

Regional Resilience Scoping Study

March 23, 2012

Background

During the NIAC's January 10, 2012 Quarterly Business Meeting, the Council established a Working Group to help define the scope for a proposed NIAC study on regional resilience. The Council noted that their 2010 study, *A Framework for Establishing Critical Infrastructure Resilience Goals*, developed a framework for setting sector-wide resilience goals but was only able to examine two CIKR sectors: electricity and nuclear. The study recommended that all CIKR sectors use the NIAC-developed framework for setting resilience goals and that DHS should consider using this resilience framework as a common way to organize resilience strategies within Federal and State governments.

At the January meeting, DHS Assistant Secretary Todd Kiel suggested that the Council consider a study that aligns with ongoing regionalization efforts within the Office of Infrastructure Protection. Specifically, it was suggested that the Council might look at resilience requirements based on regions and consider how to best leverage the combined capabilities of private, federal, state, local, territorial, and tribal partners to meet these requirements. This is in line with the Council's 2010 study, *Optimization of Resources for Mitigating Infrastructure Disruptions*, which examined resilience from a community perspective and recommended community-level identification and assessment of infrastructure interdependencies, and the adoption of lessons learned from national-level infrastructure planning and analysis to regional and community-level systems.

The Working Group proposes that the NIAC recommend that the Administration charge the Council to launch a new study that builds on the Council's *Resilience Goals* study and incorporates a strong element of regionalization that can best leverage public-private partnership efforts.

Objective

The study will apply the resilience framework developed by the Council to a region within the United States to determine how public and private CIKR partners can work together to:

- establish goals for improving regional resilience, with special emphasis on those that would be relevant at the national level
- determine national level requirements and capabilities to achieve these goals,
- determine regional requirements and capabilities to achieve these goals, and
- create a model or template that can be adopted by other regions.

Scope

To achieve the objective, the Working Group agreed that the proposed study should focus on one or two regions that would serve as a good model for application to other regions. Although the resilience of national infrastructures is very important to public safety and economic stability, the Working Group recognized that most events that result in infrastructure failure occur in specific regions and states, which must respond to the catastrophe and address the consequences. Interdependencies among

critical infrastructures within local communities can trigger cascading impacts that may not be fully understood until an event has occurred. Key questions that this study might examine include:

- What are the characteristics that make some regions more resilient than others?
- How do regions manage their critical infrastructure to increase their resilience?
- How do public-private partnerships and relationships affect regional resilience?
- What is the relationship between infrastructure and economic resilience? Do owners and operators benefit from and value regional resilience?
- How can the federal government and its resources help to accomplish goals established for regional resilience?
- How can regions mitigate risks associated with infrastructure interdependencies?
- How can the federal government support risk mitigation for regional infrastructure?
- What are the implications for federal resources located within a region with respect to regional resilience?

Approach

Proposed Regions for Study

The Working Group examined a variety of regions and CIKR sectors that could be studied that would provide valuable new insights on how regions can determine their requirements and capabilities for infrastructure protection and resilience. The following criteria were used to assess regions for study:

1. Economic significance
2. Regional risks affecting national resilience
3. Complexity: Significant multistate or multijurisdictional issues
4. Complexity: significant regional and sector interdependencies
5. Strength of public-private sector relationships
6. Supply chain vulnerabilities
7. Key sectors of interests
8. Experience with regional resilience exercises
9. Applicability of lessons learned for other regions

The Working Group focused on U.S. mega regions, eleven geographic areas that are defined by population, interlocking economic systems, shared natural resources and ecosystems, and common transportation systems linking population centers together. Using the criteria and available data, the Working Group identified three priority regions for possible study:

1. NORTHEAST

Region: Northeast and Mid-Atlantic seaboard - From Northern Virginia to Southern Maine, bounded by the Appalachian Mountains to the west and the Atlantic Ocean to the east.

Principal Cities: Boston, New York, Philadelphia, Baltimore, Washington D.C.

Percent of U.S. Population: 17%

Percent of US GDP: 21%

2. GREAT LAKES

Region: includes parts of Minnesota, Iowa, Missouri, Wisconsin, Illinois, Indiana, Michigan, Ohio, Kentucky, and Pennsylvania

Principal Cities: Chicago, Detroit, Pittsburgh, Cleveland, Minneapolis, St. Louis, Indianapolis

Percent of U.S. Population: 18%

Percent of US GDP: 17%

3. SOUTHERN CALIFORNIA

Region: Southern California / Nevada from the border with Mexico to Santa Barbara and east to Las Vegas

Principal Cities: Los Angeles, San Diego, Anaheim, Long Beach, Las Vegas

Percent of U.S. Population: 8%

Percent of US GDP: 7%

Although these regions best fit the criteria used by the Working Group, several other regions were also deemed worthy of study in due course by the Council.

Proposed Sectors of Study

The Working Group noted the importance of the “lifeline” sectors in any regional resilience study. These include transportation, telecommunications, energy, and water. Each of the proposed regions includes all of these sectors. In addition, the study should consider other critical infrastructure sectors within a region that have significance at the national or regional level. Examples may include banking and finance, commercial facilities, food and agriculture, and defense industrial base. The proposed regional resilience study should examine the interdependencies among critical sectors, with particular attention to collaborative planning among the sectors and between the sector and state, local, and federal government agencies.

Proposed Method of Study

The Working Group does not propose a particular method of study for evaluating regional resilience. However, it was noted that the 2010 study, *A Framework for Establishing Critical Infrastructure Resilience Goals*, received valuable information based on a table top exercise that was conducted by the electricity sector of an extreme infrastructure failure that exposed gaps and seams in incident response. A regional event or exercise could also uncover key jurisdictional issues as well as important sector interdependencies.

The Working Group envisions four levels of insights to be gained through the analysis:

1. Regional requirements that could affect national economic and security interests
2. National capabilities that can meet regional requirements
3. Regional requirements that can be met by building regional capabilities
4. Regional resilience models and lessons learned that can be transferred to other regions.

Recommendations

The Working Group recommends the following.

1. The Council recommend that the Administration direct the Council to launch a new study that builds on the Council’s *Resilience Goals* study and incorporates a strong element of regionalization that can best leverage partnership efforts.
2. The study focus on the Northeast region of the United States.
3. The study focus on the lifeline sectors (energy, water, transportation, and telecom) and key sectors important to the Northeast, such as commercial facilities and banking and finance.
4. The study involves Council members who have experience and expertise in one or more of the regions or sectors of interests.