Homeland–Defense
Operational Planning System
(HOPS)

An Overview

Counterproliferation Analysis Section
Proliferation Detection and Defense Systems Division
Lawrence Livermore National Laboratory
Fully Engaged in Protecting California

- Diablo Canyon Nuclear Power Plant
- The Stadium at Candlestick Point
- Los Angeles Convention Center
- BART
- Valero Refinery Benicia
- Air Exhaust
- Air Handling
- Air Intake
- OIC Video
- Interactive Stadium Exploration
- Giants Dr.
- Candlestick Point
- San Francisco International Airport
Homeland-Defense Operational Planning System

• Proven Capabilities
  – *Deliberate Planning for Homeland Defense*
    • Key Infrastructure Nationally
    • DoD – Defense Industrial Base
    • Economic Impact and Engineering Assessments
    • Consequence Analysis
  – *Emergency Response*
    • Pre-staging for National Security Special Events
    • Response Plans (*building plans, key personnel, phone numbers, operating procedures*)
    • Customized Tools
  – *Training for inter-agency efficiencies*
    • Chemical, Biological, Nuclear, Kinetic and Terrorist capabilities
    • Generic Data Sets for typical venues.
A Strategic Tool for National Planning

Protection for the USA involves identification of key facilities nationally

Defense must protect critical Industrial partners to ensure its military mission

An integrated tool for Security and Defense

Military Installations

Military Support Installations

Forward Support

Direct Industrial Support

Indirect Industrial Support
Site-Specific Nodal Analysis

Engineering Assessments, Economic Impact, Consequence Analysis provide Scientific Base for identifying Critical National Infrastructure
Common Operating Tool for the Defender

(U) Dengue Fever Virus

Data to identify CBRNE agents

Tools to assist in Response

A mission cockpit for on-site monitoring of assets and activities

Data Sets to guide responders

Tools to predict plume dispersal For a more effective response.

Threat Matrix: Historical fact-based data-set on terrorists and weapon capabilities.

Data to guide disease outbreaks

The yellow stars represent countries which have experienced DHF outbreaks.

Total Effective Dose Equivalent Hypothetical Radiation Dispersal Device (RDD)

Example NARAC Product

Biological Agents

Blood Agents

Blister Agents

Radiological Materials

Choking Agents

Incapacitating Agents

Nerve Agent
Training for the Homeland Defender

- **National Guard**
  - Basic Courses in WMD
  - National Scope for Training

- **Homeland Security/Defense**
  - Creation of policy based on fact driven analysis
  - Scientific evaluation of real facilities and events.
  - Web-based interactive possibilities

- **Generic Analysis**
  - Cheaper, realistic exercises based on real facilities

Tabletop Exercises become more effective and realistic with an interactive web interface.
HOPS: Becoming Operational

- **Network Connectivity Exists:**
  - Internet, SIPRnet, JWICS
  - User Access Controls
  - Scalable to an Enterprise architecture

- **State of the Art Computer Technology**
  - Dynamic Content Framework
  - Oracle Engine –
    - Standard tools facilitate collaboration
  - Internet Standards followed
  - Portal Technology

- **Collaboration**
  - California National Guard.
  - OSD, US NORTHCOM, OSIS community

- **Program Management**
  - Solid QA procedures
  - Sponsor Driven Statement of Work
  - Earned Value Reported
HOPS: Status Report

• California National Guard
  • FY2004: Initial Funding of 2 Million Dollars in – Congressional Plus up
    – Analysis on transportation, refineries
    – Support of key state level exercises per State plan
  • FY2005: California National Guard official legislative plan
  • FY2006 - FY2010: Working to be included in POM

• US NORTHCOM
  • JWID: member of the recommended tool suite
  • Critical Infrastructure Protection tools evaluation: Ranked superior in high resolution analysis
  • Determined Promise 2004

• Naval Postgraduate School
  • HOPS being integrated into Masters in Homeland Security for curriculum

• National Guard Interest from other states