

# **Assure Survival of the Electric Grid to Protect Iowa and All Americans**

**By**  
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*See [www.highfrontier.org](http://www.highfrontier.org) for more information.*

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*For more information on the threat and how to get involved to protect your family and friends, see [www.highfrontier.org](http://www.highfrontier.org) and its links to others who are already engaged in this important fight.*

# Assure Survival of Electric Grid

## Presentation Outline

- *Nature of the Threat*
  - *Physical — Cyber*
  - *EMP—Manmade & Natural*
- *What can be done about it*
  - *Protect the Grid*
  - *My Main Focus: Missile Defense*
- *How Iowans can play a significant role*
  - *Demand that your elected Representatives support building effective ballistic missile defenses and protect the electric Grid!*
  - *Assure the Nation's Power Reactors Operate Through Grid Shutdown*
  - *Get Involved—inform your self and act!*



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# The EMP Threat well understood from Cold War tests: 1962 Starfish Prime High Altitude Test

- A “wake-up call”
- *1.5 megaton explosion, 240 miles above Johnston Island in the South Pacific*
- *Damaged test instrumentation*
- *Killed three satellites immediately, and 7 more died in the next few months*
- *Electrical damage 900 miles away in Hawaii*
- *Today’s electronics would have experienced much more catastrophic damage*
- *Weapon designs can be more lethal, too—and at much lower yields*

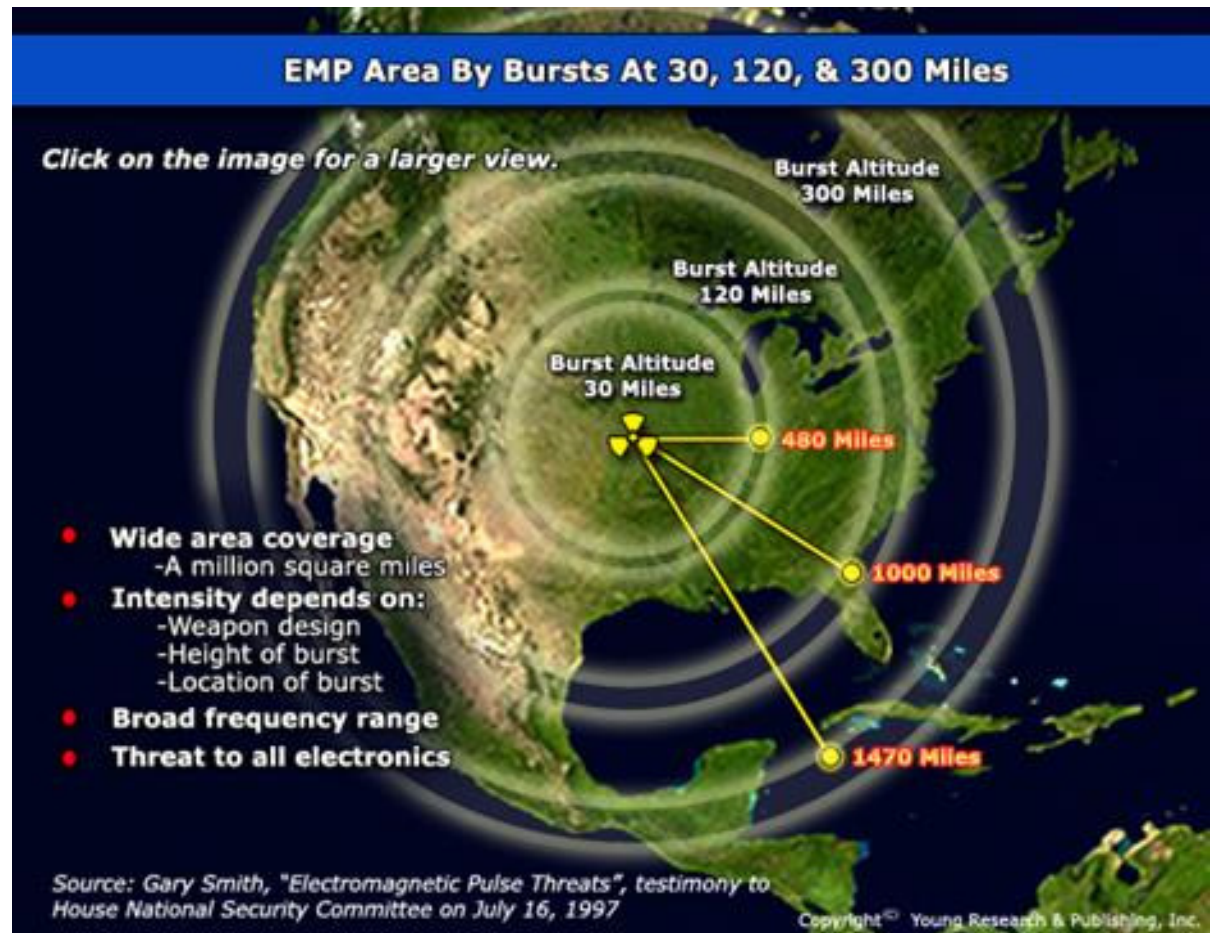


*Led to a major Top Secret effort to harden our strategic systems—but we did little or nothing to harden our civil critical infrastructure*



# High Altitude EMP Today Poses an Existential Threat Delivered by Nuclear Armed Ballistic Missiles & Satellites

- *The EMP from nuclear explosions high over the U.S.*
  - *Would produce little immediately observable effect—except possibly extending the Northern Lights all the way to Florida*
  - *But could shut down the electric power grid—leading to societal collapse and, within a year, the death of most Americans*
- *We are doing little to nothing to protect against this threat*
  - *Need effective ballistic missile defenses, and to harden the electric power grid*



*We need effective defenses and a hardened electric power grid!*

# October 21<sup>st</sup> was 52<sup>nd</sup> Anniversary of Pres. Kennedy's TV Address Advising the Nation of Soviet Nukes/Missiles on their Way to Cuba

- *A Sober “Duck and Cover” Moment*
  - *U.S. introduced a Blockade, went to DEFCON 2 and threatened retaliatory response against USSR;*
  - *Behind the scenes negotiations—including agreement to remove our missiles from Turkey and for the USSR not to deploy missiles/nukes in Cuba*
  - *The Soviet ships stopped and the construction in Cuba halted and reversed*
  - *Secretary of State Dean Rusk said Khrushchev “blinked” in the face of U.S. resolve*
- *We “dodged a bullet” but did not know how close we came to disaster*
  - *After the Cold War, we learned there were already ~100 nukes in Cuba and Castro wanted them to stay*
  - *Khrushchev refused; nukes removed by the end of 1962*
  - *Had we understood Khrushchev's deception, there might have been no deal*
  - *Your guess is as good as mine if they had not been removed*
  - *Between being lucky and smart, rather be “lucky” every time!*



*Today, we are again courting disaster by ignoring an existential threat from the South—again from distant powers! How lucky will we be?*



**Today, we are on the brink of another threat “from the South” . . .  
To which we seem just as oblivious as we were in 1962!**

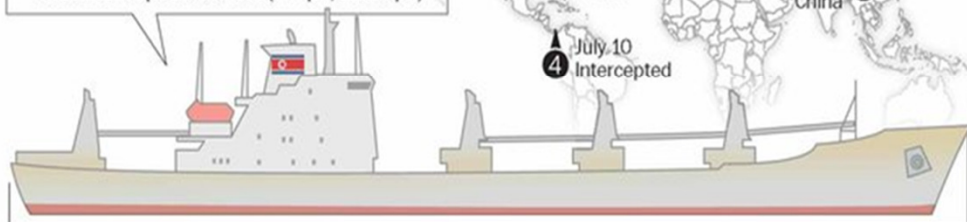
## MILITARY CARGO HIDDEN UNDER SUGAR ON FREIGHTER

Tracked by U.S. satellites, a North Korean freighter was intercepted on July 15 by Panamanian forces as it approached the Panama Canal. After resistance by the crew, the ship was boarded and searched. In its holds, under bags of brown sugar, were decades-old aircraft, engines and missile components.

### The Chong Chon Gang

- North Korean-flagged freighter
- Built in 1977
- Maximum speed 6 knots (7 mph, 11.3 kph)

### Where the ship has been since January



### Comparing sizes Length of ship 508 ft. long

- Mig-21 in scale 51.7 ft. long
- Volga missile (variant of SA-2) in scale 35 ft. long

### Mig-21 “Fishbed”

All-purpose fighter from Soviet era, first deployed in 1955, upgraded in many variants



- About 11,500 produced through 1985
- India built 657 of them

### Volga anti-aircraft missile

Variant of the highly successful Soviet SA-2 system



- Also found on ship were Fan Song radar fire control units for the missiles

### Ship diverted



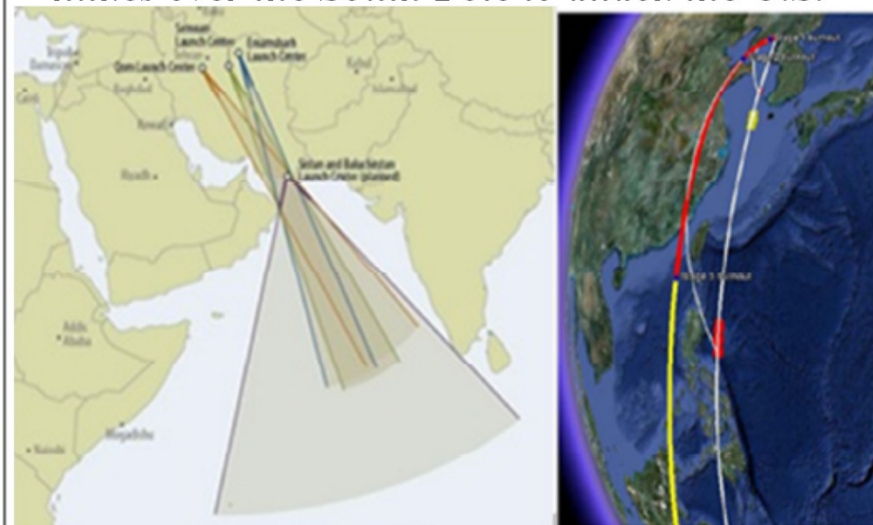
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Graphic:  
Judy Treible,  
Robert Dorrell

Source: McClatchy Washington Bureau, MarineTraffic.com, The New York Times, Wall Street Journal, Miami Herald

THE WASHINGTON TIMES

- *A Wake Up Call: A June 2012 intercept of a North Korean ship carrying from Cuba to & through the Panama Canal nuclear capable SA-2s and other technology illustrates the “Cacophony of Proliferation”*
- *Of greater concern, Iranian (or terrorist) missiles could be launched from ships off our coasts, especially in the Gulf of Mexico and/or from Latin America, e.g., Venezuela*
- *North Korean or Iranian Satellites could carry nukes over the South Pole to attack the U.S.*



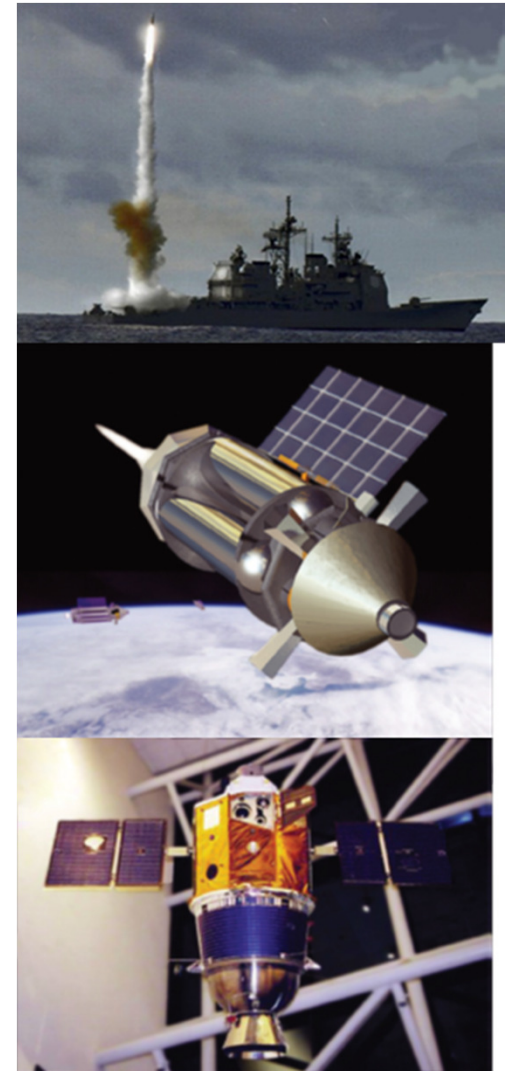
Iran has launched satellites into orbit over the south polar region

North Korea, too, could cover the US with EMP

***We are currently defenseless against these threats from the South!***

# Need Effective Ballistic Missile Defenses ASAP— First from the Sea and then from Space!

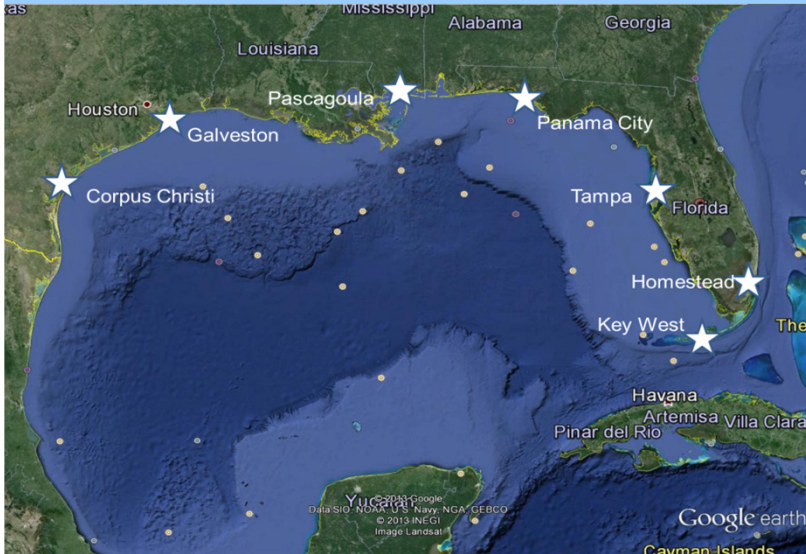
- *Aegis BMD Ships, now deployed around the world*
  - *33 BMD Ships, funded to grow to 38 of the 84 available to upgrade*
  - *Excellent test record—29 out of 35 attempts*
  - *On average day in 2012, 2 Aegis ships along east coast—4-6 in port*
  - *System chosen to shoot down a dying satellite in 2008*
  - *With preparation and training, can shoot down satellites coming at the US from over the South Pole—if they are not too high*
- *Aegis ships usually do not go into Gulf of Mexico*
  - *But system components can be deployed on land—just move the radar, launchers, and command & control to a pad*
  - *Just like “Aegis Ashore” being deployed in Romania (2015) and Poland (2018)—why not at military bases on the Gulf?*
  - *Took message to Mississippi and Florida, other states this year*
- *The most effective defense would be deployed in space*
  - *Was most effective defense system developed during SDI era against missiles of all ranges greater than a few hundred miles*
  - *But was killed by Clinton administration in 1993 & not revived*
  - *“Clementine” mission to the Moon “space qualified” the essential technology; now have more advanced technology*



*These missile defense systems would defend against southern attack scenarios—and be inter-netted into a global defense capability*



# Possible Quick Fix to Threats from the South: Aegis Ashore Sites Around the Gulf of Mexico



- *Construction of Romanian Site under way*
  - *Operational this year with SM-3 Block IB interceptors*
- *Aegis Ashore site operational in Poland by 2018*
  - *Will have SM-3 Block IIA interceptors*
- *Site spacing around Gulf coasts depends on interceptor speeds*
  - *Discussions begun in Mississippi and Florida*
  - *Hope to get to Texas this year—Corpus Christi?*



*Aegis Ashore employs Aegis BMD shipboard components as “football size” ground-based interceptor system—no additional R&D cost*



# Should Harden the Electric Grid as We Did our Strategic Systems and their Supporting Infrastructure

- *Major hardening of our strategic retaliatory systems*
  - *ICBMs and SLBMs, Strategic Bombers, and Supporting BMC3 systems*
  - *But not civil critical infrastructure*
- *Associated classification constraints kept info closeted—at least to most*
- *Key 2008 release by Congressionally appointed EMP Commission (Reports on High Frontier webpage)*
  - *Included Soviet testing info, which was in some ways more revealing than our own*
- *Key Bottom Line Conclusion:*
  - *EMP from a single burst 200-300 miles over the US could shut down most if not all US electrical systems, possibly indefinitely*
  - *Return US just-in-time economy to 19<sup>th</sup> century operations without agrarian support*



E-4B Airborne Command Post

*Up to 60-90-percent of all Americans could perish within a year—for an idea of that existence, see Bill Forstchen's "One Second After"*

# Natural EMP

- *Natural EMP*
  - *Major Solar Emissions go on all the time—only the timing is uncertain; one day, perhaps soon, the earth will be in just the right orbital location for a major “Carrington” event*
  - *Close Encounter last year—missed by a week an event that could have caused world-wide catastrophe*
  - *Probability about 12-percent per decade—it will happen in our lifetime or that of our kids or grandkids*
  - *Lloyds of London independently analyzed and concurs*
  - *If we harden the grid for manmade EMP, it will also be hardened to natural EMP—the converse is not true*
- *How can Iowans help and prepare?*
  - *Make sure someone is charged with integrating the state’s activities*
    - *An obvious key role for the Adjutant General and the National Guard—to train, exercise and be prepared*
  - *Harden the Grid—beginning with the nuclear power reactors*



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# Nuclear Power Reactors are a hazard, but can be a critically important part of the solution!

- Produce ~20% of US SC reactors produce ~60% of SC electricity
- If they lose the grid, they will shut down, possibly leading to multiple meltdowns
- Radiation like up to 100 Fukushimas, could be carried by wind across the US
- Figure out how to make them viable, and they could be vital in reestablishing the national grid.
- Working on a “pilot program” with SC folks



*In my opinion, our top priority should be dealing with this nuclear reactor threat, on the one hand, and to aid in assuring national survival on the other. Recommend this as a focus for future Tabletop exercises involving a combination of physical, cyber and EMP threats.*

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