

**Emergency Preparedness and Response  
Update with CPUC Commissioners  
March 27, 2014**



## **Emergency Management Vision Statement**

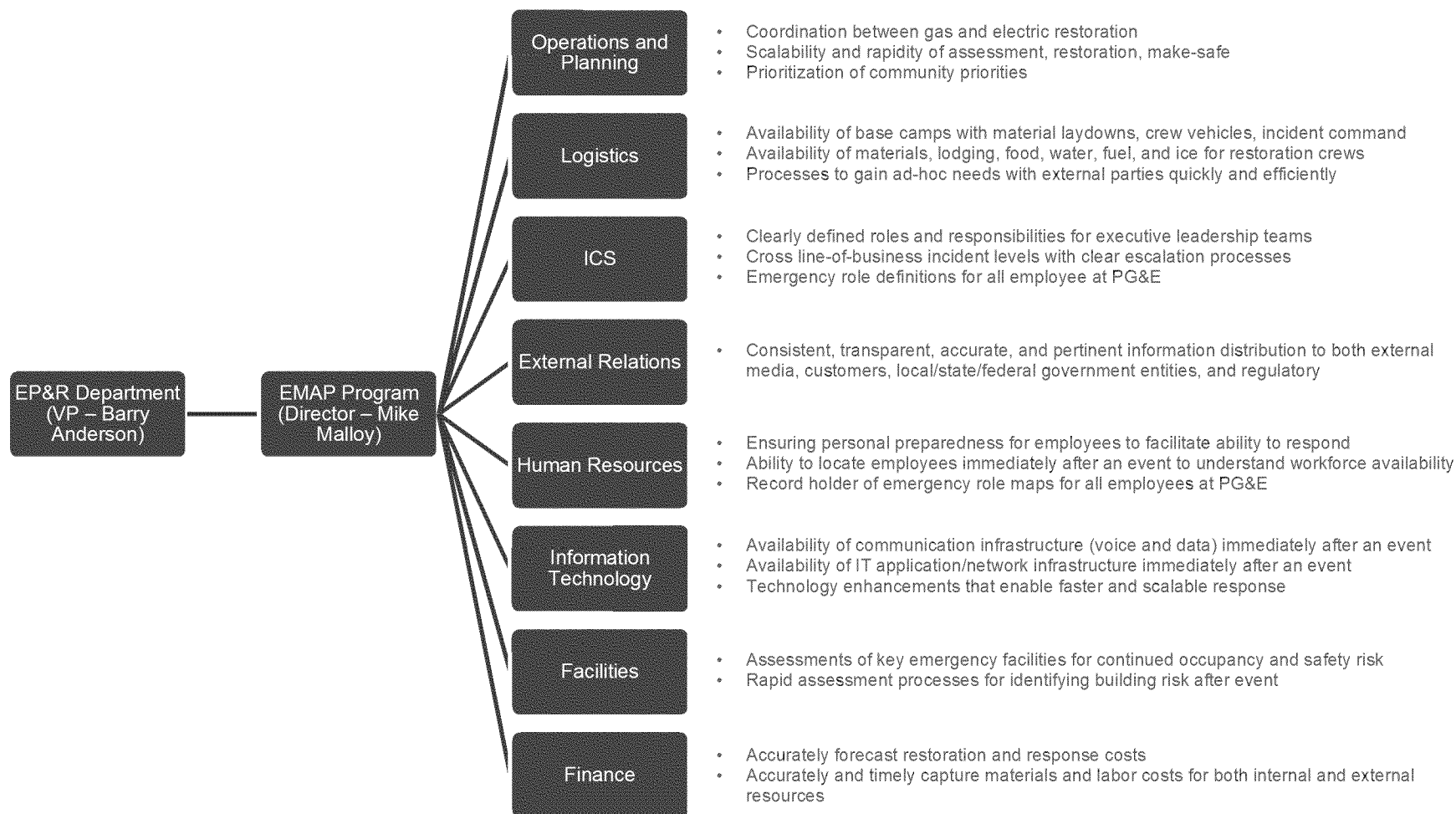
**PG&E responds to all emergency incidents safely, transparently and with a strong sense of urgency. Our planning and response are aligned with the needs of the communities we serve.**

**Our approach to a catastrophic event is predicated on two principals: our ability to scale, and our ability to do so quickly**



# Overview of Emergency Preparedness and Response (EP&R)

In order to enhance processes across the entire organization, PG&E created the Emergency Preparedness and Response (EP&R) department and started the Emergency Management Advancement Program (EMAP)



Strengthen capabilities across the enterprise to respond to catastrophic events

# Improving our ability to scale



# Predictive Damage Models

PG&E is developing tools to understand the scope and scale of a catastrophic event

**ShakeCast 2** - Director: Operations Damage Model 2012

SCENARIO ONLY 1906 San Andreas with current day facilities Magnitude 7.9

**ShakeCast 2** - Director: Operations Damage Model 2012

PLAYBOOK SCENARIO Rodgers Creek Magnitude 7.0

**ShakeCast 2** - Director: Operations Damage Model 2012

PLAYBOOK SCENARIO Hayward North and South Magnitude 6.9

IC	Restoration Hours	Assessment Hrs	Crews	Line	Tree	Ass
DE ANZA	24,569	209	101	351	36	
DIABLO	593	4	3	9	1	
EAST BAY	4,933	196	21	71	8	
MISSION	1,989	97	9	29	3	
NORTH BAY	17,279	65	71	247	25	
PENINSULA	21,207	361	87	303	31	
SAN FRANCISCO A	19,415	944	80	278	28	
SAN FRANCISCO B	11,548	139	48	165	17	
SAN FRANCISCO C	4,766	37	20	69	7	
SAN FRANCISCO D	35,637	1605	146	510	51	
SONOMA	16,342	72	67	234	24	
SAN JOSE	6,652	100	36	124	13	
<b>Total</b>	<b>166,930</b>	<b>3,796</b>	<b>689</b>	<b>2,300</b>	<b>244</b>	



has allowed us to develop

San Andreas 1906 Scenario

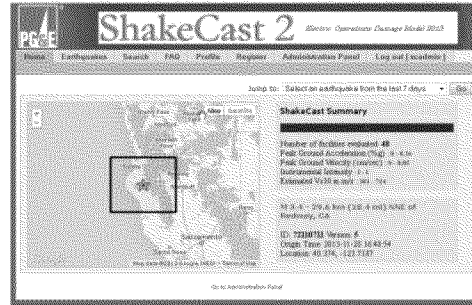
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Damage models for:

- San Andreas M7.9
- Hayward North and South M6.9
- Rodgers Creek M7.0

Predictive forecasts for:

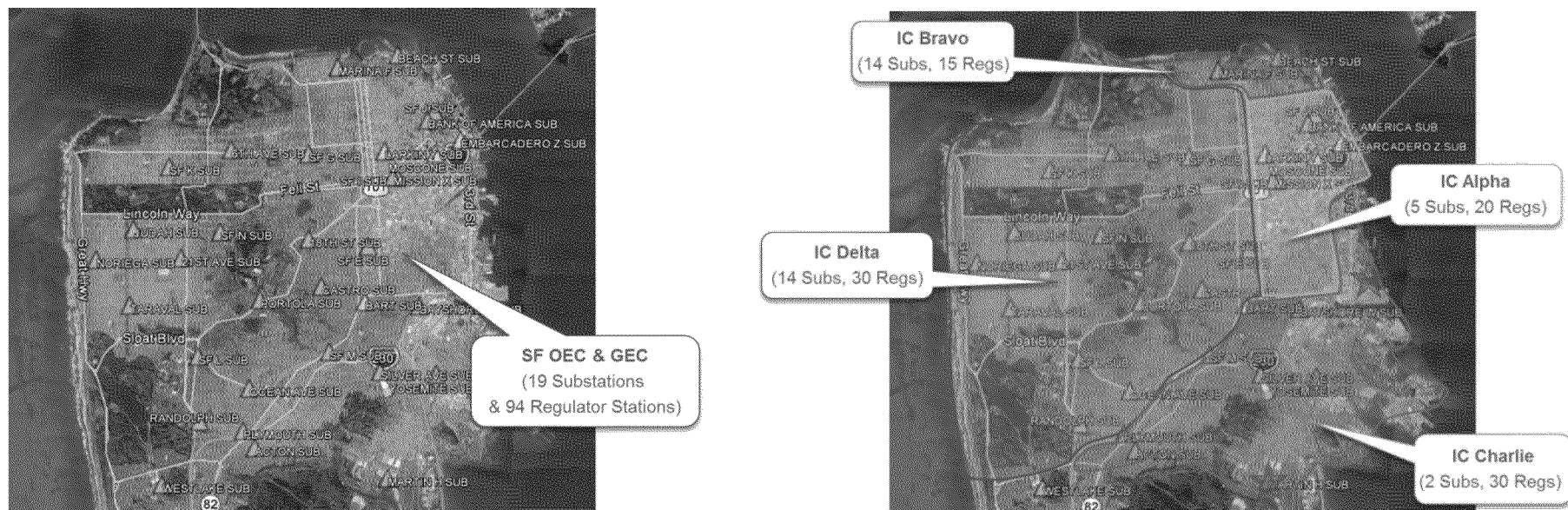
- # of restoration hours
- # of crews and assessors needed
- Quantity of materials required
- Requirements needed to meet a definable ETOR



This tool can be utilized for real-time workforce requirements within 15 minutes after an earthquake event occurs

# Scaling Restoration Requirements

Forecasted damage identified normal operating jurisdictions are beyond capacity and resource requirements

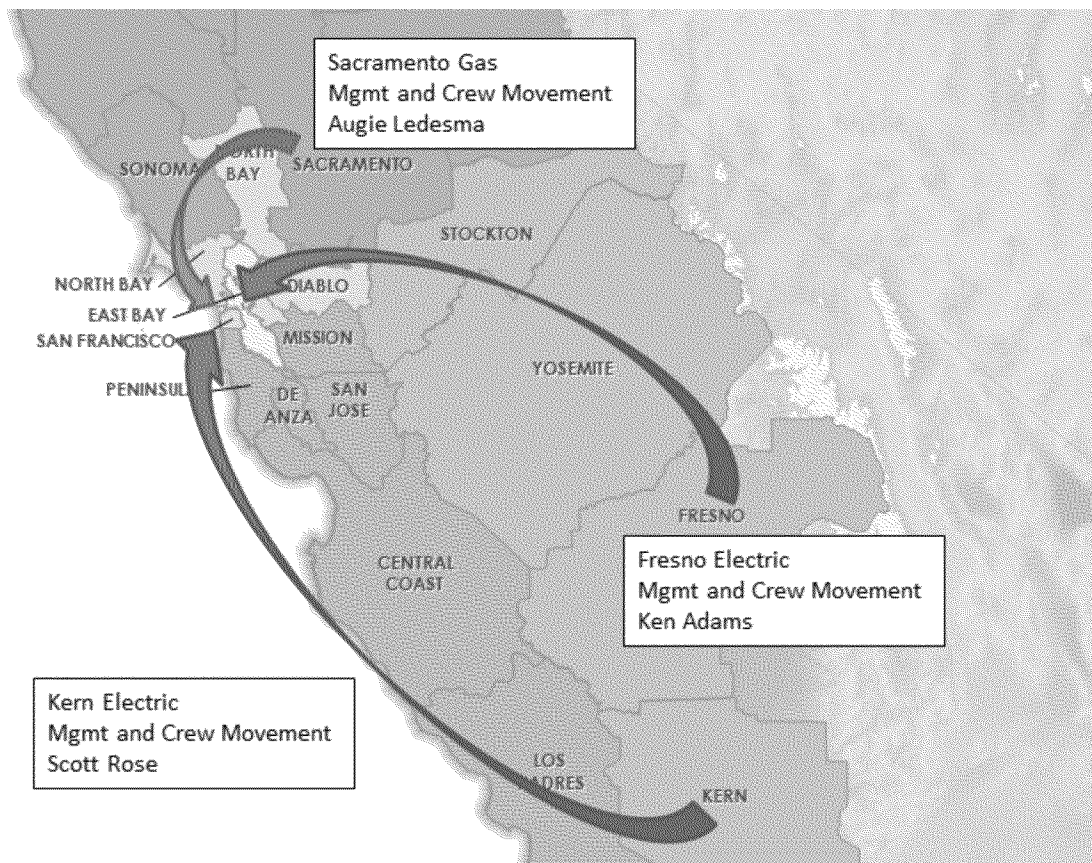


## San Francisco 'carved' into 4 areas

- Restoration more manageable and efficient
- Separate local command support structure
  - Gas and electric combined in areas

# Scaling the Need for Leadership Support

Expanded jurisdictional areas require additional management support from unaffected areas

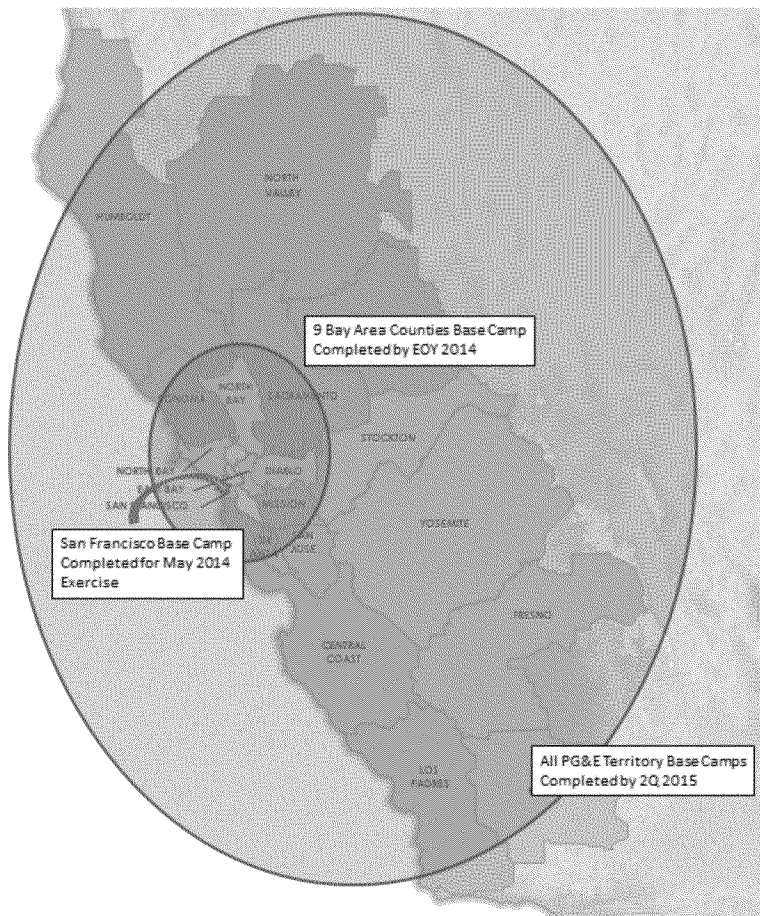


Pre-standing plans to bring in established local incident command teams (ICS/NIMS) into affected areas

Incident command teams will be trained to gain familiarity with the special conditions that exists within their assigned territory

# Scaling Logistics

The modeling also shows the need to scale logistics as well. Base Camps are required for crews, leadership, and materials that accommodate thousands of emergency responders



Identification and set up of base camps will occur in phases.

## San Francisco

- Base camps for 4,000 total field personnel required
- Multiple sites need to be identified
- Cow Palace has been secured (for 2,000 people)
- Martin Substation being pursued as a 2<sup>nd</sup> site
- Currently investigating other lay down areas while considering liquefaction and ownership (government)

## 9 Bay Area Divisions

- To be completed by EOY 2014

## All PG&E Divisions

- To be completed by 2Q 2015

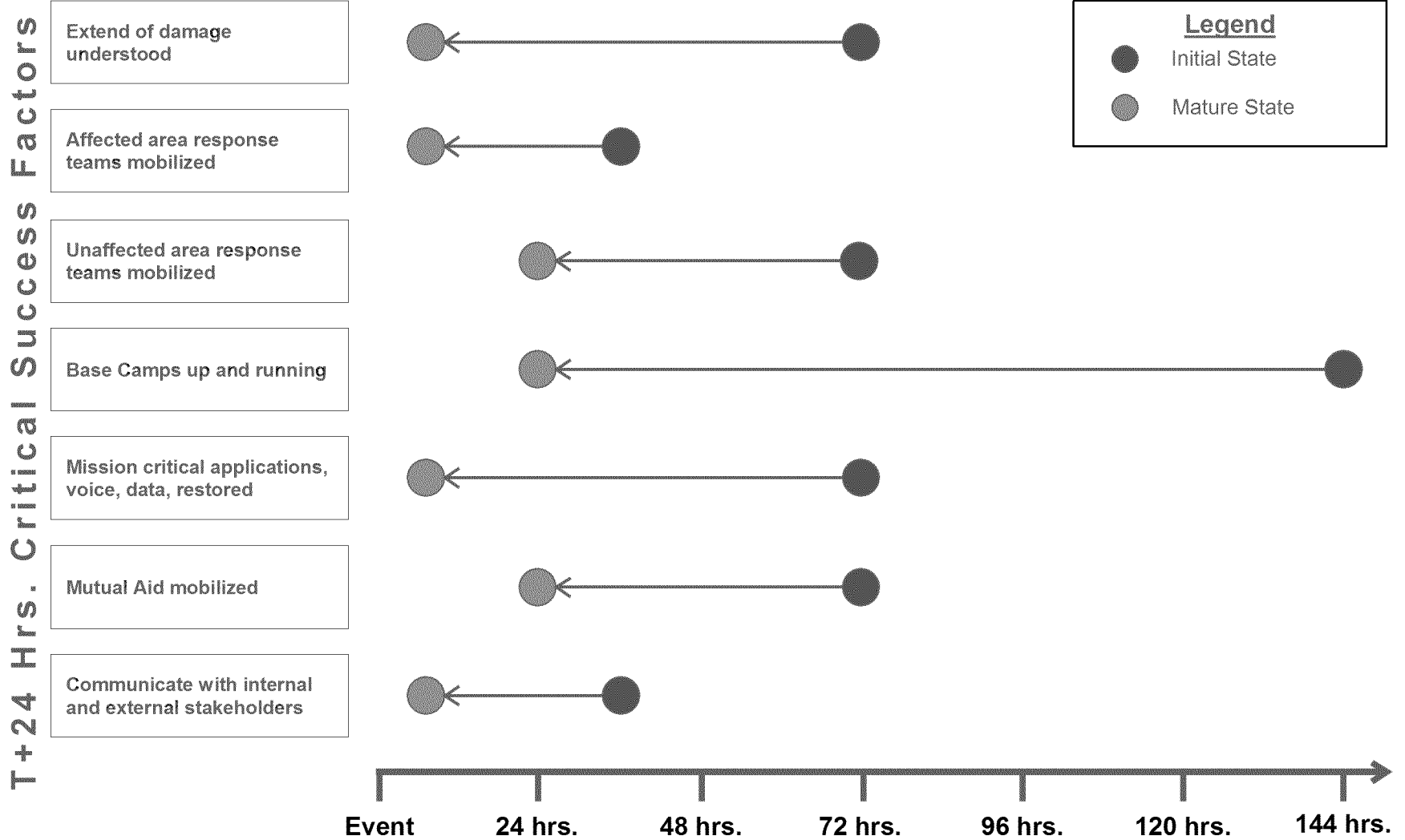


# Improving our ability to scale... quickly

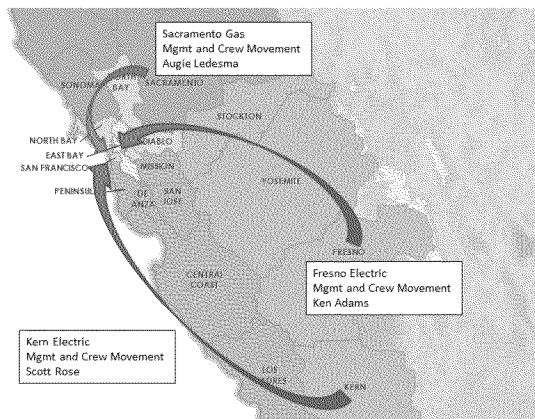


# Collapsing lead times for Emergency Response

EMAP also is looking to collapse current lead times for Emergency Response

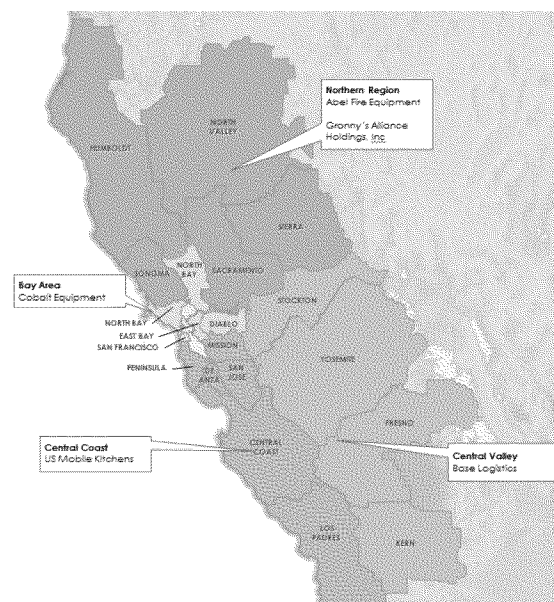


# Collapsing the timeline on workforce needs



Self contained incident command teams and crews of unaffected regions are pre-assigned with immediate mobilization orders that are event activated, not requiring orders from management to proceed

Base camp set-up vendors have been identified to support all PG&E regions with the ability to lift up facilities for operational use within **24 hours** of activation



# Collapsing the timeline on restoring community priorities

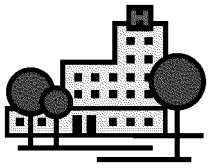
PG&E is partnering with the 9 Bay Area county OES leaders to re-evaluate and tier facilities / customers that will enable assessment and repair crews to appropriately prioritize restoration toward life-safety and community normalcy needs

## Example prioritization

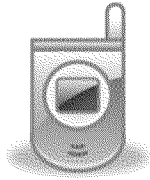
### Tier 1

### Tier 2

### Tier 3



Trauma Hospitals



Critical Telecom Infrastructure



Water Treatment Facilities



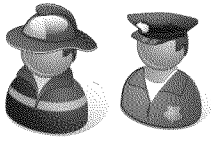
Evacuation Centers\*



Gas Stations\*



Major Refineries



911 Dispatch Centers  
Major FD/PD stations



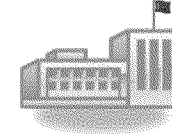
Government agencies  
critical to national  
defense



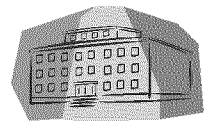
Public transportation  
(BART, ferries)



Major grocery  
Stores\*



Schools\*



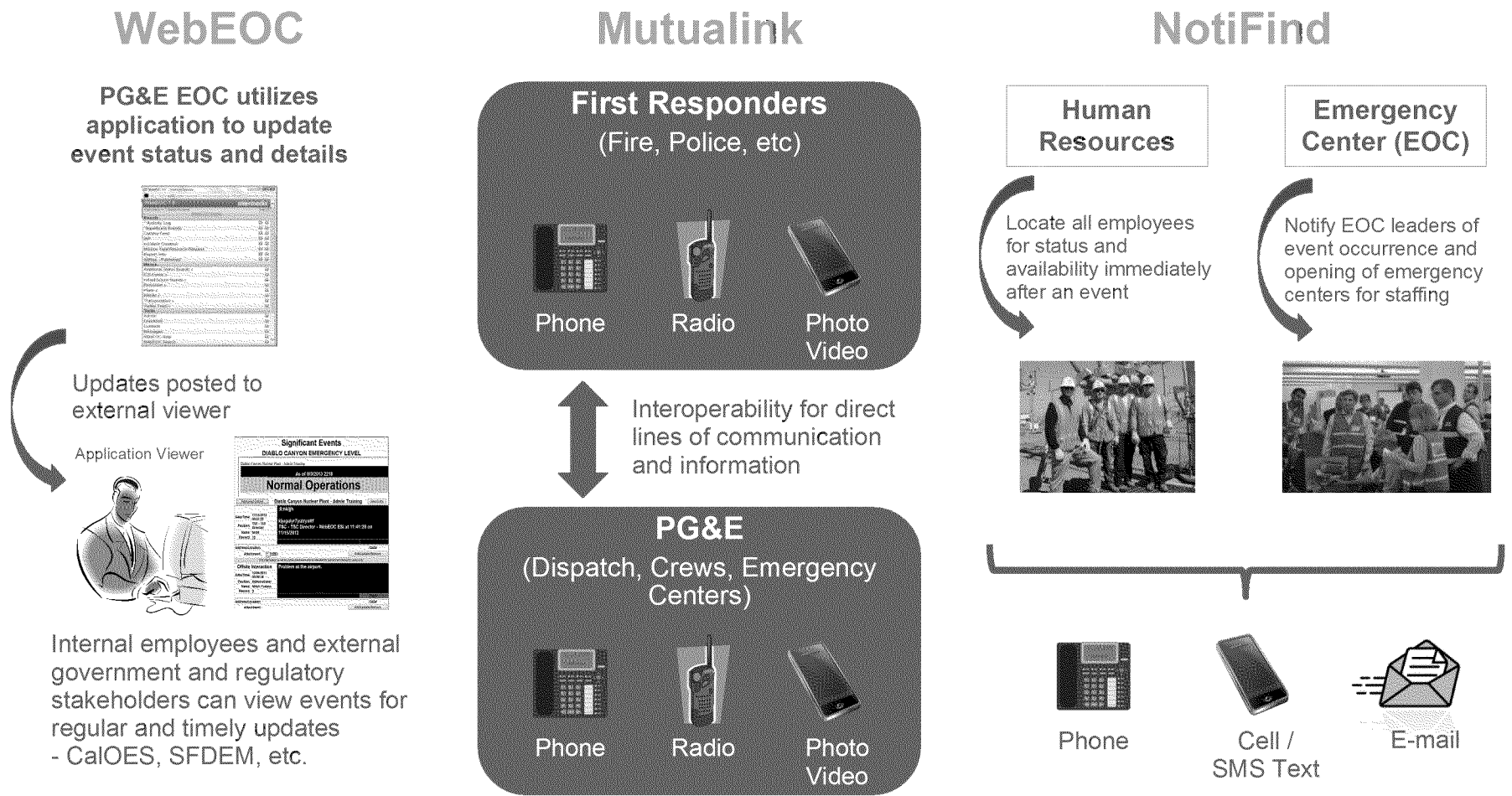
Smaller Shelters  
Heating/Cooling Facilities\*



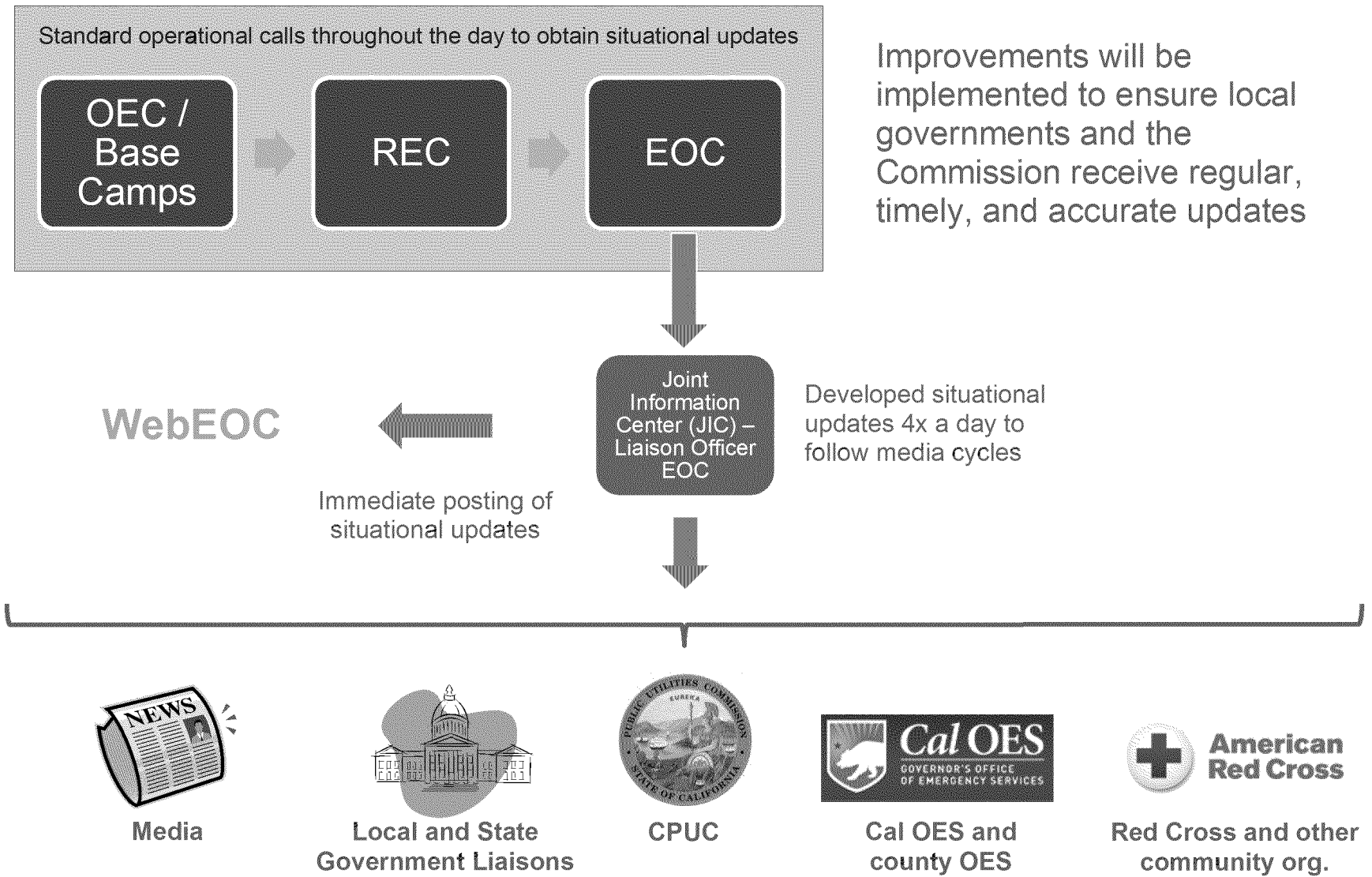
\*Facility types that will be added to current listings

# Collapsing the timeline to communicate internally and externally

New technology platforms are allowing PG&E to communicate event information both internally and externally at a much quicker pace



# Communicating timely with local governments and the CPUC



# Testing and Exercising EMAP Concepts and Principals

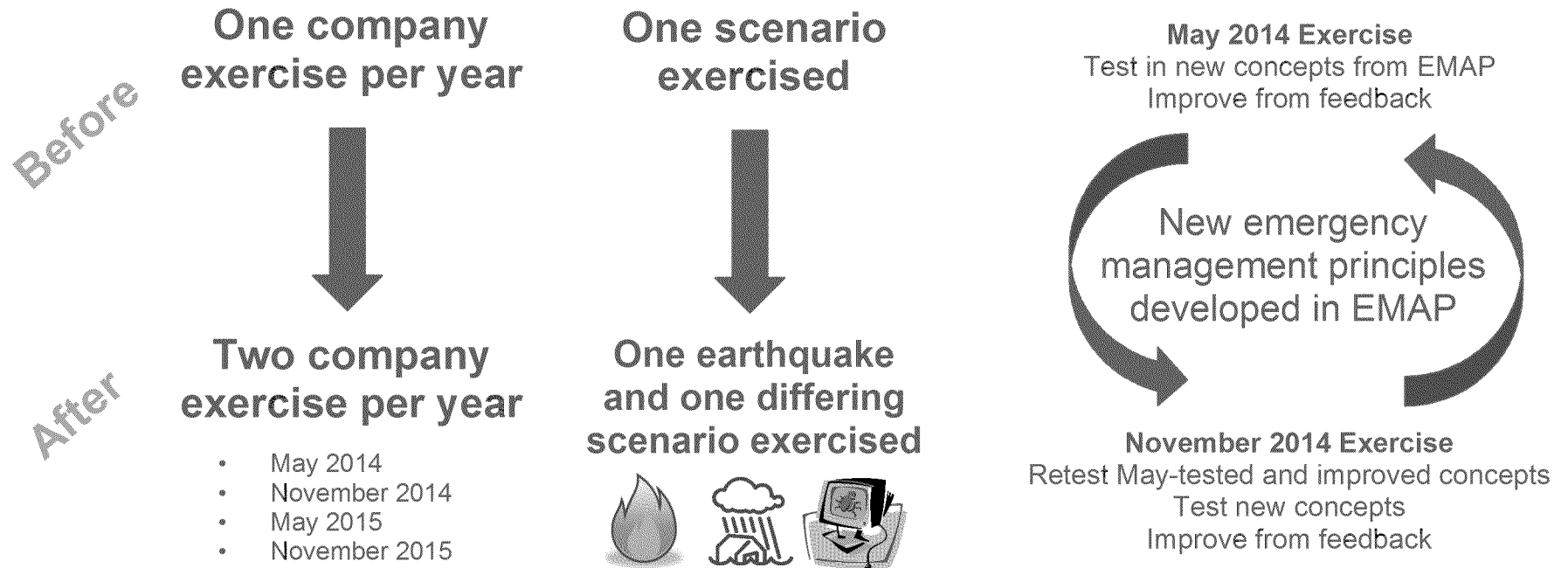
Advances in PG&E's Company Exercises



# Advances in Exercise Planning






EP&R is improving how PG&E approaches exercises and will test EMAP concepts

































# Company Exercise – EMAP Impacts

	Fully exercised
	Exercised with limited scope
	Not exercised

With each exercise, PG&E will improve and mature each capability

Core Capabilities	2013	May 2014	Nov 2014	May 2015
Clearly defined organizational structure and roles/responsibilities				
Restoration prioritization starts with safety, includes community needs and is staffed appropriately				
Logistics effectively supports restoration requirements				
Communications are planned, consistent, and transparent				
Technology and communication infrastructure ready for post-event support				
Employees are prepared and are ready to respond				
Financial controls provide accurate reporting				



# Questions?

