



# The Increasing Importance of Emergency Management in Industry

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*10<sup>th</sup> Annual E-Plan Users Group Conference*

*Ritz Carlton Naples Beach Resort*

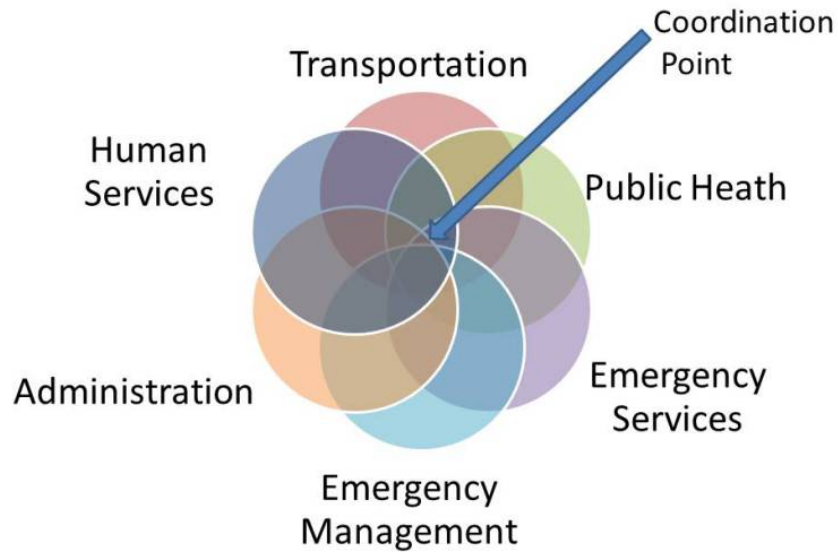
*October 2018*

# Objectives

- *Define and differentiate the meaning of: Critical Infrastructure, Critical Lifelines & Critical Facilities.*
- *Identify threats of most concern to electric, water, gas, and waste water infrastructures, and potential consequence impacts to each*
- *Identify critical infrastructure and all hazard incident management*



# A World of . . . Systems



# A World of . . . Reliance



# Critical Infrastructure, Lifelines, and facilities

*\*Critical Infrastructure are systems and assets, whether physical or virtual, so vital that the incapacity or destruction of such systems and assets would have a debilitating impact on security, economy, public health or safety.*

Adapted from [http://www.floridadisaster.org/GIS/critical\\_facilities/index.htm](http://www.floridadisaster.org/GIS/critical_facilities/index.htm)

*\*Critical Lifelines are services of critical systems and facilities that are vital to the function of a community and important to the emergency response to and recovery from disasters.*

Adapted from: [http://mceer.buffalo.edu/infoservice/reference\\_services/lifelines.asp](http://mceer.buffalo.edu/infoservice/reference_services/lifelines.asp)



# Critical Infrastructure, Lifelines, and facilities

*\*Critical Facilities are structures from which essential critical lifelines and services and functions for victim survival, continuation of public safety actions, and disaster recovery are performed or provided.*

Adapted from <http://www.floridadisaster.org/GIS/criticalfacilities/index.htm>



# Critical Infrastructure, Lifelines, and facilities

- *Electrical Grid* – the interconnected network for generation, transmission of, and distribution of electricity to individual customers.
- *Drinking Water Systems* – Local or regional systems providing source and treated water for human consumption
- *Natural Gas Systems* – the interconnected network for gathering, transmission of, and distribution of natural gas to individual customers
- *Wastewater Systems* – Local or regional systems to process waste water into effluent



# Critical Priorities

**#1: Life Safety**

**#2: Incident Stabilization**

**#3: Property Conservation / Environmental Protection**

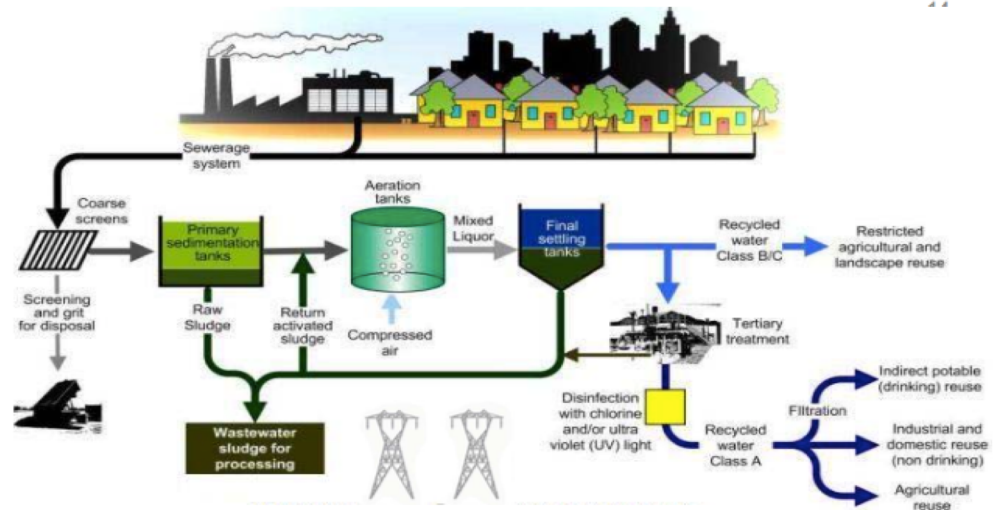
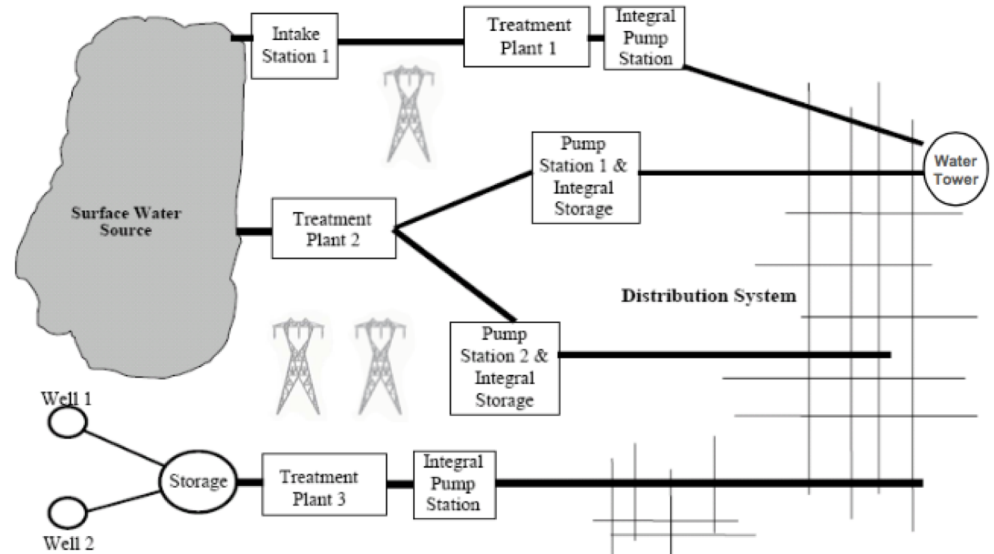
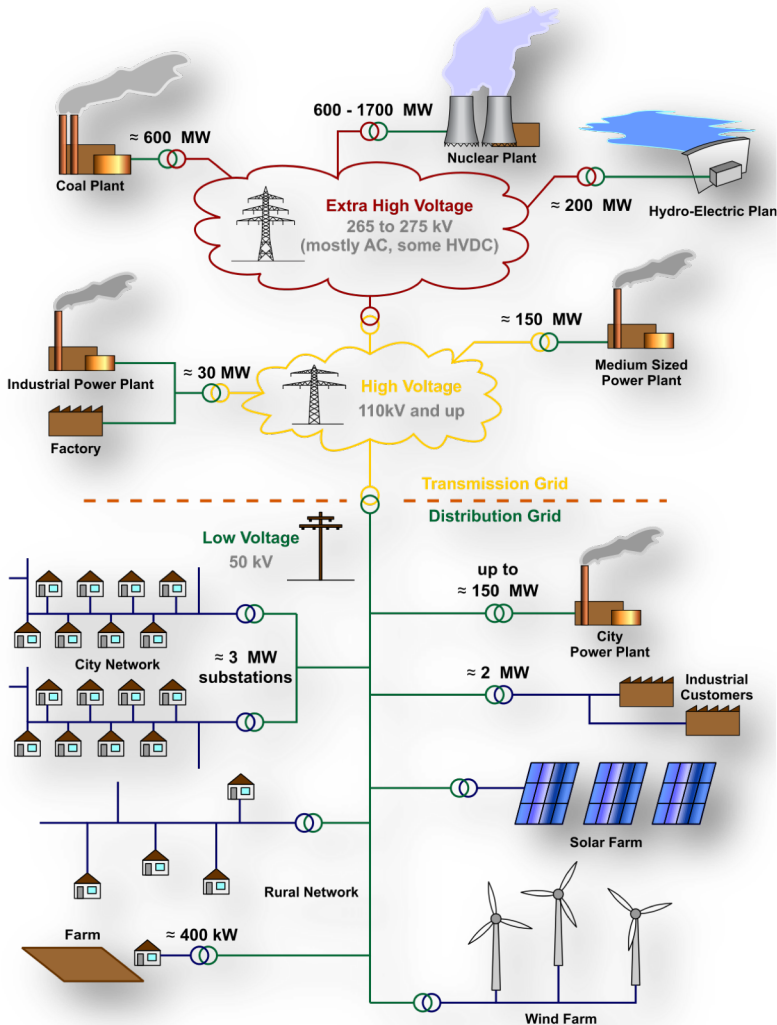
**#4: Restoration of Commerce**

- System Restart / Service Restoration (Lifelines)**
- Business Continuity**
- Brand / Reputation Protection / Wall Street**
- Regulatory Compliance**
- Governmental Oversight**





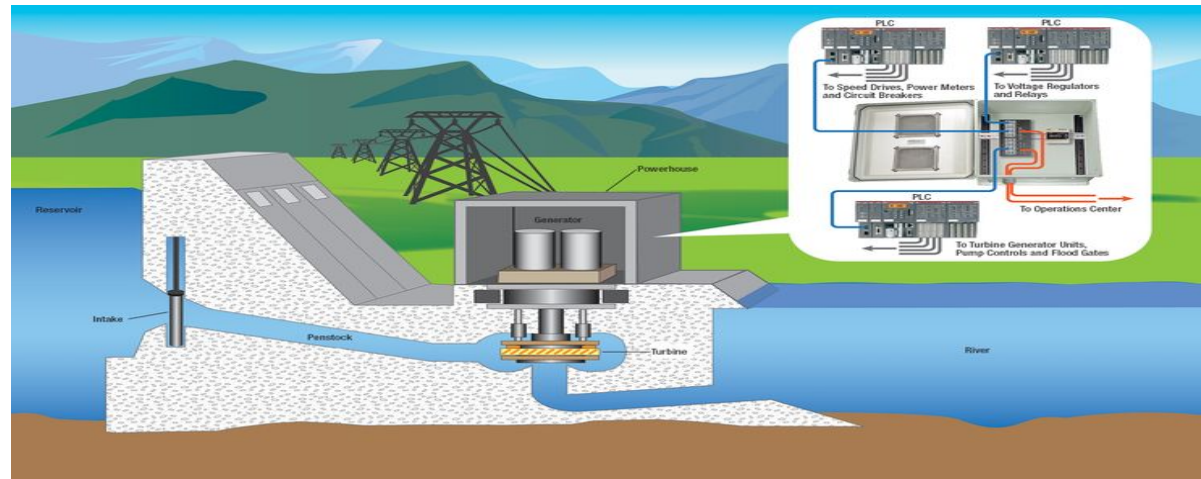
# Systems Under Threat...



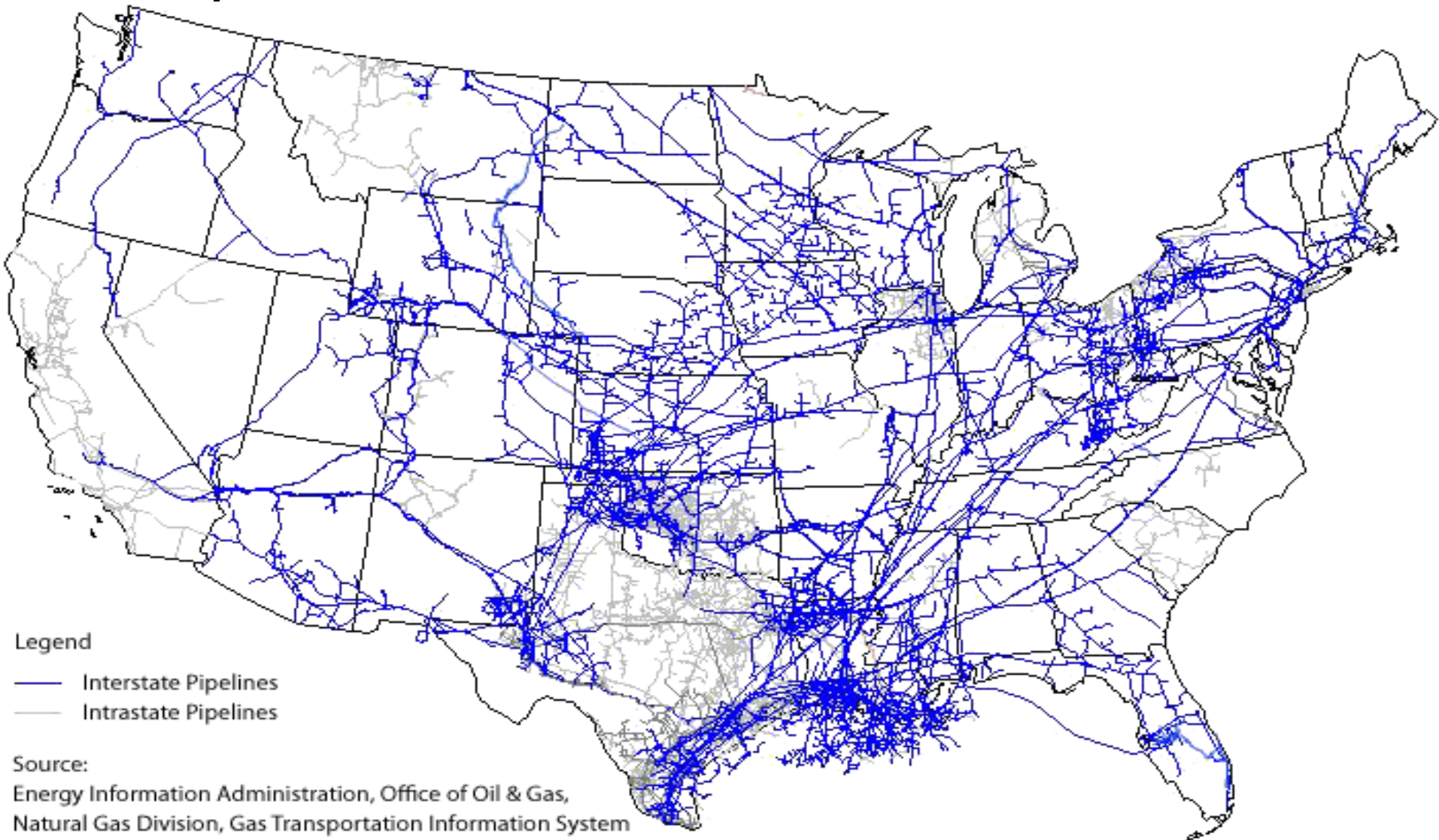
# Systems Under Threat. . .



- Natural Gas Systems
- Dam Systems
- Critical Facilities
- Hazardous Facilities



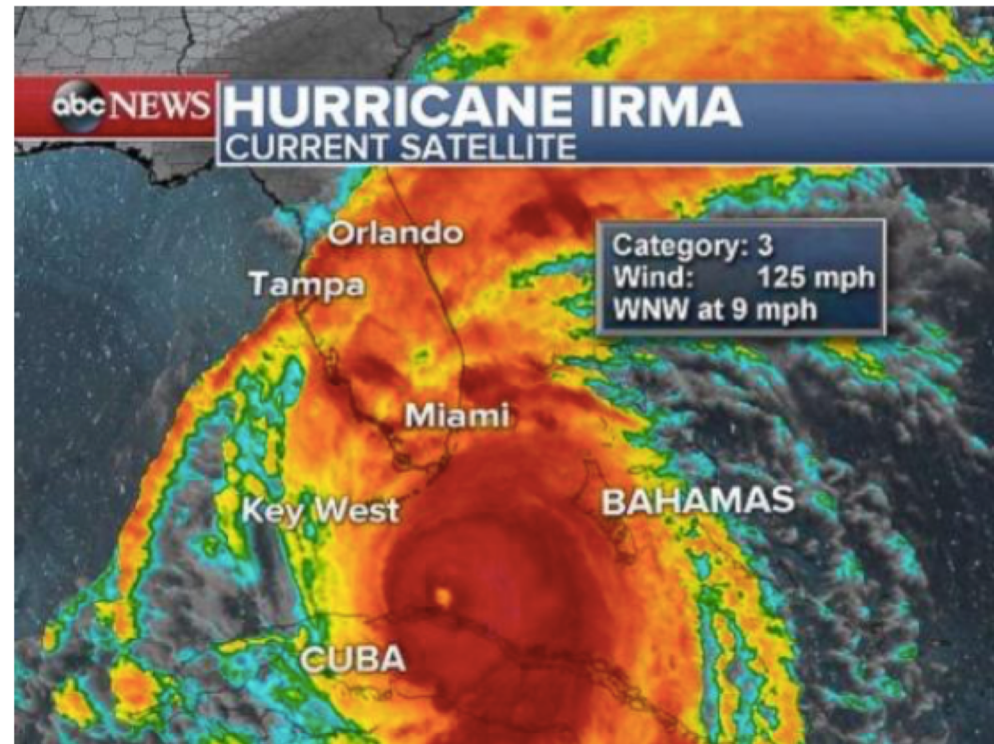
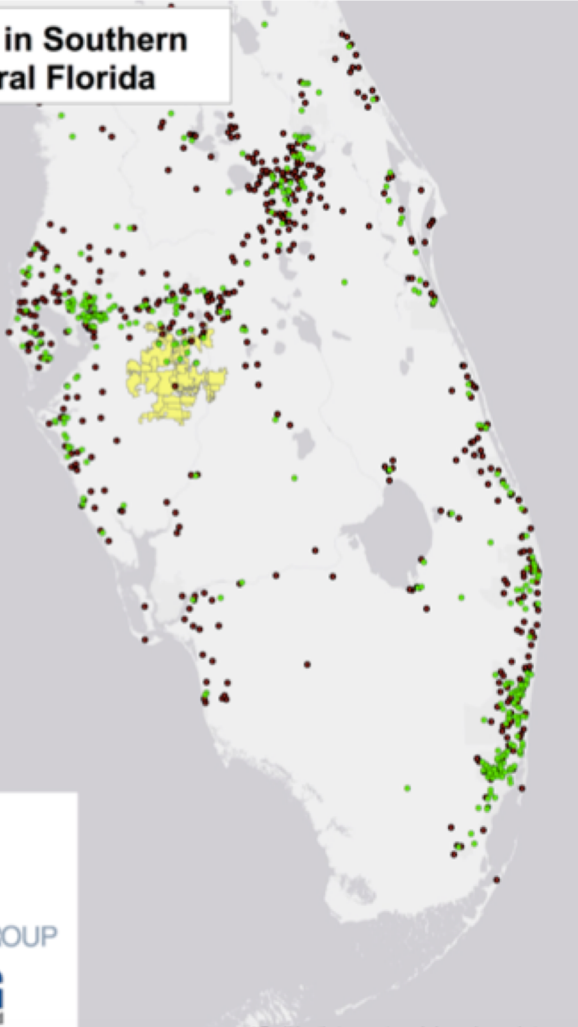
# Systems Under Threat. . .



# Systems Under Threat. . .

## Sites in Southern and Central Florida

- Superfund Sites
- Hazardous Facilities\*
- Phosphate Mines



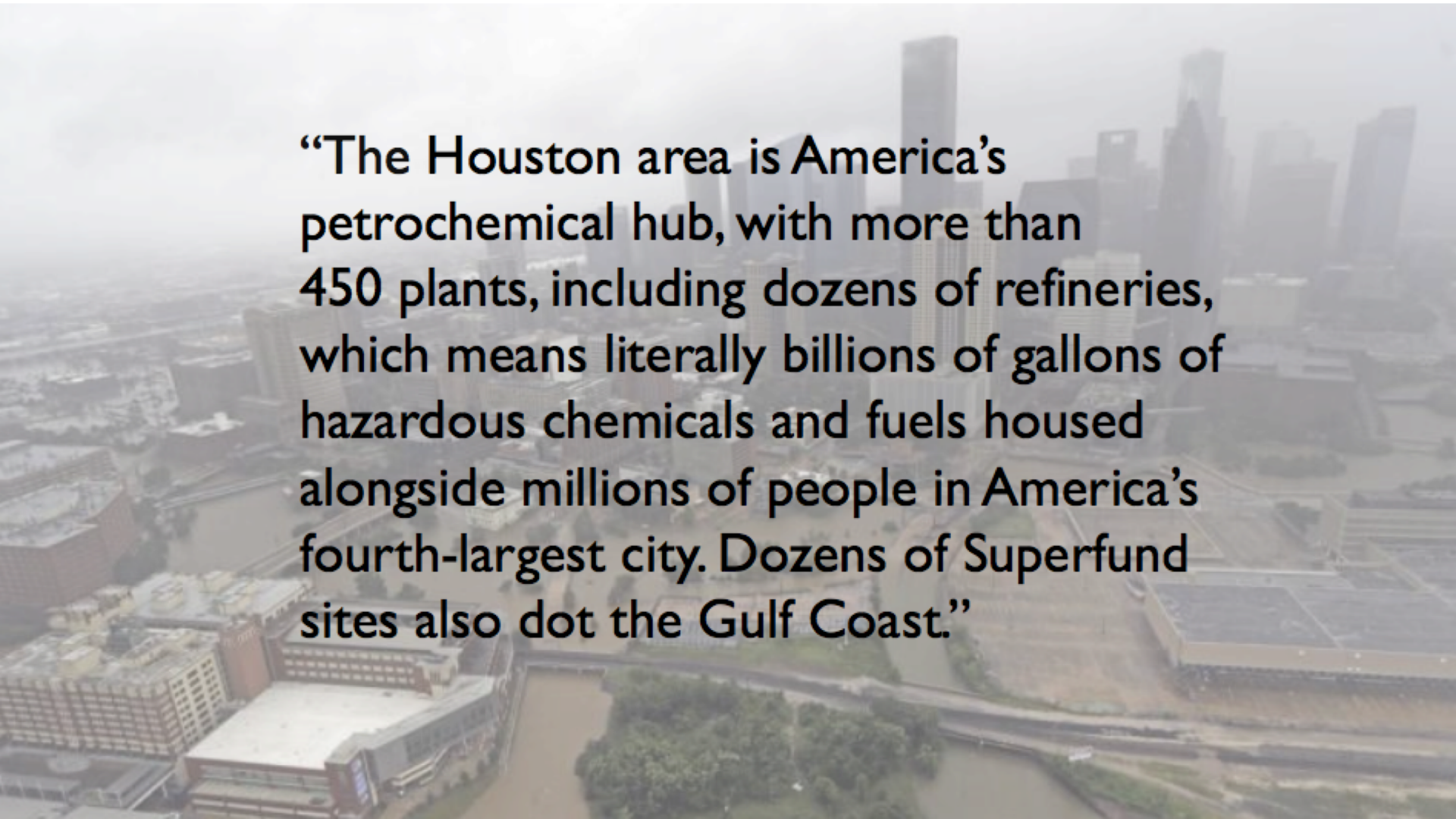
\* Facilities that use extremely hazardous substances and must submit Risk Management Plans to EPA

# Systems Under Threat. . .





# Systems Under Threat. . .



“The Houston area is America’s petrochemical hub, with more than 450 plants, including dozens of refineries, which means literally billions of gallons of hazardous chemicals and fuels housed alongside millions of people in America’s fourth-largest city. Dozens of Superfund sites also dot the Gulf Coast.”

# Harvey Swept Hazardous Mercury Ashore. The Mystery: Its Source.

By JACK HEALY and SHEILA KAPLAN SEPT. 6, 2017

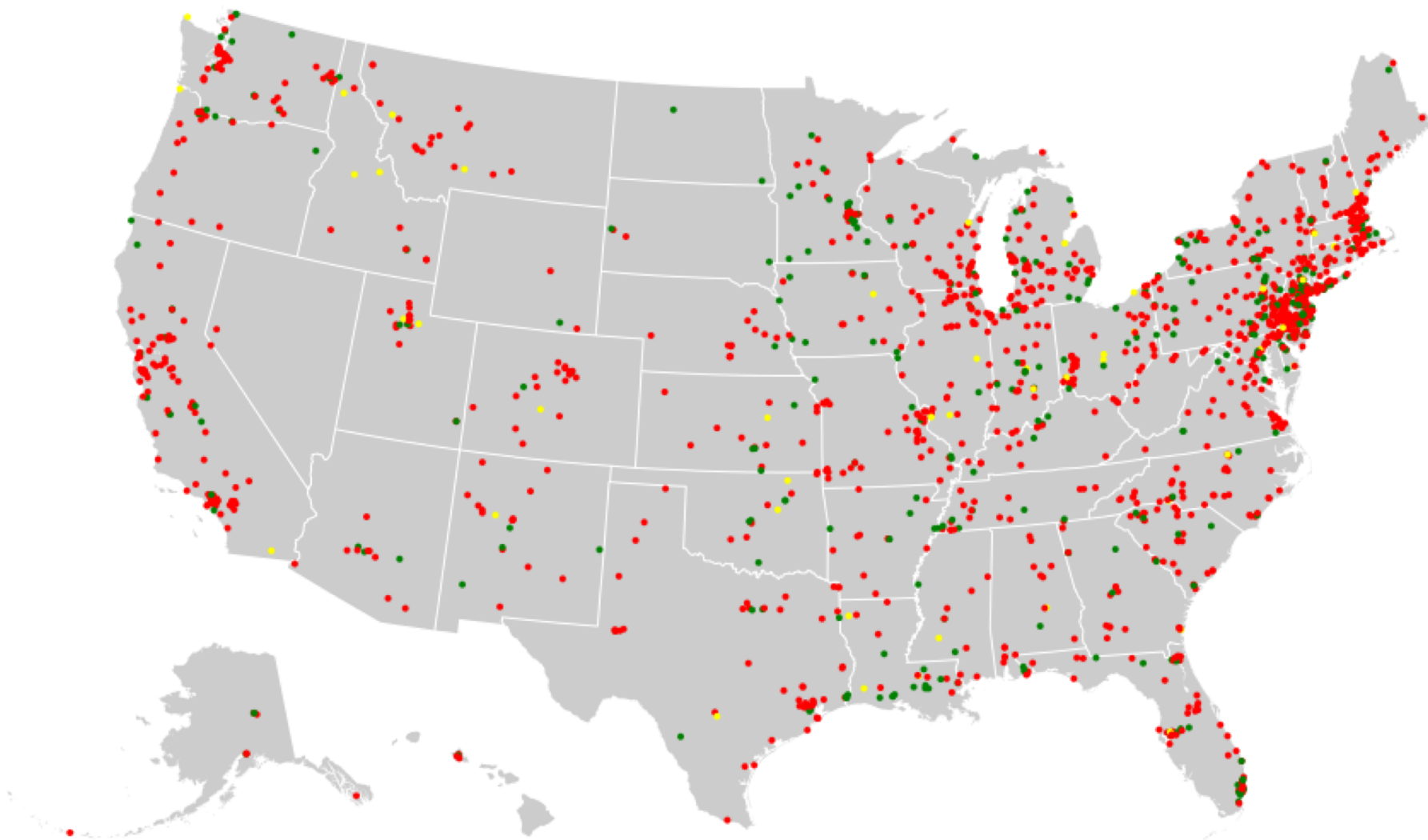


On his property, mercury was found.

“Nobody should pick this up.”

“We need our agencies to act immediately on this finding . . . . We have no idea where these floodwaters could have carried these contaminants from and I fear that more residents could come in contact with it unknowingly.”

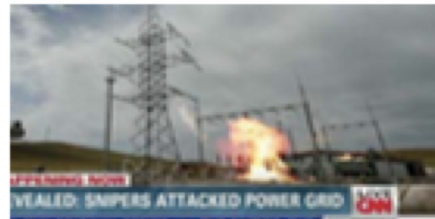
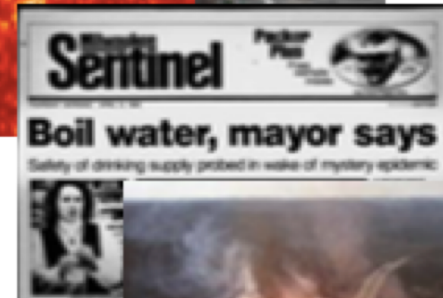
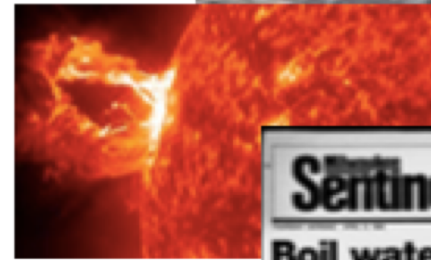
# Systems Under Threat. . .





# All-Hazards Threats

- Geologic
- Meteorological / Wildfires
- Geomagnetic storm
- Biological
- Accidents / Neglect
- Physical Attacks
  - Domestic
  - Foreign
- Cyber Attacks
  - Domestic
  - Foreign



# Systems Under Threat. . .



# Reoccurring Issues for Critical Infrastructure Incidents and Events

- **Too many people reporting to one supervisor**
- **Different emergency organizational structures within (from normal day-to-day) and between organizations**
- **Lack of reliable incident information**
- **Inadequate and incompatible communications**
- **Lack of structure for coordinated planning among in-house groups**
- **Unclear lines of authority**
- **Terminology differences among in-house groups and outside agencies**
- **Unclear or unspecified incident objectives**

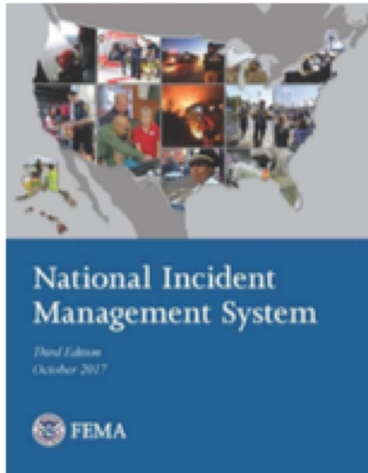


# Bridging the Gap

- **Life Safety**
- **Damage Assessment**
- **Restart**
- **Critical Facilities Restoration**
- **Bulk Customer Restoration**
- **Remaining Customers**
- **Estimated Time of Restoration (ETR)**
- **Communications / Messaging**
- **Regulatory / Political**
- **Wall Street**



# Bridging the Gap



**Resource Management**

**Command and Management**

**Communications and Information Management**

**Utility-specific Incident Management Teams**

**Multi-operating companies Coordination Systems**

**Communications & Public Information**



# Bridging the Gap

## Project Management:

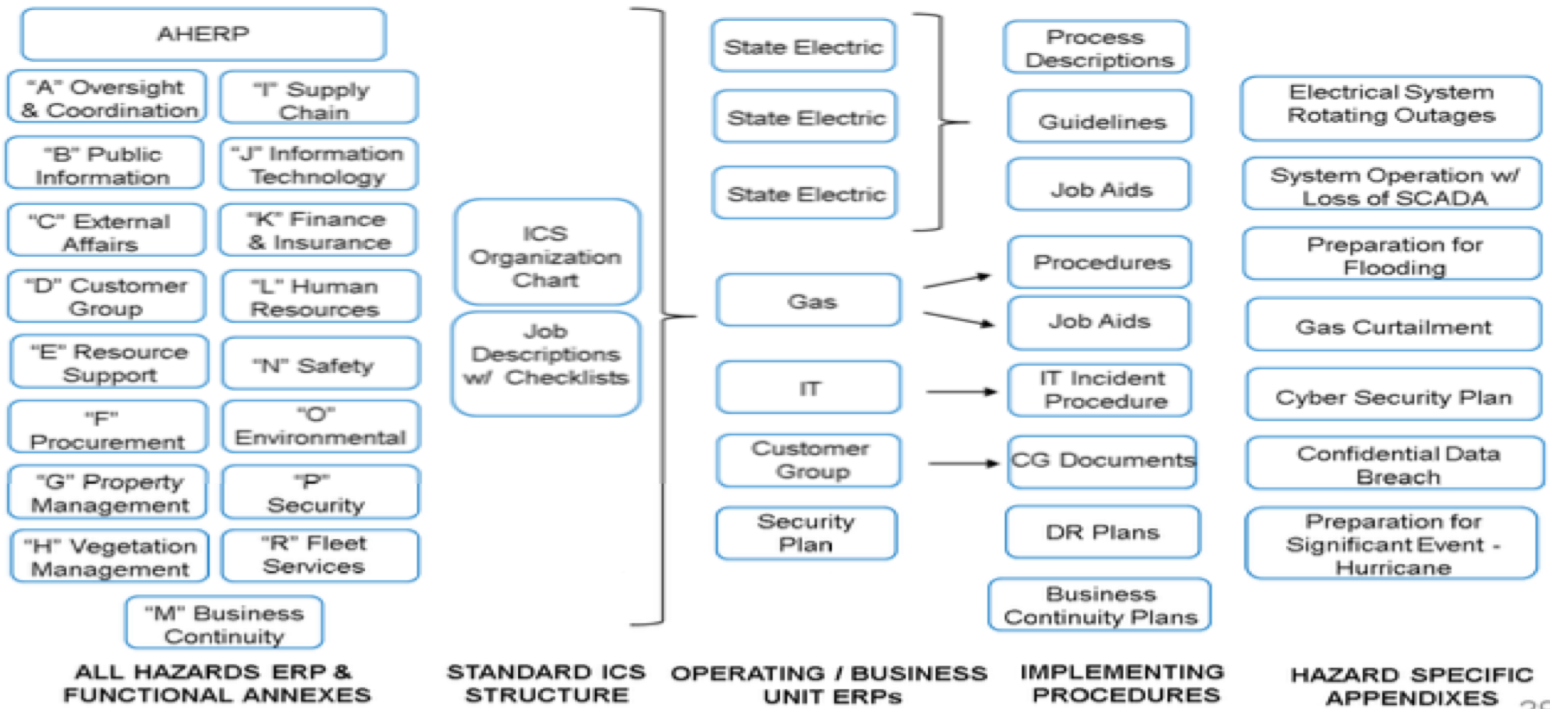
- Initiating
- Planning
- Executing
- Monitoring and Controlling
- Closing

## Incident Management:

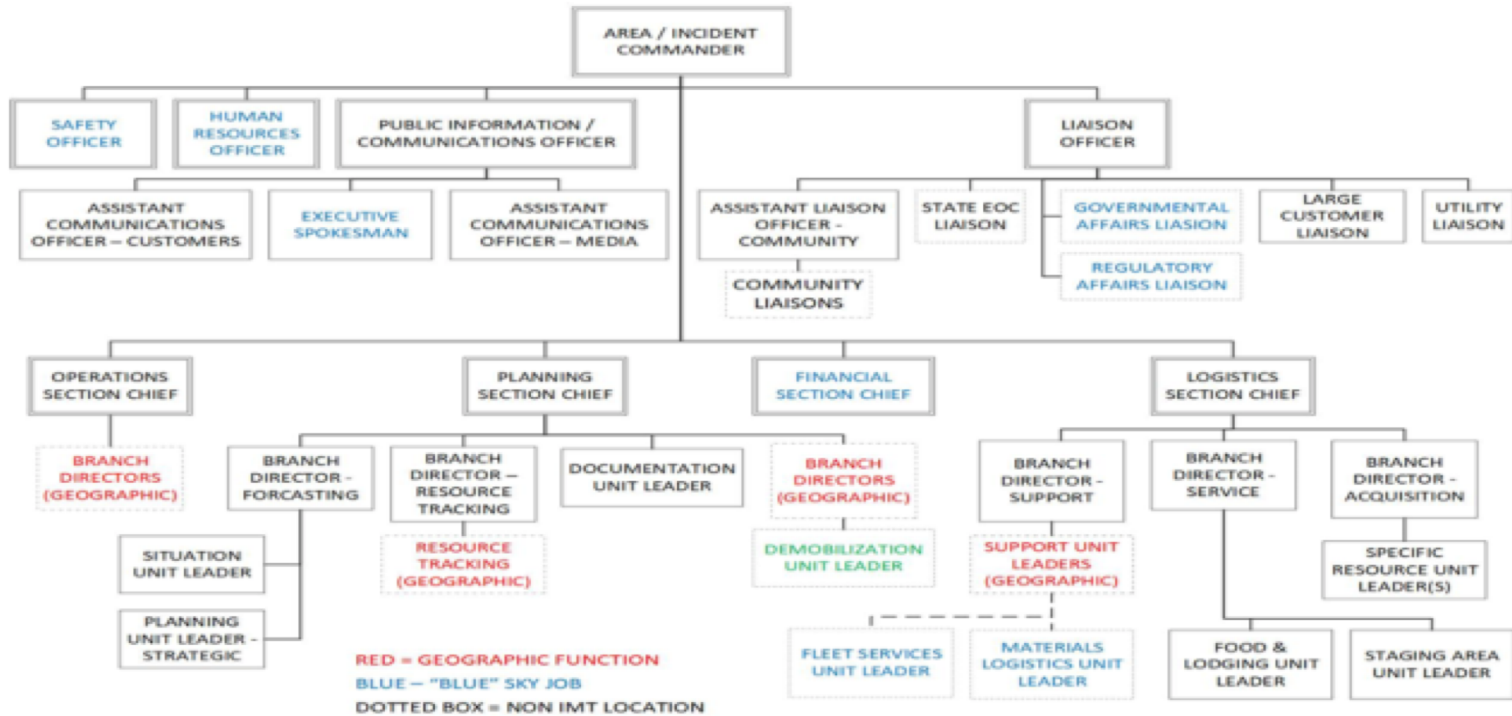
- Size-up & Initial Actions
- Incident Action Planning
- Execute, Evaluate, & Revise Plan
- Situational Awareness
- Demobilization and Closeout



# Industry in All-Hazards Planning

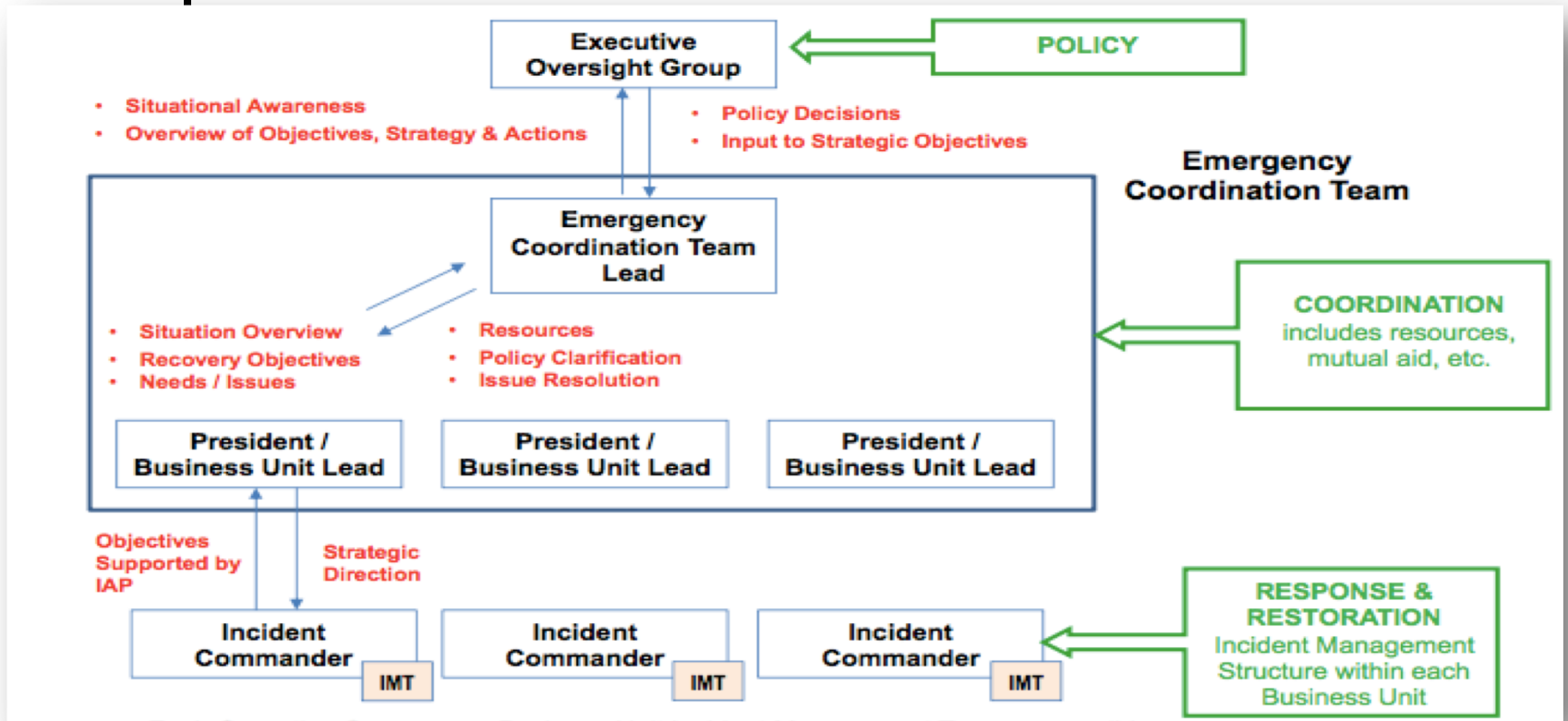


# Standardization - NQS and Critical Infrastructure IMT





# Systems Under Threat . . .

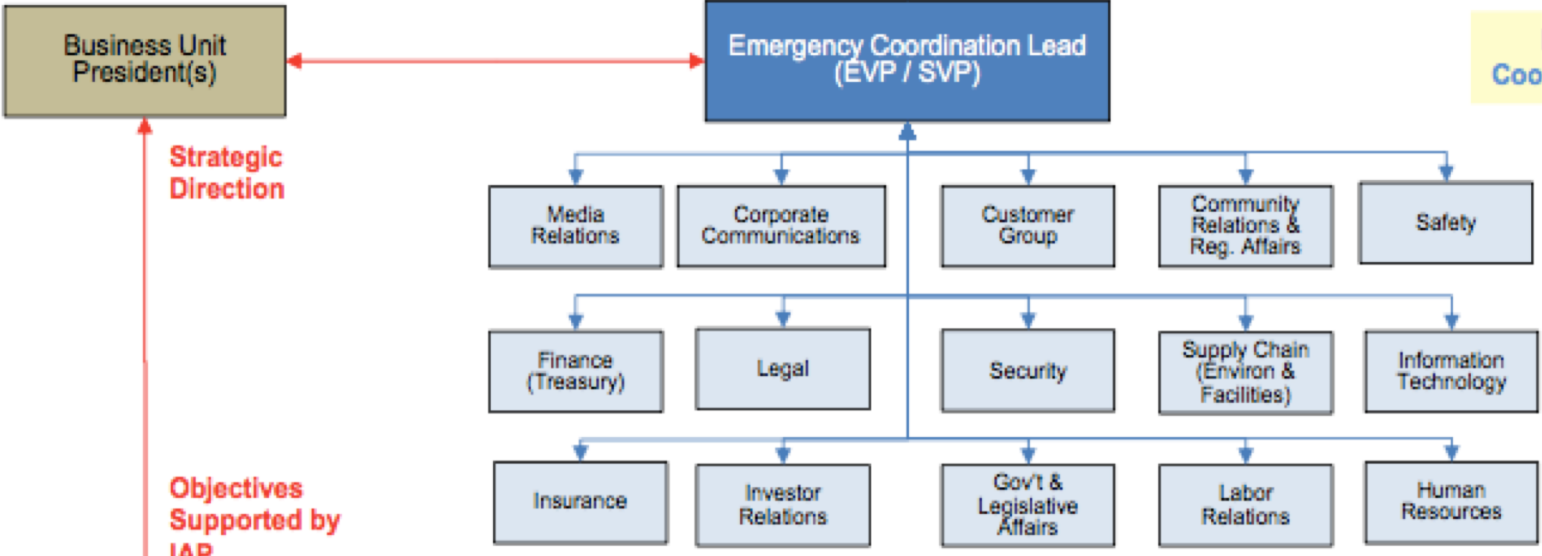


**Chief Executive Officer**

**Executive Oversight Group**

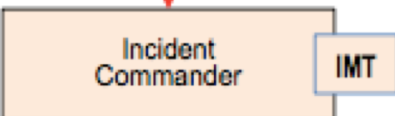


**Emergency Coordination Team**



**Strategic Direction**

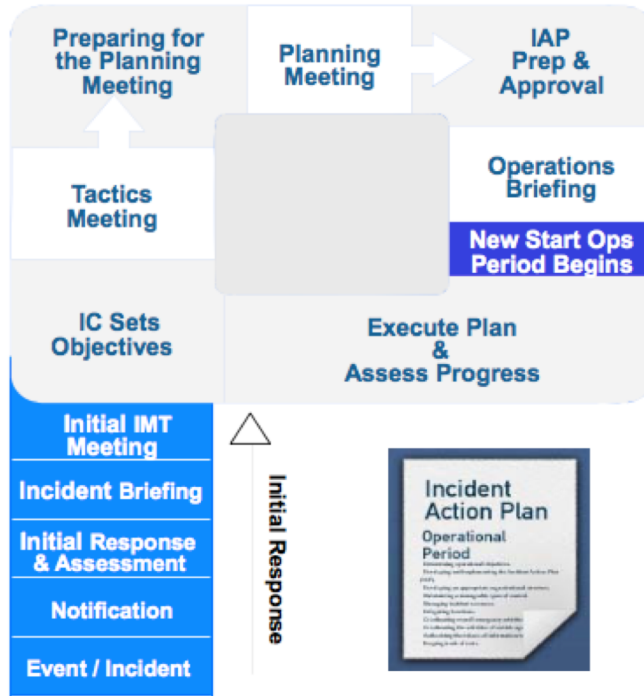
**Objectives Supported by IAP**



**Business Unit**



# Industry Incident Action Planning

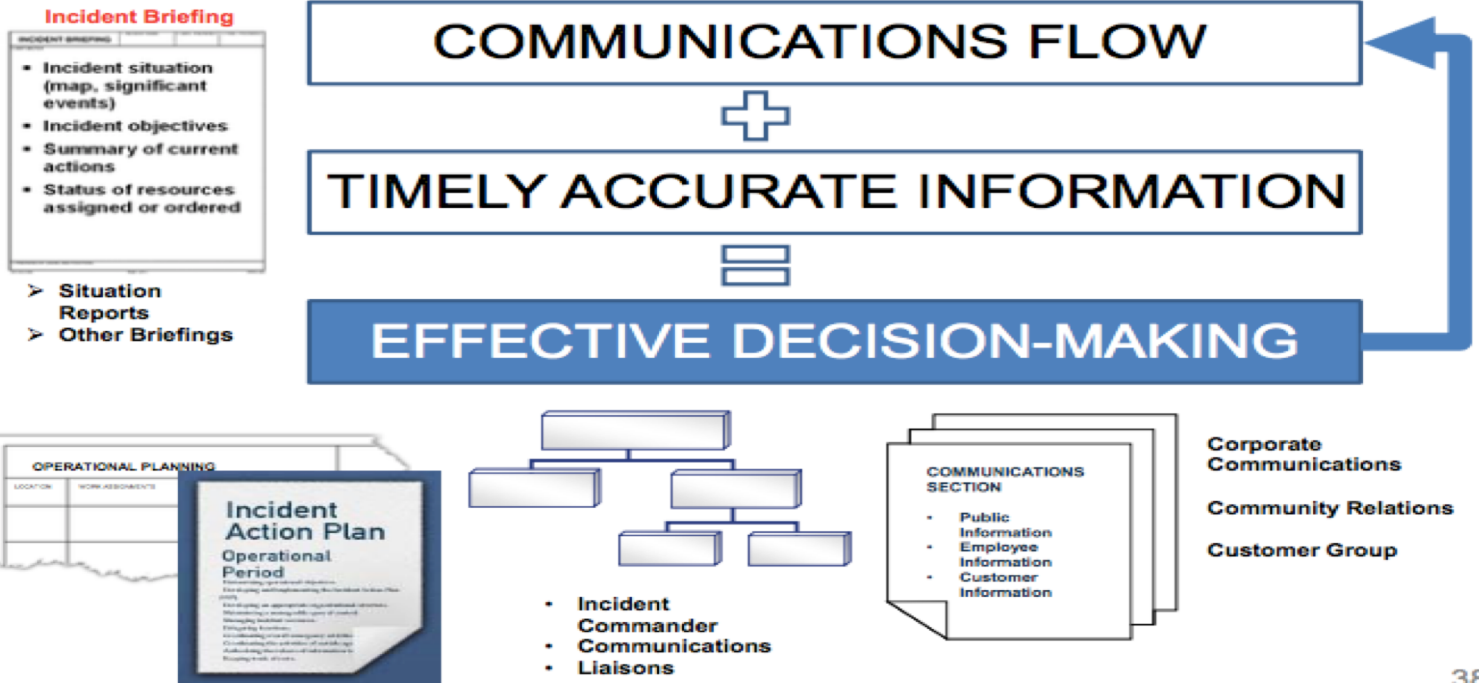


Most Efficient Work Breakdown (based on Resources Available)

- Priorities (Life Safety)
- Customer Impact
- Geographic Area
- Work Stream or Resource Groups

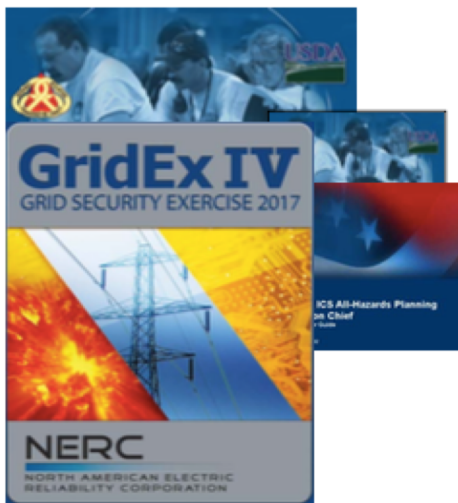


# Industry Planning Results



# The Final Bridge to Unity of Effort – Training and Exercise

Incident Command System  
Training for Electrical Utilities



- E-Learning Module - Anyone with emergency event role (Customized)
- Classroom – Supervisors\* & Above (Customized)
- Command & General Staff (Customized)
- Position Specific (Customized)
- Exercise – Exercise - Exercise



# Conclusion

Analyzing Past and Present Practice:

+Time

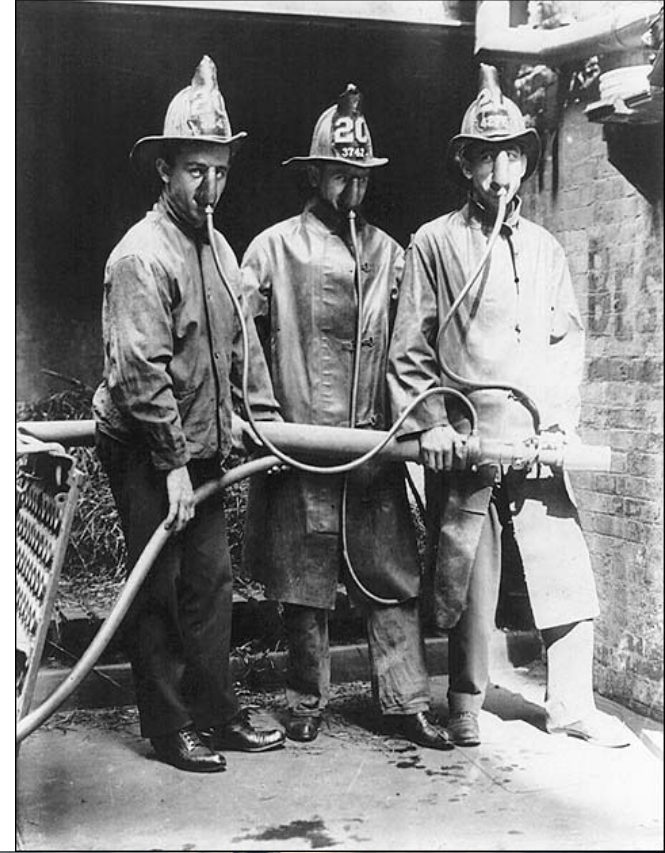
+Technology

+Experiences

+Expectations

+Relationships

= Future Success



A night photograph of a city skyline with a bright lightning bolt striking the sky. The city lights are visible at the bottom, and the lightning bolt is a prominent vertical streak of light in the center. The sky is dark, and the lightning bolt is surrounded by smaller, branching bolts.

Questions?

Thank  
you!

Jesse P. Spearo, PhD,  
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