



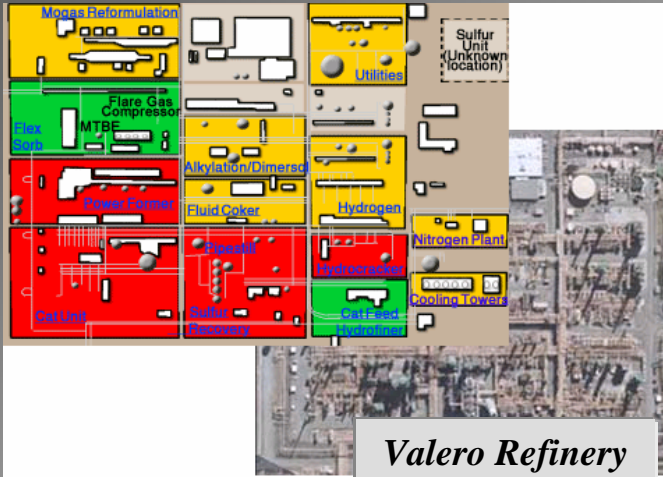
Homeland–Defense
Operational Planning System
(HOPS)

An Overview

Counterproliferation Analysis Section
Proliferation Detection and Defense Systems Division
Lawrence Livermore National Laboratory



Fully Engaged in Protecting California



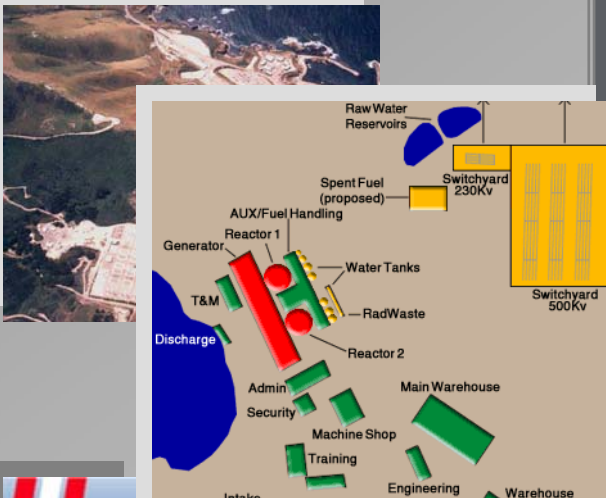
**Valero Refinery
Benicia**



BART



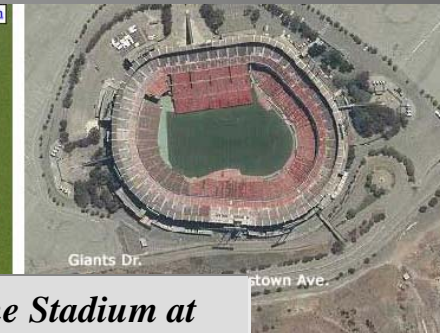
Los Angeles Convention Center



**Diablo Canyon Nuclear
Power Plant**



**The Stadium at
Candlestick Point**

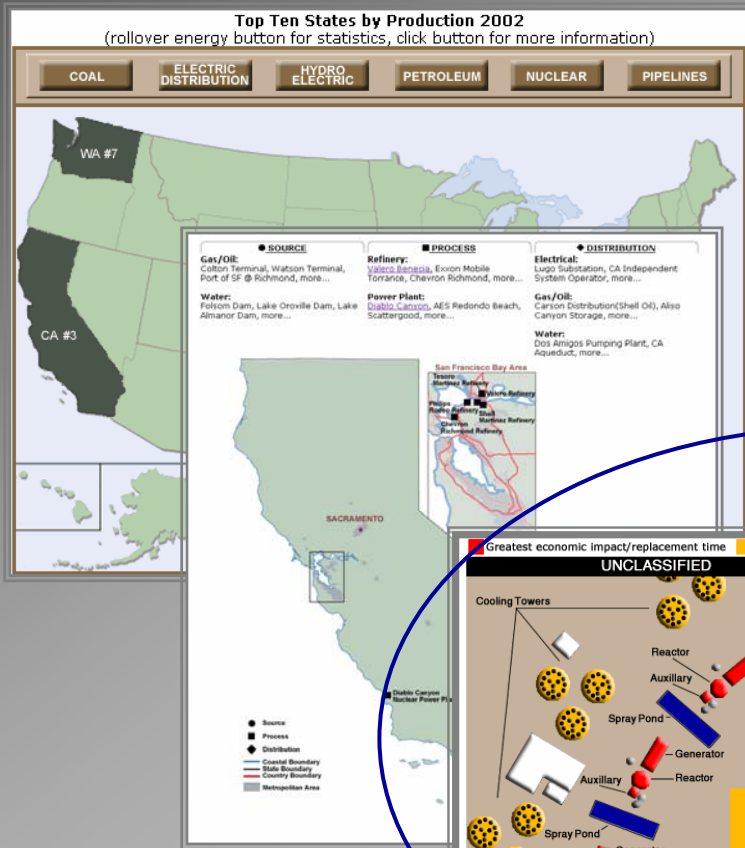


Homeland-Defense Operational Planning System

- **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



*Defense must protect critical
Industrial partners to
ensure its military mission*

*An integrated tool for
Security and Defense*

Military Installations



**Military Support
Installations**



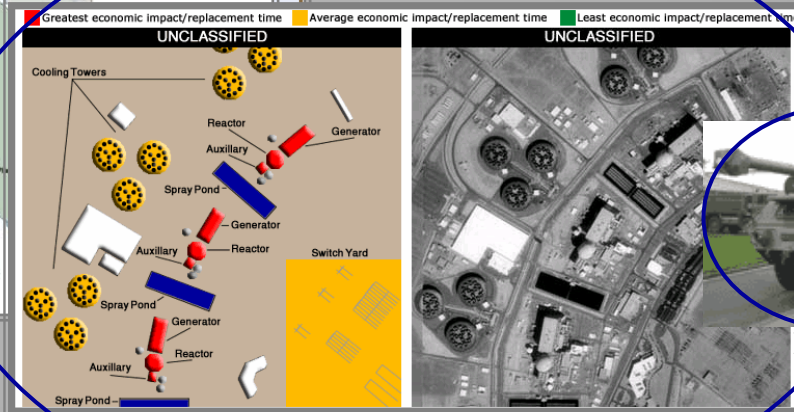
Forward Support



**Direct Industrial
Support**



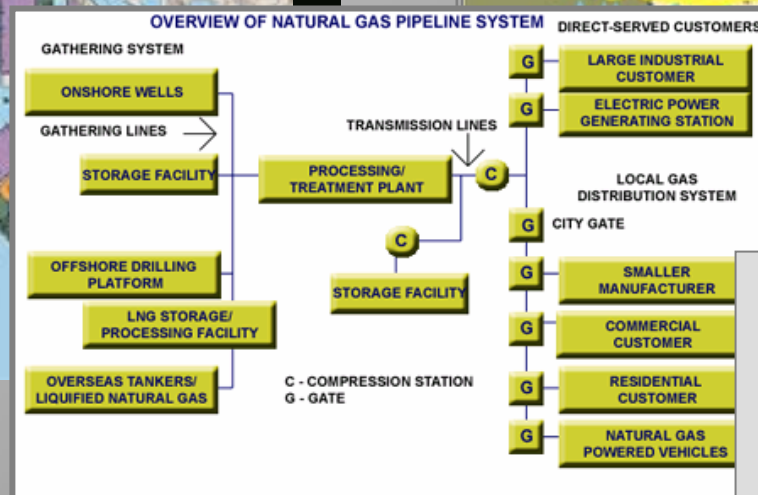
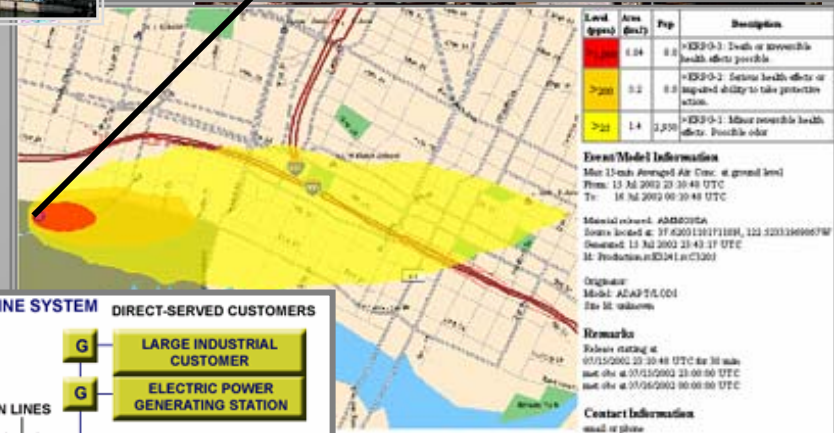
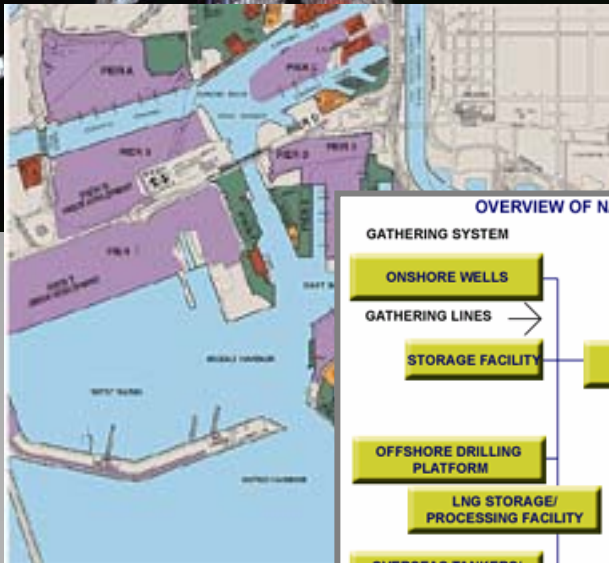
Indirect Industrial Support



*Protection for the USA
involves identification of
key facilities nationally*



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

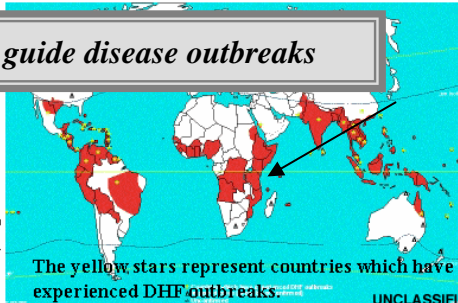
(U) History

(U) (22SEP1998) The Dengue Fever, Dengue Haemorrhagic Syndrome, and Dengue Shock Syndrome are caused by viruses.⁴ It is a viral infection that is transmitted to other vertebrates through the bite of a female *Aedes* mosquito.² It is extremely prevalent during the rainy seasons in over 100 countries and territories. An estimated ten million people are infected annually and an average 500,000 people are hospitalized as a result of the disorder. Ninety percent are children infected with the disease, and the average mortality rate is approximately 5 percent, roughly 24,000 individuals.⁴

(U) (22SEP1998) Naturally, the

Data to guide disease outbreaks

The yellow stars represent countries which have experienced DHF outbreaks.

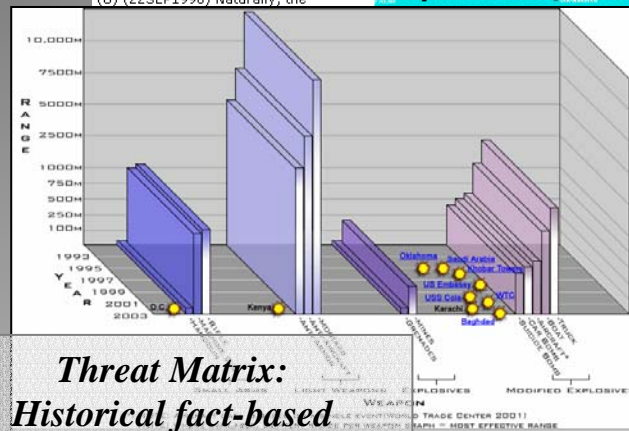


Data Sets to guide responders

Tools to assist in Response

Appearance	Skin	Eyes	Respiratory	Cardiovascular	Digestive System	Temperature	History 1	History 2	Totals	
Totals indicate the likely causes of the symptoms										
Biological Agents			2							
Blood Agents			2							
Blister Agents			2							
Radiological Materials			1							
Choking Agents			1							
Incapacitating Agents			0							
Irritating Agents			0							
Nerve Agent			0							

Tools to identify CBRNE agents



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

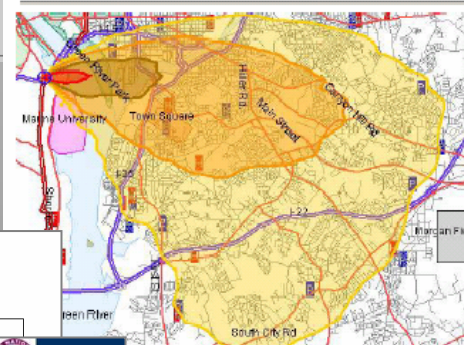
standing bodies of water and in the United States occur increased movement of people and increased mosquito activity around the world.⁴ The regions of Africa, Asia, the Americas, and

ly similar to the Chikungunya virus, joint aches, head aches, and fever. Each results in an additional strain of the virus and each develop the flu, and measles.⁶



Total Effective Dose Equivalent Hypothetical Radiation Dispersal Device (RDD)

Example NARAC Product



Color	Level (Rads)	Area (sq km)	Description
Red	> 100.0	0.54	Serious health effects. Evac. req. Respiratory protection/sheltering req.
Orange	> 25.0	4.87	Increased cancer risk. Evac. req. Respiratory protection/sheltering req.
Yellow	> 5.0	40.89	Evac. recommended. Shelter in place if no evacuation.
Green	> 1.0	131.07	Consider evacuation. Shelter in place if no evacuation.

Event/Model Information
Material released: SR-90+Y-90
Integrated Air near the surface during 1 hour cloud passage

Remarks
Description : Explosive Release
Source : Sr-90 and Y-90

Map Scale:
Horizontal Plot Size: 17 km
Vertical plot size: 13 km
North is up

CST Data Management Center
Select a Mission Number

Total completion of operational reports: 50%

Operations 50% of completion
Select a Document Template

Medical Operations
HOPS
Hazardous Operations Planning System

CST Operational Checklist
Mission Number: [R246AF23]
Activities: [H-Series] [L-Series] [M-Series] [R-Series]

H-Series	Activity	Time
[]	H 1A. Excess Deployment order from ZOC	[]
[]	H 1B. Call ZOC to Acknowledge Receipt and Authenticate Alert (CO)	[]
[]	H 1C. Recall CST Personnel Using Digital Pagers (CO)	[]
[]	H 1D. Initiate Incident Log in OPS CP Reader	[]
[]	H 1E. Initiate Automated CPOBD	[]
[]	H 2A. Begin Tracking Personnel Recall Status	[]
[]	H 2B. Generate Step Maps from Rayward to Incident Site (CO)	[]
[]	H 2C. Monitor Television and Radio Media to gather additional information	[]

Tools to predict plume dispersal For a more effective response.

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



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**

