Critical Infrastructure Higher Education Initiative

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EXECUTIVE SUMMARY

As an essential element of homeland security, critical infrastructure protection requires a professional, highly educated workforce and community of leaders at all levels of government and in the private sector. Yet there are few structured and comprehensive higher education programs in critical infrastructure protection. This case study reviews an education initiative that partners the U.S. Department of Homeland Security with the Center for Infrastructure Protection and Homeland Security at the George Mason University School of Law in an effort to develop and distribute critical infrastructure protection courses and materials that will become part of a comprehensive, unified approach to homeland security education.

INTRODUCTION

The notion of protecting things that are essential to one's livelihood is not novel. It's common sense. Whether Mother Nature, malicious intent, or sheer accident, there have always been forces at work that threaten to destroy the things on which we depend. Yet it is only within the past twenty years that the protection concept has become a national policy focus. While the term *critical infrastructure protection* was first used in a 1996 Executive Order, it was the tragic attacks of September 11, 2001 that woke the nation to its necessity. Beyond the devastating loss of life, the

cascading failures and long-term economic impacts demonstrated the far-reaching consequences of destruction in the networked and interdependent world in which we now live.

Infrastructure protection became a primary focus of the newly created U.S. Department of Homeland Security (DHS), and in 2006, its Office of Infrastructure Protection (IP) released the first National Infrastructure Protection Plan (NIPP) to guide the integration of protection and resilience efforts across multiple critical infrastructure sectors. The framework designates roles and responsibilities, and outlines a risk management strategy to deter threats, mitigate vulnerabilities, and minimize consequences. Proper implementation requires professionals skilled not only in specific sectors, but in risk analysis, partnership building, and collaboration across Federal, State, local, tribal, and territorial (FSLTT) governments, as well as private industry. Accordingly, the 2006 NIPP also includes long-term goals to guarantee the program's continued success, including "education, training, and exercise programs to ensure that skilled and knowledgeable professionals and experienced organizations are able to undertake NIPP-related responsibilities in the future" (p. 6).

To that end, in 2008 IP produced the NIPP Education and Training Assessment Report and Implementation Plan (NIPP Education Report). The report identifies seven core competency areas that "together define the elements required for performance" (2008, p. 10) as a critical infrastructure professional. (See Figure 1)

The report also recognizes the different groups comprising the critical infrastructure community, including FSLTT government officials; DHS personnel; sector-specific agency and other federal employees; and private industry owners and operators. Based on these target audiences, the resulting model expresses the core competencies that characterize the scope of the critical infrastructure field and establishes the requirements for a comprehensive education training program. (See Figure 2)

The updated 2009 NIPP reinforces the competency model, particularly emphasizing the importance of partnering with universities to create new academic programs resulting in specialized degrees from accredited institutions (pp. 84-85). This case study examines the efforts of such a partnership—between DHS and George Mason University—to develop and distribute courses and materials that will become part of a complete, unified critical infrastructure higher education program.

BACKGROUND

Anticipating the need for a new comprehensive approach to infrastructure protection, in the spring of 2001 several leaders at George Mason University began discussing the possibility of a research center devoted to the intersection of law, policy,