



# 2<sup>nd</sup> Civil Support Team



**Lieutenant Colonel  
Thomas Benton  
Commander**



# Agenda



- **MISSION STATEMENT**
- **TASK ORGANIZATION**
- **CST LOCATIONS**
- **VEHICLES**
- **EQUIPMENT**
- **GIS ANALYSIS/MODELING SOFTWARE**
- **CONCEPT OF OPERATIONS**
- **HOW WE INTEGRATE WITH FIRST RESPONDERS**





## Mission



“Support civil authorities at the direction of the Governor, at domestic CBRN incident sites and natural or man-made disasters by *identifying* CBRN agents/substances, *assessing* current and projected consequences, *advising* on response measures, and *assisting* with requests for additional support.”



# Response Criteria

- The use of threatened use of a weapon of mass destruction in the United States***
- A terrorist attack or threatened terrorist attack in the United States that results, or could result, in catastrophic loss of life or property***
- The intentional or unintentional release of nuclear, biological, radiological, or toxic or poisonous chemical materials in the United States that results, or could result, in catastrophic loss of life or property***
- A natural or manmade disaster in the United States that results in, or could result, in catastrophic loss of life or property***

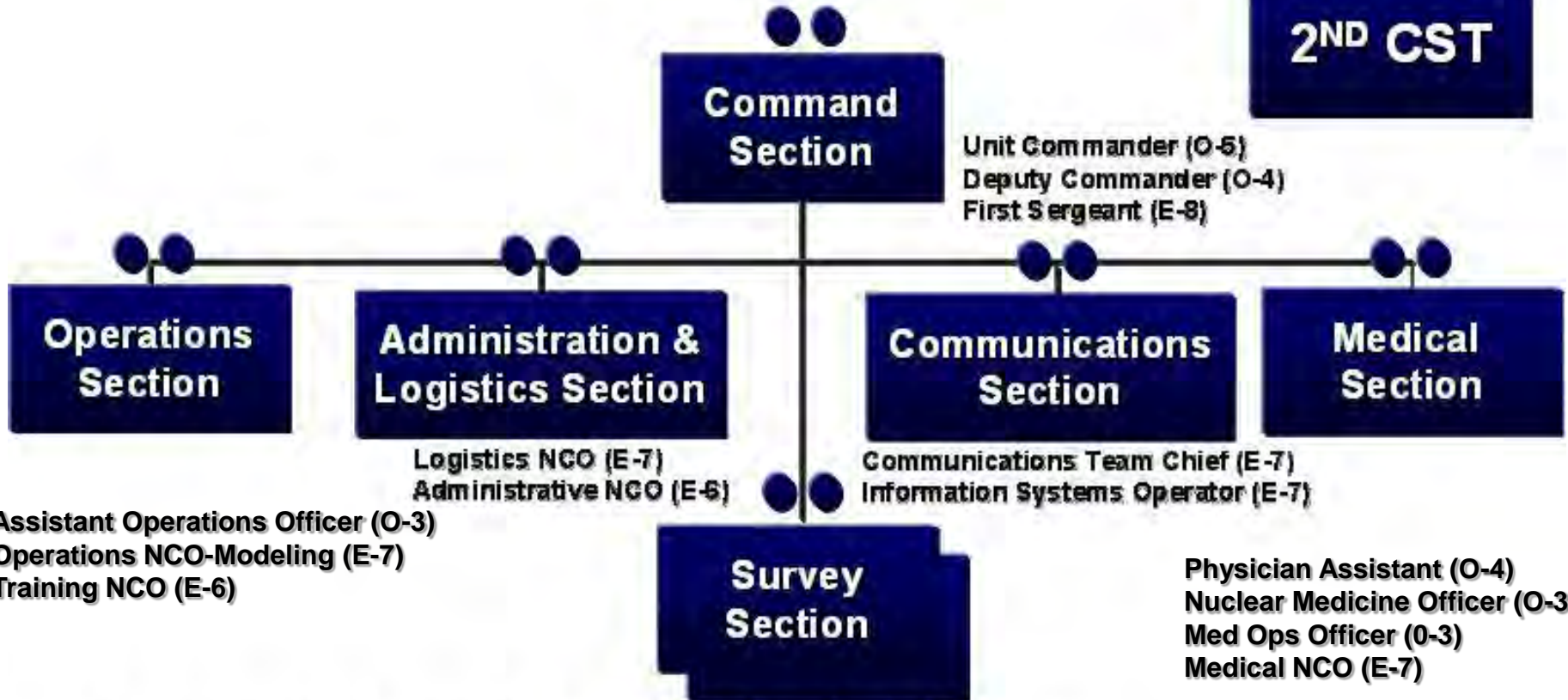


# Task Organization

22 Personnel (17) Army (5) Air Force

II

**2<sup>ND</sup> CST**



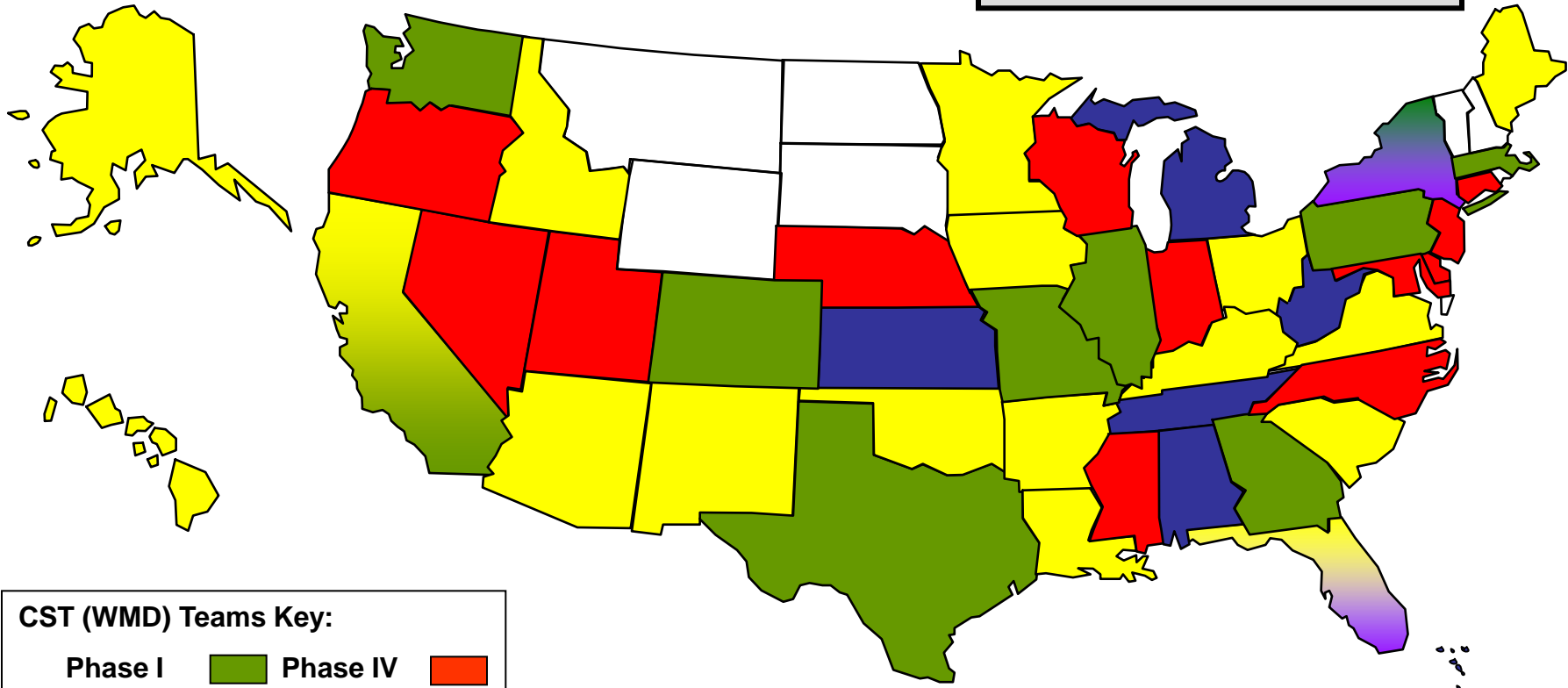
**6 Sections/14 Specialties**

Survey Team Leader (O-3)  
NBC Reconnaissance NCO (E-7)  
2 – Survey Team Chiefs (E-6)  
4 – Survey Team Members (E-5)



# CST Locations

**FY01: 10**    **FY02: 17**  
**FY03: 5**     **FY04: 12**  
**FY05: 11**    **FY09: 2**

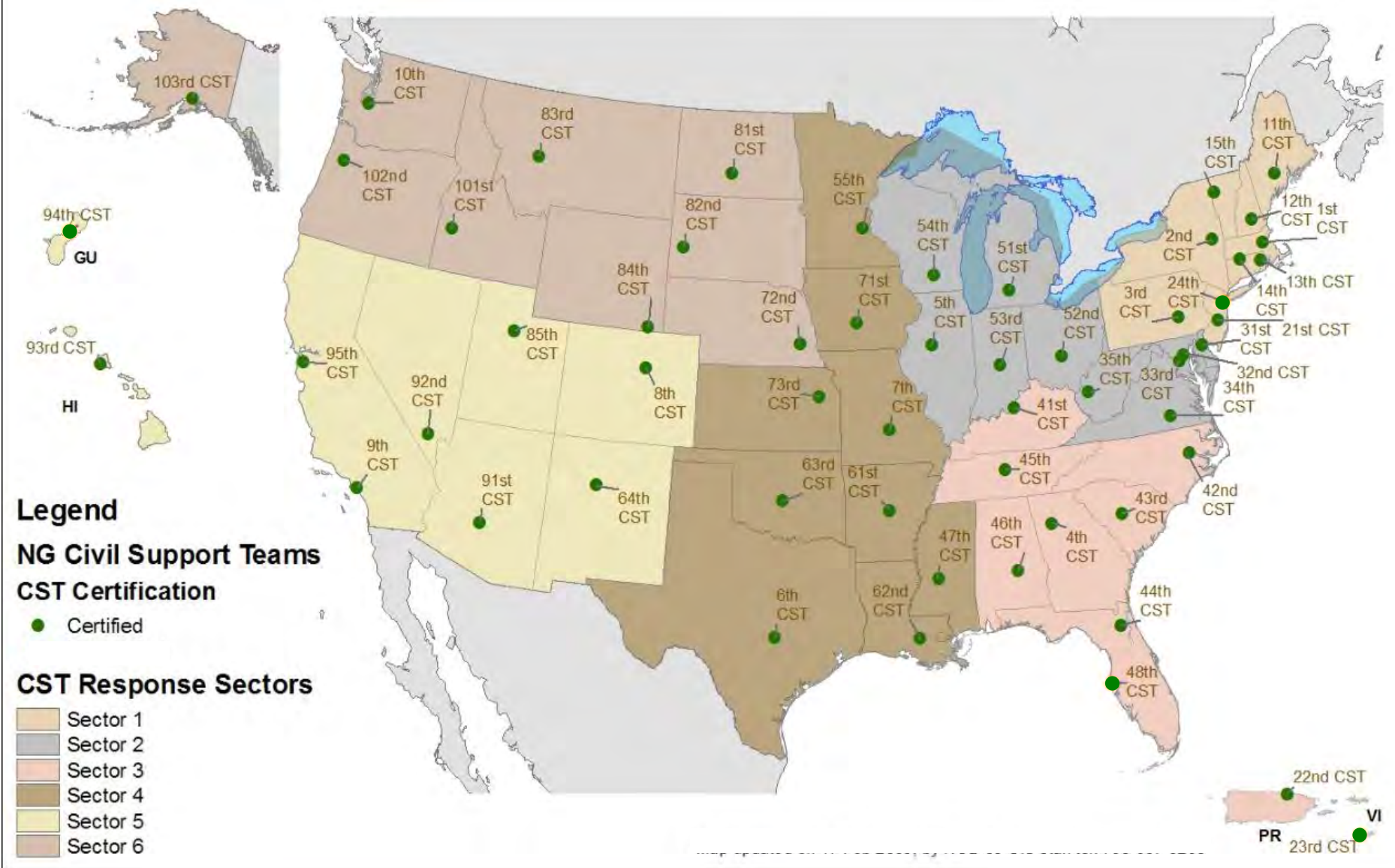


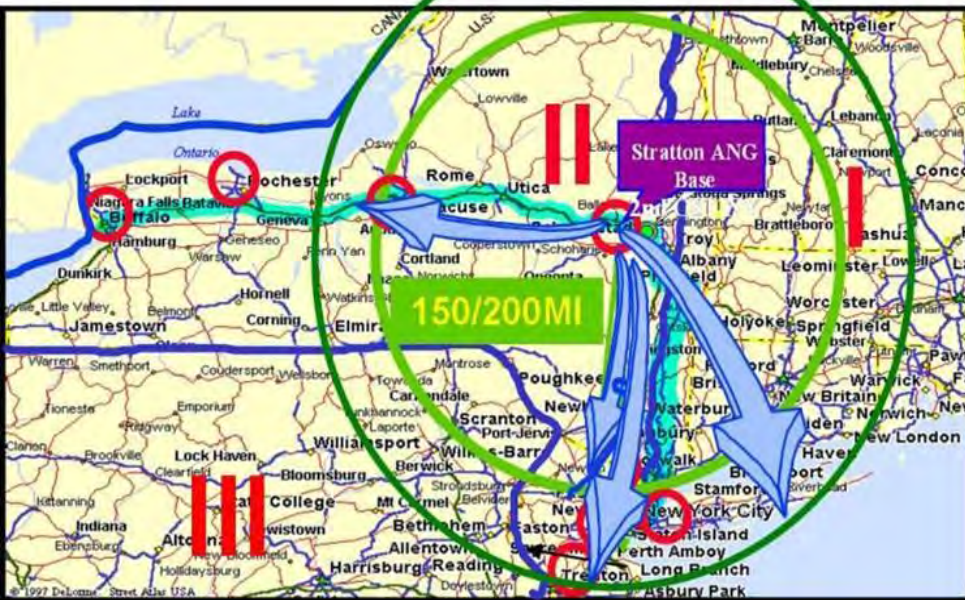
**CST (WMD) Teams Key:**

Phase I		Phase IV	
Phase II		Phase V	
Phase III		Phase VI	



# CST Locations/Sectors





*109th Airlift Wing  
Stratton Air National Guard Base*







# Transportation





# Unified Command Suite (UCS)

- HF/VHF/UHF
- TACSAT Radio
- Cross Banding (ACU-1000)
- INMARSAT
  - Data
  - Phone
- KU SATCOM
  - NIPRNET
  - VOIP Phone
  - SIPRNET
  - Secure Voice
  - Secure Fax
  - Video Teleconferencing
- Secure Satellite Phones



The CST Unified Command Suite provides communications interoperability with Federal, State and Local Emergency Response elements at a WMD event. It also provides reach-back capability which allows Incident Commanders ability to assess the incident scene, advise response and facilitate access to DoD information.



# Advance Echelon (ADVON) Vehicle



- Media Center
- SATCOM
  - NIPRNET
  - VOIP Phone/fax
  - Commercial internet
- INMARSAT M4
  - Data
  - Phone
- Portable Cross band Repeater w/ICRI  
(Incident Cdr's Radio Interface)



The ADVON vehicle provides the WMD-CST with a quick-reaction communications capability. It provides a high-speed data communications system operating within a wireless network as well as providing a RF cross band repeater for merging disparate radio systems. The ADVON vehicle possesses similar capabilities to the UCS but less robust and with limited secure capabilities.



# Analytical Laboratory System (ALS)



***RAPID, ACCURATE, PRESUMPTIVE  
MOBILE ANALYSIS***



# ALS Equipment



## Ortec Detective

- Detective-EX100 HPGe-based Hand-Held Radioisotope Identifiers
- Able to detect the components of a mixture
- ~20 to 100 times better than even the most advanced NaI and CZT instruments

## Shimadzu QP 2010+

- Extended Mass Range over the HAPSITE
- Uses an Auto-sampler/Auto-Injector
- Durable, survived extensive Army driving and function tests



QP2010+ H2



## Polarizing Light Microscope (PLM) with Fluorescence and FTIR Laser Spectroscopy

- Identify particles with non-invasive tests
- Use Seal-Cell slides to confine agent
- Able to separate mixtures



# ALS Equipment



**M1M Bioanalyzer**

- Immunoassay Technology
- Used for Toxin detection only
- More sensitive than lateral flow assays (LFA)

- Polymerase Chain Reaction (PCR) test set
- Uses targets to locate DNA of suspected agents
- More sensitive and better specificity than the M1M or LFA



**JBAIDS**



# ALS Equipment



## Bio Safety Level III Glove box

- All sample preparation is done inside
- Protection to the workers of the lab
- Filtration system contains chemicals and biological agents



## RAID-M IMS

### Ion Mobility Spectroscopy

- Hand held chemical detector
- Uses time of flight to detect chemical ions
- Used to confirm down range readings



# Survey Capabilities

## PID and Electrochemical



**Area Rae** (8 total)  
Multi gas area monitor  
LEL, O<sub>2</sub>, VOC, Cl<sub>2</sub>, H<sub>2</sub>S,  
Gamma



**PPB Rae** (2 total)  
Point source VOC monitor  
10.6eV Lamp reads in  
parts per billion



**Multi Rae** (8 total)  
Multi gas point source monitor  
LEL, O<sub>2</sub>, VOC, H<sub>2</sub>S, HCN,  
CO, Gamma



**V Rae** (2 total)  
5 gas, point source monitor  
PH<sub>3</sub>, NH<sub>3</sub>, HCN, Cl<sub>2</sub>, LEL

## Ion Mobility Spectroscopy

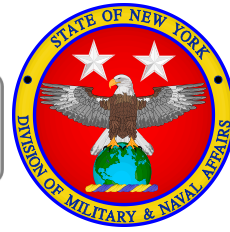


**JCAD** (5 total)  
Joint Chemical Agent Detector  
Point and Area Monitor  
Nerve (G), Blister (H) and Blood CWAs



**ICAM** (5 total)  
Improved Chemical Agent Monitor  
Point source monitor  
G & H series CWAs





# Survey Capabilities

## HAPSITE-ER

GC/MS Technology

ID of Volatile Organic Compounds VOCs

Solid, Liquid & air samples



# Spectroscopy

## Hazmat ID

Infrared Technology

Solids, Liquids & Pastes

Large spectrum library



## Gas ID

Infrared Technology

Gases

Large spectrum library



## AHURA (First Defender)

Raman Technology

Point & Shoot Optional Vial

Solids & Liquids

Large spectrum library



## TruDefender

Infrared Technology

Point & Shoot

Solids & Liquids

Large spectrum library

Brings FTIR into Hotzone





# Survey Capabilities

## Radiation Detection and Identification



**Pack Eye**  
Gamma/Neutron

Helium 3 tubes  
Plastic scintillator



**RadEye PRD**  
Gamma  
Sodium Iodide scintillator  
Photo multiplier tube



**FH-40G**  
Gamma  
Proportional  
Counter



**AN/PDR-77**  
Alpha, Beta, Gamma & X-Ray  
A- scintillator, photo multiplier tube  
B & G- GM Tube  
X- scintillator, photo multiplier tube



**Identifinder**  
Gamma/Neutron  
Sodium Iodide  
Crystal  
Helium 3 tube  
GM Tube



**AN/VDR-2**  
Beta/Gamma  
Dose rate & total dose  
GM Tube  
High & low energy



# GIS Analysis/Hazard Modeling

## HPAC/ARC 10

### Hazard Prediction & Assessment Capability

- Provides the CST the capability to calculate the dispersion of:

Hazardous Chemicals

Biological Agents

Radioactive Materials

- Considers effects of:

Weather (wind speed, direction,  
humidity, temp, barometric pressure)

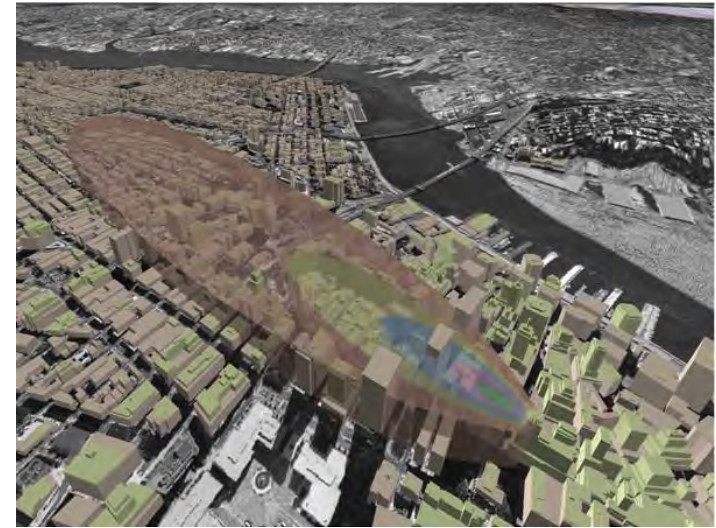
Terrain (natural and manmade)

- Produces:

Plume Model / “Street by Street” Hazard Prediction

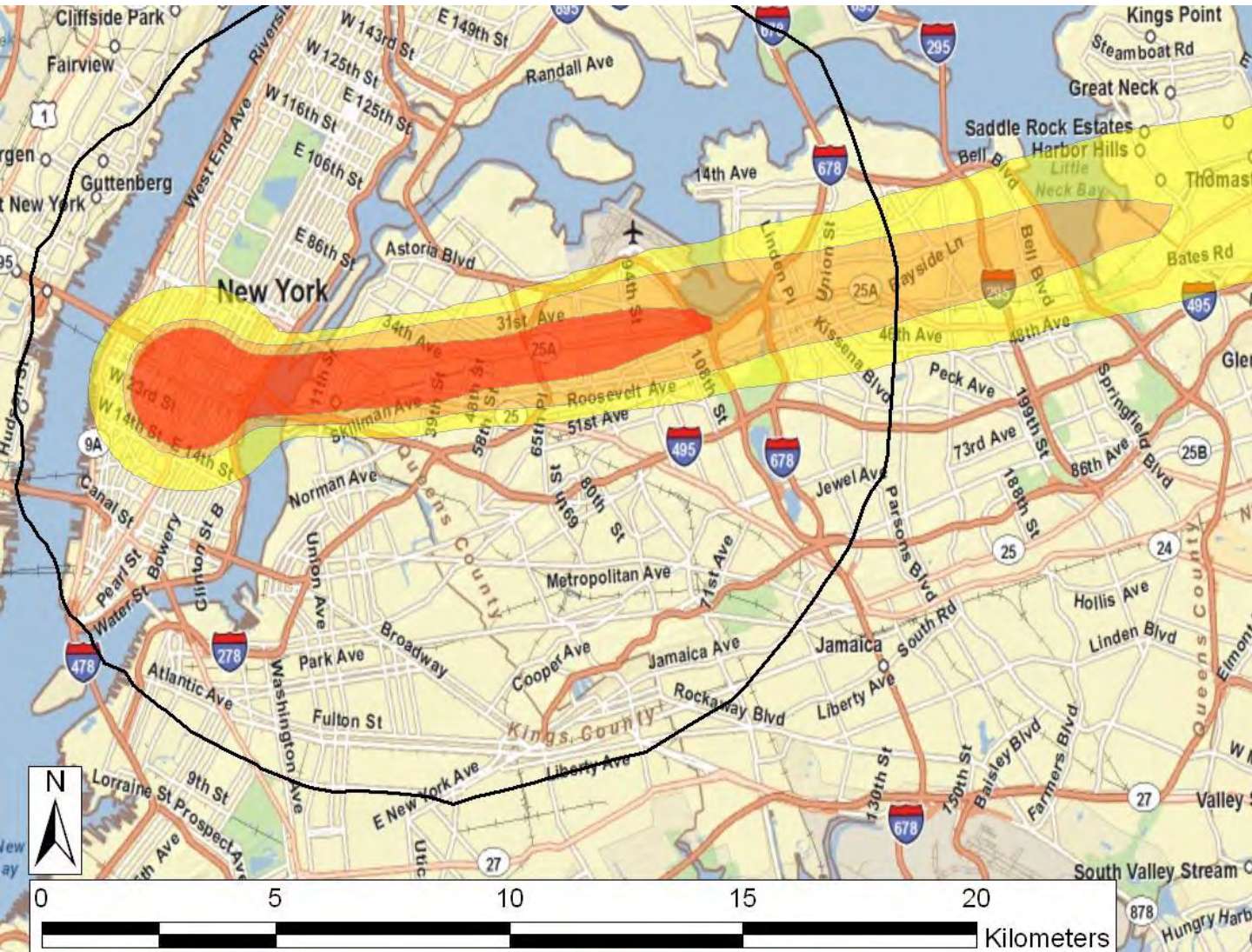
Predictions of lethal effects on population

Recommendations for exclusion zone





# 10 kT Nuclear Detonation Model



**NWPN Prob of Fatality in the Open (Dual)**  
 09-Nov-09 16:00:00Z (32,000 day)  
 Mean Probability of Fatality

Contour	% (P)	In contour population
50%	50.0	540,769

Mean Probability of Casualty

Contour	% (P)	In contour population
50%	50.0	894,537
10%	10.0	1,418,485

Fatality Possible (w/WX Uncertainty)

Contour	% (Pc)	In contour population
10%	10.0	3,943,760

Casualty Possible (w/WX Uncertainty)

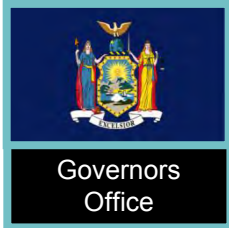
Contour	% (Pc)	In contour population
10%	10.0	11,782,406

**FACTS**

New York, NY  
 Location: 40.747766N/73.985087W  
 Strike Time: 1600Z 08OCT2009  
 Type: NUDET  
 Yield: 10kT  
 Strike Weapon: Ground Burst  
 Weather: Historical  
 Model: HPAC 5.0 SP1  
 Static Population Estimates:  
 Land-Scan 2007



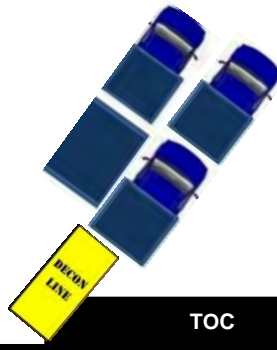
# Concept of Operations



Governors Office



ICP



DECON LINE



JFHQ NY



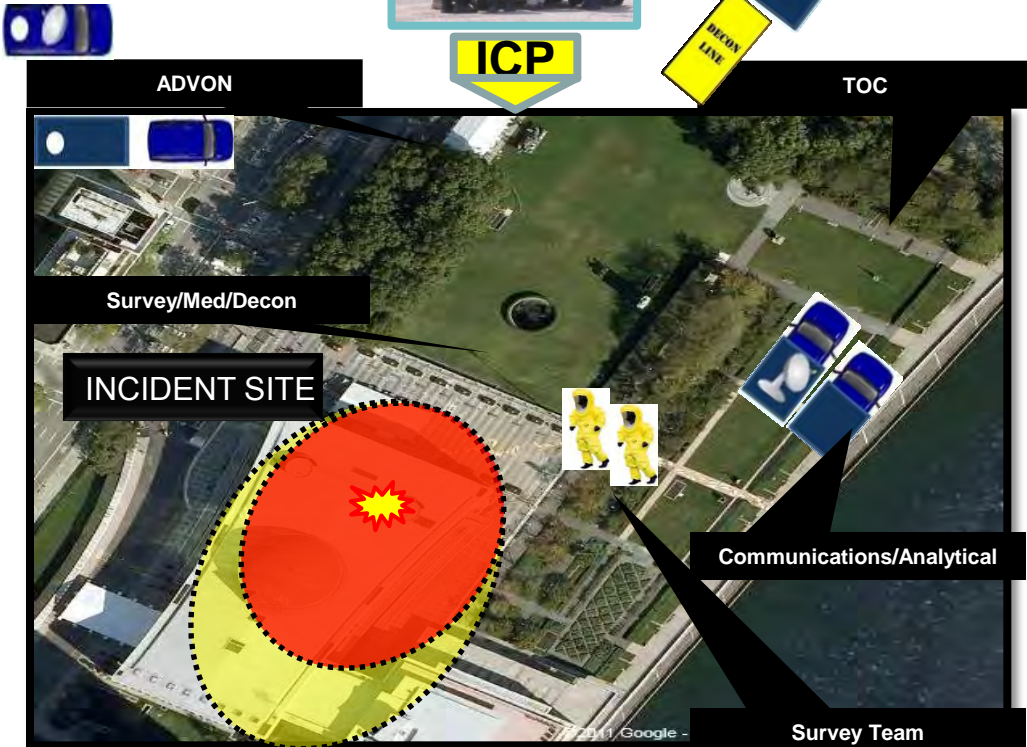
State OEM



County OEM



First Responders



2nd CST CDR



# CST Integration

- **HOW DO WE INTEGRATE WITH FIRST RESPONDERS?**
  - WE WORK FOR THE INCIDENT COMMANDER
  - ALL MEMBERS NIMS COMPLIANT (100,200,700,800) and (300,400)
  - PROVIDE LIAISON OFFICER TO THE IC
  - JOINT EDUCATIONAL & COLLECTIVE TRAINING
  - PROVIDE THE LINK BETWEEN LOCALS AND FOLLOW ON FORCES SUCH AS **CERFP/HRF/DCRF/C2CRE**
- **HOW DOES THE CST INTEGRATE WITH STATE AGENCIES?**
  - TRAIN AND WORK ROUTINELY WITH NYSP CCSERT
  - TRAIN AND WORK WITH DOH/WADSWORTH LABORATORY
- **HOW DOES THE CST INTEGRATE WITH FEDERAL AGENCIES?**
  - DIRECT COORDINATION (FBI, USSS, DOE)
  - PREARRANGED AGREEMENTS
  - TITLE 10 (NATIONAL RESPONSE FRAMEWORK)



# What does the CST do?



- Response missions
- Standby missions
- Assist missions
  - Capability briefings/displays
  - Visual Intermodal Prevention & Response (VIPR) missions
  - Maritime interdiction missions
  - Backup/support neighboring CSTs
  - Provide WMD subject matter expertise
  - Provide interagency operations subject matter expertise
  - Provide incident management subject matter expertise
  - Train local first responders
  - Train NYSP CCSERT
  - Provide assistance with event planning
  - Provide assistance with exercise planning



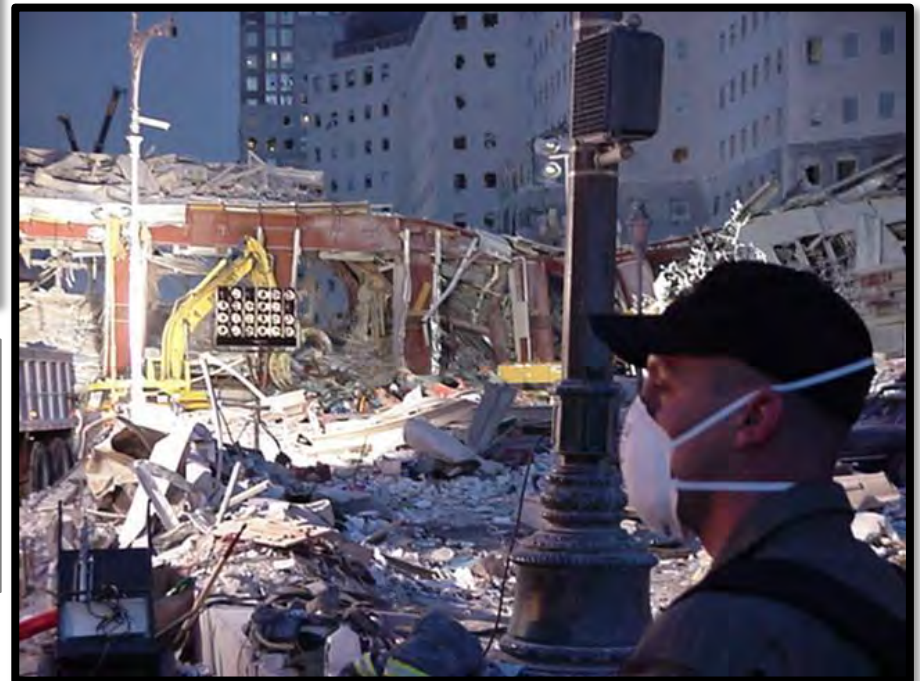


# World Trade Center



- Provided communications support to FBI
- Conducted an initial hazard assessment around entire site

- Assisted USAR teams with Hazmat Monitoring
- Assisted USEPA/NYSDEC with tracking asbestos monitoring







# JHAT Missions



- World Series
- Super Bowl
- NASCAR
- Indy Series Races
- Marathons
- Times Square on New Year's Eve
- Pope Visit
- National Conventions (RNC/DNC)
- Utica Boilermaker





# Boston Marathon Bombing



Team was initially staged and conducting a JHAT mission with Boston PD, Boston Fire and MSP.

Post blast the team assisted with IED search of the area, providing assistance to the injured and then coordinating follow-on military assets.





# Space Shuttle Columbia



**Civil Support Teams assisted with isolating and examining debris and providing communications support**

**The Columbia space shuttle disaster**

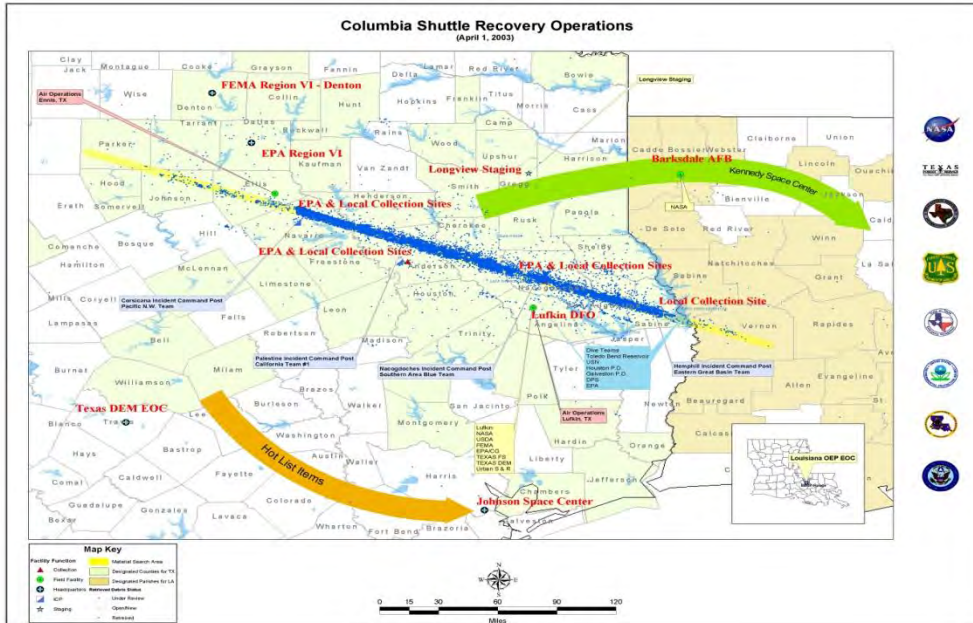
The spacecraft disintegrated on its way back to Earth in 2003, killing all 7 astronauts and leaving a trail of debris over hundreds of miles.

**Jan 16, 2003**  
1 mile 22 inch after launch  
A piece of foam (1) breaks free from the external tank tank and damages the left wing (2)

**Feb 1, 2003** 18 miles from landing  
Superheated air penetrates the damaged wing (3) The wing breaks off (4) Columbia disintegrates

The US space shuttle program formally ended in July 2011 after 30 years, with the final flight of Atlantis to the International Space Station.

**The crew:**  
Rick Husband, Laurel Clark, Michael Smith, Ellison S. Onizuka, Michael J. Smith, Michael J. Smith





# Hurricane Katrina



Each parish had a CST tasked to it to provide:

- Communications Support
- Identification of Hazardous Materials
- Assistance with Incident Management





# Hurricane Sandy



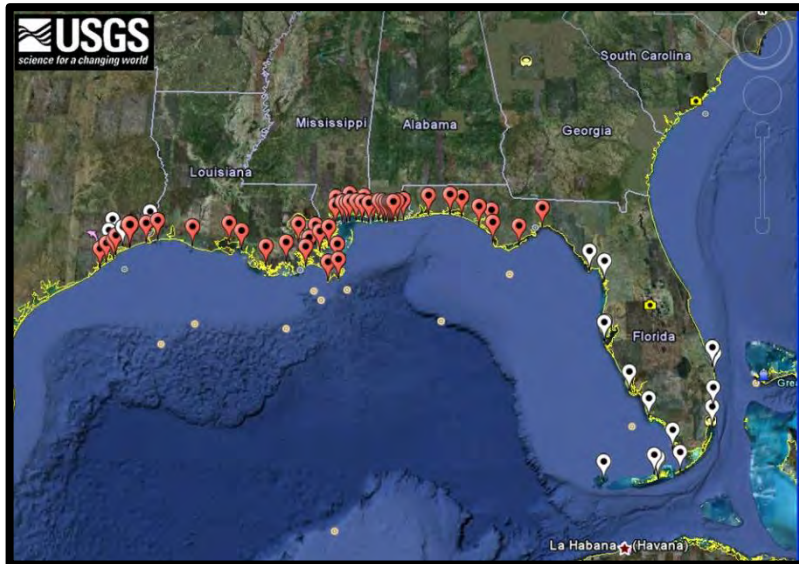
**INCIDENT:** Oct 2012 Hurricane Sandy was the deadliest and most destructive hurricane of the 2012 Atlantic hurricane season, as well as the second-costliest hurricane in United States history

**CST MISSION:** 2<sup>nd</sup> CST provided interoperable communications support to the ICP located at the Island Park Fire Department in Long Island and at Republic Airport. This package included a PtP microwave shot that provided voice and data services for the Island Park Mayor's Office



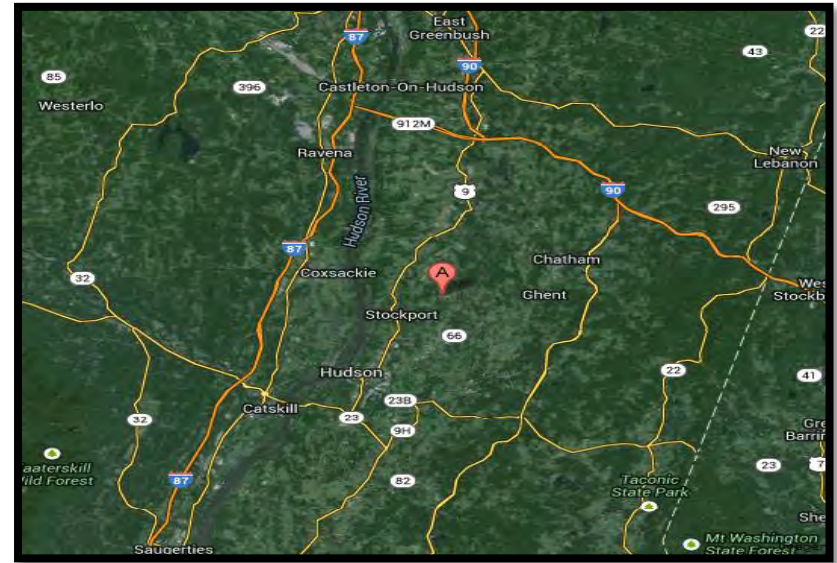


# Deepwater Horizon Oil Spill





# Ghent Fire



**INCIDENT:** August 2012 A chemical fire at TCI of NY, a plant that disposes of electrical equipment. Fire triggered a volley of explosions and sent a plume of soot into the atmosphere with the possibility of Dioxins due to PCB's on site

**CST MISSION:** Region 1 CST (MA, NH, CT, RI) sent Analytical Laboratory(s) to take environmental samples within the plume footprint for MA DOH



# West, TX Explosion & Fire

**INCIDENT:** April 17, 2013 an ammonium nitrate explosion occurred at the West Fertilizer Company storage and distribution facility in West, Texas eighteen miles north of Waco while emergency services personnel were responding to a fire at the facility

**CST MISSION:** 6<sup>th</sup> CST assisted Texas Commission for Environmental Quality with testing the air quality and assessing for further chemical hazards



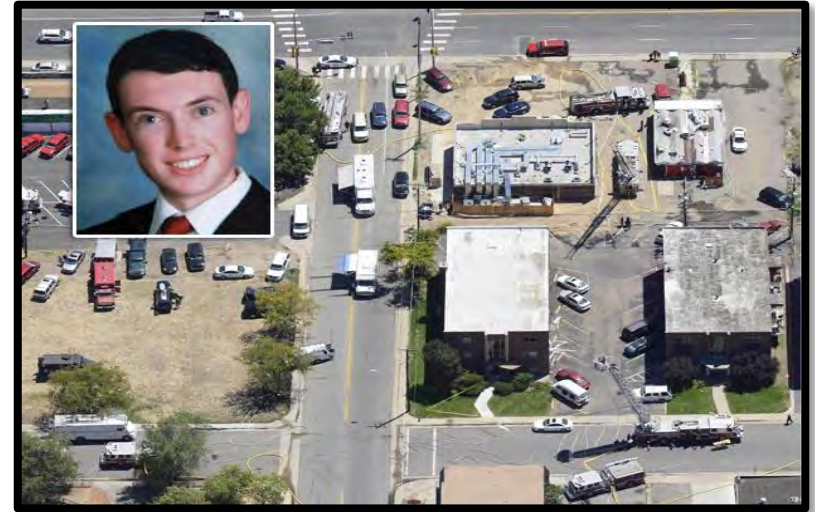




# Investigations



- Colorado Shooter
- West Salem, OR Bomb making investigation
- Suspicious letter sent to Alabama Governor





# White House Gate Crasher



**INCIDENT: October 2013** A woman with a 1 year old child in the car tried to ram the gates of the White House in Washington, D.C. An investigation insured at her residence to determine her intentions

**CST MISSION:** 24<sup>th</sup> assisted the 14<sup>th</sup> CST with providing analytical support for samples taken from the suspect's residence in Stanford Connecticut



# Pine City, MN Letter Investigation



**Situation:** The FBI requested the CST to conduct joint entries IVO Pine City, MN in response to an individual mailing letters and packages laced with biological agents to police officers and judiciary officials. Intel reports there is concern of explosive and biological hazards. FBI, Bomb technicians and the 55th CST will be on scene.

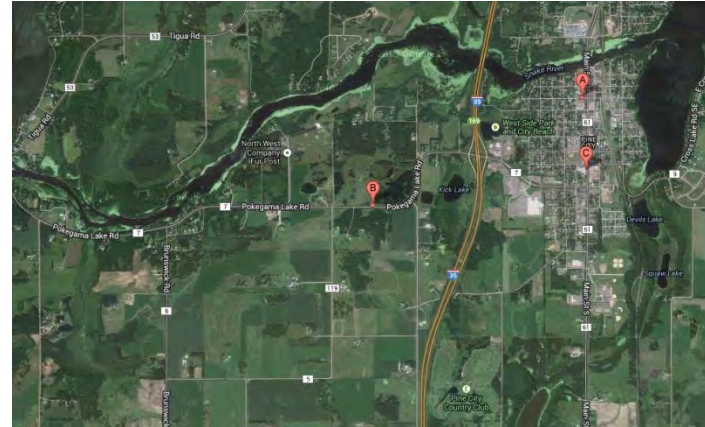
**Mission:** The 55<sup>th</sup> CST responds to Pine City, MN NLT 121300DEC2013 IOT conduct life safety and provide both DECON and Medical support to the WMD FBI IC.

**Interagency Partners:**

- St. Paul bomb Squad
- Federal Bureau of Investigation (FBI)
- Minnesota Department of Health (MDH)

**Results:**

55<sup>th</sup> CST responded to a request from the FBI to provide life safety, medical screening, and decon support for an issued search warrant on a known suspect's property possibly involved in mailing letters to police and judiciary officials containing bacillus thuringiensis and cereus. Hazard concerns originally were explosive and biological threats, which were not present after being cleared by St Paul bomb squad and FBI HMRT (Hazardous Materials Response Team). The FBI requested the 55<sup>th</sup> CST to operate under strict OPSEC conditions with minimal reporting to outside entities. The team adjusted in short notice IOT reduce the signature size while on scene. 3 vehicles and 10 personnel consisting of the Medical Emergency Response Vehicle (MERV), ADVON Suburban and Survey A 450 vehicles to include 5 survey, 2 medical, 2 command, and 1 communication personnel. The ADVON element moved to the incident site while the main body staged in a hide location waiting for follow on support request from the advanced element. The unit successfully reconfigured communications and equipment to meet mission requirements. Survey was able to review intelligence on scene and advised to authorities on life safety issues. Survey provided a back-up team and also an entry team to recon the suspect's outdoor connex. Nothing of major significance was found.





# Moore OK Tornado

**20 May 2013**

- Received IC objectives and facilitated assignment to National Guard units
- CST facilitated State HQ's and Rapid Reaction Force as Forward OPS TOC
- CST conducted link-up and Search and Rescue (SAR) missions with Tennessee FEMA SAR
- CST used assets to enhance command and control, modeling products and communication





# Minnesota Inhalation Anthrax

## **Situation:**

A non MN resident was diagnosed with inhalation anthrax after passing through MT, ND then MN where they were admitted to the hospital experiencing flu like symptoms. Lab results proved the individual was suffering from inhalation anthrax. The source was suspect to be from the environment and not from a terrorist motive. The CST was requested to conduct a sampling plan of the individuals vehicle to determine if additional contamination was present.

## **Mission:**

MN 55th CST supports Minnesota Department of Health (MDH) in Sampling operations on a 2008 Chevrolet Impala located at the Forensics Lot of the Minneapolis Impound Lot (49 Colfax Avenue North) NLT 090900AUG11. The framework for this mission is designed to provide *Bacillus anthracis* (*B. anthracis*) spore surface contamination data to aid in the epidemiologic investigation.

## **Interagency Partners:**

- Federal Bureau of Investigation (FBI)
- Minnesota Department of Health (MDH)

## **Results:**

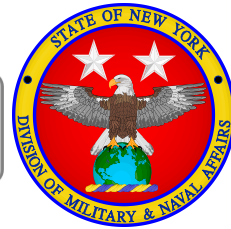
The 55<sup>th</sup> CST Survey section provided comprehensive sampling capabilities in support of MDH. Using protocol supplied by MDH through CDC, the Survey section completed over 54 quality samples and conducted over 12 hours of down range operations. The Survey section used a prescribed strategy for conducting initial environmental sampling for the epidemiologic investigation of the inhalational case in Minnesota. This sampling mission focused exclusively in the case patient's rental car and upon discretion of MDH the patients' belongings. Personnel have been medically screened and are Fully Mission Capable for additional mission at this time. All 54 samples were negative for BA. Final conclusion is the individual contracted anthrax naturally from the environment.



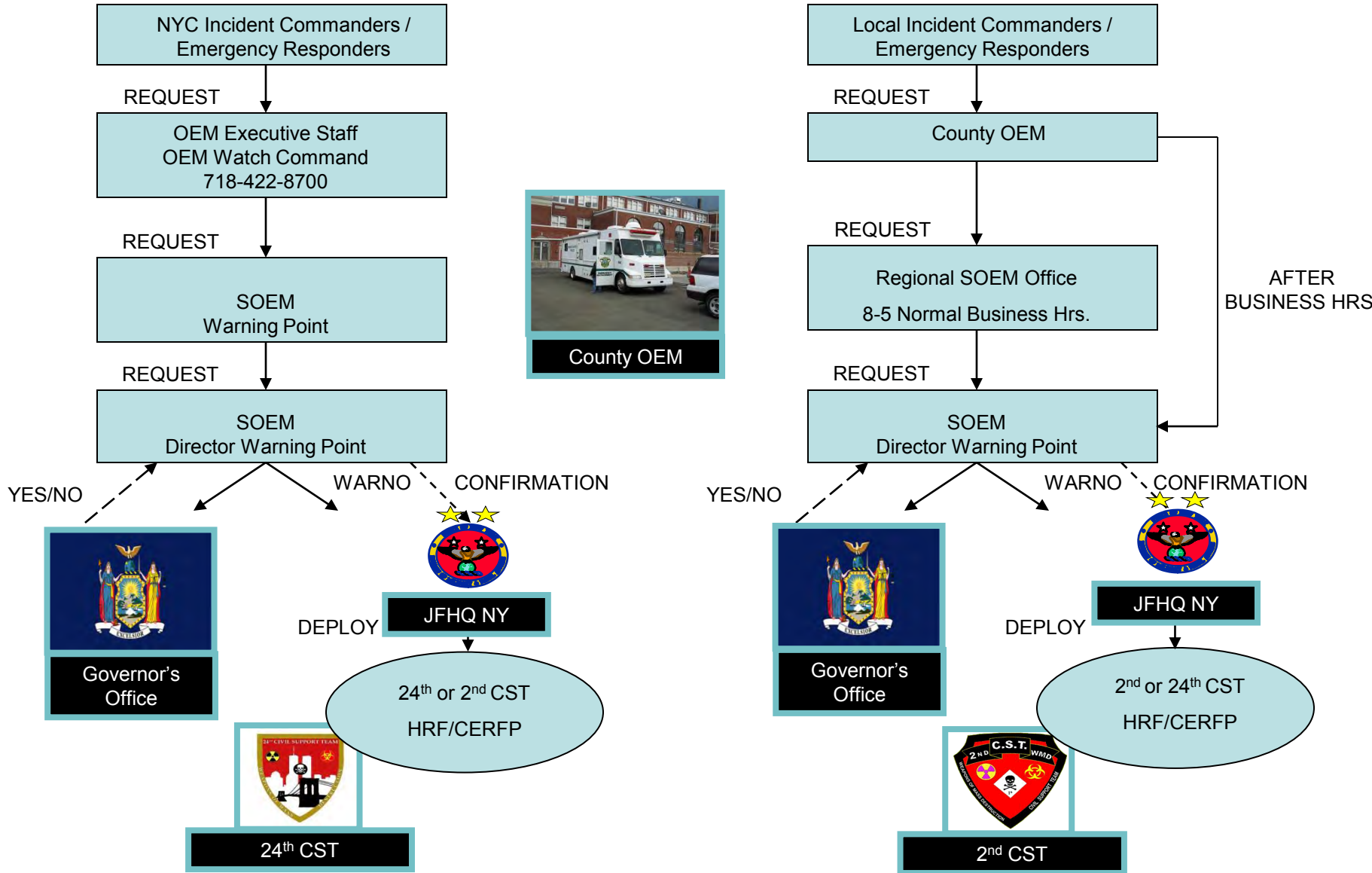


# Charleston WV Chemical Spill





# CST Request Process



County OEM



# CBRN Response Enterprise

## T-32 State Response

## Federal Response

## Follow-on

Total Force  
10,076

Total Force  
~9,200

National Guard  
Civil Support  
Team

National Guard  
CBRNE  
Enhanced  
Response Force  
Package

**CST**  
(57 teams)  
1254 personnel

**CERFP**  
(17 units)  
3162 personnel

- 22 personnel
- Detection
- Identification

- 186 personnel
- Search/Rescue
- Decontamination
- Emergency Med

National Guard  
Homeland Response  
Force

**HRF**  
(10 units)  
5660 personnel

- 566 personnel
- Search/Rescue
- Decontamination
- Emergency Med
- Security
- Logistic Support
- C2

Defense CBRN Response  
Force

**DCRF**  
5200 personnel

- CBRN Assessment
- Search/Rescue
- Decontamination
- Emergency Med
- Security
- Logistics Support
- C2

-FP1 - 2000 personnel, 24hrs

-FP 2/3 - 3200 personnel, 48 hrs

**C2CREs (Alpha, Bravo)**  
Approx. 1500 personnel each, 96hrs  
Approx. 3000 personnel total



Follow-on  
General  
Purpose  
Forces

General  
Purpose  
Forces

- Aviation
- Security
- Medical
- Logistics



# *Homeland Response Force*

## **You're Invited**

FEMA Region II Homeland Response Force (HRF) is conducting its annual full scale exercise from 28 April-03 May 2014. You are invited to view the exercise and obtain briefings on DoD CBRN Enterprise response. In addition you will have the opportunity to observe C2, Decon, Security, Extraction, Fatality Management, and Comms teams in action. Reserve your seat by contacting Major Michael Tagliaferro at (518)786-6053 or [michael.d.tagliaferro.mil@mail.mil](mailto:michael.d.tagliaferro.mil@mail.mil)

## **Annual Full Scale Exercise**

28 April – 03 May 2014

30 April 2014 @ State Preparedness and Training Center (SPTC), Oriskany, NY





## 2<sup>nd</sup> Civil Support Team



*QUESTIONS ?*



## Contact the CST

**Commander: LTC Tom Benton**

**Comm: 518-344-3433**

**Cell: 518-378-2432**

**[thomas.e.benton@us.army.mil](mailto:thomas.e.benton@us.army.mil)**

**Deputy Commander: MAJ Ben Genthner**

**Comm: 518-344-3434**

**Cell: 518-378-2458**

**[benjamin.genthner@us.army.mil](mailto:benjamin.genthner@us.army.mil)**

**JFHQ-NY Joint Operations Center**

**Comm: 518-786-6104**