

Department of Energy

Energy Preparedness and Response

National Response Framework & National Infrastructure Protection Plan

Anthony Lucas

**Federal Program Manager Infrastructure
Security and Energy Restoration ESF12**



Office of Electricity Delivery and Energy Reliability
Infrastructure Security and Energy Restoration

Energy Sector Response Challenges



Our nation's energy infrastructure is owned, operated, and regulated by a variety of organizations and intertwined with a complex array of supply and delivery mechanisms, thus protecting and restoring energy systems presents multiple challenges. Because of such diversity and complexity, no single organization, risk management or asset prioritization program/methodology can manage or account for the challenges that the sector faces.

Previous Major Disasters



- 2011 Northeast Winter Storm
- 2011 Hurricane Irene
- 2011 Mississippi Flooding
- 2010 Haiti Earthquake
- 2009 American Samoa Tsunami
- 2009 Kentucky Ice Storms



- 2008 California Wildfires
- 2008 Gulf Coast Hurricanes
- 2008 Midwest Flooding
- 2008 National Special Security Events

Previous Events



April 2011, Tornados Impact Huntsville Alabama and Red Stone Arsenal. Base's emergency operations center is running on backup power, with sporadic communications. Only mission essential personnel are working at Redstone, headquarters for the Army Materiel Command, Aviation and Missile Command, and Space and Missile Defense Command.... (Nextgov.com)

Previous Events Cont.

April 2011, Tornados Impact Fayetteville and Fort Bragg. Fort Bragg will remain closed today to all but essential personnel, Army officials said. Multiple buildings on post and Simmons Army Airfield were damaged. Power was cut off to the entire installation, a statement released late Saturday said. "There are no reports of loss of life or significant injuries on post," the statement said. Womack Army Medical Center was operating on backup power sufficient to support its medical operations..... (Fayetteville Observer)

ISER Roles and Responsibilities



- **Sector Specific Agency (SSA Energy)**
 - Federal departments and agencies identified in HSPD-7 as responsible for Critical Infrastructure/Key Resources (CI/KR) protection
- **Emergency Support Function (ESF 12)**
 - ESFs provide the structure for coordinating Federal interagency support for response to an incident. They are mechanisms for grouping functions most frequently used to provide Federal support to States and Federal-to-Federal support, both for declared disasters and emergencies under the Stafford Act and for non-Stafford Act incidents

DOE Prepares for and Responds to a Variety of Events

- **Stafford Act Events (ESF-12):** hurricanes, earthquakes, ice storms, tsunamis...
- **Non-Stafford Act Events:** blackouts, droughts, oil spills...
- **Physical Infrastructure and Cyber Events:** refinery attacks, cyber attacks...
- **High Impact Low Frequency Events (HILF):** pandemics, solar storms...
- **National Special Security Events (NSSE):** Presidential Inauguration, Nuclear Summit, G-8...
- **International Events (limited):** Haiti...
- **Combination of the above**



DOE Roles and Responsibilities During Disasters



- Situational awareness of electric power status provides critical information for placement of shelters, generators, etc.
- Remove barriers for energy infrastructure restoration process –border crossing for utility crews, resource staging, obtaining priority equipment from suppliers, etc.
- DOE legal authorities help in the restoration of critical infrastructure by connecting critical facilities to available power sources of other utilities (interconnections).
- Serve as Federal focal point for energy preparedness including mitigation, response and restoration issues and policy decisions related to energy systems.
- Serve as Federal POC to energy sector owner and operators to help reduce “Fed Fatigue”.
- Leverage broad DOE expertise, capabilities, and resources (engineers, scientists, researchers....).
- Collect, assess, and provide information on energy supply, demand, and prices as well as contribute to situation and after-action reports.

DOE ESF 12 Regional Coordinators



JOHN OSTRICH
Regional Program Manager
Western Region

ANTHONY LUCAS
Federal
Program Manager

JAMIE CLARK
Regional Program Manager
Eastern Region



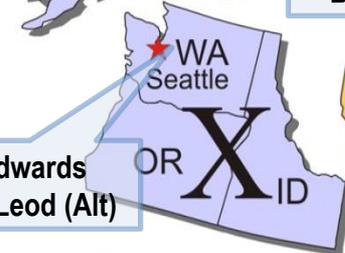
U.S. NORTHCOM
Lee Legowik
Mary Brown (Alt)

Jay Hanna
Ryan Watson (Alt)

Matt Rosenbaum
Chris Lawrence (Alt)

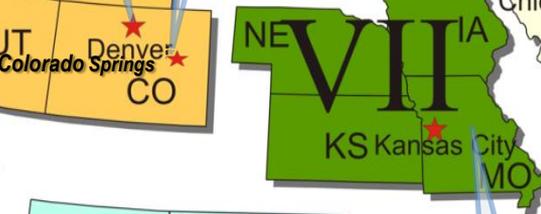
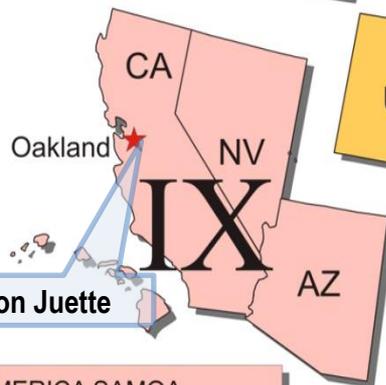
Bill Marsh

John McIlvain



PUERTO RICO
U.S. VIRGIN ISLANDS

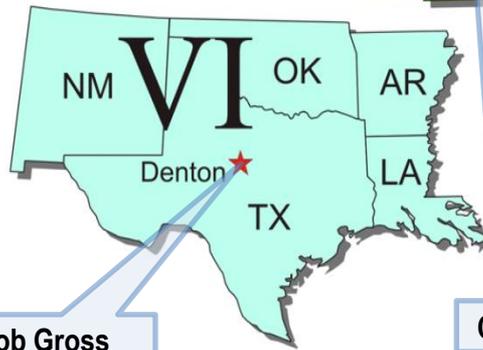
Bill Edwards
Bob McLeod (Alt)



Bob Reed
Katy Kweder (Alt)

Jon Juette

AMERICA SAMOA
GUAM
U.S. TRUST TERRITORY
OF THE PACIFIC ISLANDS



III

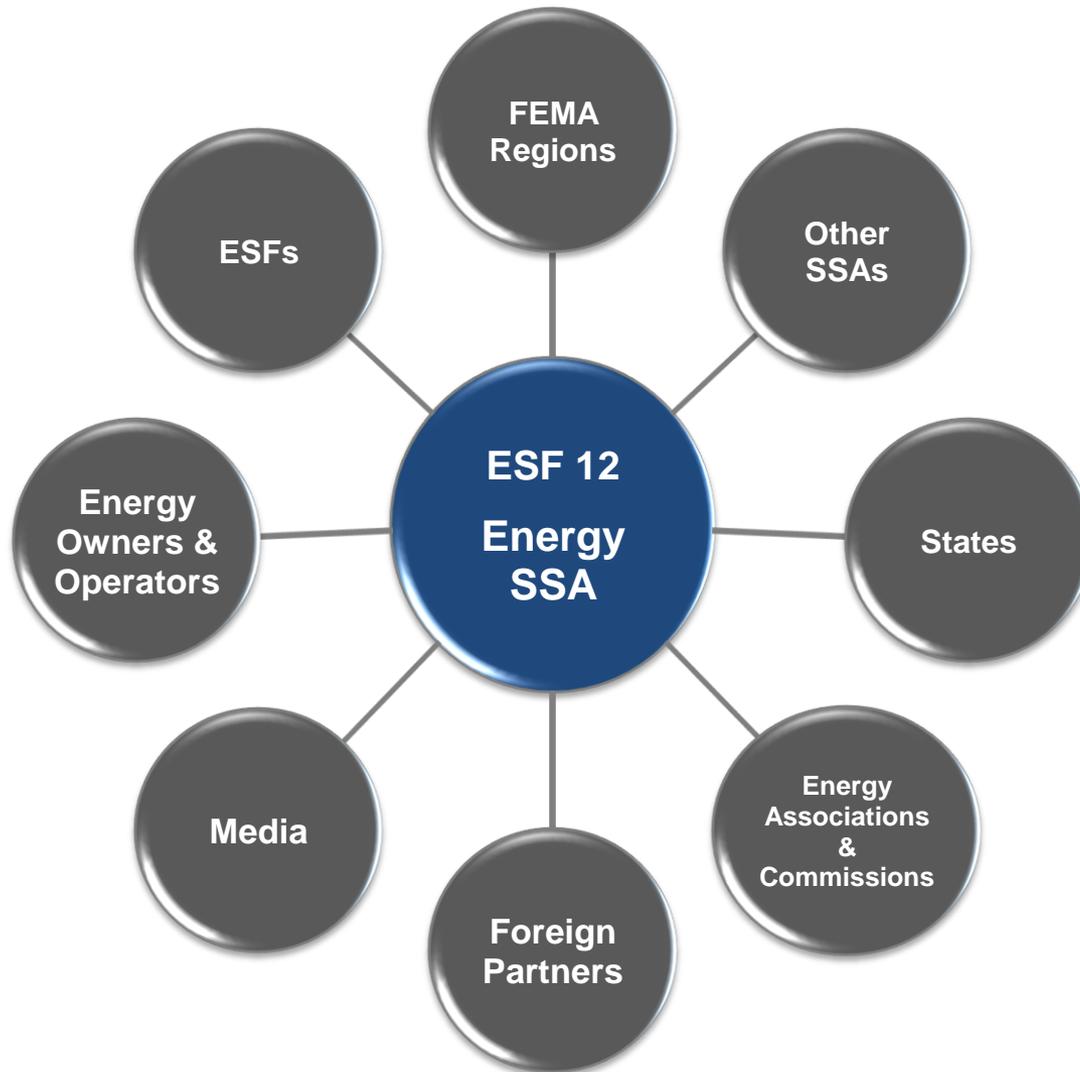
NRCC
Lamont Jackson

Rob Gross

Chuck Ljungberg

Jim McGlone

Energy Stakeholders



National Response Framework

ESF 12 Partners

- Department of Agriculture
- Department of Commerce
- Department of Defense
- Department of Energy
- Department of Homeland Security
- Department of the Interior
- Department of Labor
- Department of State
- Department of Transportation
- Environmental Protection Agency
- Nuclear Regulatory Commission
- Tennessee Valley Authority

NIPP Partnerships

SSA Partners and GCC Members



- U.S. Army Corps of Engineers
- U.S. Department of Agriculture, Rural Utilities Service
- U.S. Department of Defense
- U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability
- U.S. Department of Energy, Office of Fossil Energy
- U.S. Department of Health and Human Services
- U.S. Department of Homeland Security, Office of Infrastructure Protection
- U.S. Department of Homeland Security, Transportation Security Administration
- U.S. Department of Homeland Security, U.S. Coast Guard
- U.S. Department of the Interior, Minerals Management Service
- U.S. Department of State, International Boundary and Water Commission
- U.S. Department of Transportation, Committee on the Marine Transportation System
- U.S. Department of Transportation, Maritime Administration
- U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration
- U.S. Department of the Treasury
- U.S. Environmental Protection Agency
- Canadian Department of Natural Resources
- National Association of State Energy Officials
- National Association of Regulatory Utility Commissioners
- National Governor's Association
- Federal Energy Regulatory Commission
- Transportation Security Administration's Pipeline Security Division

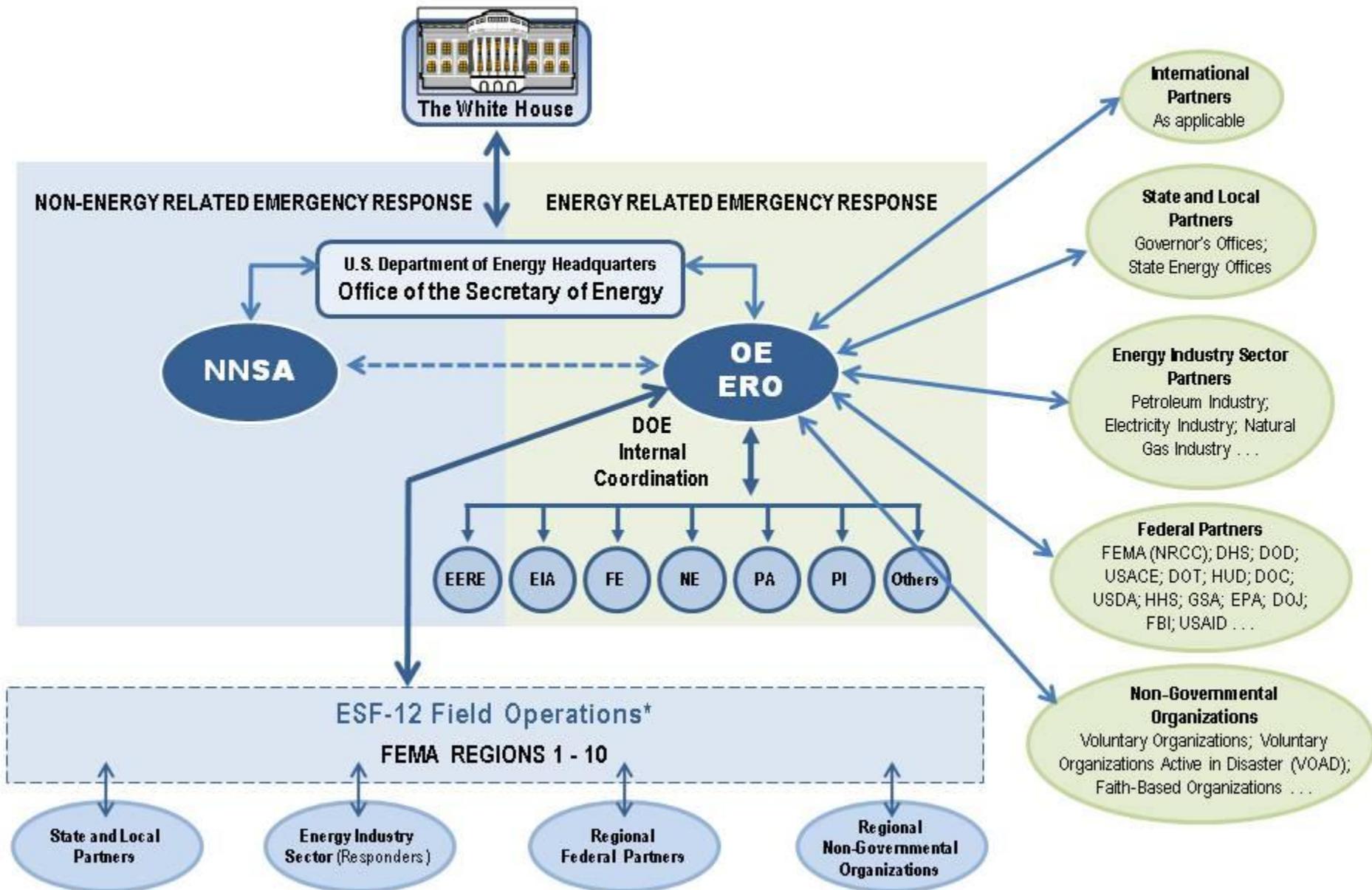
Energy Stakeholders and Partners



- **FERC (*Federal Energy Regulatory Commission*)**
- **NERC (*North American Electric Reliability Corporation*)**
- **EI (*Edison Electric Institute*)**
- **SEE (*Southeastern Electric Exchange*)**
- **APPA (*American Public Power Association*)**
- **NRECA (*National Rural Electric Cooperative Association*)**
- **NERC Regional Entities**
- **NASEO (*National Association of State Energy Officials*)**
- **NARUC (*National Association of Regulatory Utility Commissioners*)**
- **NGA (*National Governor's Association*)**
- **NCSL (*National Conference of State Legislatures*)**
- **PTI (*Public Technology Institute*)**
- **NEMA (*National Emergency Management Association*)**

- **State Governors Offices**
- **State Legislators**
- **State Emergency Management Agencies**
- **State Energy Office**
- **State Homeland Security**
- **State Public Utility Commissions**
- **Electric Cooperatives**
- **Public Municipal Utilities**
- **Investor Owned Utilities**
- **Regional Transmission Operators**
- **Reliability Coordinators**
- **Regional Balancing Authorities**

Simplified Energy Response Diagram (Non-Nuclear)

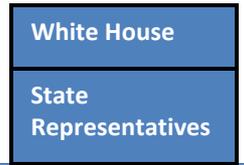


*Only for Stafford Act Events. (Requires FEMA Activation)

Government Response and Coordination Structure



Note: Utilities maybe asked to provide a representative or information at each location.



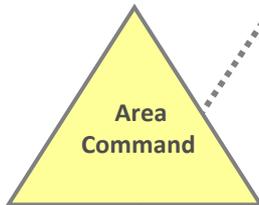
Multiagency Coordination Centers/EOCs

- Support and coordination

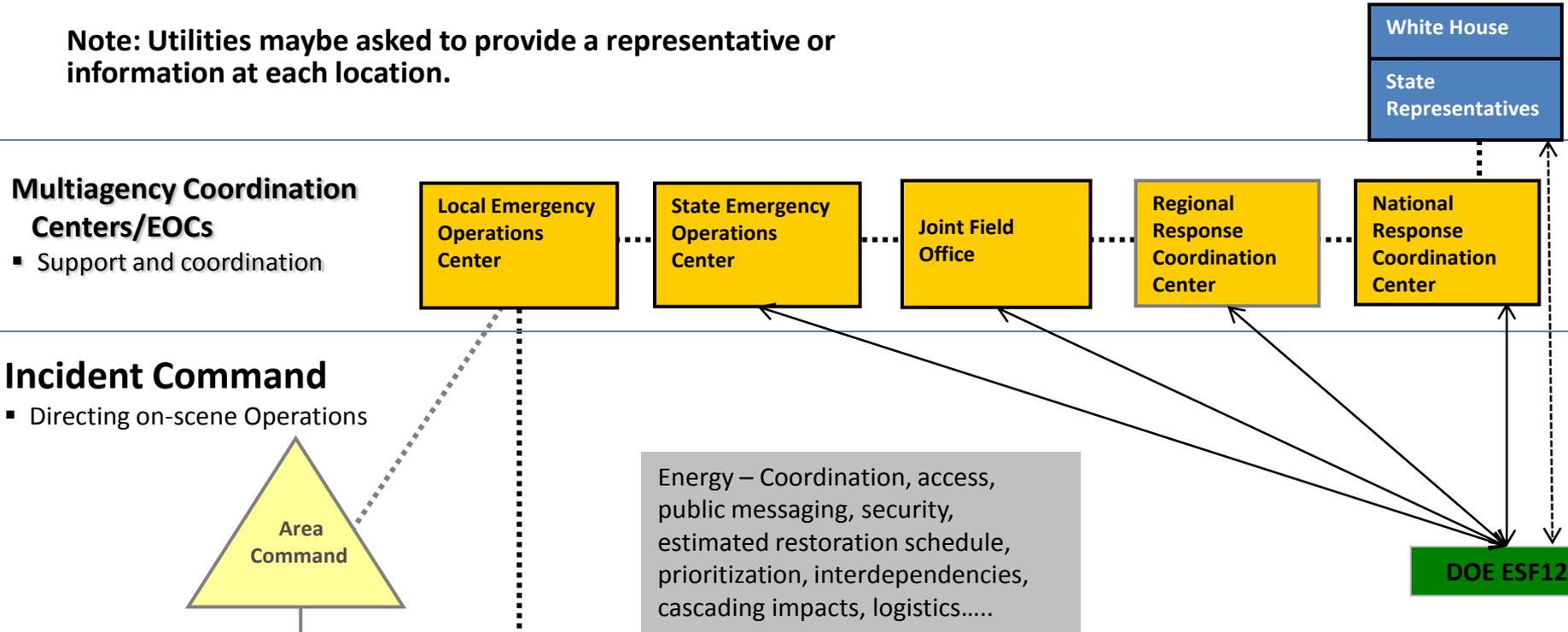


Incident Command

- Directing on-scene Operations

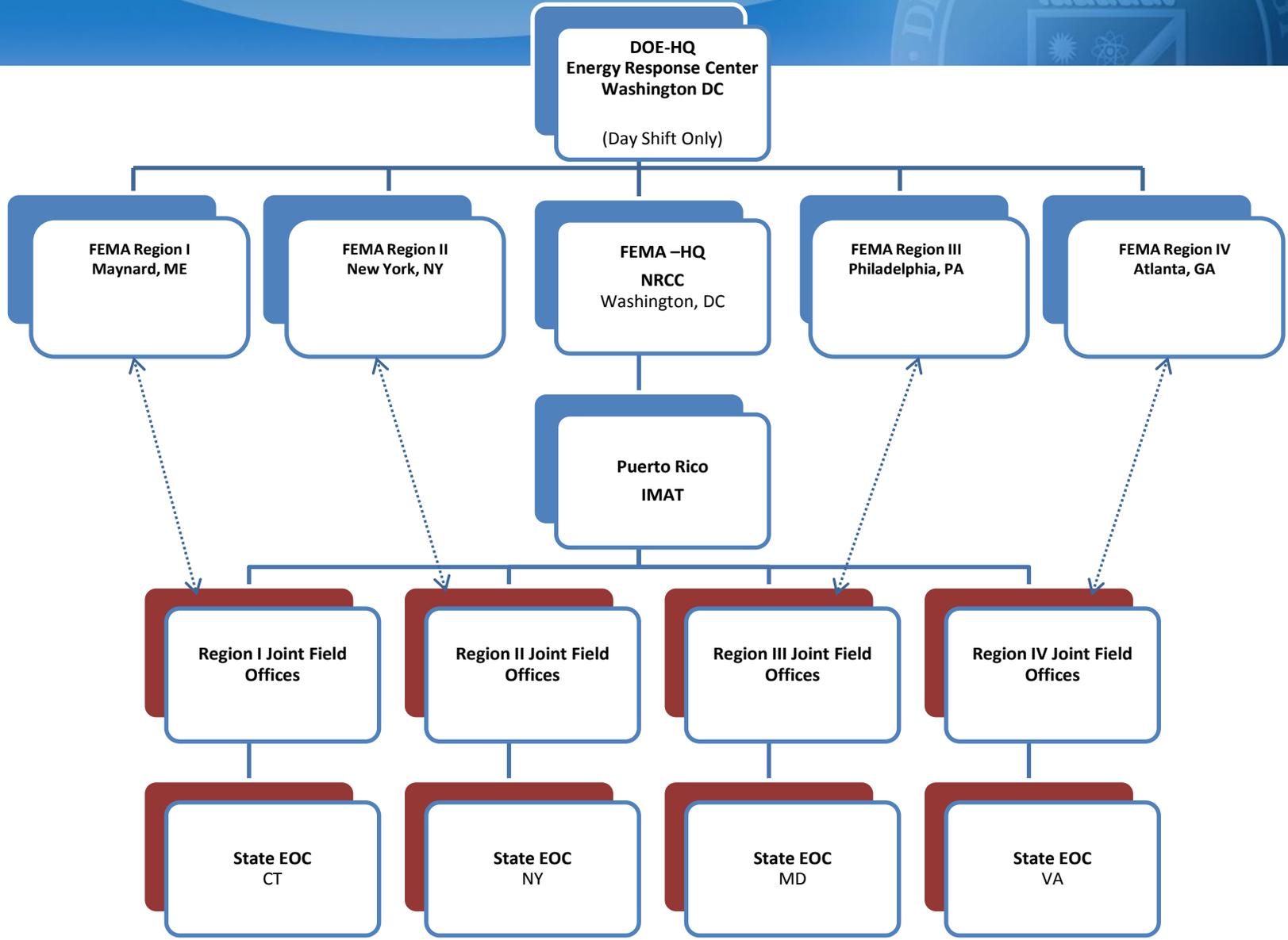


Energy – Coordination, access, public messaging, security, estimated restoration schedule, prioritization, interdependencies, cascading impacts, logistics.....



DOE – Emergency Support Function 12

Multi-Region and State Deployment



KEY = Solid Lines Represent Formal Relationships. Dotted lines indicate communication pathways.

Preparedness and Response Planning Considerations

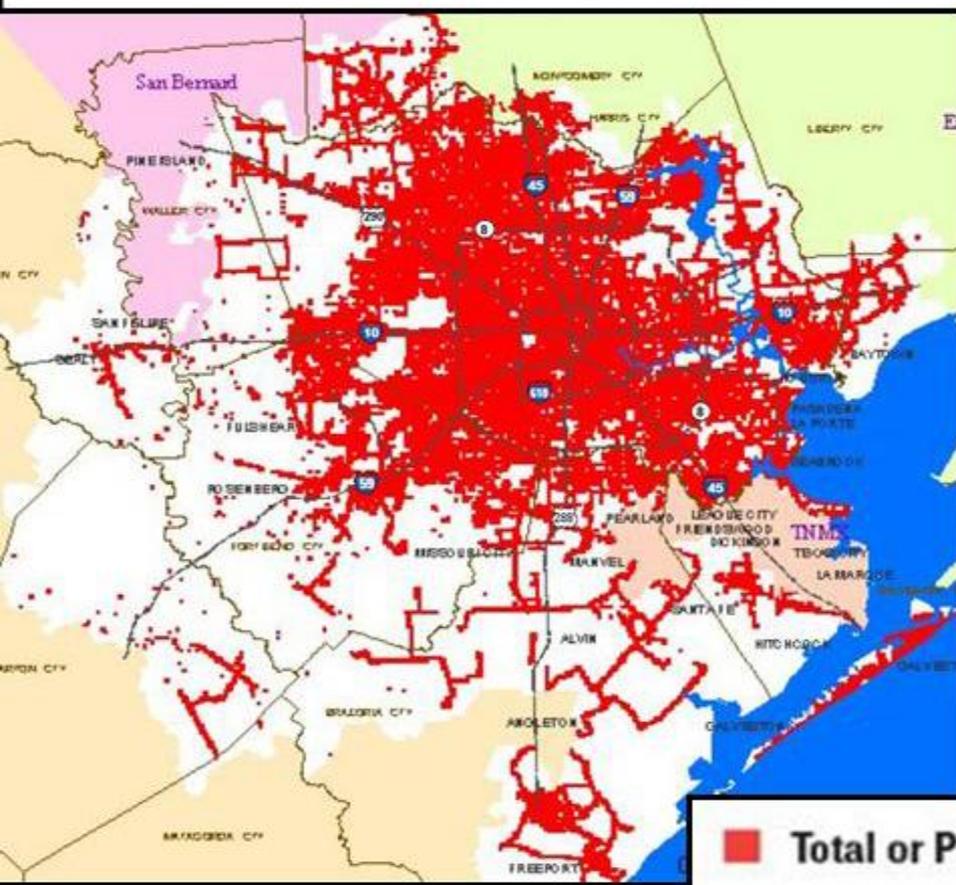
- Communication and Coordination
- Situational Assessment
- Damage Assessment
- Restoration Priorities
- Public Messaging
- Public Awareness
- Mutual Assistance
- Interdependencies
- Cascading Impacts
- Local and State Energy Assurance Plans



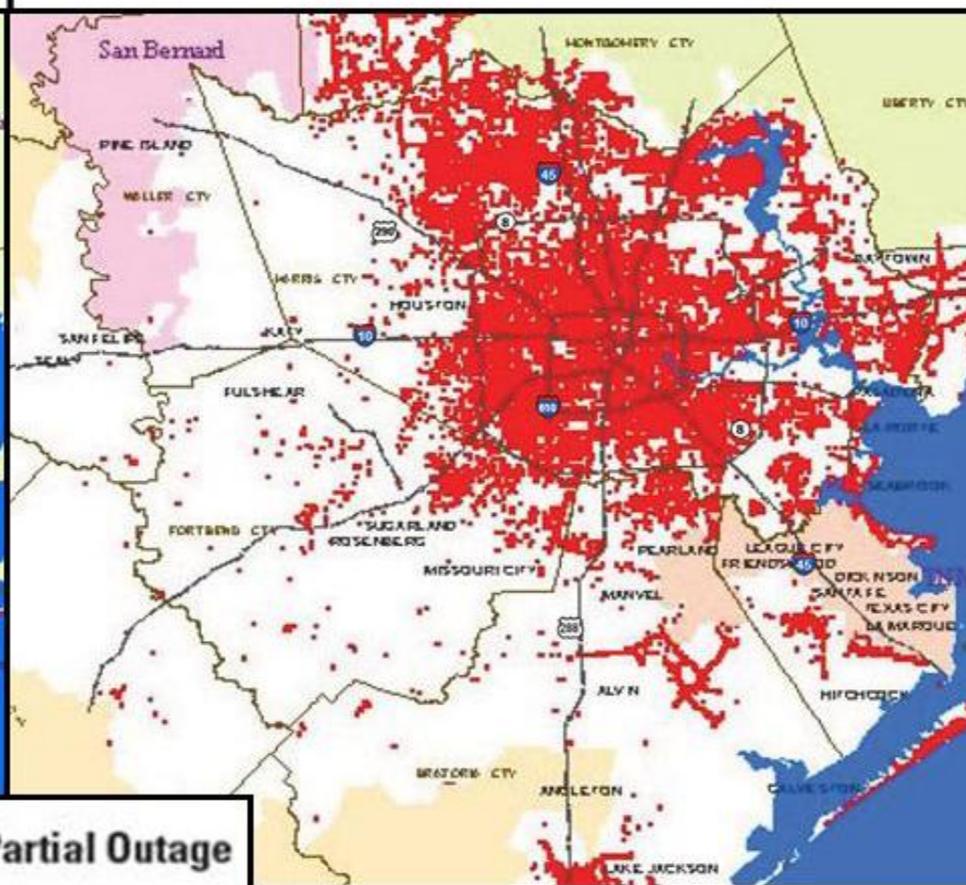
Hurricane Ike (Houston) Customer Outage Progression



9/13/2008 - Customers Out: 2.10 Million



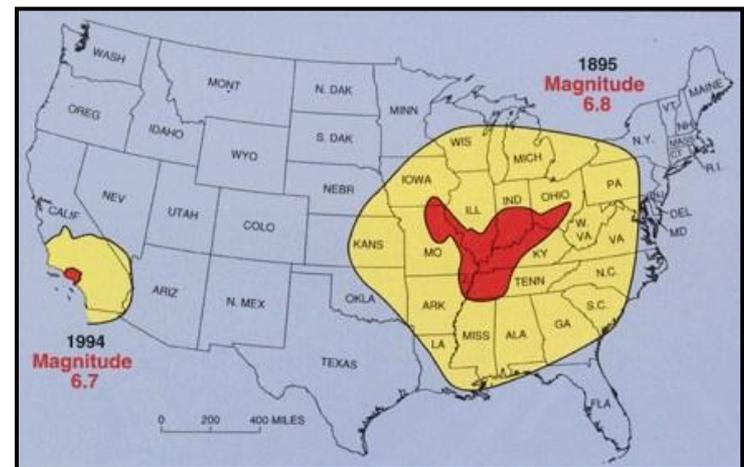
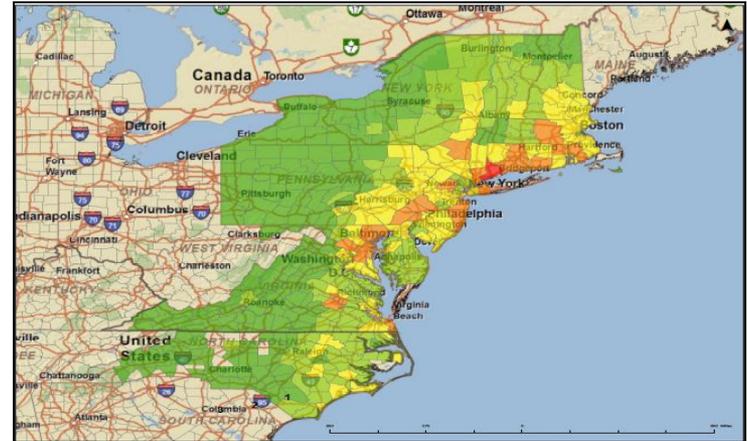
9/23/2008 - Customers Out: 0.62 Million



 **Total or Partial Outage**

Catastrophic Disaster Considerations

- Impact area
 - Millions of individuals impacted
 - 25,000 square miles
 - Several states / Multiple utilities
- 190,000 fatalities in initial hours
- 265,000 citizens require emergency medical attention
- Severe damage to critical infrastructure and key resources (ETR weeks to Months)
- Severe damage to essential transportation infrastructure
 - Ingress/egress options limited



Interdependencies Cont.



Interdependencies-related Impacts

- **Electric power disrupted**
- **Water supply cut**
- **Natural gas processing shut-in**
- **Waterborne deliveries halted**
- **Cell phone towers inoperable**
- **Radio stations offline**
- **Airport closures – Passenger & Freight**
- **Helicopters grounded**
- **Port interruptions**
- **Oil Refineries/Chemical plants inoperable**
- **Nuclear plant shut-down**

URL: <http://www.oe.netl.doe.gov/docs/HurricaneComp0508r2.pdf>

<http://www.cimap.vt.edu/2DOC/ALA%20Lifeline%20Report%20Final%20Draft%20030606.pdf>

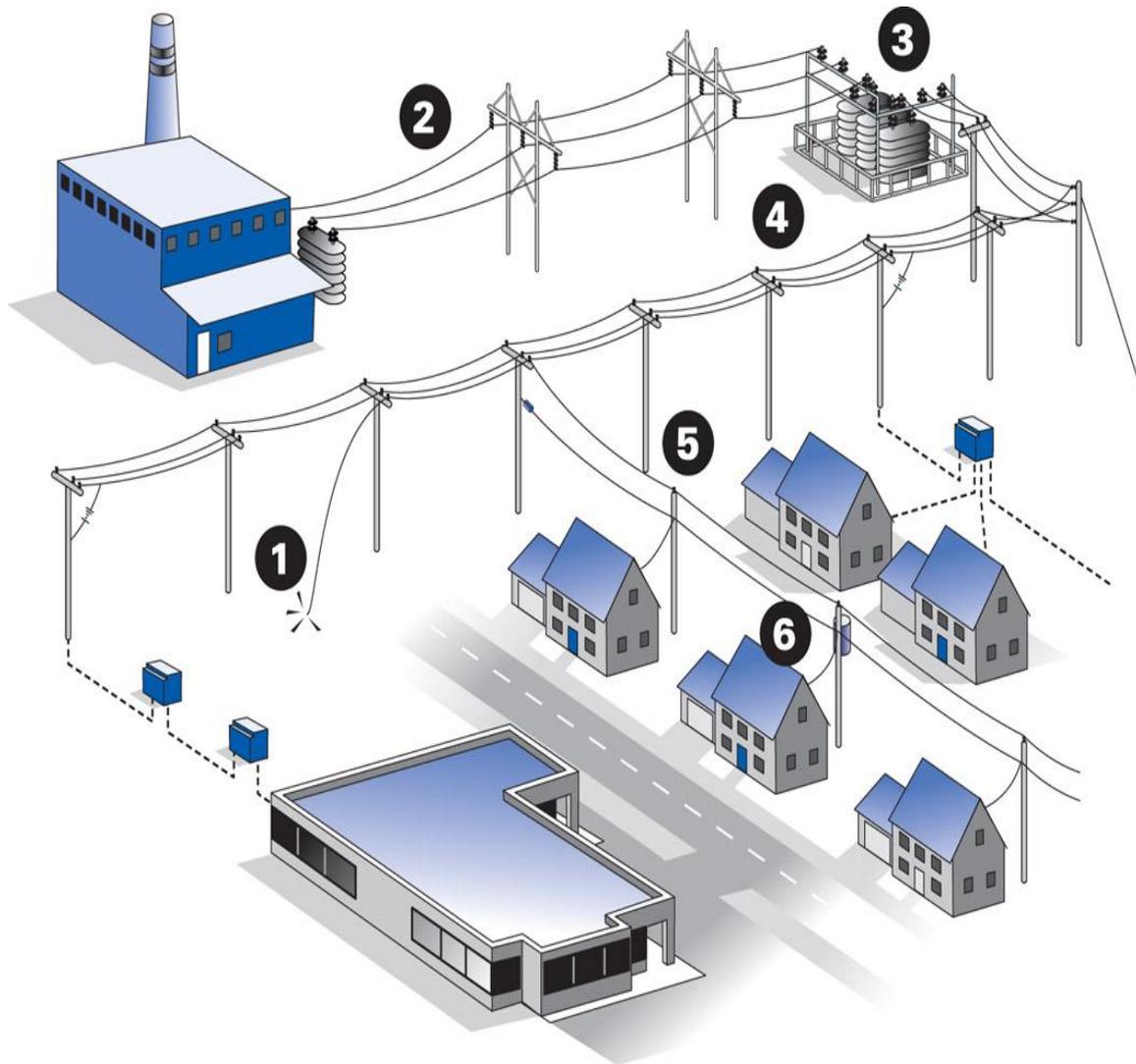
Power Restoration Process and Priorities



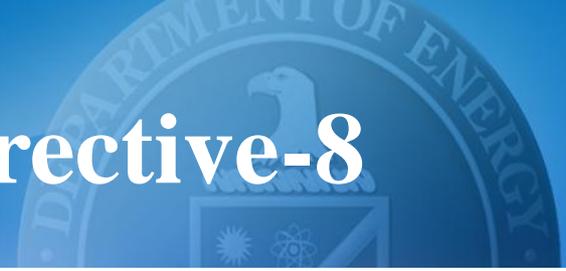
In the event our system is damaged by severe weather, our company repairs facilities/equipment which will restore the largest numbers of customers first.

Generally, the sequence is as follows:

1. Hazards - downed live wires or potentially life-threatening situations and public health and safety facilities without power
2. Transmission lines serving thousands of customers
3. Substations
4. Main distribution lines serving large numbers of customers
5. Secondary lines serving neighborhoods
6. Service lines to individual homes and businesses



Presidential Policy Directive-8



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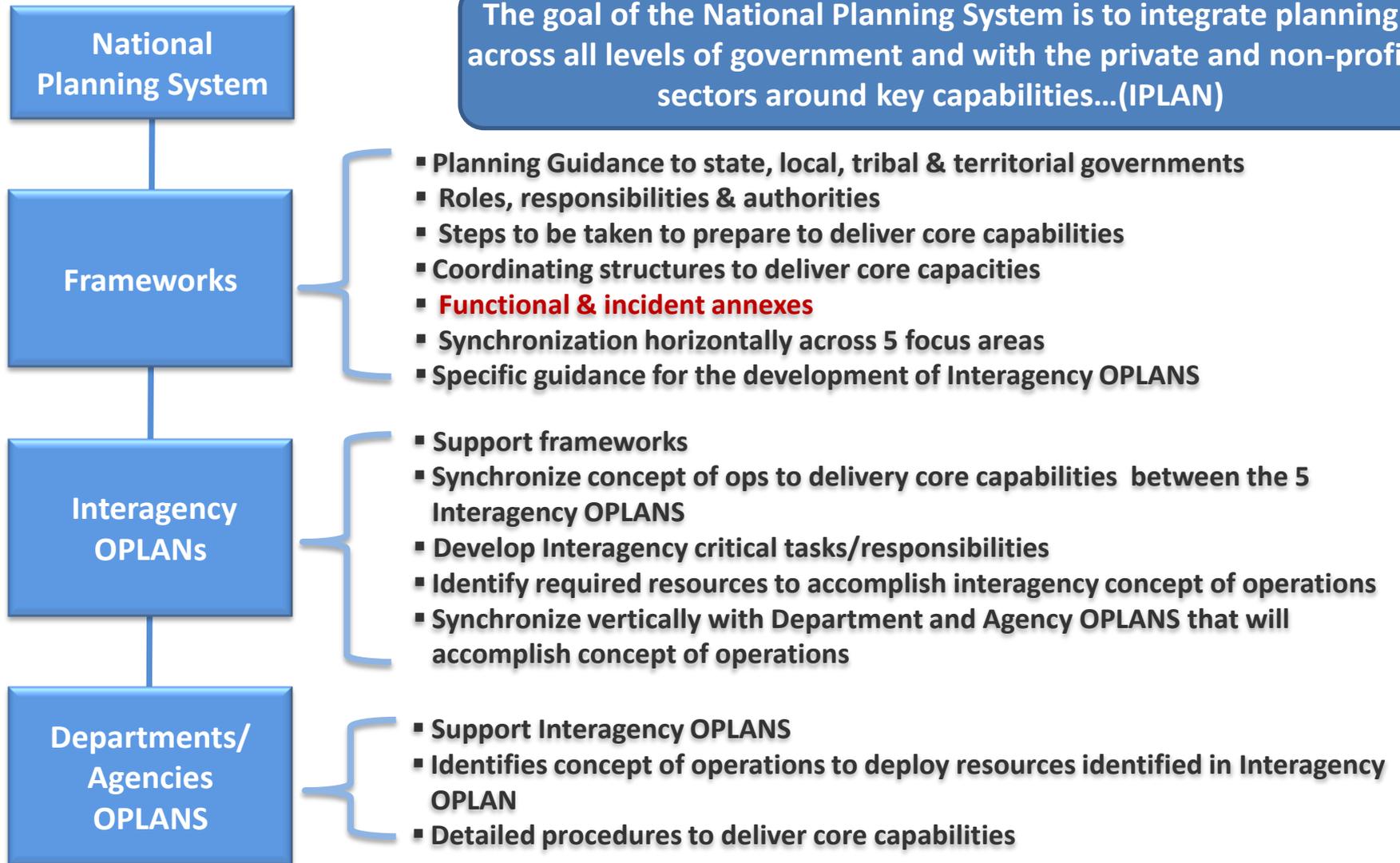
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- **Preparedness Goal:** Designed to prepare the Nation for the risks that will severely tax our collective capabilities and resources. Combines all 5 Mission Areas (MAs). **It is the cornerstone of implementation of PPD-8.**
- **Preparedness System:** Describes and organizes an integrated set of guidance, programs, and processes to enable the Nation to meet the Goal. **Combines all 5 MAs.**
- **National Preparedness Report:** Provides a summary of the progress being made toward building, sustaining, and delivering the core capabilities described in the Goal. **Combines all 5 MAs.**
- **National Frameworks:** Addresses the roles and responsibilities across the whole of community to deliver the core capabilities.
- **Federal Interagency Operational Plans:** Addresses the critical tasks, responsibilities, and resourcing, personnel, and sourcing requirements for the core capabilities.
- **Campaign to Build and Sustain Preparedness:** Provides an integrating structure for new and existing community-based, nonprofit, and private sector preparedness programs, R&D activities, and preparedness assistance.

National Planning System



The goal of the National Planning System is to integrate planning across all levels of government and with the private and non-profit sectors around key capabilities...(IPLAN)



National Response Framework

National Response Framework

**Incident Annexes
(Doctrine/Strategy)**

**Interagency Operational Plan
RESPONSE**

**Emergency Support Function Annexes
(Concept of Operations)**

**Incident Annexes
(Concept of Operations)**

PPD 8 Key Terms to Remember

The seal of the Department of Energy is visible in the top right corner of the slide. It features an eagle with wings spread, perched atop a shield. The shield contains a sun, a lightning bolt, and a gear. The words "DEPARTMENT OF ENERGY" are inscribed around the perimeter of the seal.

- **Whole Community**
- **Core Capabilities**
- **Cross Cutting Capabilities**
- **Response Core Capabilities**
- **Support and Incident Annexes**
- **Department Operational Plans**

Core Capabilities



National Preparedness Goal core capabilities will be incorporated into the NRF.

Prevention	Protection	Mitigation	Response	Recovery
Planning				
Public Information and Warning				
Operational Coordination				
Forensics and Attribution Intelligence and Information Sharing Interdiction and Disruption Screening, Search, and Detection	Access Control and Identity Verification Cybersecurity Intelligence and Information Sharing Interdiction and Disruption Physical Protective Measures Risk Management for Protection Programs and Activities Screening, Search, and Detection Supply Chain Integrity and Security	Community Resilience Long-term Vulnerability Reduction Risk and Disaster Resilience Assessment Threats and Hazard Identification	Critical Transportation Environmental Response/Health and Safety Fatality Management Services Infrastructure Systems Mass Care Services Mass Search and Rescue Operations On-scene Security and Protection Operational Communications Public and Private Services and Resources Public Health and Medical Services Situational Assessment	Economic Recovery Health and Social Services Housing Infrastructure Systems Natural and Cultural Resources

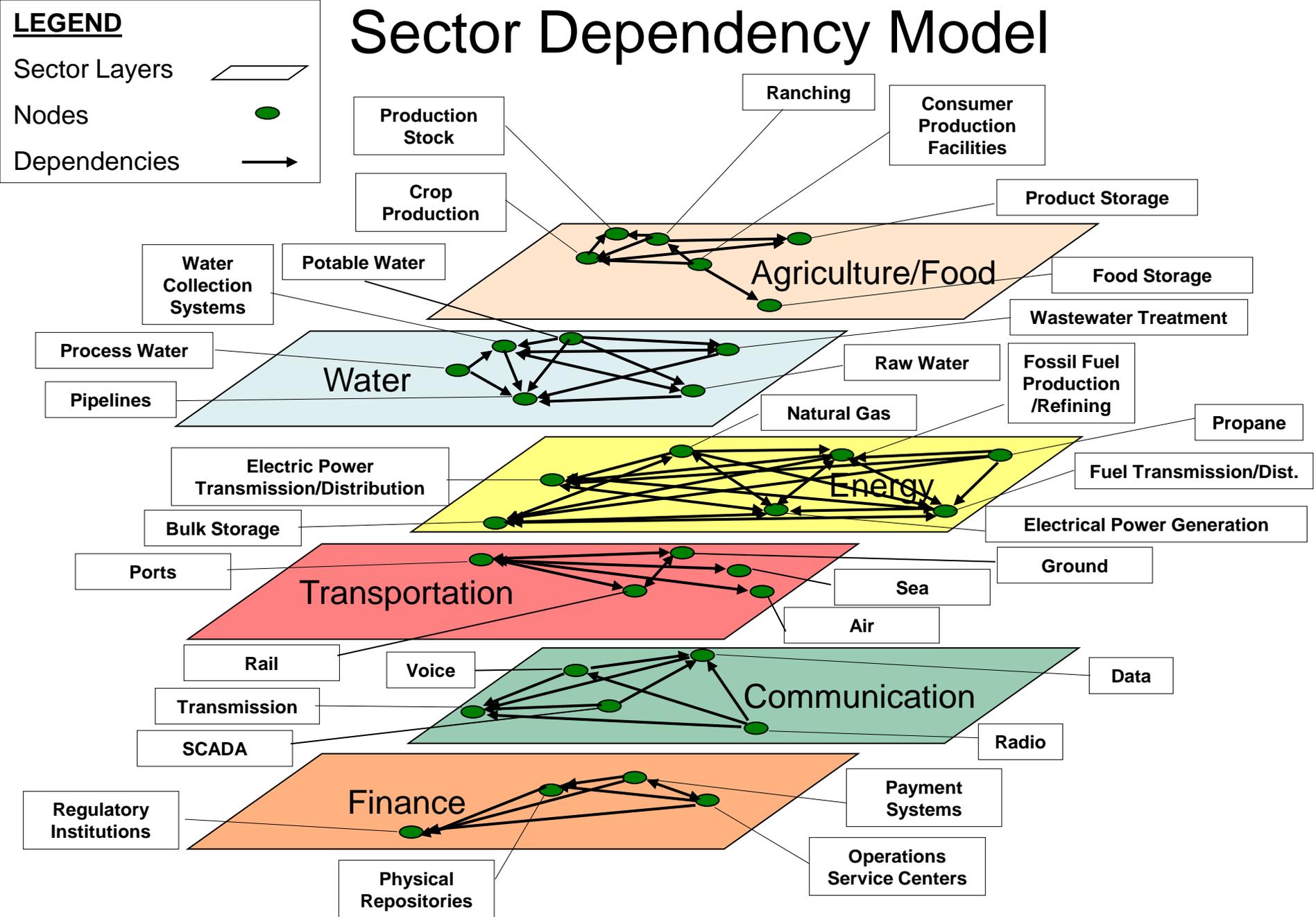
Questions



Anthony.lucas@hq.doe.gov



Sector Dependency Model



Interdependency Model

