

**Round 2 (Addendum). Interrogatories from Joel N. Gordes
DBA Environmental Energy Solutions (EES) to CMEEC**

The following general questions are directed to CMEEC:

EES-3 How many full-time personnel work on issues related to grid security?

CMEEC responds. All of CMEEC staff works on issues related to “energy security” as defined in the response to EES-1.

EES Comment. While this is not the response requested, it is a good response nevertheless.

EES-6 Where do security-related functions rank compared with other priorities (e.g. cost, profit, safety) included in design and siting of resources? Please list the top five in order.

CMEEC responds. CMEEC considers security-related functions to be an integral component of the design and siting of resources and as a result, a comparison ranking of priorities as suggested in the inquiry is not meaningful.

The interrogatory then becomes: Do security-related functions outrank cost in the design and siting of resources? In what instances might this not occur for a specific project?

EES-7 Does redundancy by siting new transmission resources add reliability? Security? Always? If not, where does it reach a diminishing return or negatively impact reliability? Security? Why might it reach such a point?

CMEEC responds. Yes. Yes. While CMEEC believes that redundancy by siting new transmission resources generally adds reliability and security, it may not always add reliability and security. Where it does not add reliability and/or security, redundant transmission resources may reach a point of diminishing return when other measures are less costly and more or equally reliable and security enhancing.

The interrogatory then becomes: Why does this response appear to partially conflict with the prestigious National Research Council's appraisal below? Please cite a credible third party source to verify the position taken by CMEEC.

A direct way to address vulnerable transmission bottlenecks and make the grid more robust is to build additional transmission capacity, but there are indications that redundancy has a

dark side (in addition to increased costs). The likelihood of hidden failures in any large-scale system increases as the number of components increases. Modeling techniques are only now emerging for the analysis of such hidden failures." (see, for example, Wang and Thorp, 2001).¹

EES-8 Does redundancy in transmission in any way weaken reliability or security? If so, in what way(s)?

CMEEC responds. CMEEC does not believe that redundancy in transmission weakens reliability or security.

The interrogatory then becomes: Why does this terse response appear to conflict with the prestigious National Research Council's appraisal below? Please cite a credible third party source to verify the position taken by the Companies.

A direct way to address vulnerable transmission bottlenecks and make the grid more robust is to build additional transmission capacity, but there are indications that redundancy has a dark side (in addition to increased costs). The likelihood of hidden failures in any large-scale system increases as the number of components increases. Modeling techniques are only now emerging for the analysis of such hidden failures." (see, for example, Wang and Thorp, 2001).²

EES-9 What new technological enhancements have been made in the last five years that improve grid operation and that would also improve security? How have they accomplished this end result

CMEEC responds. It is CMEEC's belief that many of the technological enhancements mandated by FERC, NERC, NPCC have improved grid security. CMEEC declines to respond further without the benefit of a protective order to protect the sensitive nature of the material.

The interrogatory then becomes: A more appropriate response to this specific question might act as a deterrent³ whereas the response provided may provide perverse results and may represent a lost opportunity to actually enhance security. This question offers an example of that since an adversary would be less likely to prey upon a system that has "advertised" its security

¹ *Making the Nation Safer: The Role of Science and Technology in Countering Terrorism.* National Academy Press. Committee on Science and Technology for Countering Terrorism, National Research Council. p.302. 2002.

² *Op cit.*

³ Deterrence involves three conditions and assumes the adversary to be rational in a Western cultural sense: 1) you must have the capability to inflict unacceptable losses on the enemy; 2) the enemy must know you have this capability; and 3) you must have the will to use it. Approximate definition from USAF Manual 1-1, Basic Doctrine. Circa 1964.

improvements than one that has remained silent.⁴ What new technological enhancements have been made in the last five years that improve grid security that might deter a prospective aggressor?

EES-10 What future enhancements are planned in the next two years that would further improve security? Next five years?

CMEEC responds. See CMEEC's response to EES-9 re: protective order.

EES Comment. EES agrees with CMEEC on the response to this interrogatory since revealing contemplated security enhancements telegraphs their current vulnerabilities.

EES-27 Does your utility provide training to grid operators/control room personnel in learning if and when they become victims of a cyber attack? Does this include recognizing when a loss of "situational awareness" might occur? Does your utility have a simulator capable of duplicating such conditions as might be found during a cyber attack? If not, is there a cost-shared, regional facility that can be used?

CMEEC responds. CMEEC declines to respond to this question without a protective order in place to secure the confidential and sensitive nature of the material. This response will also be limited by the Council's determination regarding the scope of the proceeding.

EES Comment. Depending upon whether operator training does include problem recognition and maintaining situational awareness, failure to answer this question may represent another lost opportunity for deterrence and EES suggest CMEEC reconsider their response if, indeed, they do provide such training.

EES-30 Because you still own or are responsible for directly procuring generation for your members, do you consider fuel availability as a potential security issue?

CMEEC responds. Diversification of the fuel supply is a necessity for CMEEC for a variety of reasons, including security related reasons.

⁴ An example of this was the broad dissemination of information that terrorist chatter indicated a possible attack on the New York Subway/transit systems possibly at Penn Station and the police bolstered their forces at key locations. See "Terror Threat Emerges on Busy Travel Day". *The Hartford Courant*, 11/27/08. P. A15.

The interrogatory then becomes: While diversity is related to availability, they are not precisely the same issue. Do you consider availability of some fuels to pose more of a security risk than others? Are steps being taken to move toward fuels that are more secure?

EES-31 Do you anticipate greater use of LNG to fuel plants? Do you anticipate any security problems with this fuel?

CMEEC responds. CMEEC anticipates that LNG will be a component of future supply. CMEEC does not necessarily anticipate any security problems over and above normal security concerns.

The interrogatory then becomes: Is CMEEC aware that two anticipated sources (Algeria and Trinidad/Tobago) of East coast LNG have had internal problems relating to Jihadist groups? Might this affect future fuel choices?
