

Bay Area Earthquake Plan (BAEP)



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OF EMERGENCY SERVICES



Information Briefing

California Utilities Emergency
Association (CUEA)

June 28th, 2018

SCE Customer Technology
Application Center
Irwindale, CA

Jeff Newman
SESC, Planning / Preparedness Branch
CA Governor's Office of Emergency Services



Bay Area Earthquake Plan

California Governor's Office of Emergency Services
U.S. Department of Homeland Security
Federal Emergency Management Agency Region IX
July 6, 2016 *FOUO Sensitive*

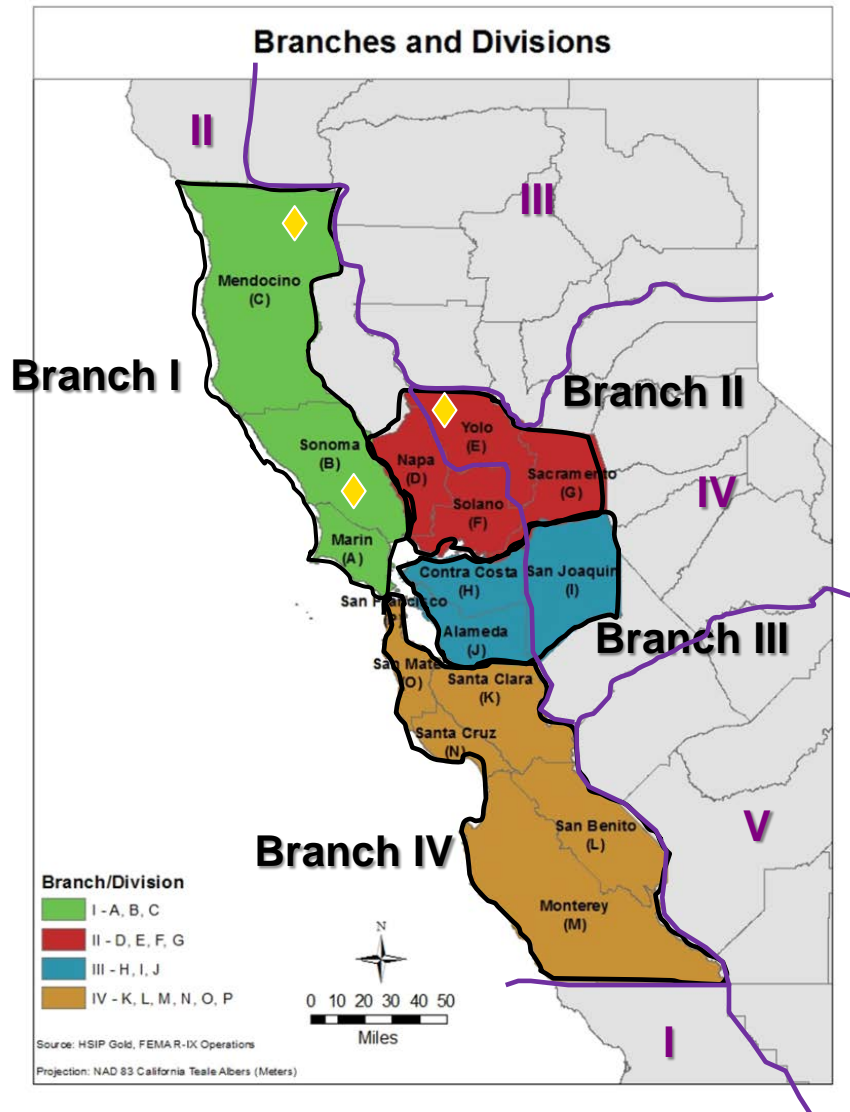


Plan Overview

Bay Area Demographics



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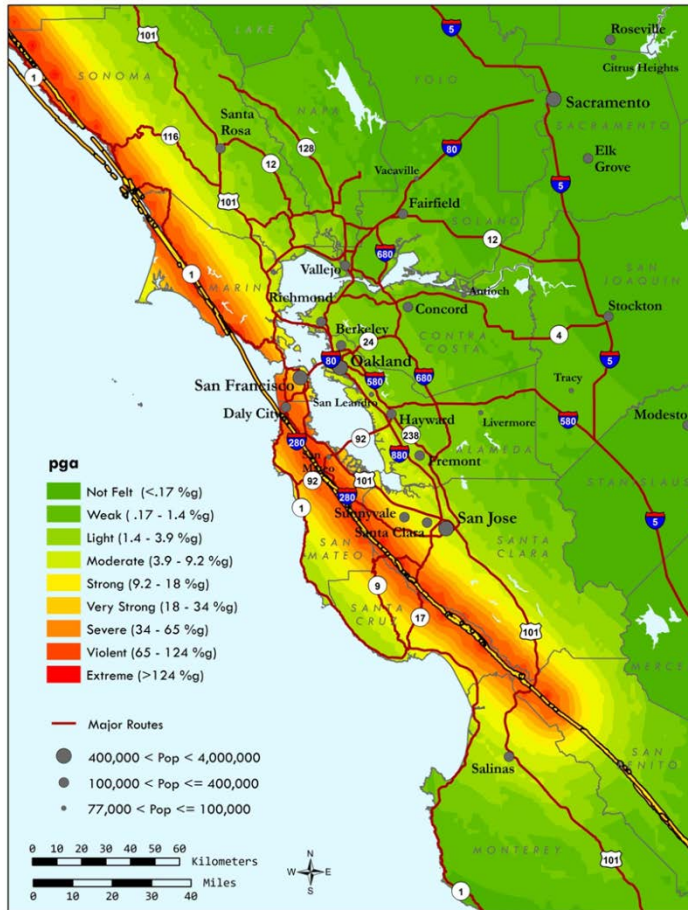
- There are 10,276,231 people in 16 counties
- 675,000 children
- 2.5 million individuals with disabilities/access and functional needs
- 5 million pets
- Roughly 216,000 tourists visit the region daily
- Daily commuting population is approximately 550,000.
- 17 Native American Tribes in three counties

Plan Overview

San Andreas / Hayward Fault System



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**San Andreas Fault ShakeMap
in an M 7.8 Earthquake**



**Hayward Fault ShakeMap
in an M 7.0 Earthquake**

Plan Overview

Senior Leader Outcomes



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At the conclusion of state/federal response operations, operational coordination is sufficient to:

- ✓ *Accurately Assess the Situation*
- ✓ *Establish Priorities*
- ✓ *Gain Access to affected areas via multiple modes*
- ✓ *Conduct Life-Saving / Life-Sustaining Operations*

At the conclusion of state/federal recovery operations, National Disaster Recovery Framework (NDRF) organizations, community assistance programs, and fund raising systems are in place to:

- ✓ *Facilitate Information Sharing*
- ✓ *Expedited Environmental Compliance*
- ✓ *Restoration of Affected Communities*

Plan Overview

Senior Leader Intent



State and federal emergency management teams will:

- ✓ Ensure **unity of effort**:
 - Establishing a joint Unified Coordination Group (UCG)
 - Is consistent with priorities of the Governor
- ✓ Initial response operations are **stabilized** within 72-hours

Plan Overview



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Goal / Successful Execution (State / Federal)

The GOAL of the plan is to **establish operational capability in the field** to facilitate a Whole Community response to the disaster and to set the conditions for recovery.

Successful execution requires ***decisions*** and ***actions of leaders*** in the organization to:

- **Deploy personnel**
- Form **task forces**
- Develop an **access strategy** and a **temporary supply chain**.
- Conduct “**Movement Coordination**”
- Coordinate and **direct the actions of subordinate organizations** through plans, directives, operations orders, movement schedules and mission assignments.

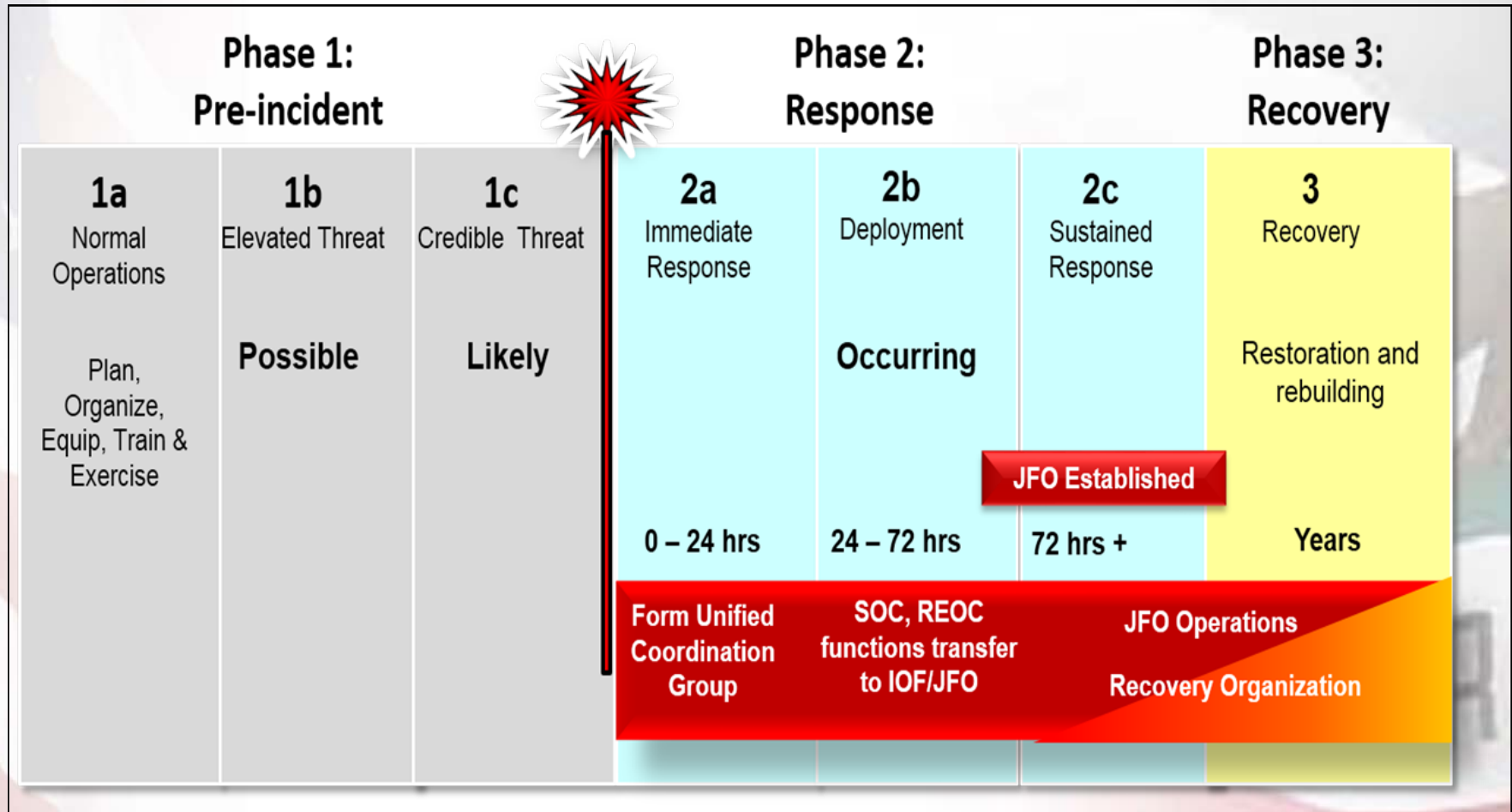
Plan Overview



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Operational Phases: Response / Recovery



Plan Overview



Plan Format: Annexes (1 of 6)

Annex "A" (**Task Organization**)

- Describes the formation of joint State / Federal response management

Annex "B" (**Intelligence**)

- Describes the operational impacts necessary for plan development

Annex "C" (**Operations**)

- Describes the coordinated State / Federal response actions

Annex "D" (**Logistics**)

- Describes State / Federal logistics and supply chain response management

Annex "E" (**Communications**)

- Describes State / Federal communications and information response management

Annex "X" (**Execution**)

- Depicts an actionable checklist necessary to orchestrate response / recovery

Annex "Y" (**Acronyms / Abbreviations**)

Annex "Z" (**Distribution**)

Plan Overview



Plan Strengths (1 of 2)

- **Risk** based vs. **scenario** based (The entire San Andreas Fault System)
- **Execution checklists** have been developed to ensure critical tasks are completed within the established phases of response and recovery.
- California Emergency Functions (**EFs**) did not exist when the 2008 plan was developed. The EFs are now described and engaged in the new plan.
- **Operational activities** are now organized by **Core Capabilities** for the Mission Areas of Response and Recovery as established by the National Preparedness Goal. The 2008 plan organized operational activities according to the Target Capabilities List (TCL).

Plan Overview



Plan Strengths (2 of 2)

- ***Multi-Modal Transportation*** Concept (Air, Surface and Marine)
- Fuel working group (***EF7***, CEC, DGS, Cal OES and CalGuard)
- ***Task forces*** identified and approval by EF leads (*Fuel, Water, Sheltering and Feeding, Mass Care, Temporary Emergency Power, and Survivor Movement.*)
- Access and Functional Needs (***AFN***) are now highlighted throughout the plan
- The ***event phases*** of 2a, 2b, and 2c have been ***changed*** to 0 to 24 hours, 24 to 72 hours, and 72 hours plus, respectively.
- ***Long-term recovery*** actions are described in the new plan.

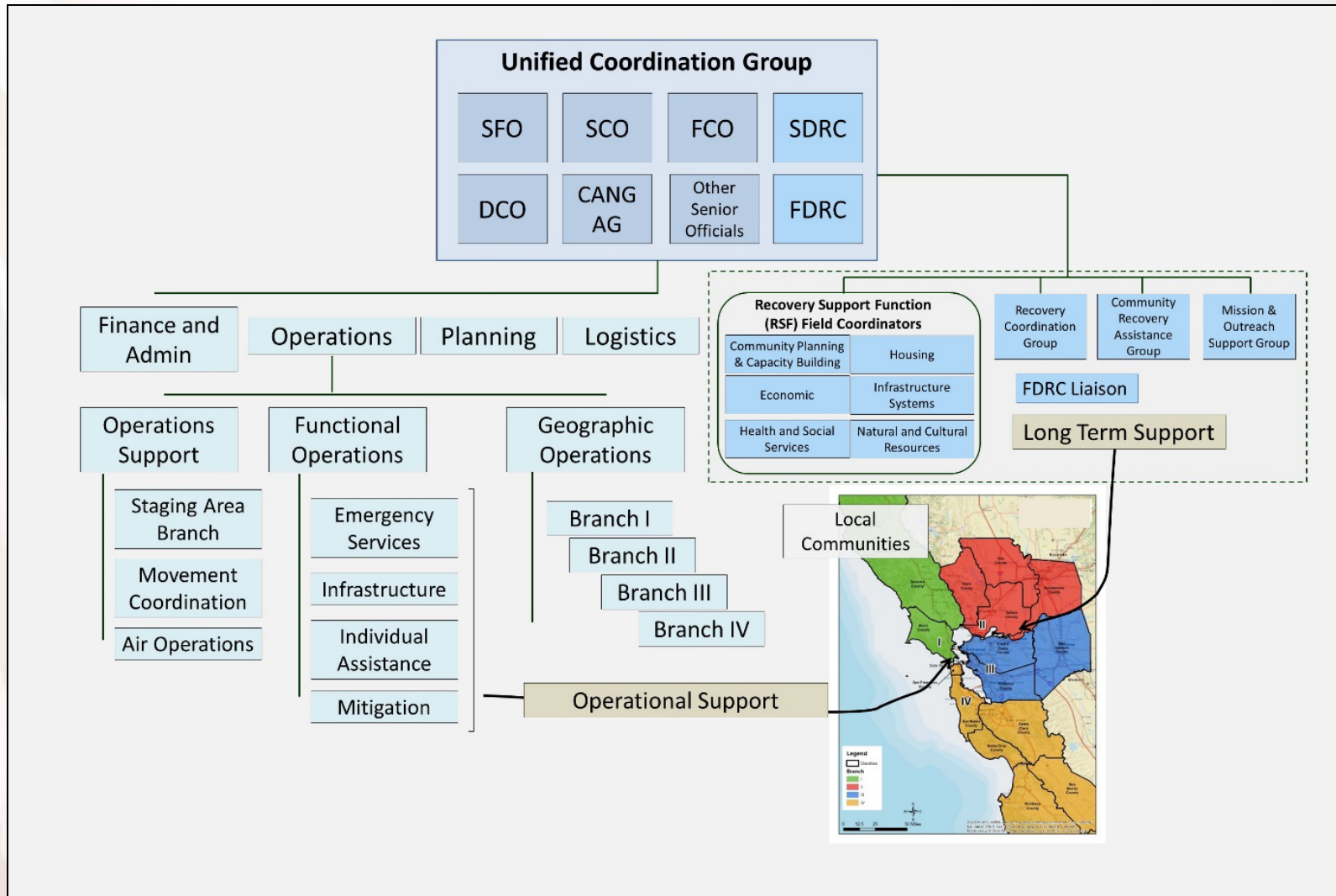
Annex “A” Task Org.



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Response / Recovery Coordination: Unified Coordination Group



Annex “B” Intelligence

Operational Impacts – Key Areas



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- Damage to infrastructure
- Loss of transportation
- Loss of water and wastewater services
- Damage to petroleum infrastructure
- Loss of electrical power
- Loss of communications capabilities

Annex “B” Intelligence

Modeling – FEMA Hazards US (HAZUS)



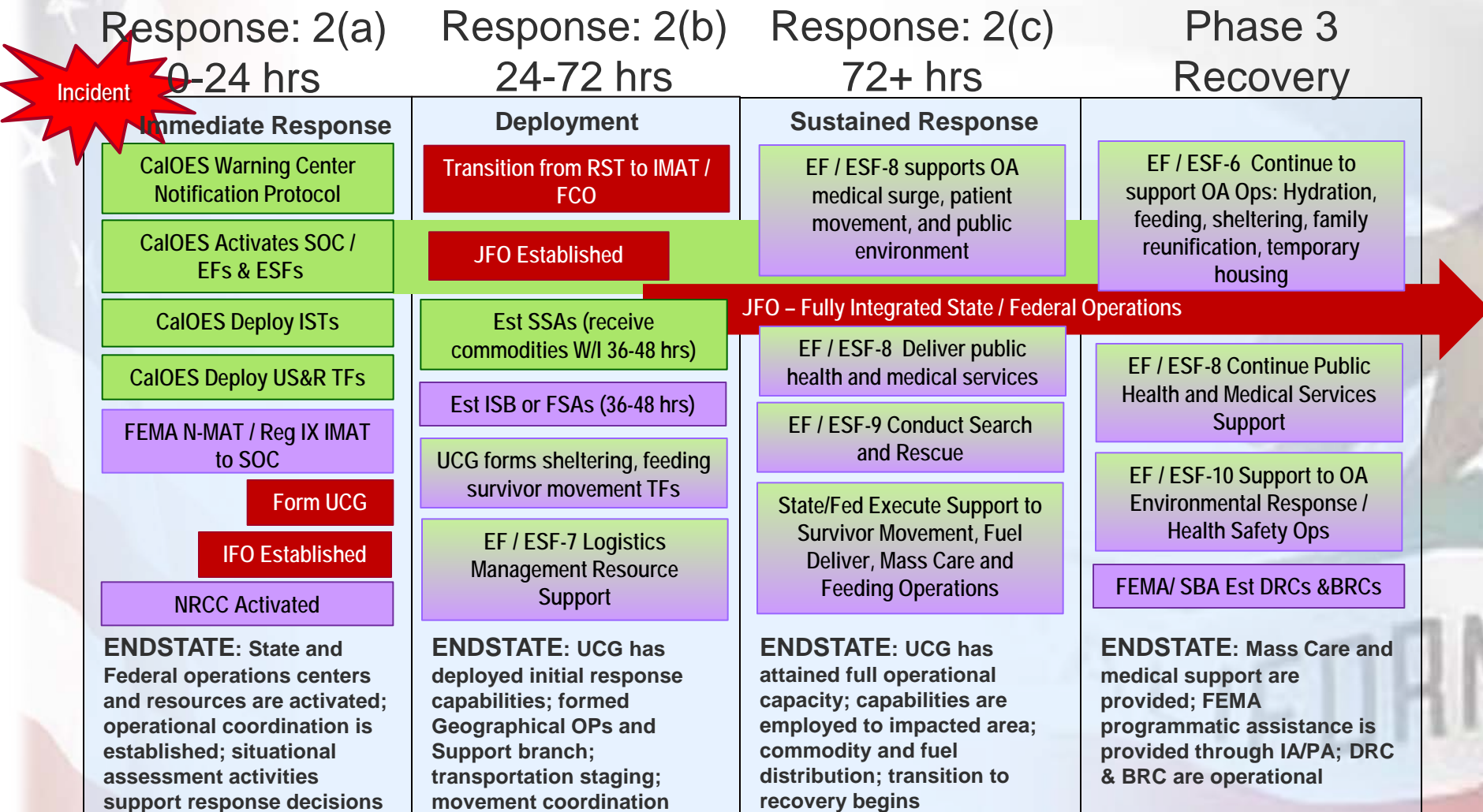
Scenario	Population	Deaths	Trauma	Hospitalized	Emergency Dept. (ED)	Outpatient	EMS Transports
Hayward 7.0 Magnitude	6,119,027	464	121	606	21,653	38,509	1,455
	Buildings	Damage Complete	Damage Extensive	Damage Moderate	Debris	Economic Loss	
	3,038,798	13,557	39,886	150,800	14.4 M Tons	\$54 billion	
	Households	Day 1 w/o Power	Day 3 w/o Power	Day 7 w/o Power	Displaced Households	Short-term Shelter	
	3,597,846	38%	17%	5.4%	76,501	55,295	
	Households	Day 1-3 w/o Water	Day 7 w/o Water	Day 30 w/o Water	Day 90 w/o Water		
	3,597,846	47%	43%	36%	25%		

Scenario	Population	Deaths	Trauma	Hospitalized	Emergency Dept. (ED)	Outpatient	EMS Transports
San Andreas 7.8 Magnitude	7,748,954	2,550	566	2,401	82,971	139,942	7,270
	Buildings	Damage Complete	Damage Extensive	Damage Moderate	Debris	Economic Loss	
	3,085,867	13,357	59,005	112,363	10 M tons	\$60.5 billion	
	Households	Day 1 w/o Power	Day 3 w/o Power	Day 7 w/o Power	Displaced Households	Short-term Shelter	
	3,679,700	56%	32%	14.5%	49,774	29,151	
	Households	Day 1-3 w/o Water	Day 7 w/o Water	Day 30 w/o Water	Day 90 w/o Water		
	3,679,700	60%	58%	48%	30.5%		

Annex “C” Operations



Building Capability: Response / Recovery



Annex “C” Operations

Building Capability: Access Strategy



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State / Federal Staging Areas



2 State / 12 Federal

- SSA/FSA temporarily locate resources while awaiting assignment or distribution
- The primary State Staging Area (SSA) is the **Stockton** Metropolitan Airport.
- The **Livermore** Airport is a supporting SSA.
- The primary Federal Staging Areas (FSAs) are **Travis AFB** and the **Port of Benicia**

Annex “C” Operations

Building Capability: Access Strategy



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Air transportation is used for high-priority air transportable resources moving to the incident site and may include personnel, equipment, and commodities arriving by fixed-wing aircraft with subsequent movement by rotary-wing (helicopter) lift to the incident site, or a combination of rotary-wing and surface lift.

Federal

- Travis AFB
- Buchanan

State

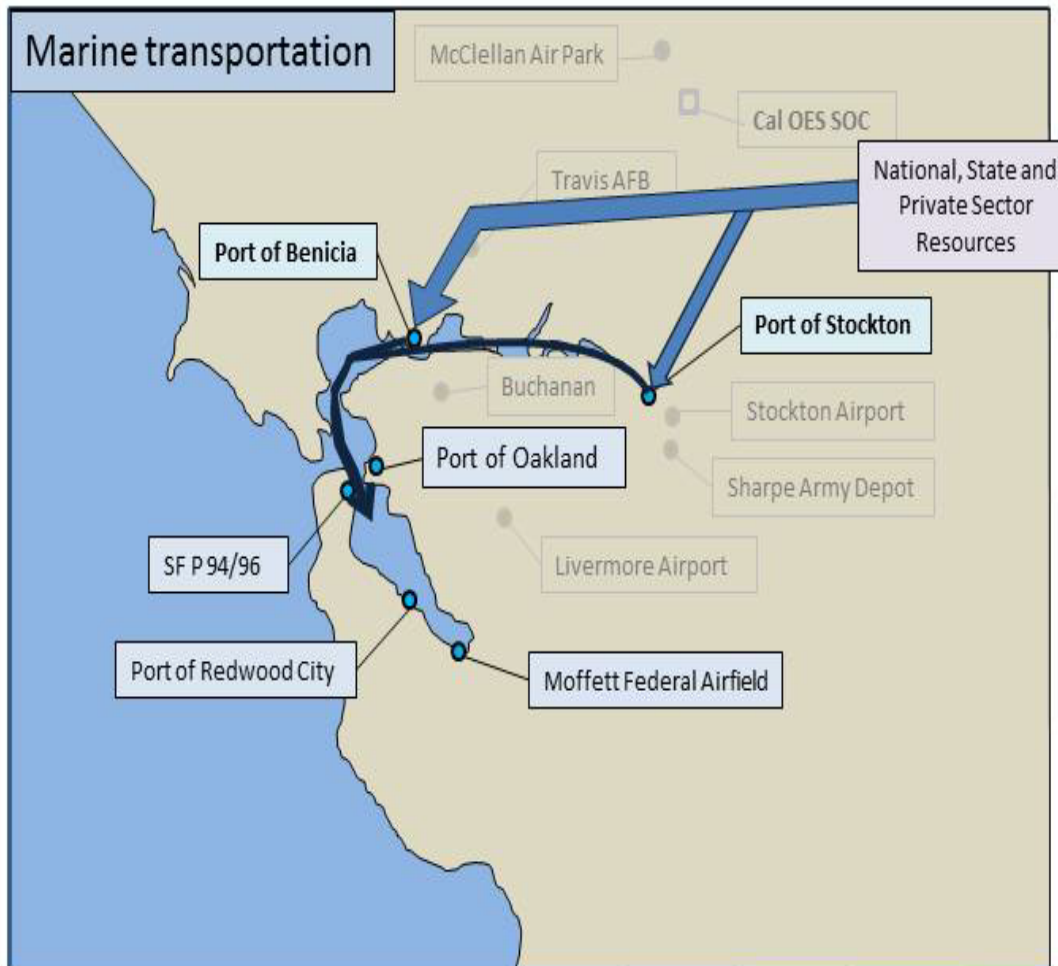
- Stockton
- Livermore

Annex “C” Operations

Building Capability: Access Strategy



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The San Francisco Bay would be the least impacted transportation corridor following a Bay Area earthquake.

Several major population centers are within several miles of deep water or littoral access points.

To leverage this physical feature, a marine transportation capability will be established for wheeled, containerized, and bulk/heavy resources moving to the incident site and may include:

Two ports of embarkation (**loading**) and five ports of debarkation (**offloading**) have been identified for the delivery of resources by marine transportation

Annex “D”: Logistics

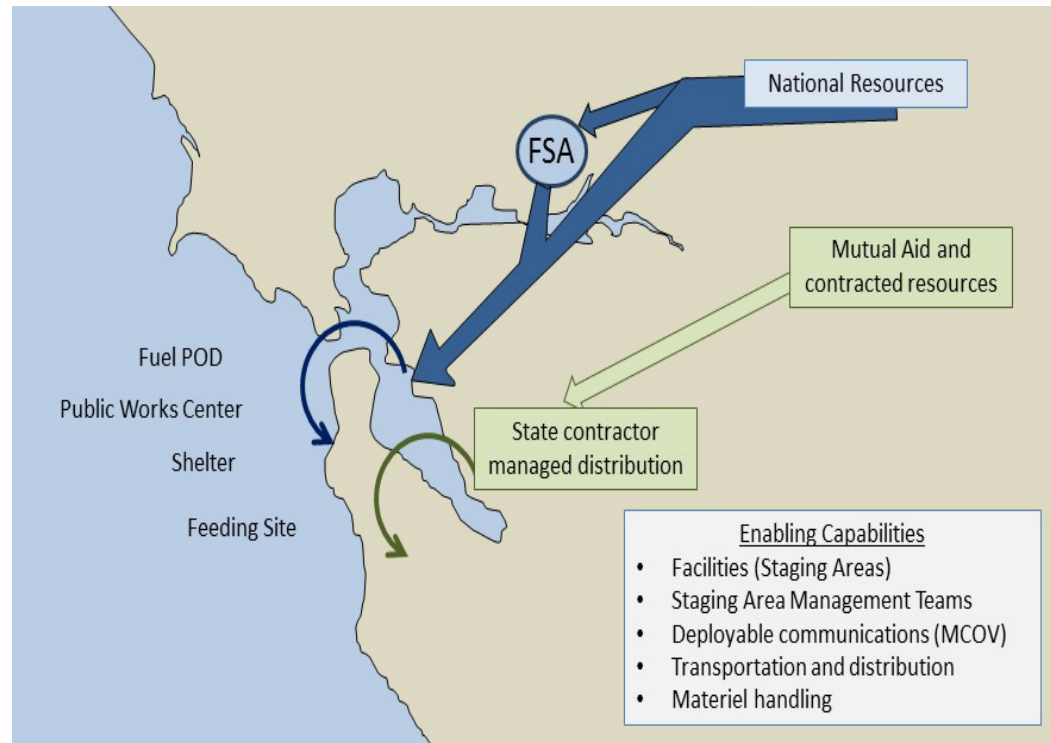
Staging and Distribution Capability



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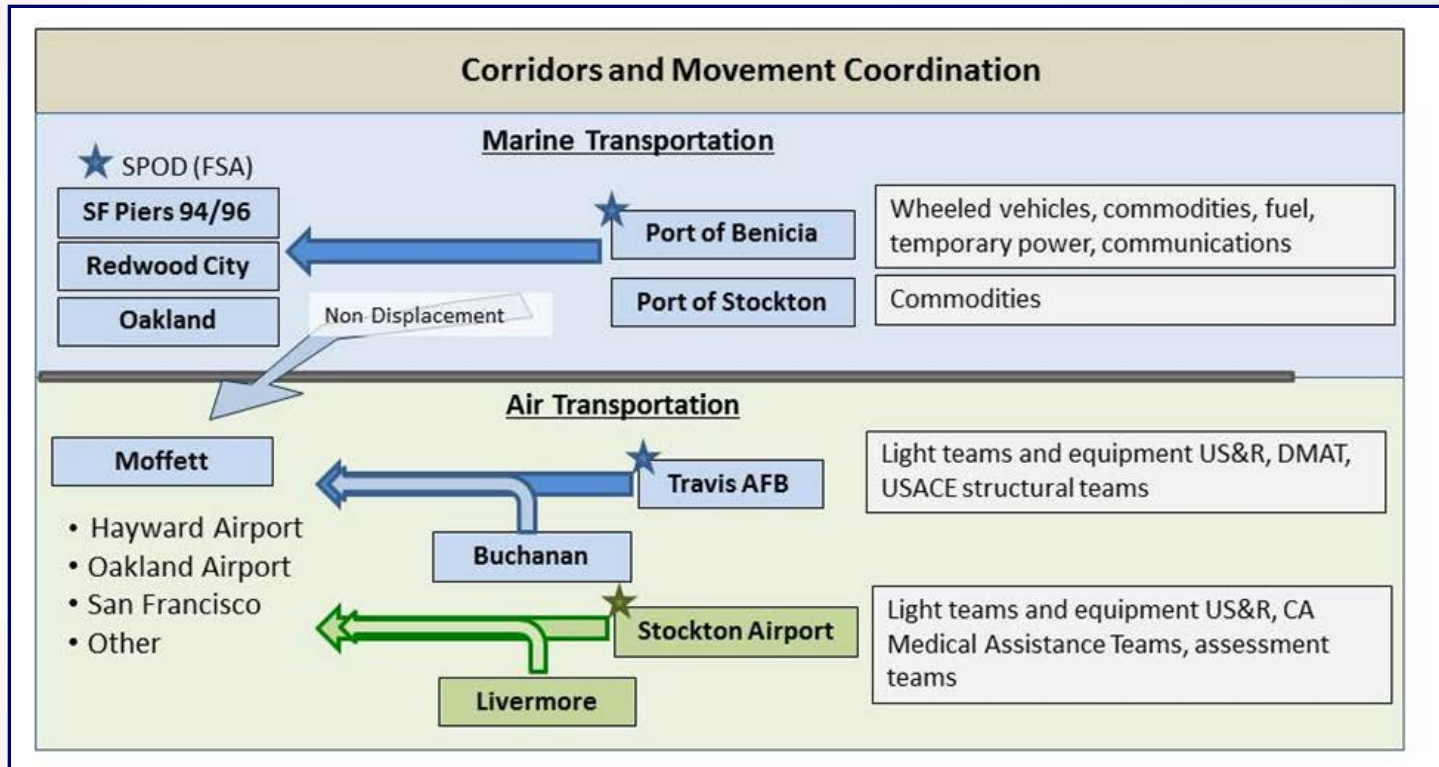
Achieved through the **activation**, **deployment** and **employment** of the following enabling capabilities:



Movement coordination supports the transport of deployed resources until they are checked-in for employment at the incident site

Annex “D”: Logistics

Movement Coordination: Corridors



- Establish embarkation, movement and debarkation into defined routes
- Develop specialized staging areas (air, marine, wheeled, bulk)
- Manage span of control (by organizing movement control into corridors)
- Prevent conflict and cargo bump (by allocating high priority cargo to fast corridors)

Annex “D”: Logistics

Primary Logistics Strategies



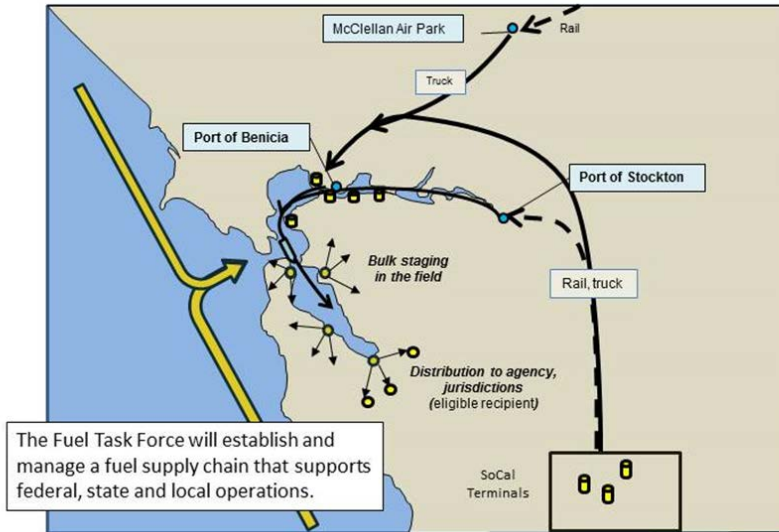
- Fuel Delivery Strategy
- Commodity Delivery Strategy
- Water Delivery Strategy
- Power Delivery Strategy

Annex “D”: Logistics

Fuel Delivery Strategy



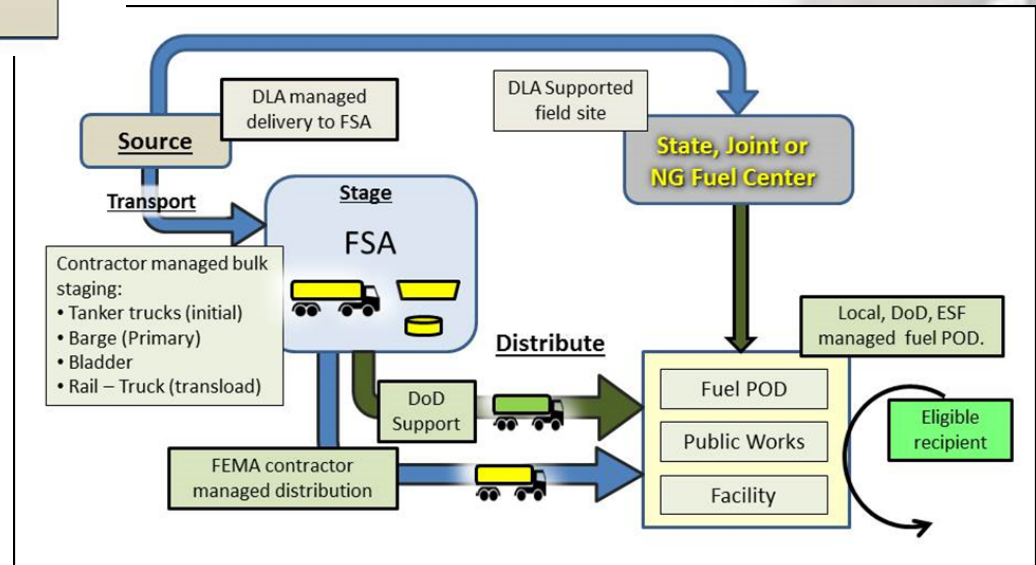
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- Cal OES will initiate the formation of a state/federal **Fuel Task Force** within the Operations Section of the UCG.
- Initial push of 3 million gallons of fuel (diesel, gasoline, jet)

Fuel Delivery Key Operational Requirements

- Sourcing
- Transporting
- Staging
- Distributing

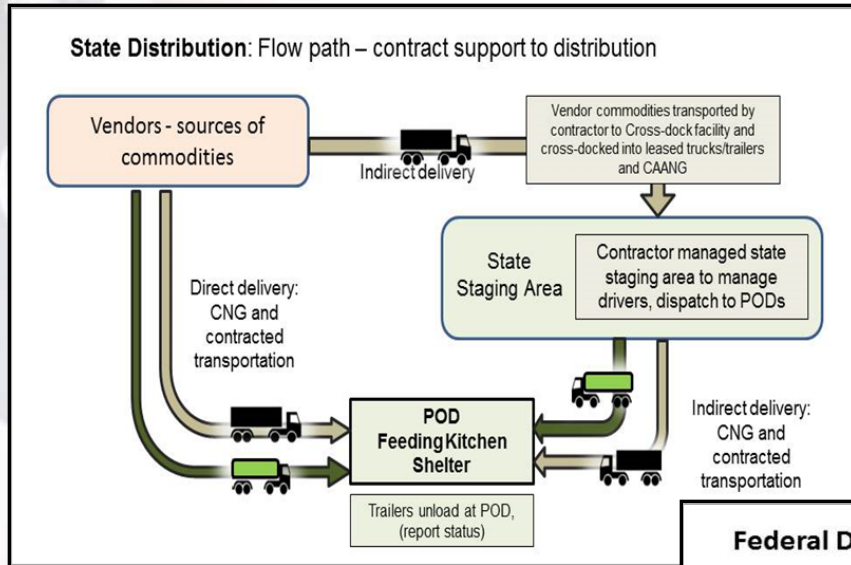


Annex “D”: Logistics

State/Federal Commodity Delivery Strategy



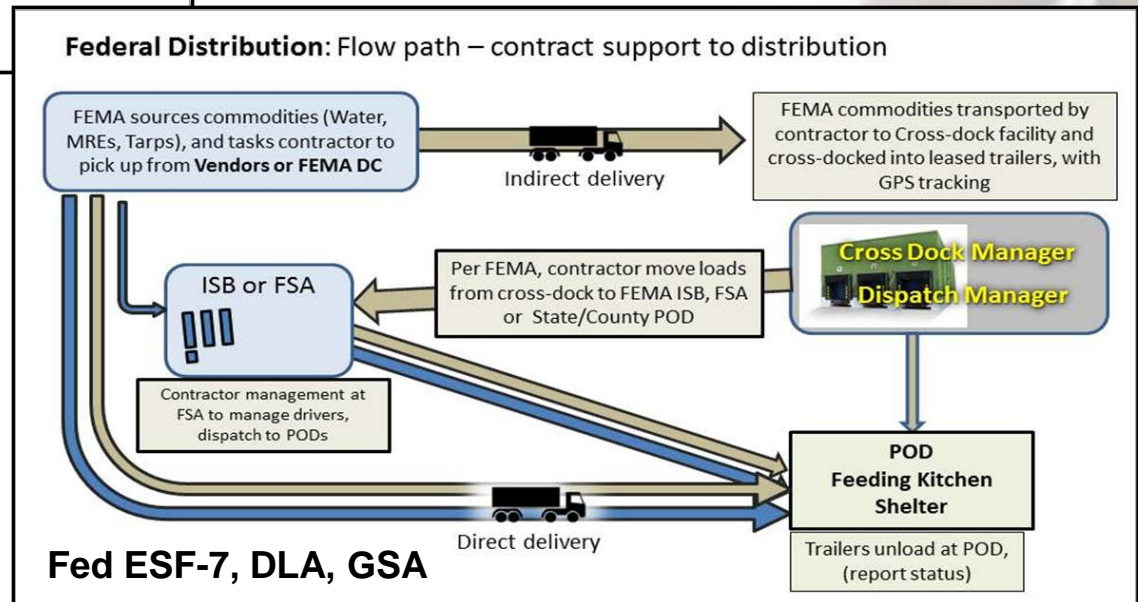
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Planning Factors

- Feeding: 1.75 mil per day
- Water: 15 mil liters per day

Cal OES manages the commodity staging and distribution strategy primarily through direction to contractors who manage physical operations



Annex “D” Logistics

State/Fed Commodity Delivery Strategy



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Execution

The SOC and NRCC will execute the strategy until the UCG is operational.

Commodity Delivery

While state or federal staging operations may deliver commodities to OAs, distribution to recipients (at PODs, feeding sites, or shelters) is the **responsibility of the OAs.**

Annex “D” Logistics

Water Delivery Strategy



The Bay Area's water production and delivery infrastructure consists of conveyance and delivery systems, treatment facilities, and local groundwater wells operated by utility districts.

State and federal response and recovery organizations will source and distribute water as follows:

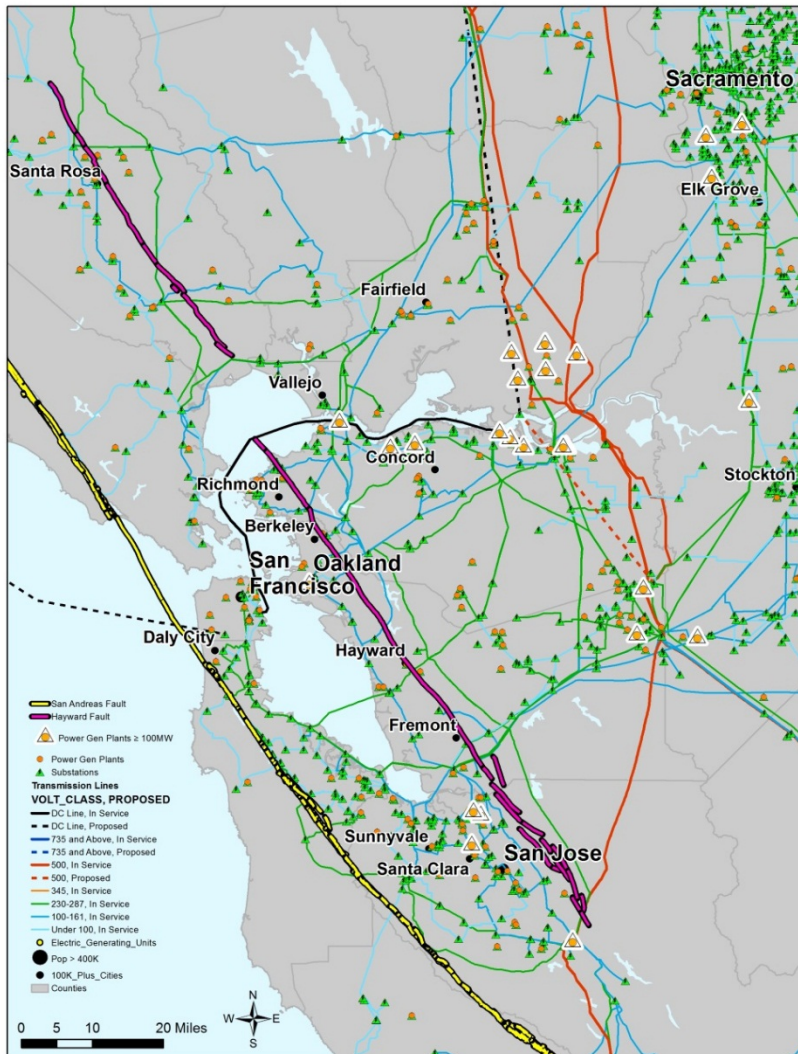
- **Sourcing** – **Water Task Force** obtain water from identified sources
- **Transportation / Distributing Bulk Water** – Water TF transport (in bulk) by Tanker truck to: shelters, PODs, other sites identified by CA-ESF-6 and stakeholders
- **Water Deliver** – Water TF Bottled Water (commodity delivery strategy)
- **Water Production** - Water TF identify water production requirements, obtain capabilities through: contract, MARAD, CNG

Annex “D” Logistics

Temporary Emergency Power Strategy



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- HAZUS modeling indicates over half of households in the impacted area would be without power for 24 hours and over 14 percent would still be without power one week later.
- Cal OES will initiate the formation of a state/federal **Temporary Emergency Power Task Force** within the Operations Section of the UCG.
- The task force will coordinate the delivery of temporary emergency power and be co-led by EF 3 and ESF 3.
- EF/ESF 3 will deliver temporary emergency power to support **public health and medical services**, **mass care services**, **critical transportation operations**, and **logistics operations**, such as debarkation/staging areas, in affected areas

Annex “D”: Logistics

Task Forces: Response & Recovery



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Fuel Task Force

- CA-ESF 7

Water Delivery Task Force

- CA-ESF 7

Temporary Emergency Power Task Force

- CA-ESFs 3, 12

Sheltering / Feeding Task Force

- CA-ESF 6

Mass Care Task Force

- CA-ESF 6

Survivor Movement Task Force

- CA-ESFs 1, 6, 7, 8, 11, 13

Annex “X” Checklist

Execution Checklist – Phased and Task Force



MASS CARE SERVICES (Appendix C-6)		
Action	Responsible Stakeholder	Date/Reference
PHASE 2a: IMMEDIATE RESPONSE (0–24 HOURS)		
STATE		
Activate state-led Sheltering and Feeding task forces; activate additional mass care task forces as needed to support OAs.	EF 6	Sheltering and Feeding
Assess needs and determine levels of support needed;	EF 6	Sheltering and

PHASE 2b: DEPLOYMENT (24–72 HOURS)		
STATE		
Continue to facilitate the flow of traffic and provide roadway status reports in support of movement operations.	CHP	Survivor Movement
JOINT STATE/FEDERAL		
Continue to support sheltering, feeding, bulk distribution of emergency supplies (bottled water, food, ice, etc.), access and functional needs populations, reunification, and animal-related shelter needs.	EF/ESF 6	Sheltering and Feeding

Annex X: Execution Checklist	X-1
Appendix X-1: Fuel Task Force Execution Checklist	X-1-1
Appendix X-2: Water Delivery Task Force Execution Checklist.....	X-2-1
Appendix X-3: Temporary Emergency Power Task Force Execution Checklist	X-3-1
Appendix X-4: Sheltering and Feeding Task Force Execution Checklist.....	X-4-1
Appendix X-5: Mass Care Task Force Execution Checklist	X-5-1
Appendix X-6: Survivor Movement Support Task Force Execution Checklist	X-6-1

provide escorts or road clearance assistance, as needed.		
Coordinate with EF/ESF 15 and MTC to disseminate traffic condition updates.	CHP	Survivor Movement
FEDERAL		
Participate in mass care task forces as requested by the state.	ESF 6	Sheltering and Feeding
Assess and identify the need for requesting contract support.	ESF 6	Sheltering and Feeding
Activate Pre-Scripted Mission Assignments (PSMAs) with federal counterparts and the Red Cross.	ESF 6	Sheltering and Feeding

Coordinate with local governments to assess embarkation, debarkation, and shelter sites.	EF/ESF 6	Survivor Movement
Deploy FASTs and other support groups to movement sites to assess requirements and provide services to people with disabilities and others with access and functional needs.	EF/ESF 6	Survivor Movement
Coordinate with local governments to maintain movement tracking data.	EF/ESF 6	Survivor Movement
Activate and deploy client assistance services.	EF/ESF 6	Survivor Movement
Deploy resources, including fuel, food, and water, blankets, etc., to affected areas in support of survivor movement operations.	EF/ESF 7	Survivor Movement

Way Forward



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Senior Leader Outcomes, NPG Core / Target Capabilities

Response

- ☐ **Accurately Assess the Situation**
 - ✓ Situational Assessment
 - ✓ Operational Communications
- ☐ **Establish Priorities**
 - ✓ Public Information & Warning
 - ✓ Planning
 - ✓ Operational Coordination
- ☐ **Gain Access to affected areas via multiple modes**
 - ✓ Environmental Response / Health & Safety
 - ✓ Critical Transportation
 - ✓ On-Scene Security, Protection, & Law Enforcement
- ☐ **Conduct Life-Saving / Life-Sustaining Operations**
 - ✓ Mass Search & Rescue Operations
 - ✓ Mass Care Services
 - ✓ Public Health, Healthcare, and Emergency Medical
 - ✓ Logistics & Supply Chain Management
 - ✓ Infrastructure Systems

Recovery

- ☐ **Facilitate Information Sharing**
 - ✓ Operational Coordination
 - ✓ Public Information & Warning
- ☐ **Expedite Environmental Compliance**
 - ✓ Infrastructure Systems
 - ✓ Natural & Cultural Resources
 - ✓ Operational Coordination
- ☐ **Restoration of Affected Communities**
 - ✓ Housing
 - ✓ Health & Social Services
 - ✓ Economic Recovery

Conclusion

Conclusion (1 of 2)



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- BAEP is State and Federal response / recovery plan
- SOC and NRCC orchestrate response until UCG is operational
- All CA-ESFs and most DOCs are activated
- Inter-agency collaboration is paramount for response / recovery
- Response task forces are essential to response / recovery operations
- Training and exercises are key to effective response and timely recovery

Conclusion

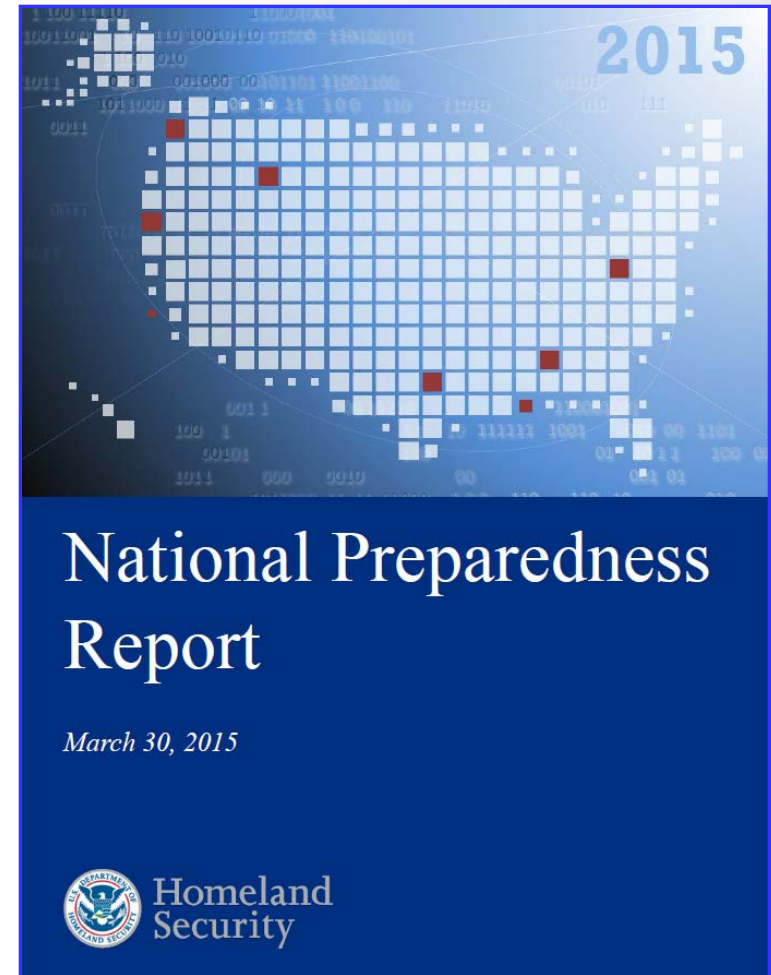
Conclusion (2 of 2)

“Exercises and real-world incidents **teach lessons learned** and provide **best practices** that can help improve preparedness for future events”.

- “*National Preparedness Report*”,
March 30, 2015



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Contact Info



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Jeff Newman, M.E.P.

Senior Emergency Services Coordinator (SESC)

Governor's Office of Emergency Services

Planning / Preparedness Branch

(916) 845-8829 Office

(916) 201-3575 Cell

jeff.newman@caloes.ca.gov

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