Key Planning Factors and Considerations for Response to and Recovery from a Chemical Incident

The United States faces a wide array of chemical threats and hazards, including, but not limited to, the unintentional release of toxic chemicals in an industrial or transportation setting and the deliberate weaponization of toxic chemicals by various types of malicious actors. Such threats and hazards have the potential to cause significant harm or disruption to the general public (including large-scale injury and mortality), first responders, critical infrastructure systems, the environment, and/or the delivery of vital community services. Chemical incidents present many distinct challenges for communities of any size or capability.

The Key Planning Factors and Considerations for Response to and Recovery from a Chemical Incident (Chem KPF) document provides emergency planners with critical information and links to additional technical resources to facilitate preparedness planning and inform the response to and recovery from all types of chemical incidents. The document is intended to serve as a bridge between highly technical information used by the hazardous materials community and the operator-level all-hazard incident response and recovery approach used by the emergency management and first responder communities. Additionally, it features “user-friendly” guidance to help emergency planners address the question: “How do the response to and recovery from chemical incidents differ from the approaches and protocols used to manage the effects of more traditional incidents (e.g., hurricanes, floods, wildfires, etc.)?”

While the Chem KPF document does not encompass the totality of the planning process nor all chemical incident issues, it serves to provide a foundation for planning for non-technical audiences. The Chem KPF also provides guidance for addressing the “core capabilities” outlined in the Oil and Chemical Incident Annex (OCIA) to the Federal Interagency Operational Plans (FIOPs) for Response and Recovery. The seven principal focus areas examined within the Chemical KPF document are summarized on the following page.
Engaging in pre-incident preparedness activities can ensure the community understands, plans for, and tailors their response systems for the chemical risks that are most likely in their area.

“Prime the Pump” Pre-Event Planning

Recognize & Characterize the Incident

Early recognition saves lives and protects property and the environment by enabling rapid treatment of the injured and containment of the release, limiting the spread of contamination, and preventing follow-on incidents.

Establishing and maintaining communications during a chemical incident ensures coordinated efforts among response and recovery agencies and supports government messaging to inform the public.

Communicate with External Partners and the Public

Stopping the spread of contamination and minimizing additional exposures are critical response actions that save lives, protect the environment, and work to ensure resources are used effectively, thus reducing the overall impact of the incident. Control efforts may include containment, decontamination, and evacuation measures.

Mass care services, housing, and health and social services may be necessary following a mass casualty chemical incident. Unique considerations for emergency assistance will arise during a chemical incident due to issues such as contamination spread and public fear.

Augment Provision of Mass Care and Human Services to Affected Population

Health and medical services may be overwhelmed during a chemical incident due to the speed with which chemicals can injure, the lack of specific treatment for many chemicals, and a medical infrastructure that is often ill-equipped to handle mass casualty events and/or events involving contaminated patients.

Potential impacts to people, businesses, property, the environment, and critical infrastructure are reviewed to inform recovery planning and show how this planning can help achieve recovery outcomes.

Augment Essential Services to Achieve Recovery Outcomes

Scalable federal resources that may be activated to support state, local, tribal, and territorial chemical incident response and recovery.

There are numerous resources available to support planning and decision-making, including planning tools, modeling/simulation tools, decision support/response tools, and chemical knowledge databases.

Planning, Decision Support, and Modeling Resources for Chemical Incidents