

How South Carolina Can Help Conquer the Existential EMP Threat

By

**Ambassador Henry F. Cooper
Chairman, High Frontier**

See www.highfrontier.org for more information.

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Clemson, SC

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

Key First Step: Assure Survival of Electric Grid in South Carolina

Presentation Outline

- *Consider all Threats*
 - *Physical -- Cyber*
 - *EMP—Manmade & Natural*
- *Do what can be done about it*
 - *Protect the Grid*
 - *Deploy effective Missile Defense*
- *South Carolinians can play a significant role*
 - *Empower the National Guard in their local, state and national roles*
 - *Assure SC Power Reactors can Operate Through Grid Shutdown*
 - *Get Involved—inform your self and act!*



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Terrorist Physical Attacks

- ***Metcalf Substation near San Jose***
 - *Still unknown attackers*
 - *SOF-like advance action cut key links to outside world, missed one*
 - *Fired over 100 rounds into 10 transformers*
 - *Some believe it was a “dry run”*
- ***A Wake Up Call???***
 - *Former FERC Chairman Jon Wellinghoff said nine identifiable substations could bring down the national grid for 18 months*
 - *Repeat: Only nine of 55,000 in the USA*
- ***How can South Carolina prepare?***
 - *Make sure none of the nine are in SC and/or design around the weak points*
 - *Charge an independent authority with improving security of all substations*



Shots in the Dark

A look at the April 16 attack on PG&E's Metcalf Transmission Substation

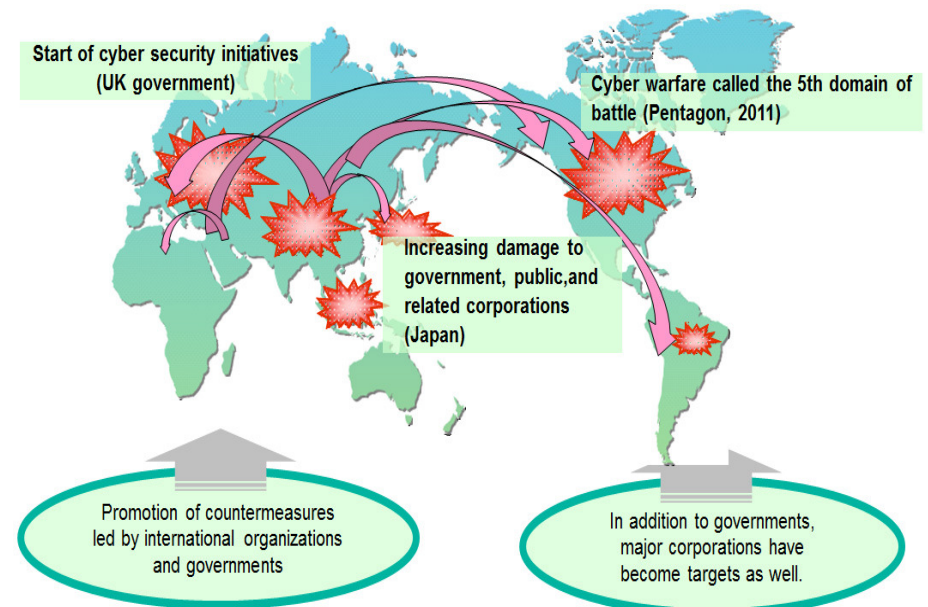
1	2	3	4	5	6	7
12:58 a.m., 1:07 a.m. Attackers cut telephone cables	1:31 a.m. Attackers open fire on substation	1:41 a.m. First 911 call from power plant operator	1:45 a.m. Transformers all over the substation start crashing	1:50 a.m. Attack ends and gunmen leave	1:51 a.m. Police arrive but can't enter the locked substation	3:15 a.m. Utility electrician arrives

Sources: PG&E; Santa Clara County Sheriff's Dept.; California Independent System Operator; California Public Utilities Commission; Google (image); The Wall Street Journal

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Cyber Attacks

- ***A Major Possibly Near-term Concern***
 - *NSA Director ADM. Michael Rogers testified he expects a catastrophic cyber-attack within a decade*
 - *China, Russia and other peer competitors currently have capabilities*
 - *So do rogue states—North Korea and Iran*
 - *And even competent terrorist hackers*
- ***How can South Carolina prepare?***
 - *At least this problem is identified and the USG is beginning to focus on the issue*
 - *Study and engage qualified university and key commercially available expertise*
 - *Link to important nearby players—e.g., US Army Cyber Command in Augusta, GA*
 - *Make sure someone is charged with integrating the state's activities—possible key role for the Adjutant General and the National Guard*



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Manmade and Natural EMP

- ***Manmade EMP threat is well understood***
 - *1962 Starfish test turned out lights in Hawaii 900 miles away, killed satellites, etc.*
 - *If with modern electronics, catastrophic damage*
 - *Modern low-yield specially designed nukes can create devastating effects over wide areas*
 - *We hardened key military systems, but not key civil infrastructure, such as the grid*
- ***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*
- ***How can South Carolina prepare?***
 - *A key role for the National Guard—especially the 263rd AAMDC with its BMD responsibilities and AG’s office for understanding of the threat, countermeasures and recovery preparedness*
 - *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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We hardened our Strategic Systems and their Supporting Command, Control and Communications Systems to EMP

- *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 19th century operations without agrarian support*



E-4B Airborne Command Post

A key lesson for today: Success was insured by high level truly independent review—including key “red team” analyses and tests!

NORAD/NORTHCOM Commander ADM Bill Gortney Recently recognized need for a Continuing Focus on EMP

- *Pentagon Press Conference, elaborated by Defense News Accounts (See last High Frontier message—www.highfrontier.org)*
 - *Pentagon is spending over \$700M*
 - *Upgrading Cheyenne Mountain Command Center to assure ability to command our Forces if there is an EMP Attack (The NORAD Cold War Mission)*
 - *But ADM Gortney did not mention civil critical infrastructure needed to assure the survival of the American people!*
 - *This is the NORTHCOM Mission!*
- *Noted North Korea and maybe Iran can deliver an EMP attack on USA*
- *Key Bottom Line Conclusions:*
 - *EMP from a single burst 200-300 miles over the US could shut down most if not all US electrical systems, possibly indefinitely*
 - *We need to refocus from Cold War concepts!*



The Pentagon recently announced that Raytheon is receiving a \$700 million contract to prep the Cheyenne Mountain base in Colorado for the return of US Aerospace Command, built in the 1960s to respond to a Soviet nuclear strike; this new plan is to help counter a possible EMP attack by a rogue nation. This explicit acknowledgement of the EMP threat is a most welcome development. Hopefully, the U.S. “powers that be” will also take complementary steps to assure the survival of the American people in case of such an attack—and here are some hopeful signs this may be possible.

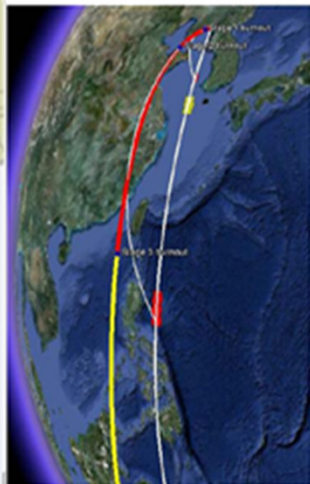
A key lesson for today: Identifying a problem is the first step to solving it—ADM Gortney has taken the first step!

The solution must take into account “from the South” . . . To which we have seemed to be oblivious and are not addressing

- *A Wake Up Call: June 2013 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 to the South, over the South Pole



North Korea used 3-stage southward into polar orb

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

Ship diverted

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

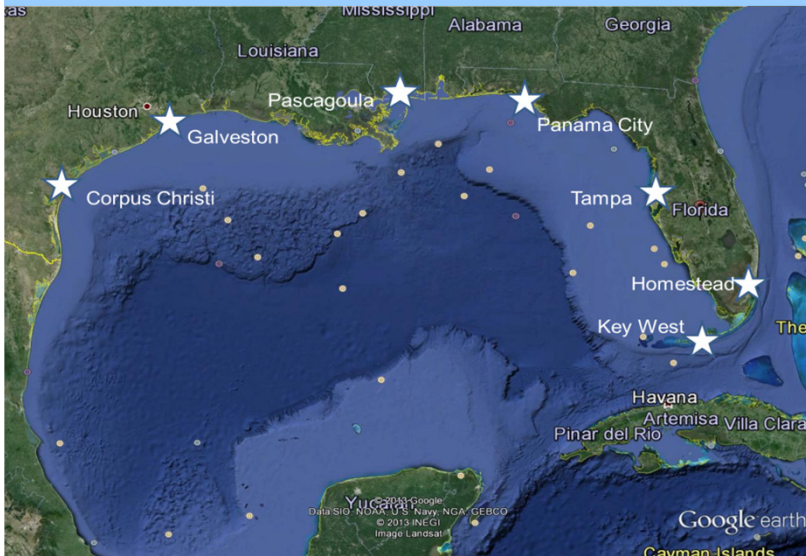
- Also found on ship were Fan Song radar fire control units for the missiles

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

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We are currently defenseless against these threats from the South!

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



- *Aegis Ashore site in Hawaii is operational for testing purposes*
- *Construction of Romanian Site is nearly completed*
 - *Operational this year with a second site in Poland by 2018*
- *Site spacing around Gulf coasts depends on interceptor speeds*
 - *Have met with folks in Mississippi and Florida*
 - *Pascagoula , Miss. where Aegis ships are built*
 - *Panama City/Tyndall AFB, FL home of 1st AFNORTH*
 - *Command Links to 263rd AAMDC in Anderson, SC*
- *Plan to go to Texas—Corpus Christi?*



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

The South Carolina National Guard has an Important National Role—including the 263rd Army Air and Missile Defense Command (AAMDC), which:

- *Is located in Anderson, SC, manned and led by SC National Guard personnel—and is a direct report to SC Adjutant General, under the Governor of SC*
- *Is already linked to critically important elements of our Homeland Defense*
 - *As ordered by the Governor, provides Defense Support to Civilian Authorities (DSCA), including for security operations in support of disaster relief, crowd control, or other duties as assigned by the Governor.*
 - *Under a USAF Lt. General at Tyndall AFB, Panama City, FL who is Commander of First Air Force, (AFNorth) and the Air Component Commander of the Continental NORAD Region (CONR)—and who has sole responsibility for ensuring the air sovereignty and air defense of the continental United States, U.S. Virgin Islands and Puerto Rico, as a direct report to the Commander of Northern Command in Colorado Springs*
 - *The Commander of the 263rd AAMDC is the Deputy Area Air Defense Commander for Continental NORAD Region (CONR)*
 - *Under an USA Lt. General who is Commander of Fifth Army (Army North) at Ft. Sam Houston, Texas who is charged with protecting the American people and their way of life, a direct report of Northern Command in Colorado Springs*
 - *Under Northern Command plans and operations, conducts Joint and Combined Theater Air and Missile Defense in support of designated operations plans and contingency operations.*
- *Role to be determined with respect to Aegis Ashore deployments to counter theater range ballistic missiles or other threats from the South*

I expect to help the SC Adjutant General's office support National Guard "tabletop" exercises that include EMP and lead to a future Vigilant Guard exercise to involve other states, NORTHCOM and national command authorities.

Summary Plans and How You Can Help

- **My Objective:** *To work with the SC Adjutant General and the 263rd AAMDC toward consciousness raising via National Guard exercises*
 - *Conducted to involve citizens and local, state and federal authorities—from the bottom-up*
 - *Including other organizations with potentially important supporting roles—e.g., the Savannah River National Laboratories and several state universities and colleges*
 - *With appropriate links to neighboring states, NORTHCOM and national command authorities*
 - *Possibly with a missile defense role—e.g., on Tyndall AFB to help counter a ballistic missile threat from the Gulf of Mexico or Venezuela or some other attack from the south*
 - *Beginning with tabletop exercises leading to future National Guard Vigilant Guard exercises*
- **Status:** *Ongoing discussions with key potential players*
 - *Working with Maj. Gen. Les Eisner, former SC Deputy Adjutant General, key staff of the SC Adjutant General and the commander of the 263rd AAMDC*
 - *At SC Guardsman's invitation attended US Army War College last summer to discuss issue*
 - *Invited Two SC Guardsmen to attend key workshops and Dupont Circle Summit in DC*
 - *Met with key staff at the Savannah River National Laboratories, SC state legislators and representatives in the U.S. Congress—there may be state legislation this session*
 - *Working with a former Adjutant General of Virginia, who will help us link our plans and activities with operations in Virginia, the National Capitol Area and other states*
- **Related Activities:** *To gain support from the powers that be to:*
 - *Assure deployment of an effective missile defense of East Coast & around the Gulf of Mexico*
 - *Integrate natural and manmade EMP threat considerations with threats from physical and cyber attacks to protect the electric power grid, particularly its nuclear reactors*
 - *Encourage grass roots efforts to press the “powers that be to provide for the common defense”*

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