National Infrastructure Protection Plan

Chemical Sector

The Chemical Sector is one of 18 critical infrastructure sectors established under the authority of Homeland Security Presidential Directive 7 (HSPD-7). Each sector is managed by a Sector-Specific Agency (SSA) that provides sector-level performance feedback to the Department of Homeland Security (DHS) to enable assessment of national, cross-sector critical infrastructure protection and resilience programs. In accordance with the National Infrastructure Protection Plan (NIPP), each SSA is responsible for developing and implementing a Sector-Specific Plan (SSP), in collaboration with public and private sector partners, and for encouraging the development of appropriate information-sharing and analysis mechanisms.

Sector Overview

The Chemical Sector is an integral component of the U.S. economy, employing nearly 1 million people, and earning revenues between $600 billion and $700 billion per year. The facilities that make up the Chemical Sector typically belong to one or more of four key functional areas: (1) manufacturing plants, (2) transport systems, (3) warehousing and storage systems, and (4) chemical end users. In addition, companies may operate facilities across multiple functional areas, for example, a chemical manufacturer may also own a trucking and distribution operation. While the key functional areas primarily describe their physical characteristics and activities, each of the four functional areas depends on cyber systems for a variety of purposes, including operating manufacturing processes, tracking inventory, and storing customer information.

Sector Partnerships

The majority of Chemical Sector facilities are privately owned, requiring DHS to work closely with the private sector to identify and prioritize assets, assess risks, develop and implement protective programs, and measure program effectiveness. The chemical industry formed a Sector Coordinating Council, currently composed of 14 industry associations, to work with DHS and other Federal agencies to ensure that the efforts of the private sector are informed by and inform Federal activities. The Federal agencies that are involved in the coordination of the Chemical Sector make up the Chemical Government Coordinating Council; as of 2011, there are 13 member agencies.

Critical Infrastructure Protection Issues

The sector takes an all-hazards approach to protection and resilience. Many of the sector's assets are located in areas that are susceptible to natural disasters such as hurricanes. A natural disaster could result in a disruption of operations if electricity, water, or critical supplies were to be impacted. A worst-case scenario could result in a rupture of a vessel containing a toxic chemical that could have consequences for nearby populations. These concerns are the foundation for the sector's long history of anticipatory preparedness activities. The sector also continues to increase its resilience by developing and practicing incident response plans and coordinating with first responders.

The potential for terrorists to attack assets in a way that would create harmful consequences to public health and safety or create a harmful economic impact are also major concerns in the Chemical Sector. Reducing the security risk inherent in toxic, flammable, and explosive chemicals; the risk of theft and diversion; and the risk of sabotage or contamination has been a leading DHS priority in this sector.

Historically, regulatory programs have targeted safety at chemical facilities. The first regulatory program targeting facility security was the Maritime Transportation Security Act of 2002 (MTSA). Under MTSA, one of the regulatory authorities granted to DHS was the security of chemical facilities adjacent to navigable waters that may be involved in transportation security incidents.

In October 2006, Congress granted DHS regulatory authority over security at high-risk chemical facilities. Pursuant to this authority, in April 2007, the Department promulgated the Chemical Facility Anti-Terrorism Standards (CFATS). Through CFATS, the Department has established a risk-based approach to securing the Nation's highest-risk chemical facilities. CFATS requires all high-risk chemical facilities to perform Security Vulnerability Assessments and develop and implement Site Security Plans that meet 18 risk-based performance standards established by DHS.

To help identify potential high-risk facilities subject to CFATS, the Department published Appendix A, which lists 322 chemicals of interest based on the consequences associated with one or more of the chemical security risks previously mentioned. The Department established a Screening Threshold Quantity for each chemical of interest based on its potential to create significant adverse consequences to human life or health.

Facilities subject to CFATS are inspected on a recurring basis to ensure that they are implementing their security plans and that the security measures they have selected satisfy the risk-based performance standards and are commensurate with the facility's level of risk.

Priority Voluntary Programs

Sector partners develop and implement protective programs and resilience strategies to enhance the security posture of the Chemical Sector. Key voluntary initiatives within the sector focus on physical security, cybersecurity, and insider threat, including:

- **Web-Based Chemical Security Awareness Training.** A voluntary tool available for free to industry to increase security awareness for all facility employees, not just those traditionally involved in security.
- **Voluntary Chemical Assessment Tool (VCAT).** A free and secure self-assessment tool that allows owners and operators to identify their facility's current risk level using an all-hazards approach. VCAT facilitates a cost-benefit analysis by allowing users to select the best combination of physical security countermeasures and mitigation strategies to reduce overall risk.
- **Security Seminar and Exercise Series for Chemical Industry Stakeholders.** A collaborative effort between DHS and industry stakeholders. The intent of the program is to foster communication between facilities and their local emergency response teams during a facilitated tabletop exercise. The exercise may include security scenarios such as an active shooter situation.
- **Industrial Control Systems Security Awareness Materials.** In 2009, the Chemical Sector published the *Roadmap to Secure Control Systems in the Chemical Sector.* Working collaboratively, DHS and industry stakeholders addressed the essential first step for implementing the roadmap by developing a suite of reference documents for an awareness campaign. The outreach materials are a compilation of Industrial Control Systems Security Resources, designed to simplify the research process for companies looking to enhance cybersecurity.
- **The Homeland Security Information Network—Critical Sectors (HSIN-CS).** The primary information-sharing platform for the Chemical Sector. It provides alerts and incident bulletins that are posted when events occur. HSIN-CS enables sector partners to share information in support of the NIPP sector partnership.

Private sector activities continue to contribute greatly to the security posture of the Chemical Sector and range from participation in and sponsorship of awareness training and the physical hardening of facilities, to the completion of facility security plans. In particular, many chemical industry associations publish mandatory security codes and/or voluntary guidance documents for members.

For questions or more information on the Department's regulation of high-risk chemical facilities under CFATS, please contact CSAT@dhs.gov or visit www.dhs.gov/chemicalsecurity.

For questions or more information on the Chemical Sector, please contact chemicalsector@dhs.gov or visit www.dhs.gov/chem-voluntary-resources.

Homeland Security