



*Chemical, Biological, Radiological  
and Nuclear (CBRN) Response  
Enterprise (CRE)*

**LTC GEORGE T. CHRISTENSON**

**Commander**

**21<sup>st</sup> Weapons of Mass Destruction Civil Support Team**

**609-477-8180**

**George.t.christenson.mil@mail.mil**



- **Overview**
- **CBRN Response Enterprise Overview**
- **Weapons of Mass Destruction (WMD)- Civil Support Team (WMD-CST)**
- **CBRNE Enhanced Response Force Package (CERFP)**
- **Homeland Response Force (HRF)**
- **Summary**
- **Questions**



# *CBRN Response Enterprise Overview*



# *NG CRE History (WMD-CST/CERFP/HRF)*

- **General Policies:**
  - PDD-39: U.S. Policy on Counterterrorism
  - PDD-62: Combating Terrorism
  - Nunn-Lugar-Domenici Act: Enhanced support to improve the capabilities of state and local emergency
- **Weapons of Mass Destruction (WMD)-Civil Support Teams(CST):**
  - Title 10 USC, Section 12310: Established initial 10 WMD-CSTs
  - NDAA 2007: Established the final WMD-CSTs for a total of 55
  - NDAA 2013 (Section 1435): Authorized the SECDEF 2 additional WMD-CSTs for a total of 57
- **CBRNE Enhanced Response Force Package (CERFP):**
  - JROCM 162-06: Established 12 CERFPs
  - NDAA 2006: Authorized 5 additional CERFPs
- **Homeland Response Force (HRF):**
  - QDR 2010: Identified short falls within the Department of Defense in CBRN consequence management response
  - RMD 700: Established 10 HRFs in the 10 National FEMA Regions
- **Selected Responses:** 9/11 Attack, RNCs, DNCs, Presidential Inaugurations, NSSEs, Boston Marathon, G8/G20 Summits, Hurricanes Katrina, Rita and Sandy.
- **National and Regional Exercises:** Vigilant Guard, Ardent Sentry, Patriot, Vibrant Response, United Response, Joint Eagle and the National Boy Scout Jamboree.



# *NG CRE History HRF (2010 QDR)*

- **Analysis prior to and during the 2010 Quadrennial Defense Review showed that significant improvements could be made in the Department of Defense force construct for domestic CBRN consequence management response**
  - Deployment timeline does not enable life-saving
  - Capabilities are not optimized for likely needs
  - Lack of cohesion between dispersed supporting units
- **The new construct provides critical advantages over the legacy approach**
  - Much faster response times
  - More personnel dedicated to life-saving
  - Regional distribution and integration
  - Better balance between state and federal control
  - **Enterprise approach to training, evaluations, exercises**
- **New enterprise concept is more consistent with tiered response approach and National Response Framework**
  - New approach supports FEMA “Go Big, Go Fast” initiative



## *NG CRE History HRF (RMD-700)*

- **2010 Quadrennial Defense Review resulted in SECDEF decision RMD-700 to restructure CBRN response forces and to revise DOD's operational concept for CBRN response**
  - **Operational Concept developed by USNORTHCOM/NGB Joint Planning Team in collaboration with DOD components, the National Guard, and interagency partners**
  - **Completed implementation of 10 HRFs on 1 October 12.**
- **The military CBRN Response Enterprise includes:**
    - **National Guard units assigned to the National Guards of their respective states:**
      - Weapons of Mass Destruction Civil Support Teams (WMD-CSTs)
      - CBRN Enhanced Response Force Packages (CERFPs)
      - Homeland Response Forces (HRFs)
    - **Title 10 units allocated to USNORTHCOM for this mission:**
      - Defense CBRN Response Force (DCRF)
      - Command & Control CBRN Response Elements (C2CREs A and B)
  - **In addition, a catastrophic incident may require significant contingency-sourced follow-on forces**

# CBRN Response Enterprise



## Title-32

State Response 55%

Total Force  
10,373

## Title-10

Federal Response 45%

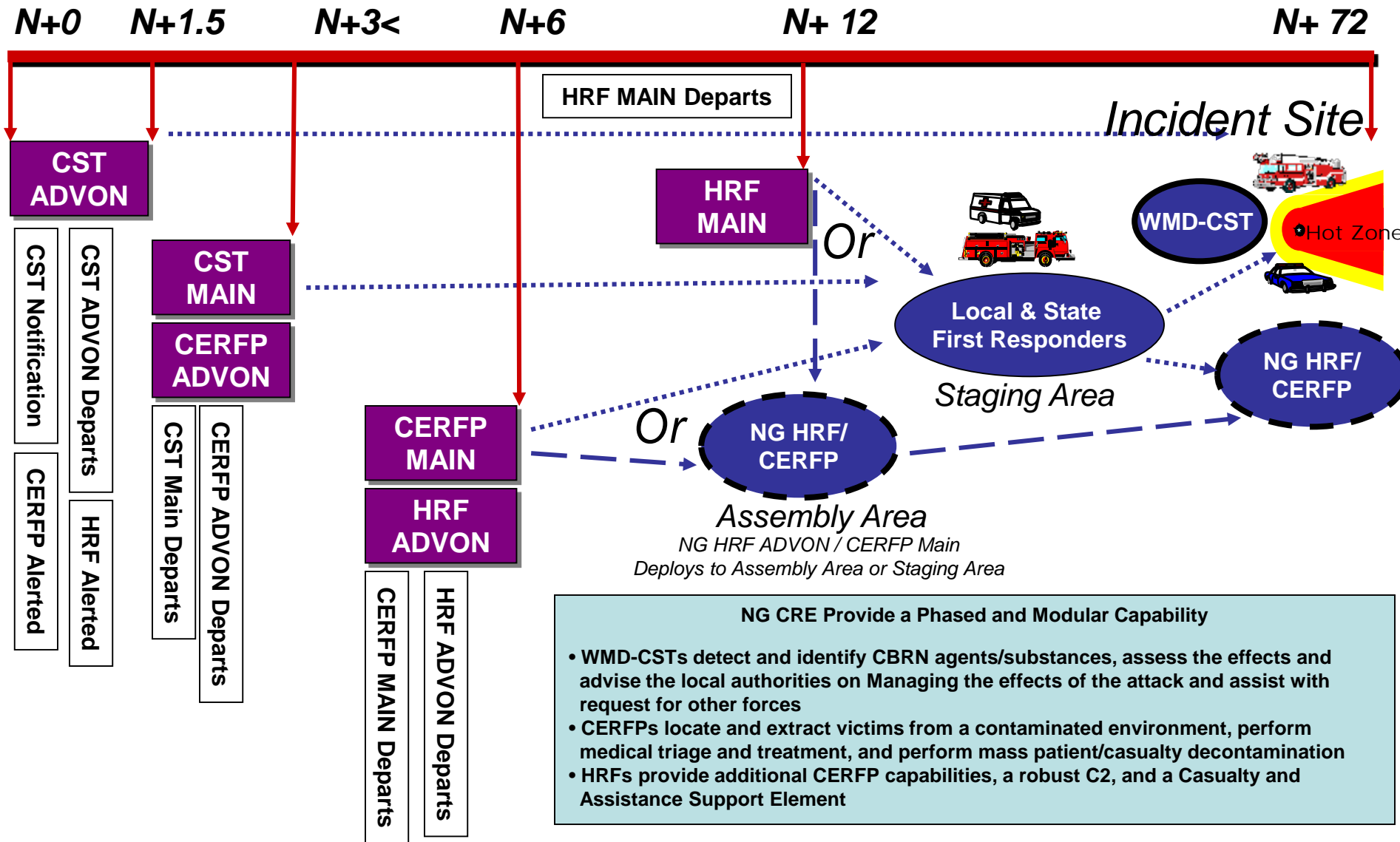
Total Force  
~8,200

Follow-on





# NG CRE Response Timeline



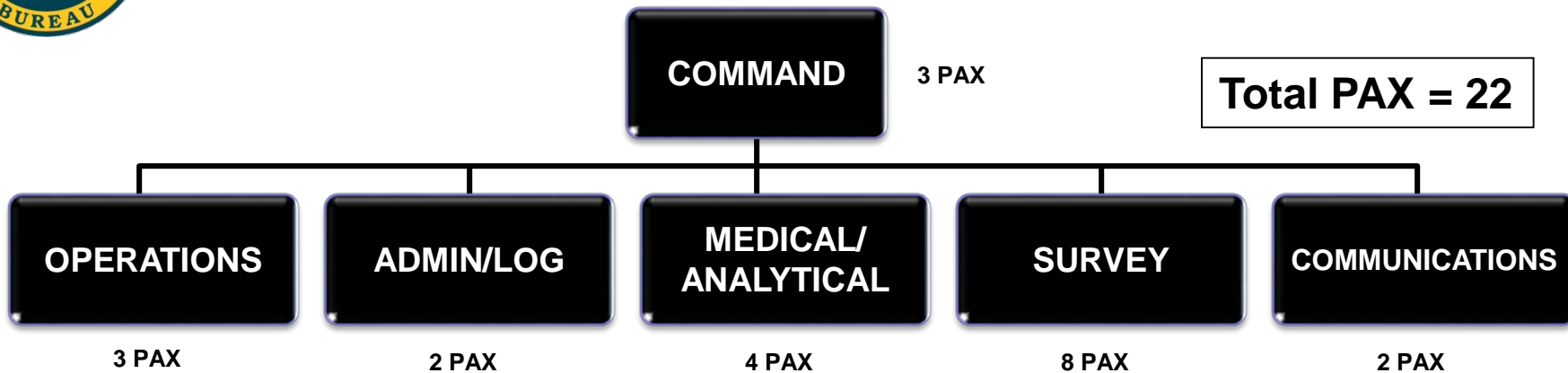




# *WMD-CST*



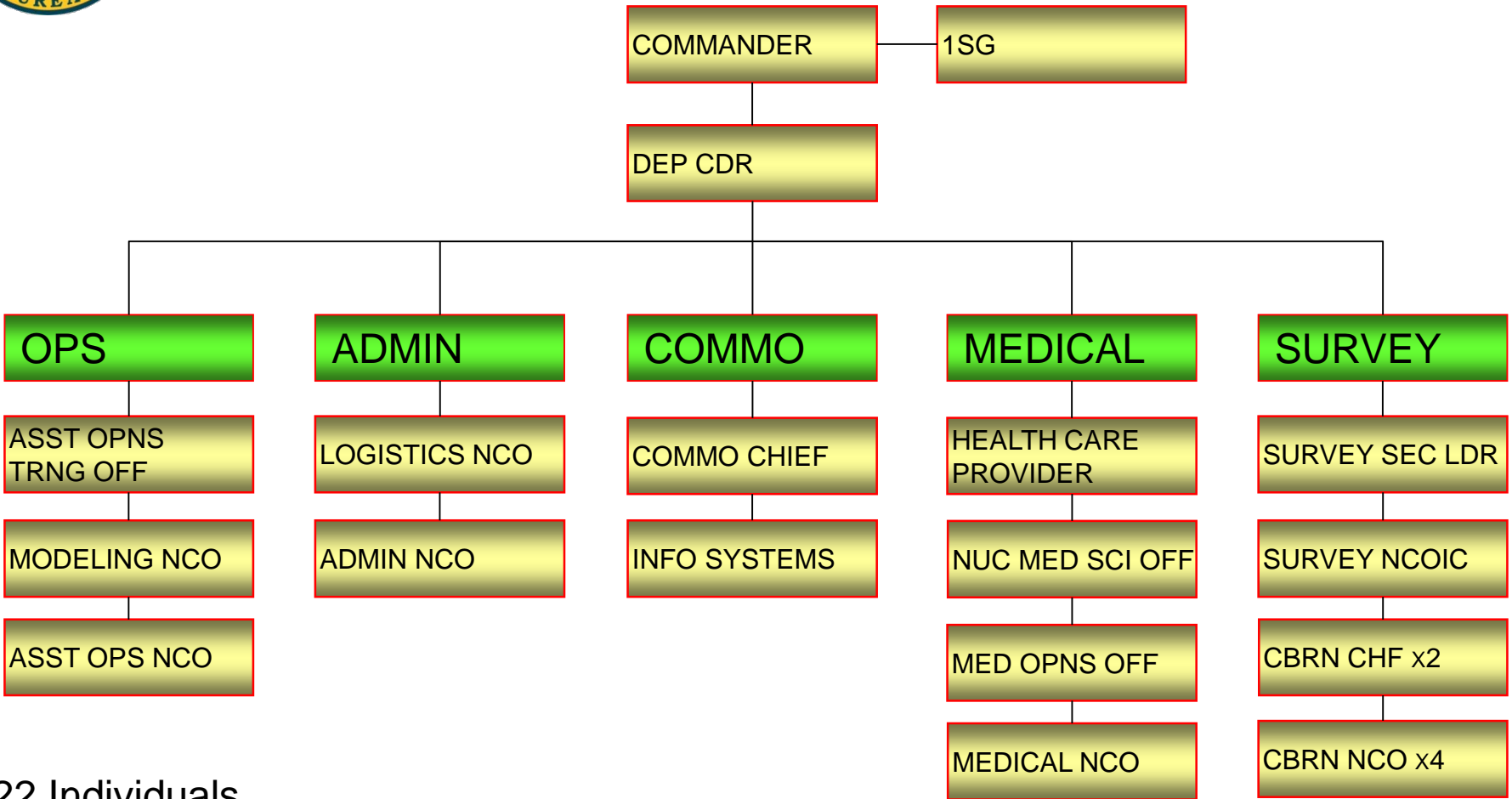
# WMD-CST OVERVIEW



**MISSION:** Support civil authorities at a domestic incident site during specified events, which include use or threatened use of a WMD; terrorist attack or threatened terrorist attack; intentional or unintentional release of nuclear, biological, radiological, or toxic or poisonous chemicals; natural or manmade disasters in the United States that result, or could result, in the catastrophic loss of life or property by **identifying hazards**, **assessing** current and projected consequences, **advising** on response measures, and **assisting** with appropriate requests for additional support.

## **KEY CHARACTERISTICS:**

- Operates under control of the Governor
- WMD-CSTs are certified by the SECDEF
- Operate only in US and Territories
- 22 Full-time Guardsmen
- 80% Commercial Off The Shelf (COTS) equipment
- All WMD-CST personnel are HAZMAT TECH certified
- Total of 57 Teams, 1 for each State and Territory (CA, NY, FL 2 ea)
- **Unified Command Suite (UCS)** a self-contained, stand-alone, air transportable, mobile communications system to facilitate reach-back
- **Analytical Laboratory System (ALS)** a mobile, analytical lab that conducts field laboratory analysis to detect and characterize an unknown CBRN sample



22 Individuals  
14 Specialties

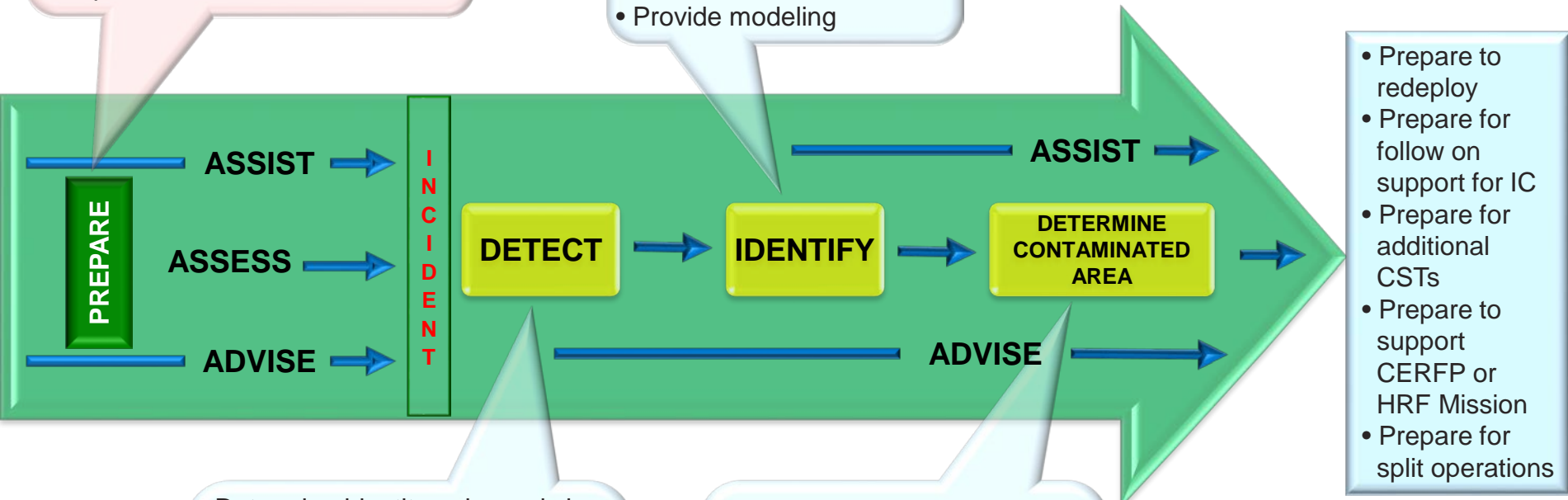
22 Title 32 Personnel  
- Jointly manned by ARNG and ANG  
- FAD 2 Priority



# WMD-CST CONOPS

- Participate in advance planning
- Coordinate for potential response
- Report / info exchange
- Link to support agencies
- Prepare for follow-on forces

- Alert to presence of potential hazard model
- Sample for characterization
- Collect hazard info
- Provide modeling



- Prepare to redeploy
- Prepare for follow on support for IC
- Prepare for additional CSTs
- Prepare to support CERFP or HRF Mission
- Prepare for split operations

- Determine identity or hazard class
- Identify effects
- Advise on casualty minimization measures
- Advise on containment measures
- Report / info exchange
- Refine hazard model
- Provide reach-back

- Conduct site characterization
- Assess consequences
- Assess infrastructure effects
- Refine models
- Advise on mitigation measures
- Advise and link to follow-on forces



- **Mission:** Utilizes specialized equipment to detect CBRN hazards. Collects hazardous samples for detailed analysis and confirmation using validated sampling protocols and chain of custody procedures.

**HAZMAT Technician Certified  
Confined Space Rescue Certified**

**All equipment meets NIOSH/ ANSI/OSHA  
Safety/Protection Standards**

### • Primary Capabilities

- Detects location of CBRN or other hazards
- Collects CBRN samples for confirmatory analysis
- Links to state and federal authorities for transfer of samples
- Uses validated sampling protocols or IC directed procedures
- Supports both public health and public safety sampling
- Collects CBRN samples for confirmatory analysis

### • Other Relevant Capabilities

- Detects location of CBRN or other hazards
- Links to state and federal authorities for transfer of samples
- Uses validated sampling protocols or IC directed procedures
- Supports both public health and public safety sampling





- **Mission:** *Utilizes specialized laboratory instrumentation to identify potential chemical and biological threat agents at the field confirmatory level.*

**The WMD-CST Laboratory Program is accredited by the American Association for Laboratory Accreditation (A2LA) to conform to ISO 17025 Laboratory Standards**



## • Primary Capabilities

- Class 3 Glovebox for BSL-4 Agents
- Hand-held Immunoassays for detection / identification of Biological Warfare Agents (BWA)
- Electrochemiluminescence Immunoassay (ECLIA) for antigen based detection of BWA s
- Polymerase Chain Reaction (PCR) for detection / identification of nucleic acid biomarkers
- Fourier Transform Infrared Spectroscopy (FTIR) for detection / identification of unknown chemicals
- Gas Chromatography Mass Spectroscopy (GC-MS) for detection of Chemical Warfare Agents and TIC/TIMs
- Raman Spectroscopy for detection of CWA and TIC/TIMs
- Polarized Light Microscopy for “white powder” analysis
- Fluorescent Light Microscopy for biological analysis

## • Other Relevant Capabilities

- Split samples for confirmatory analysis
- Chain of custody protocols
- Reach-back to State and Federal Laboratories





# Determine Contaminated Area

**Mission:** Utilizes specialized equipment to conduct a survey around the contaminated area in order to determine the presence and extent of contamination. Generate a plume model for vulnerability analyses and site characterization.

All Survey members trained and certified to the HAZMAT Technician level (CFR 1910-120)

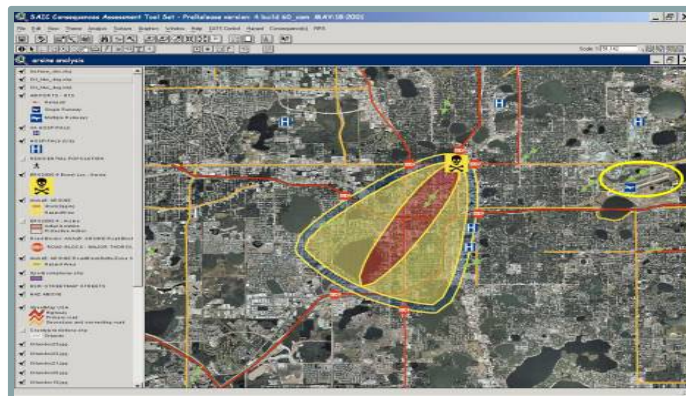
All equipment meets NIOSH/ ANSI/OSHA Safety/Protection Standards

## Primary Capabilities

- Conduct initial assessment of the affected area
- Locates source of CBRN or other hazards
- Develop plume model
- Collects CBRN samples for confirmatory analysis

## Other Relevant Capabilities

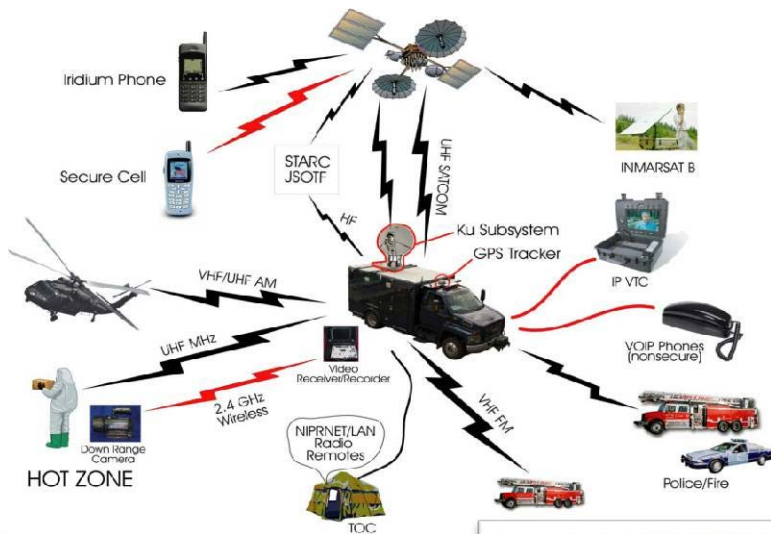
- Video and photographing items of interest
- Reporting casualty information





# Advise and Assist (Unified Command System)

**Mission:** Facilitate reach-back for both the WMD-CST and organizations that it supports, providing a critical link to follow-on forces, supplies, and expertise for CBRNE incidents and natural and man-made disasters.



## Primary Capabilities

- Provide interoperable communications
- Provide WMD-CST reachback from ALS to fixed laboratories
- Advise on incident response and Common Operating Picture
- Assist incident command with requests for support

**All UCS Operators trained and certified to the HAZMAT Technician level (CFR 1910-120)**

## Other Relevant Capabilities

- Maintains COMSEC equipment and keying material to ensure secure communications
- Establishes secure communications links, as required and maintains classified documents
- Augments IC communications as available and within its capabilities
- Coordinates with civil and military agencies for follow-on support

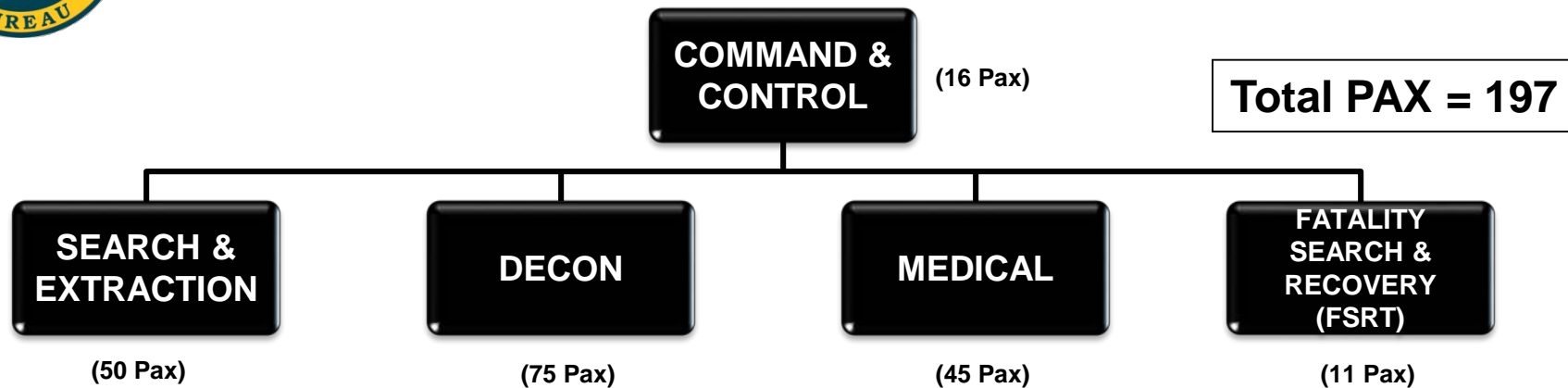




***CBRNE***  
***Enhanced Response Force Package***  
***(CERFP)***



# *CBRNE Enhanced Response Force Package (CERFP)*



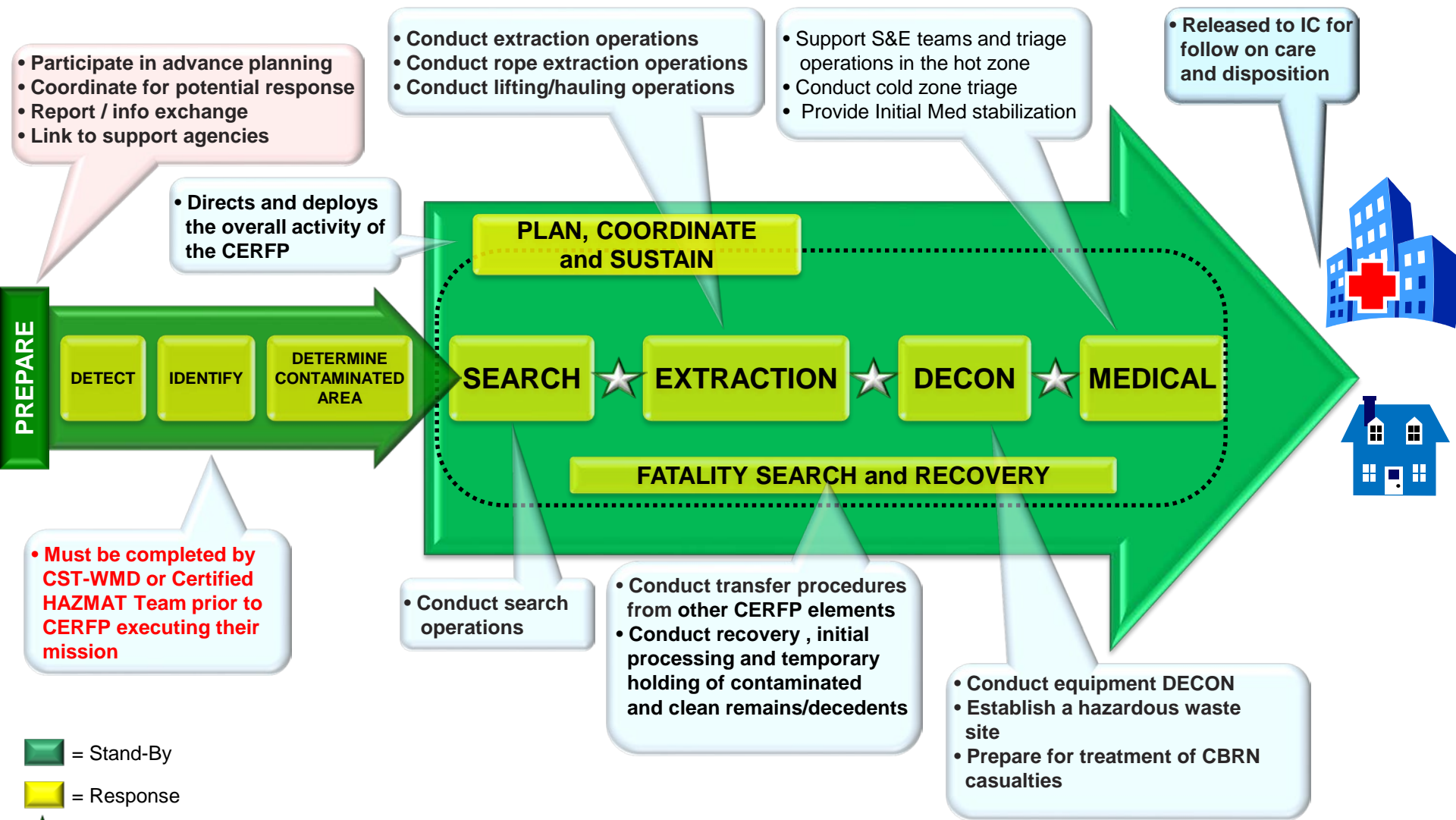
**MISSION:** On order, responds to a chemical, biological, radiological and nuclear (CBRN) incident and assists local, state, and federal agencies in conducting **consequence management by providing capabilities to conduct patient decontamination, medical triage and stabilization, and casualty search and extraction.**

### **KEY CHARACTERISTICS:**

- Operate under the control of the Governor
- CERFPs are validated by the TAG of each State
- Can operate both in a regional and national level
- 80% Commercial Off The Shelf (COTS) equipment
- HAZMAT Awareness or Operations level certified
- Total of 17 CERFP at least one per FEMA Region
- All members ICS 100b, 200b, 700a and 800b trained
- **Mass DECON**
- **FSRT conducts processing of contaminated remains only within the CERFP Elements**



# CERFP CONOPS



- Participate in advance planning
- Coordinate for potential response
- Report / info exchange
- Link to support agencies

- Directs and deploys the overall activity of the CERFP

- Conduct extraction operations
- Conduct rope extraction operations
- Conduct lifting/hauling operations

- Support S&E teams and triage operations in the hot zone
- Conduct cold zone triage
- Provide Initial Med stabilization

- Released to IC for follow on care and disposition

- **Must be completed by CST-WMD or Certified HAZMAT Team prior to CERFP executing their mission**

- Conduct search operations

- Conduct transfer procedures from other CERFP elements
- Conduct recovery , initial processing and temporary holding of contaminated and clean remains/decedents

- Conduct equipment DECON
- Establish a hazardous waste site
- Prepare for treatment of CBRN casualties

- = Stand-By
- = Response
- = Triage



# Plan, Coordinate and Sustain

- **Individual Qualifications**

- Command and Staff
  - WMD and Collapse Mission Command Staff Planning Course



**All C2 members trained and certified to the HAZMAT Awareness Level (CFR 1910-120)**

- **Primary Capabilities**

- Conduct planning and coordination
- Issue Orders
- Conduct Incident Operations
- Conduct Sustainment Operations
- Conduct Deployment Operations
- Conduct Redeployment Operations
- Reports to the JTF-State and incident commander





# Search and Extraction

- **Collective Capabilities (NFPA 1670)**
  - S&E element trained and equipped to provide the following operational capabilities
    - Rope Rescue at the Operations Level
    - Structural Collapse Search and Rescue at the Operations Level
    - Confined Space Search and Rescue at the Operations Level

- **Individual Qualifications (NFPA 1006 (2013))**
  - All Members
    - Level I Rope Rescuer
    - Level I Confined Space Rescuer
    - Level I Structural Collapse Rescuer
  - Team Leaders and above (a minimum of 5 members per S&E element)
    - Level II Rope Rescuer
    - Level II Confined Space Rescuer
    - Level II Structural Collapse Rescuer

- **Primary Capabilities**
  - Conduct search
  - Conduct rope rescue operations
  - Conduct lifting/loading operations
  - Conduct confined space operations
  - Conduct S&E tasks below IDLH levels in Level B/C PPE with PAPR

**All S&E members trained and certified to the HAZMAT Operations level (CFR 1910-120)**

**All equipment meets NIOSH/ ANSI/OSHA Safety/Protection Standards**







# Decontamination

- **Primary Capabilities**

- Establish CBRN response DECON site
- Conduct ambulatory & non-ambulatory clothing removal, decontamination, monitoring, and redress operations
- Establish equipment and personnel property decontamination stations
- Establish and maintain a hazardous waste site
- Establish technical DECON Line



All DECON members trained and certified to the HAZMAT Operations Level (CFR 1910-120)



- **Individual Qualifications**

- BLS, ACLS and PALS
- ATLS, PHTLS, and TNCC
- Trauma Training
- Medical/Field Management of Chemical and Biological Casualties Course (MMCBC)/(FMCBC)
- Incident Command, Capabilities, Planning and Response Actions for All Hazards (IC)
- Healthcare Leadership for Mass Casualty Incidents (HCL)
- Emergency Medical Operations for CBRN Incidents (EMO)
- Intermediate Hands-On Training for CBRN Incidents (HOT-I)
- Medical Effects of Ionizing Radiation (MEIR)
- Radiological Emergency Response
- Radiological Emergency Management
- Radiological Emergency Response Operations (RERO)
- Possess civilian licensure as physicians, PAs, registered nurses, pharmacists or NREMTs

- **Primary Capabilities**

- Provide health and medical monitoring for assigned CERFP/HRF personnel
- Provide support to S&E teams and triage operations in the hot zone
- Team lead casualty collection
- Perform cold zone triage
- Treat CBRN casualties
- Stabilize patients for movement to definitive care

**All Medical members trained and certified to the either the \*HAZMAT Awareness or HAZMAT Operations Level (CFR 1910-120)**





# *Fatality Search and Recovery*

- **Individual Qualifications**

- Mortuary Skills Enhancement
- In-Residence Mortuary Officers Course
- Home Station Readiness Course

All FSRT members trained and certified to the HAZMAT Operations Level (CFR 1910-120)

- **Primary Capabilities**

- Takes possession of fatalities from other CERFP elements
- Double bag contaminated remains
- Search and recover fatalities
- Turn remains over to the IC







# CERFP GSA Vehicles

## BN-C2 (16 PAX)

- 3x F350s
- 3x Cargo trailer
- 1x Bus



## S&E (50 PAX)

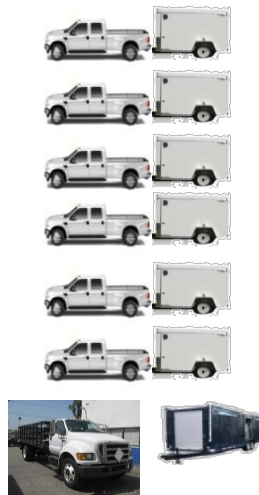
- 5x F350s
- 4x Cargo trailer
- 1x Flatbed trailer
- 1x Gator



GATOR

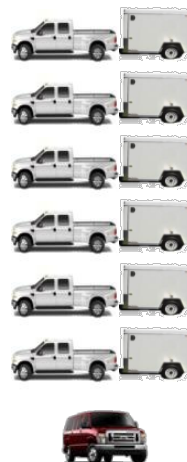
## DECON (75 PAX)

- 6x F350s
- 6x Cargo trailer
- 1x Decon trailer
- 1x F750 Stake body
- 1x Bus



## MED (45 PAX)

- 4x F350s
- 2x F450s
- 6x Cargo trailer
- 1x Van



## FSRT (11 PAX)

- 4x F350
- 2x Cargo trailer
- 2x Flatbed trailer
- 2x Gators



GATOR

GATOR

**Notes:**

- Movement planning factor: 5 pax per vehicle
- Pax movement solutions vary on state sourcing solutions
- Additional trailers have been proposed as part of Equipment Enhancements process



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# *CERFP Foot Print*



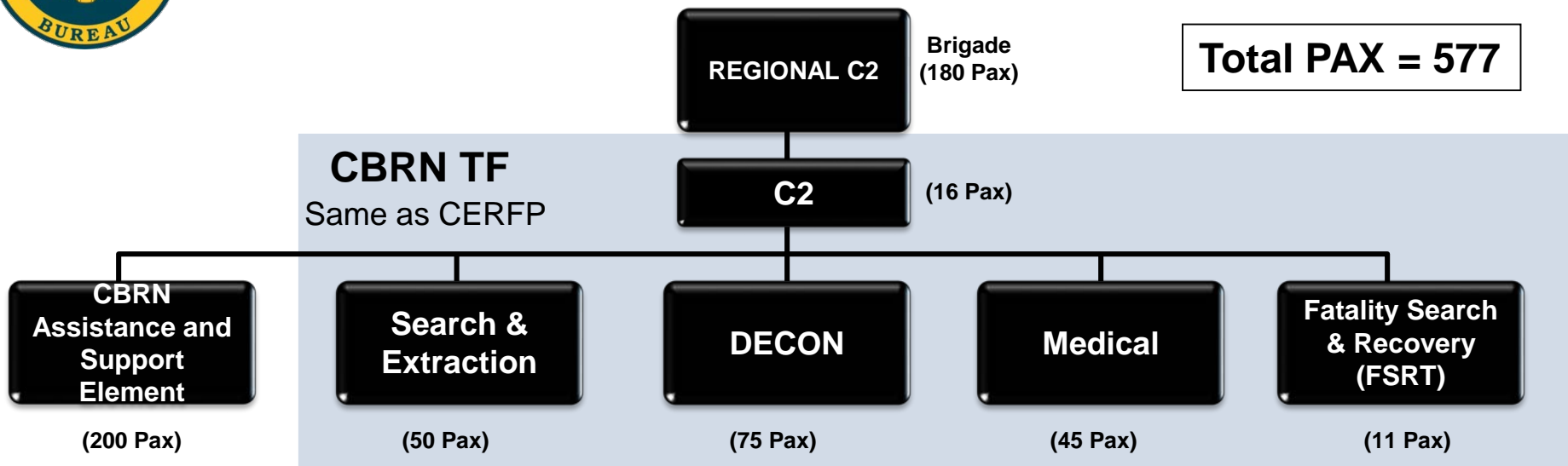
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# *Homeland Response Force* *(HRF)*



# Homeland Response Force (HRF)



**MISSION:** When directed by proper authority and upon consent of the Governor(s), the Homeland Response Force (HRF) alerts and assembles within 6-12 hours; on order, **deploys and conducts command and control; casualty assistance; search and extraction; decontamination; and medical triage as needed** in order to save lives and mitigate human suffering; on order, **transitions operations to civil authorities and redeploys.**

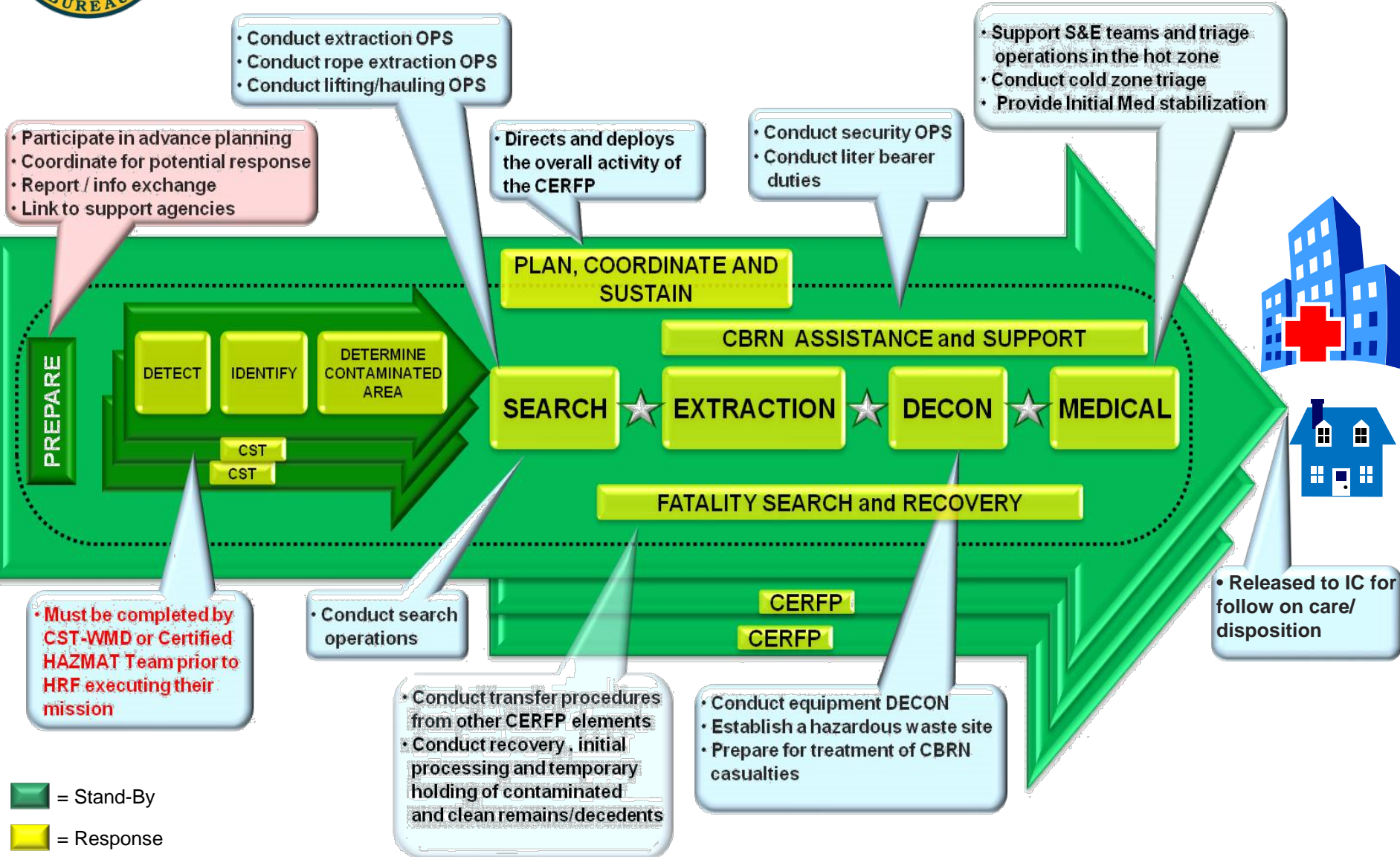
## **KEY CHARACTERISTICS:**

- Operate under the control of the Governor
- HRF's are validated by the TAG of each State
- Can operate both in a regional and national level
- 80% Commercial off the shelf equipment
- HAZMAT Awareness or Operations level certified
- Total of 10 HRF's one per FEMA Region
- All members ICS 100b, 200b, 700a and 800b trained
- **BDE C2 Bridges a gap between initial NG response and Title 10 capabilities**
- **CASE Security of site and general support**
- DECON Capability is 300 per hour.
  - 230 ambulatory and 70 non-ambulatory.



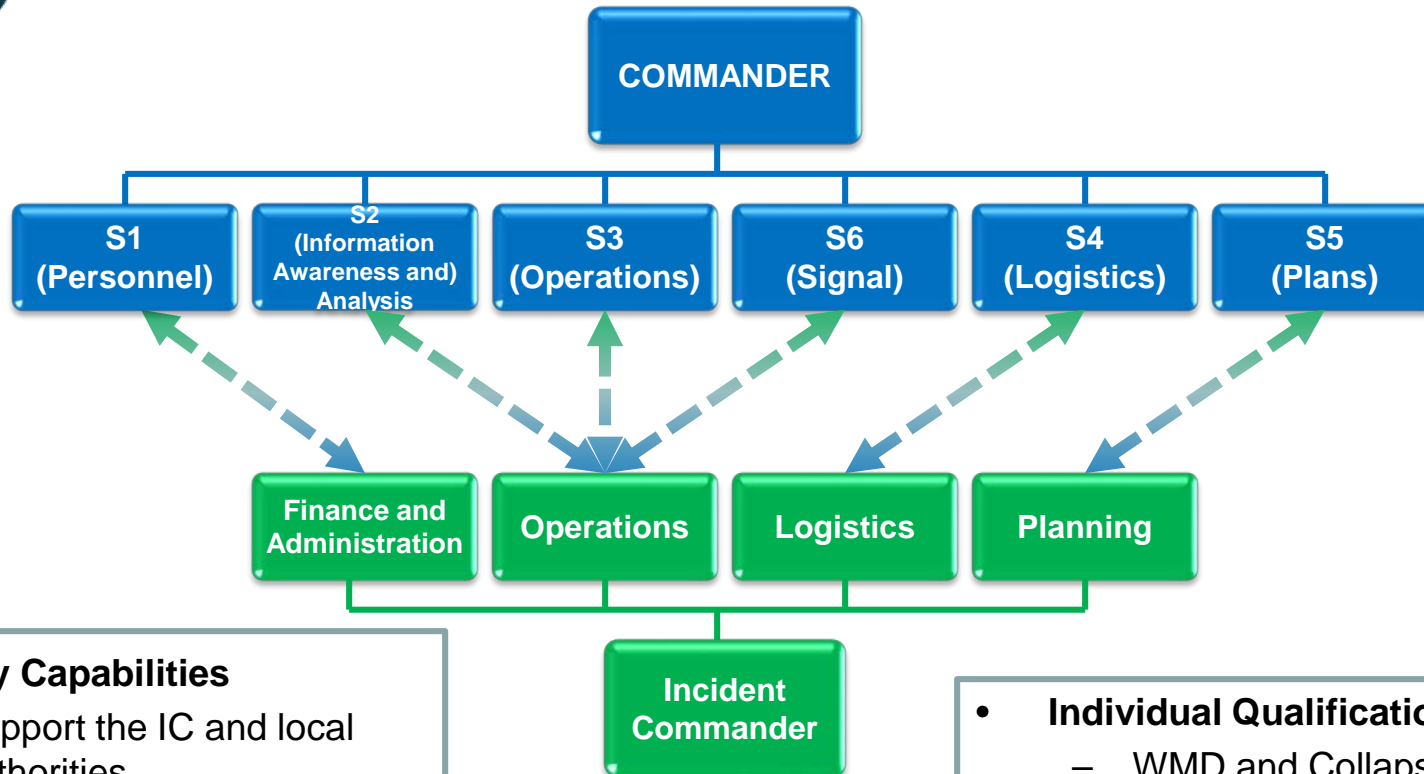


# HRF CONOPS



- = Stand-By
- = Response
- = Triage

# Plan, Coordinate, and Sustain – Battle Staff



## • Primary Capabilities

- Support the IC and local authorities
- Directs and deploys the overall activity of the HRF
- Provides a regionalized, distributed, life saving CBRN response capability
- Bridges a gap between first responders and follow-on State and Federal Elements

## • Individual Qualifications

- WMD and Collapse Mission Command Staff Planning Course

**All C2 members trained and certified to the HAZMAT Awareness Level (CFR 1910-120)**



# *CBRN Assistance and Support*

- **Individual Qualifications**

- ICS 800 Introduction to National Response Framework

- **Primary Capabilities**

- Provides force protection
- Assist in casualty movement
- Secure area of operations
- Provide control at cordon and entry points
- Assist with crowd control



**All CASE members trained and certified to the HAZMAT Operations Level (CFR 1910-120)**





# HRF GSA Vehicles

## BDE-C2 (180 PAX)

- 4x F350s
- 4x Cargo trailer
- 4x Bus
- 1x 20' Cargo truck
- 3x Van



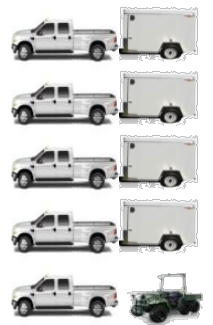
## BN-C2 (16 PAX)

- 3x F350s
- 3x Cargo trailer
- 1x Bus



## S&E (50 PAX)

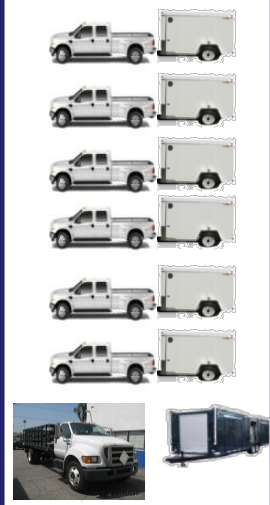
- 5x F350s
- 4x Cargo trailer
- 1x Flatbed trailer
- 1x Gator



GATOR

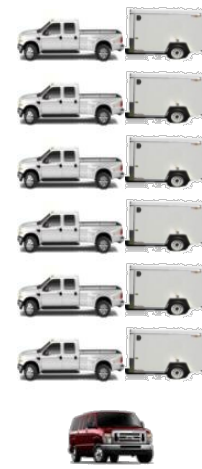
## DECON (75 PAX)

- 6x F350s
- 6x Cargo trailer
- 1x Decon trailer
- 1x F750 Stake body
- 1x Bus



## MED (45 PAX)

- 4x F350s
- 2x F450s
- 4x Cargo trailer
- 1x Van



## FSRT (11 PAX)

- 4x F350
- 2x Cargo trailer
- 2x Flatbed trailer
- 2x Gators



GATOR

GATOR

## CASE (200 PAX)

- 4x F350
- 1x 20' Cargo truck
- 4x Bus



### Notes:

- Movement planning factor: 5 pax per vehicle
- Pax movement solutions vary on state sourcing solutions
- Additional trailers have been proposed as part of Equipment Enhancements process



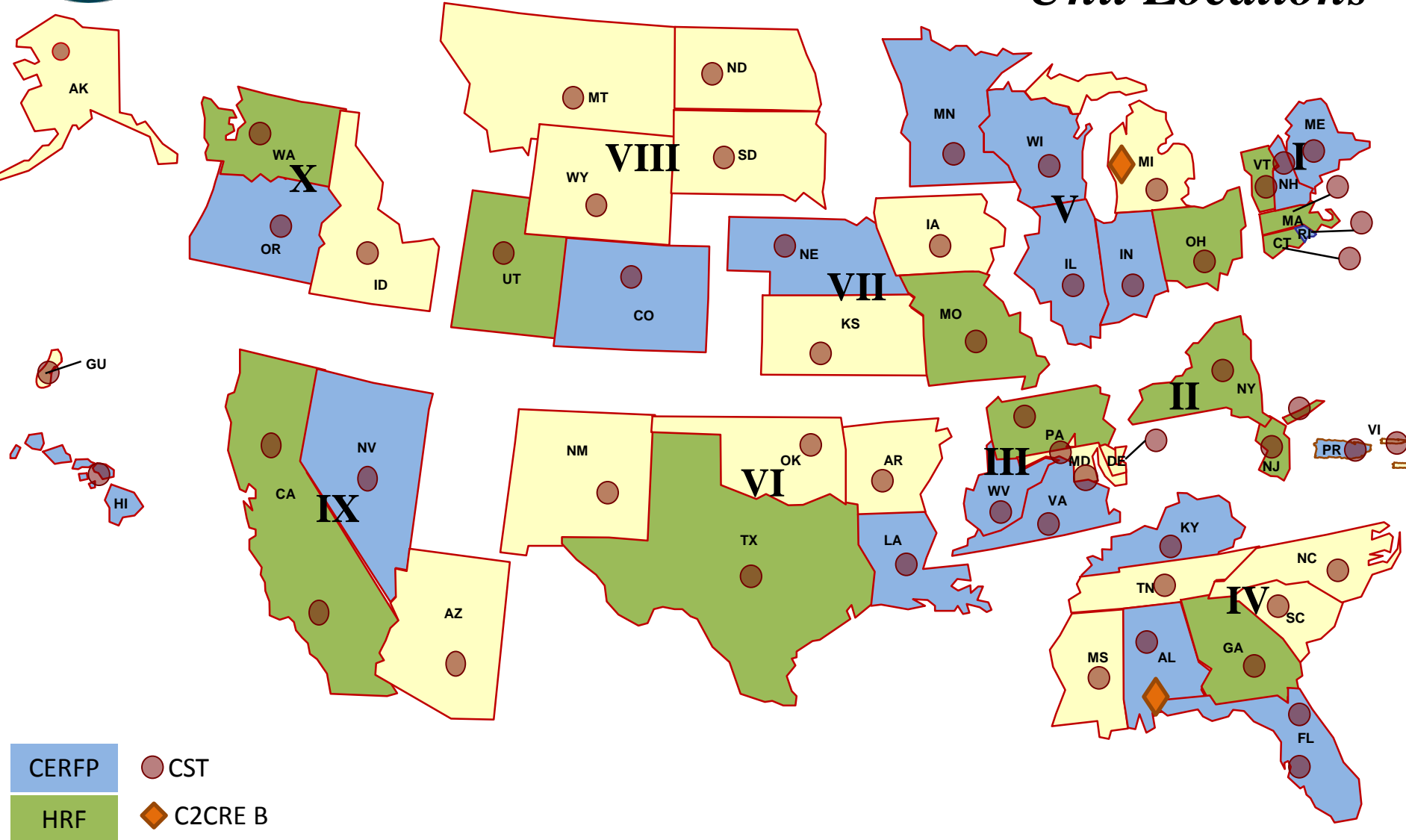


# ***SUMMARY***

# NG CBRN Response Enterprise (NGCRE)

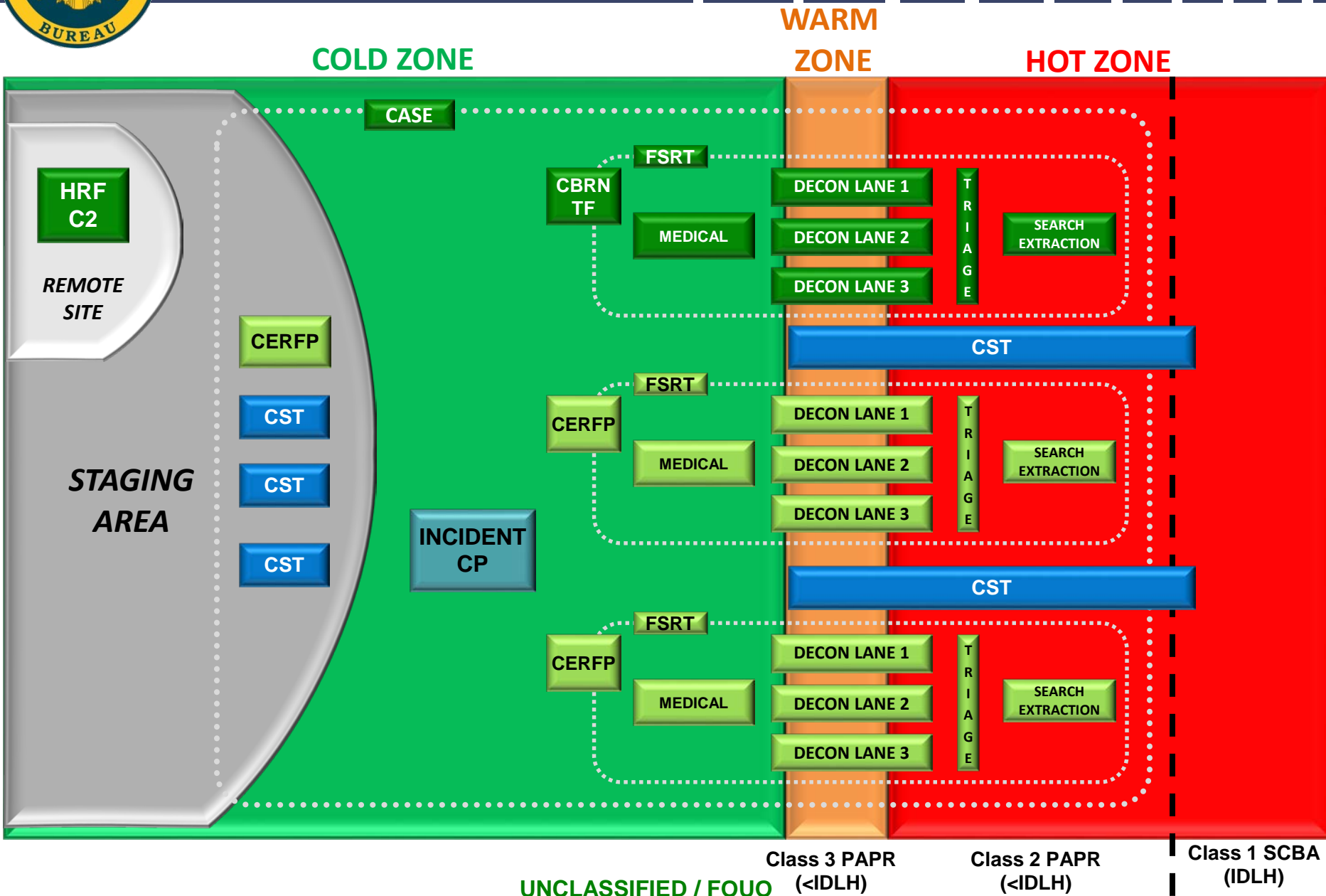


## Unit Locations



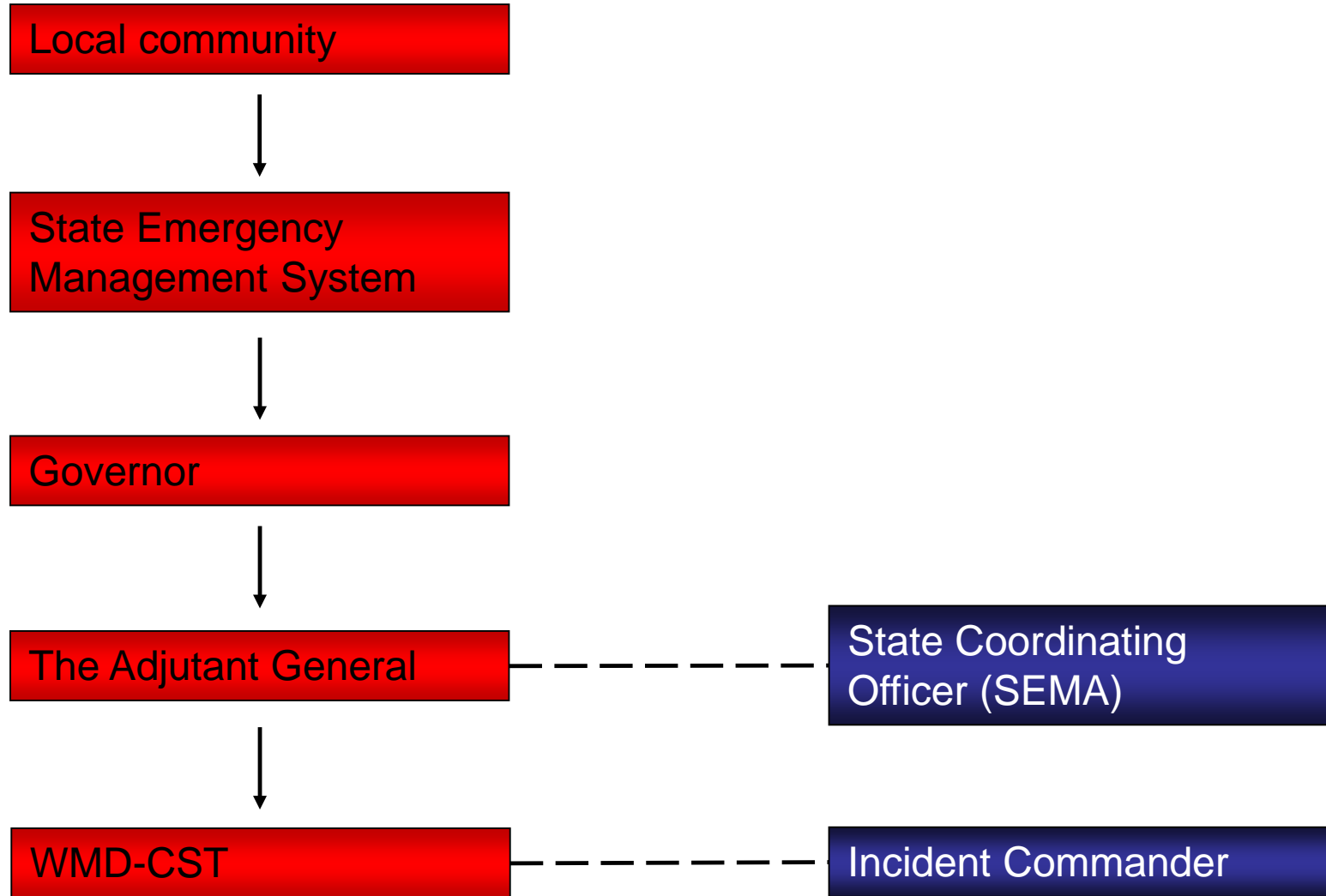


# Notional Example of a HRF Operational Picture





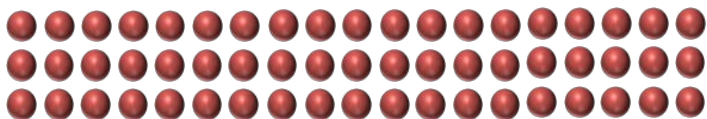
# Typical Request Procedure





# NATIONAL GUARD FORCES (Title 32 – Commanded by state TAG)

**WMD-CST:** Weapons of Mass Destruction Civil Support Team. 1 per state/territory except CA, NY and FL which have 2



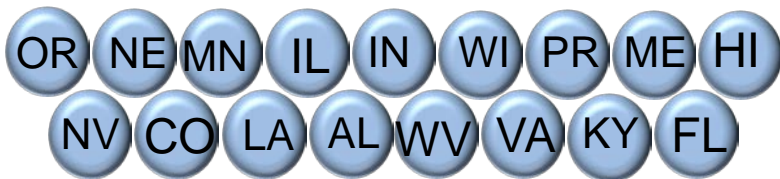
57 Units, 22 Pax each.

Deploys in 1.5-3 Hours

Detection, ID, Analyze

Monitor  
Advise

**CERFP:** CBRN Enhanced Response Force Package. Regional



17 Units, 197 Pax each.

Deploys in 3-6 Hours

BN C2  
Emergency MED  
Search & Extraction

DECON  
Fatality Search & Recovery

**HRF:** Homeland Response Force. 1 per FEMA Region



10 Units, 577 Pax each.

Deploys in 6-12 Hours

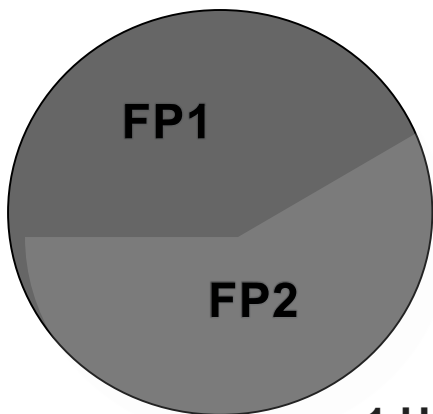
BDE C2  
BN C2  
Emergency MED  
Search & Extraction

CASE  
DECON  
Fatality Search & Recovery



**FEDERAL FORCES** (Title 10 – Commanded by USNORTHCOM)

**DCRF:** *Defense CBRN Response Force*



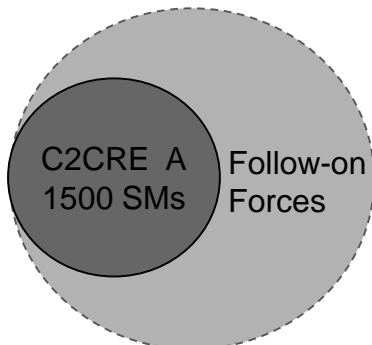
FP1 Employs  
in 24 Hours

FP2 Employs  
in 48 Hours

**1 Unit, 5200 Pax.**

Air CASEVAC	Level II & III Medical	Ground MEDVAC
Engineering	Logistics	Transport
Aviation Lift	Security	CBRNE Assessment
Surgical Med	Emergency Med	Search & Extraction
	Command & Control	DECON

**C2CRE A/B:** *Command and Control CBRN Response Element*



**2 Units, 1500 Pax**

Engineering	Security	Level II Medical
Logistics	Emergency Med	CBRNE Assessment
Transport	Command & Control	Search & Extraction
		DECON



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# *NGB CBRN Enterprise POCs*

## **HRF POC (NY) FEMA Region II**

MAJ Dixon

518-572-5155

## **New Jersey National Guard Joint Operations Center**

Phone: 609-530-7010

Email: [ng.nj.njarng.mbx.jdom-cops@mail.mil](mailto:ng.nj.njarng.mbx.jdom-cops@mail.mil)

## **21<sup>st</sup> Weapons of Mass Destruction-Civil Support Team**

CDR Phone: 609-477-8180

Email: [george.t.christenson.mil@mail.mil](mailto:george.t.christenson.mil@mail.mil)

DCO Phone: 609-477-8202

Email: [Raymond.a.Sackmann.mil@mail.mil](mailto:Raymond.a.Sackmann.mil@mail.mil)

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