**Planning Framework Development for a Triple Threat to the Power Grid**

**December 3, 2015 --- Read Ahead Material**

We start with the premise that there is a reality of high impact threats to the US electrical grid by cyber, terrorist attacks, or solar storms with little or no notification taking out critical infrastructure, (either regional or entire US) for weeks, months or even years. Participants’ expertise, insight, and suggestions will help plan for this catastrophic event by developing a planning framework or cookbook, identifying key plan elements, creating action lists, determining priorities, raising issues, asking questions and considering gaps that should be considered when creating a plan of this magnitude.

Department of Homeland Security documents advise the American public to have food and water for at least three days. As useful as that is for a starting point, if high-impact events are not considered then many who assume that the Government will provide support as soon as day four, may think that they don’t need to plan at all. However, in the event where critical infrastructures are down for a much longer duration, due to a widespread failure of electric power, sufficient relief, even from government, will not be available.[[1]](#footnote-1) Depending on the length of the infrastructure failure, consequences for unprepared citizens could go beyond economic loss to include sickness, and death from dehydration, disease, exposure, starvation, fire and civil unrest.  Consequences for the nation could include loss of coherent central government and possible loss of sovereignty. These are unacceptable risks, meaning that planning for this type of catastrophe needs to start now and continue.  One aspect of a successful planning effort would result in prepared individuals and communities which could survive long-term infrastructure failure, help their neighbors and be able to rebuild both their own communities and the US.

We will start the workshop by looking at what resources and facilities might still be available after a catastrophe, and then consider planning issues by brainstorming using a set of questions. Ideally, the planning on that day will be a “kickoff” for planning in different Regions during 2016, and get ready to come back in December 2016 with an update from the yearlong planning.

To facilitate planning on December 3, we will use a simple Framework or Phases document. This document is shown on the next page. You will be asked to share your expertise and help the planning in one of the following areas: Executive Branch (focusing at the state and local level), Legislative Branch (focusing at the state and local level), National Guard, Civil Disturbance, Communications, Volunteer/Community, Power (oil, gas, fuel, micro grids), Financial.

Last year before the Dupont Summit, we held a tabletop exercise to examine the Triple Threat including cyber, a solar storm and an Electromagnetic Pulse (EMP). The information from that exercise will be available on December 3 at the Workshop and is also now online at Amazon: [http://www.amazon.com/gp/aw/s/ref=mh\_283155\_is\_s\_stripbooks?ie=UTF8&n=283155&k=Triple+Threat+Grid+Exercise](http://www.amazon.com/gp/aw/s/ref%3Dmh_283155_is_s_stripbooks?ie=UTF8&n=283155&k=Triple+Threat+Grid+Exercise).

**Framework/Phase Document For the Breakout Sessions**

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|  | Immediate situation | One week  | Three Weeks  | Two Months  |
| Situation (How will you gain awareness, intelligence, and knowledge of the problem? How will you keep track of changes both internally and externally?) |  |  |  |  |
| Mission (what defines success? What is the goal. What is your metric to measure success? )  |  |  |  |  |
| Execution (How will you carry out the mission? What are your instructions and how will you track results?)  |  |  |  |  |
| Administration and Logistics Capabilities (what do you have and what is needed for the mission? What are your constraints legally?) |  |  |  |  |
| Communications and Coordination (Plan, who, how, when, etc.)  |  |  |  |  |

**Reference Material**

1. Presidential Policy Directive / PPD-8: National Preparedness: <http://www.dhs.gov/presidential-policy-directive-8-national-preparedness>
2. PRESIDENTIAL POLICY DIRECTIVE/PPD-21 Critical Infrastructure Security and Resilience: <http://www.uscg.mil/hq/cg5/cg544/docs/PPD21CyberEOSummary.pdf>
3. A Whole Community Approach to Emergency Management: Principles, Themes, and Pathways for Action: <http://www.fema.gov/media-library-data/20130726-1813-25045-0649/whole_community_dec2011__2_.pdf>
4. Enhancing National Preparedness to Space-Weather Events: <https://www.whitehouse.gov/blog/2015/10/28/enhancing-national-preparedness-space-weather-events>
5. NATIONAL SPACE WEATHER STRATEGY: <https://www.whitehouse.gov/sites/default/files/microsites/ostp/final_nationalspaceweatherstrategy_20151028.pdf>
6. NATIONAL SPACE WEATHER ACTION PLAN: <https://www.whitehouse.gov/sites/default/files/microsites/ostp/final_nationalspaceweatheractionplan_20151028.pdf>
7. Electromagnetic Pulse Commission: Report of the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack. Critical National Infrastructures, 2008. <http://www.empcommission.org/docs/A2473-EMP_Commission-7MB.pdf>
8. Electromagnetic Pulses - Six Common Misconceptions. Baker G. Domestic Preparedness, 2014.

<http://www.domesticpreparedness.com/Commentary/Viewpoint/Electromagnetic_Pulses_-_Six_Common_Misconceptions/>

1. Interdependence of the Electricity Generation System and the Natural Gas System and Implications for Energy Security. Judson N. MIT Lincoln Laboratory, 2013. <https://www.serdp-estcp.org/content/download/19069/.../TR-1173.pdf>
2. Physical Security of the US Power Grid: High-Voltage Transformer Substations. Parformak P. Congressional Research Service, 2014. <http://fas.org/sgp/crs/homesec/R43604.pdf>
3. The US Government Thinks China Could Take Down the Power Grid <http://www.cnn.com/2014/11/20/politics/nsa-china-power-grid/index.html?hpt=hp_t2>
4. The Heritage Foundation: Think Ahead Preparing for the Threat to Our Wired World <http://www.heritage.org/thinkahead/>
5. Preparing for a Disaster: <http://survivalblog.com/>; <http://www.ready.gov/>; <http://www.redcross.org/prepare/disaster>
6. William Forstchen: 2009: Once Second After
7. Ted Kopple: 2015: Lights Out – A Cyberattack – A Nation Unprepared – Surviving the Aftermath
8. NERC Severe Impact Resilience Task Force report from 2012 (link: <http://www.nerc.com/pa/ci/news/cip/sirtf_final_may_9_2012-bd_accptd.pdf>)
1. Restoring the commercial grid from the still functioning regions may not be possible or could take weeks or months. -- Island-mode Enhancement Strategies and Methodologies for Defense Critical Infrastructure: Defense Threat Reduction Agency (DTRA) 2015.2 - Topic DTRA152-006; Worst case is instructive for planning – National Space Weather Strategy: <https://www.whitehouse.gov/sites/default/files/microsites/ostp/final_nationalspaceweatherstrategy_20151028.pdf>; [↑](#footnote-ref-1)