 2007, the gentleman from California (Mr. DANIEL E. LUNGREN) is recognized for 60 minutes.

Mr. DANIEL E. LUNGREN of California. Madam Speaker, we are in this Chamber just several days removed from our July 4th district work period, and I had reserved time on the Friday before our scheduled departure to discuss the importance of and the relevance of the birth date of this Nation. Since our session for that day was canceled, this is my first chance to speak on that subject.

Nearby in the Capitol rotunda hang four paintings crafted from the hand of John Trumbull, one of George Washington's aides-de-camp during the Revolutionary War. In the first of them, members of the Second Continental Congress, now 232 years ago, signed their names to the Declaration of Independence, thereby formalizing a severance of the institutional bonds between the colonies and their mother country. Out of a "decent respect for the opinions of mankind," they stated the reasons for this action in assiduous detail, invoking the "laws of nature and of nature's God" and the natural right of revolution because their inalienable natural rights had been abridged.

Twelve years later, after a long, exhausting, but ultimately successful war for independence, the people of this country were debating in ratifying conventions up and down the eastern half of our now expansive land whether to ratify or reject a new governmental framework for our experiment in self-government. That document, our Constitution, which Akhil Amar, perhaps understating the case, has called "one of the most important legal texts in human history," would ultimately be approved, and thus would commence the beginning of our new government.

Today in the afterglow of the colorful commemoration of our national independence—and I might say I was fortu-

nate enough to enjoy the fireworks at Kings Beach, California, and Incline Village, Nevada, as well as the city of Folsom Rodeo this past weekend—I rise to celebrate our twin pillars of freedom, the Declaration of Independence and the Constitution.

□ 1915

Madam Speaker, they are much more than dry pieces of parchment from centuries bygone. No. They are documents which embody the very notion of our independence, recognizing our unique quality of self-government and cementing our commitment to constitutionalism. Make no mistake, this was something much more than just and efficacious for mankind than that which had come before. Yes, we have much to celebrate.

Madam Speaker, these celebratory facts were not foreordained. As Carol Berkin has written, 1786, "was the 10th anniversary of the Declaration of Independence and the third year of life in a new Nation, but political leaders everywhere feared there was little cause to celebrate. Dark clouds and a suffocating gloom seemed to have settled over the country, and these men understood that something had gone terribly wrong.

"From Virginia, George Washington lamented the steady stream of diplomatic humiliations suffered by the young Republic. Fellow Virginian, James Madison, talked gravely of mortal diseases afflicting the confederacy. In New Jersey, William Livingston confided to a friend his doubt that the Republic could survive another decade. From Massachusetts, the bookseller-turned revolutionary strategist, Henry Knox, declared, 'Our present Federal Government is a name, a shadow without power or effect.' Feisty, outspoken John Adams, serving as America's minister to Great Britain, observed his Nation's circumstances with more than his usual pessimism. The United States, he declared, was doing more harm to itself than the British Army had ever done. Alexander Hamilton, John Jay, James Monroe, Robert Morris, in short, many from every State, agreed that a serious crisis had settled upon the Nation. The question was: Could they do anything to save their country?"

The answer that came forth was a thunderous yes. They did do something to save their country. Our Constitution was the fruition of 4 long, hot months of deliberation in Philadelphia, Pennsylvania.

On September 15, 1787, delegates there finalized a text, and 13 days later Congress, then meeting in New York, voted unanimously to send the proposed Constitution to the people of each State for ratification.

Madam Speaker, the framers of our Constitution articulated a new science of politics. It had been believed that republics were only feasible as small homogenous clusters and were most likely destined to fail, since Democratic

governance could lead to the tyranny of the majority or demagogic usurpation of people's consent, sovereignty rights, and freedoms.

And so this new, unproven republican design was put before the people through the instrument of ratification. James Madison, the Father of the Constitution, said that without ratification, the Constitution was like a dead letter. In fact, life and validity were breathed into it by the voice of the people, speaking through several State conventions.

Contrary to contrary expectations in the 21st century, popular ratification was a novel idea. Underscoring the boldness of their venture, several States even made their voting qualifications more inclusive than before so that more could partake in the ratification process.

And what a rich process it was. Brutus, Publius, Anti-federalists, Federalists. The debates over ratification still enlighten, inform, and reminds us of the seriousness with which we take our political system and the principles embedded within it.

So it's important for us to remember just a week after this grand Fourth that our history included framers, signers, and ratifiers, and as always, then as now, there were also those of us, merely we, the people.

As Alexander Hamilton wrote to the voters of New York in Federalist Paper No. 1, "After an unequivocal experience of the inefficacy of the subsisting Federal Government, you are called upon to deliberate on a new Constitution for the United States of America. The subject speaks its own importance. It has been frequently remarked that it seems to have been reserved to the people of this country by their conduct and example to decide the important question, whether societies of men are really capable or not of establishing good government from reflection and choice, or whether they are forever destined to depend for their political constitutions on accident and force.

If there be any truth in the remark, the crisis at which we arrived may, with propriety, be regarded as the era in which that decision is to be made, and a wrong election of the part, we shall act may, in this view, deserve to be considered as the general misfortune of mankind."

Thankfully, many agreed with Hamilton, and our Constitution is still intact today, 220 years later. In the intervening years, much has been written about how to appropriately interpret our Constitution. What do its clauses mean; what do its phrases imply; what is the scope of this or that respective enumerated or unenumerated power? How are we to approach or understand issues today that were unforeseen in 1787 or 1788?

Madam Speaker, I believe the constitutional interpretation should be a principled process, moored and anchored in the text, ascending up from the text, meaning context, and history