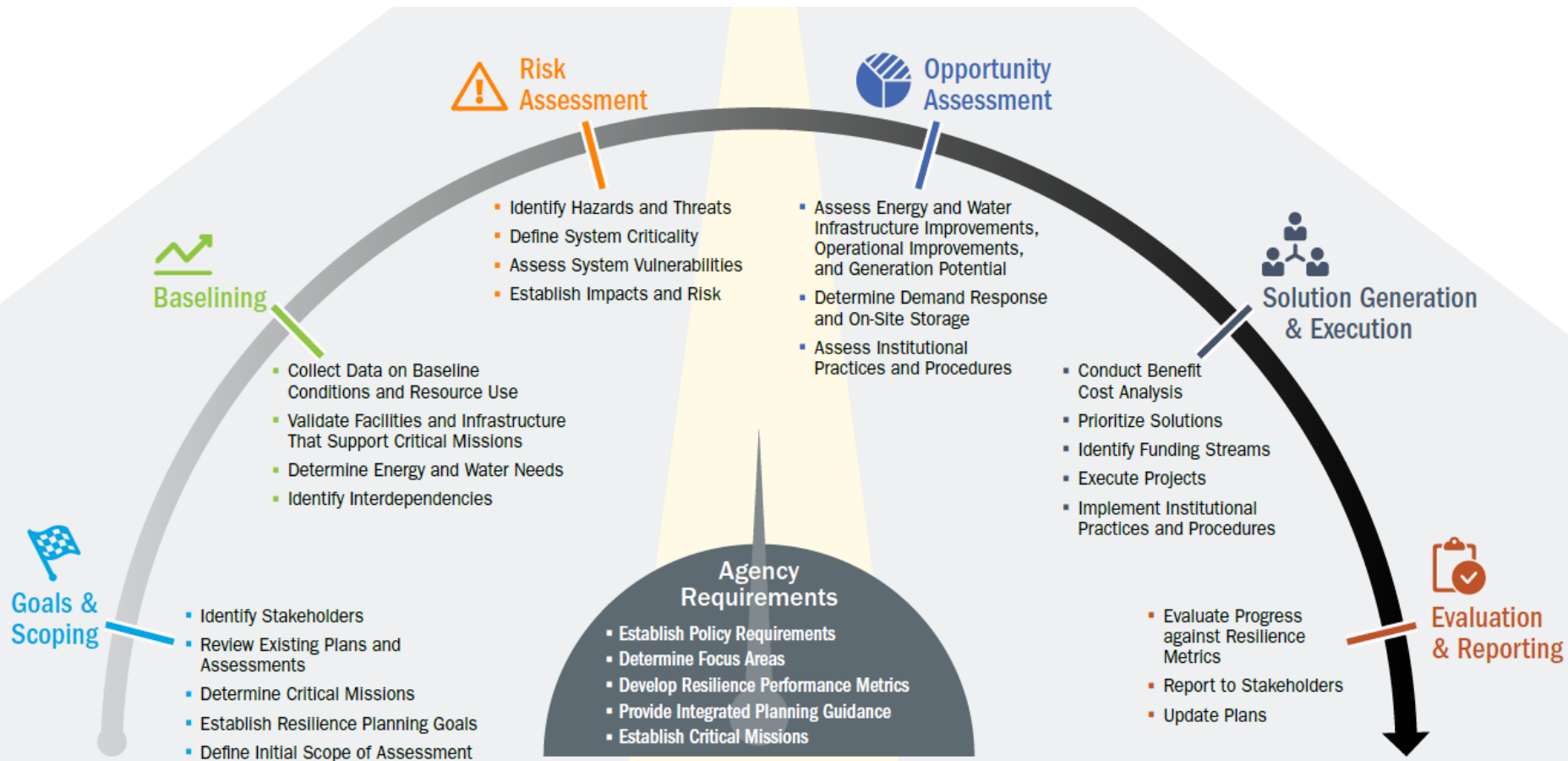# Introduction to DHS Resilience Framework:

Partnering with other agencies
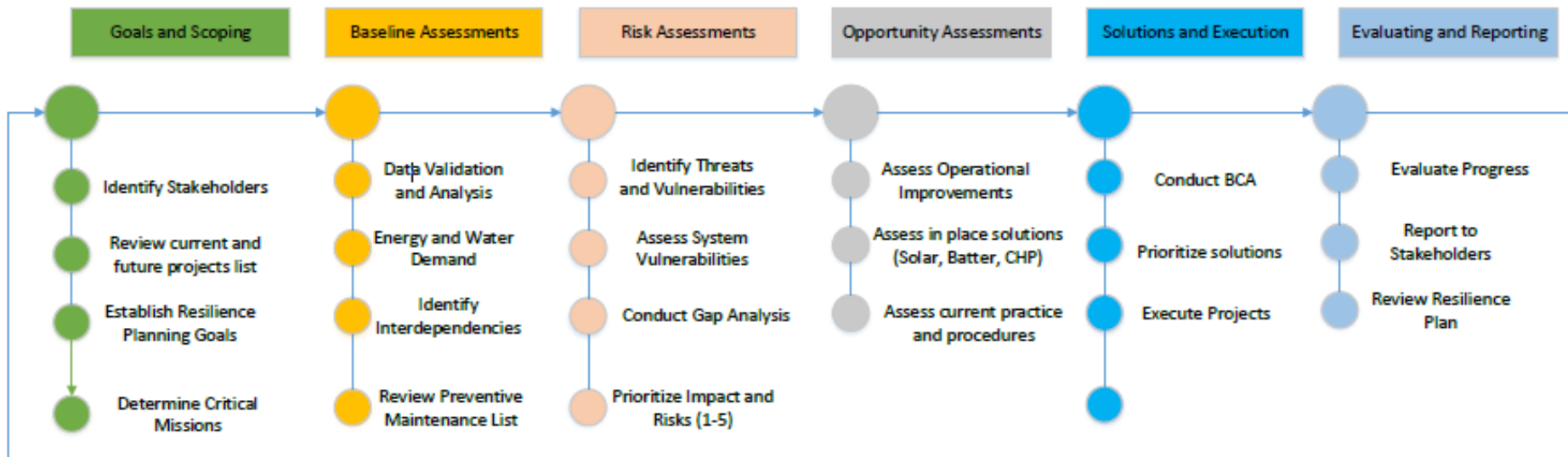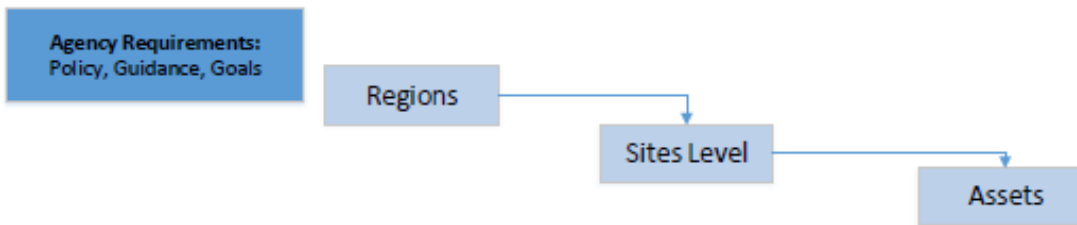
Sandrine Schultz – FEMP Resilience Team

A Strategic Resilient Planning Map

Risk Assessment
- Identify Hazards and Threats
- Define System Criticality
- Assess System Vulnerabilities
- Establish Impacts and Risk

Opportunity Assessment
- Assess Energy and Water Infrastructure Improvements, Operational Improvements, and Generation Potential
- Determine Demand Response and On-Site Storage
- Assess Institutional Practices and Procedures

Baselining
- Collect Data on Baseline Conditions and Resource Use
- Validate Facilities and Infrastructure That Support Critical Missions
- Determine Energy and Water Needs
- Identify Interdependencies

Solution Generation & Execution
- Conduct Benefit Cost Analysis
- Prioritize Solutions
- Identify Funding Streams
- Execute Projects
- Implement Institutional Practices and Procedures

Goals & Scoping
- Identify Stakeholders
- Review Existing Plans and Assessments
- Determine Critical Missions
- Establish Resilience Planning Goals
- Define Initial Scope of Assessment

Agency Requirements
- Establish Policy Requirements
- Determine Focus Areas
- Develop Resilience Performance Metrics
- Provide Integrated Planning Guidance
- Establish Critical Missions

Evaluation & Reporting
- Evaluate Progress against Resilience Metrics
- Report to Stakeholders
- Update Plans

FEMP Resilience Planning Map (RPM) – A prioritized systematic approach to Resilience Planning

Agency Requirements: Policy, Guidance, Goals

Regions → Sites Level → Assets

Goals and Scoping	Baseline Assessments	Risk Assessments	Opportunity Assessments	Solutions and Execution	Evaluating and Reporting
Identify Stakeholders	Data Validation and Analysis	Identify Threats and Vulnerabilities	Assess Operational Improvements	Conduct BCA	Evaluate Progress
Review current and future projects list	Energy and Water Demand	Assess System Vulnerabilities	Assess in place solutions (Solar, Batter, CHP)	Prioritize solutions	Report to Stakeholders
Establish Resilience Planning Goals	Identify Interdependencies	Conduct Gap Analysis	Assess current practice and procedures	Execute Projects	Review Resilience Plan
Determine Critical Missions	Review Preventive Maintenance List	Prioritize Impact and Risks (1-5)			

metrics   Policy   Projects   BENCHMARKS   Training

- What is my agency's definition of resilience?
- What are my threats and vulnerabilities?
- Is resilience only applied to critical assets?
- Can my preventive maintenance list be funded under the Resilience program (prevention= resilience)
- Critical assets depend on day to day operations; domino effect (Kathleen's triangle)
- How do I engage with other managers and address interruption of their operations if mine goes down (interdependencies)
- Do they have solutions in place to ensure their operations are not interrupted if mine are?
- When and how do I engage with external stakeholders?
- I need to determine how long I can maintain operations in the event of an interruption?
- Do I include projects in current IPL for operations, energy or environment?

Access on the FEMP Portfolio Resilience Planning and Implementation web page

Arriving Soon !!!!

FEMP Partnerships

- **DHS Partnership – MOU Signed in February 18**
- **Achievements**
  - DHS Resilience Framework document sent to Exec Sec August 6th, 2018
  - Established resilience performance metrics and monitoring guidelines
  - In the process of identifying best practices for resilience technologies and solutions
    - USCG Portsmouth Virginia (FEMP and NREL)
    - FLETC Glynco Georgia   (FEMP and NREL)
    - NETC FEMA Maryland   (FEMP and NREL)
  - Providing associated technical support and engaging with selected DHS Component Pilot Sites.
  - Deploying solutions and processes for resilience planning in the Resilience Planning Map (RPM)
  - Leveraging lessons learned and templates for the Pre-Energy Exchange RPM training class
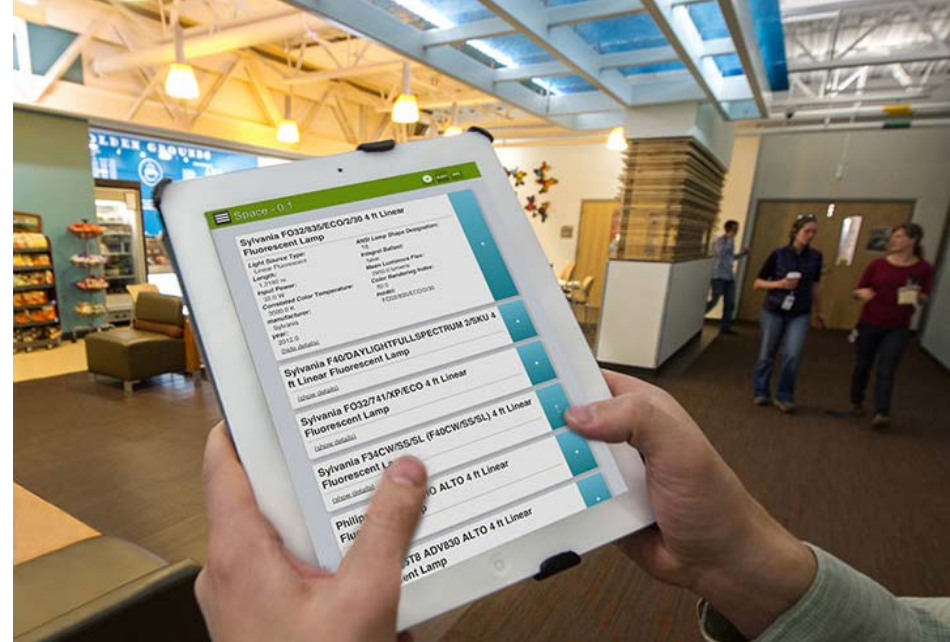
DHS Resilience Framework

Homeland Security

Presented by:
Crystall Merlino, Energy Manager
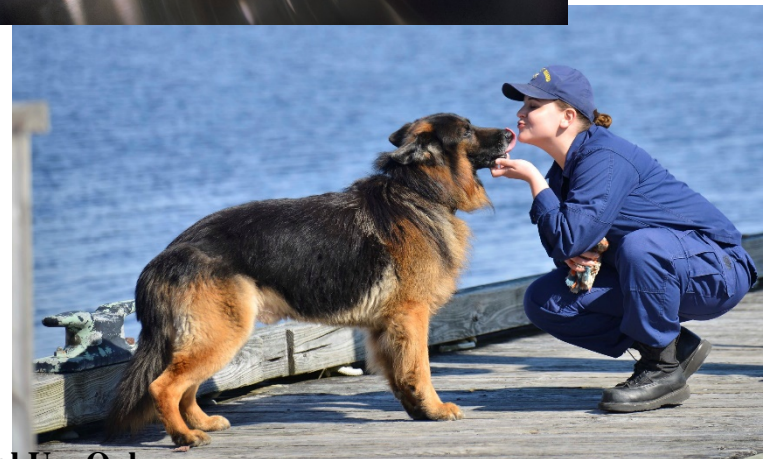Department of Homeland Security

September 20, 2018

About Us

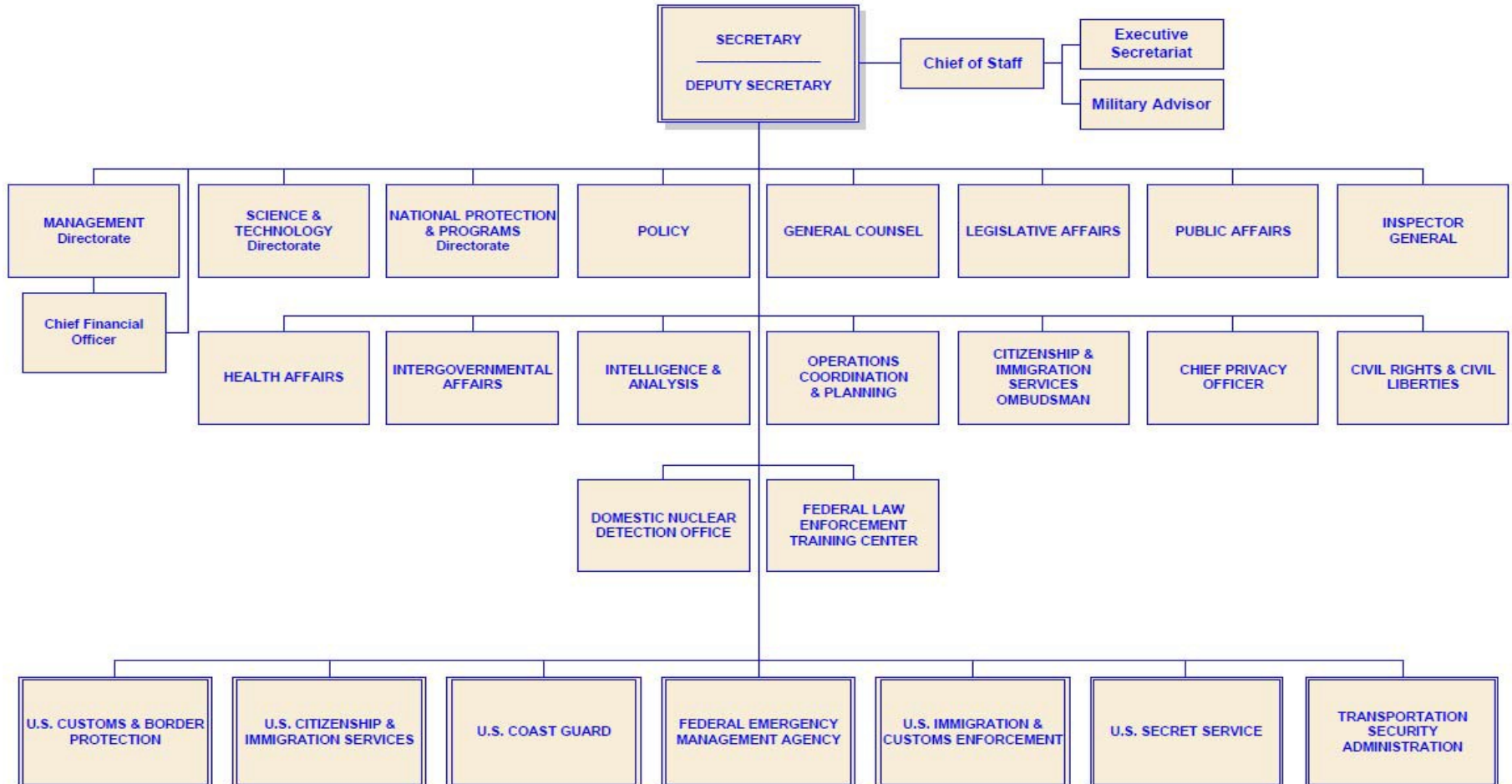**Vital mission to secure the nation from the many threats we face**

- *We have more than 240,000 employees*
- *We are made up of Operational and Support Components*
- *We are the third largest Cabinet department*

Organization

U.S. DEPARTMENT OF HOMELAND SECURITY

SECRETARY
_____
DEPUTY SECRETARY

- **Chief of Staff**
  - **Executive Secretariat**
  - **Military Advisor**

| MANAGEMENT Directorate | SCIENCE & TECHNOLOGY Directorate | NATIONAL PROTECTION & PROGRAMS Directorate | POLICY | GENERAL COUNSEL | LEGISLATIVE AFFAIRS | PUBLIC AFFAIRS | INSPECTOR GENERAL |

Chief Financial Officer

| HEALTH AFFAIRS | INTERGOVERNMENTAL AFFAIRS | INTELLIGENCE & ANALYSIS | OPERATIONS COORDINATION & PLANNING | CITIZENSHIP & IMMIGRATION SERVICES OMBUDSMAN | CHIEF PRIVACY OFFICER | CIVIL RIGHTS & CIVIL LIBERTIES |

| DOMESTIC NUCLEAR DETECTION OFFICE | FEDERAL LAW ENFORCEMENT TRAINING CENTER |

| U.S. CUSTOMS & BORDER PROTECTION | U.S. CITIZENSHIP & IMMIGRATION SERVICES | U.S. COAST GUARD | FEDERAL EMERGENCY MANAGEMENT AGENCY | U.S. IMMIGRATION & CUSTOMS ENFORCEMENT | U.S. SECRET SERVICE | TRANSPORTATION SECURITY ADMINISTRATION |

Organization: Operational Components

- Customs Border Protection
- National Protection and Programs Directorate
- Federal Emergency Management Agency
- Immigration and Customs Enforcement
- Federal Law Enforcement Training Center
- Science and Technology Directorate
- Transportation Security Administration
- U.S. Citizenship and Immigration Services
- U.S. Coast Guard
- U.S Secret Service

Background

Why is the resilience framework needed?

- Ongoing response to extreme weather, natural and man-made disasters

- Our systems more vulnerable to loss of power and damage to our infrastructure

- Ensures the incorporation of resilience into the Department's critical infrastructure required for essential functions.

Resilience Drivers

FEMA – National Preparedness Report

Directive 023-03 – Climate Resilience

Directive 020-01 – Energy & Water Management (Energy Security)

Directive 008-03 – Continuity Programs

- National Defense Authorization
- Presi...
- DHS Directives
- PPD-21 (2013)
- DHS Internal Memo
- Component Plan... Resilience

New Executive Order 13834 - enhance the resilience of Federal infrastructure and operations

Output

- ✓ Develop a roadmap implementing resilience.
- ✓ Demonstrate interdependencies and solutions between focus areas: information communication technology, energy/ water, facilities, transportation
- ✓ Establish metrics for resilience performance
- ✓ Monitor success and best practices for resilience within DHS

DOE-DHS Memorandum of Understanding

U.S. DEPARTMENT OF ENERGY

Office of **ENERGY EFFICIENCY & RENEWABLE ENERGY**

FEMP
Federal Energy Management Program

BETWEEN THE

DEPARTMENT OF ENERGY

AND THE

U.S. DEPARTMENT OF HOMELAND SECURITY

COLLABORATION IN A STRATEGIC PARTNERSHIP TO ADVANCE FEDERAL CRITICAL INFRASTRUCTURE RESILIENCE

I. Purpose

The purpose of this memorandum of understanding (MOU) is to establish a mechanism for cooperation and partnership between the U.S. Department of Energy (DOE), Office of Energy Efficiency and Renewable Energy (EERE), Federal Energy Management Program (FEMP) and the U.S. Department of Homeland Security (DHS) Chief Readiness Support Officer (CRSO), hereinafter also referred to each as a "Party" or collectively as "the Parties." The Presidential Policy Directive/PPD-21 advances a national unity of effort to strengthen and maintain security, functioning, and resilient critical infrastructure. This partnership will strengthen coordination of and amplify existing efforts dedicated to advancing the Nation's critical infrastructure by developing a resilience framework to apply across the Homeland Security Enterprise. This MOU is intended as an umbrella agreement under which particular activities are executed including, but not limited to, developing the DHS Resilience Framework, establishing resilience performance metrics and monitoring guidelines, identifying best practices for resilience technologies and solutions, and providing associated technical support.
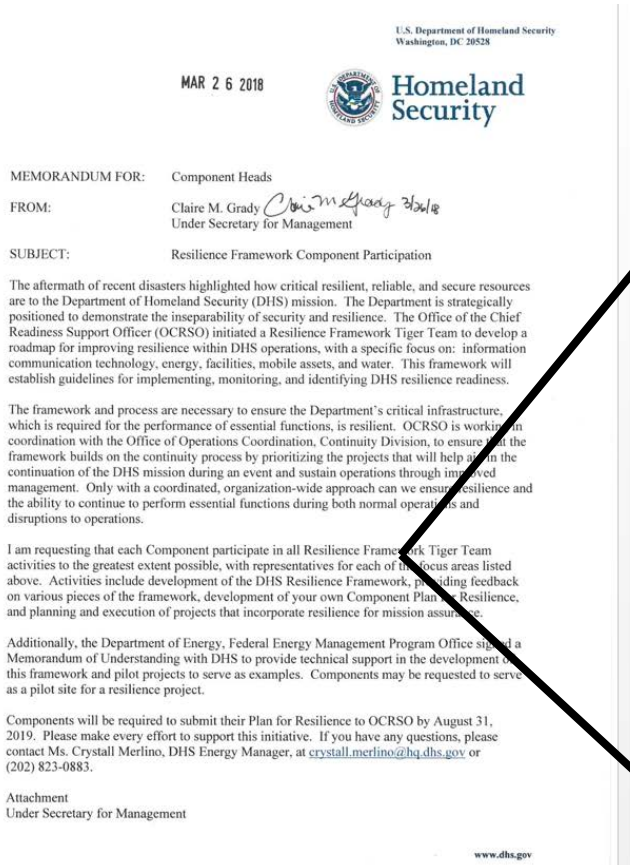
- **Goals specified:**
  - Joint development of Resilience Framework
  - Establish Resilience Performance Metrics & Monitoring Guidelines
  - Identify Best Practices for Resilience Technologies & Solutions
  - Provide Associate Technical Support
  - Engaging with Selected DHS Component Pilot Sites

DHS Executive Secretary Tasking

- MGMT ExecSec 1159974
- Signed by Claire M. Grady, Under Secretary for Management on March 26th, 2018
- Sent from Tom Chaleki, Chief Readiness Support Officer

U.S. Department of Homeland Security
Washington, DC 20528

MAR 2 6 2018

MEMORANDUM FOR: Component Heads

FROM: Claire M. Grady
Under Secretary for Management

SUBJECT: Resilience Framework Component Participation

The aftermath of recent disasters highlighted how critical resilient, reliable, and secure resources are to the Department of Homeland Security (DHS) mission. The Department is strategically positioned to demonstrate the inseparability of security and resilience. The Office of the Chief Readiness Support Officer (OCRSO) initiated a Resilience Framework Tiger Team to develop a roadmap for improving resilience within DHS operations, with a specific focus on: information communication technology, energy, facilities, mobile assets, and water. This framework will establish guidelines for implementing, monitoring, and identifying DHS resilience readiness.

The framework and process are necessary to ensure the Department's critical infrastructure, which is required for the performance of essential functions, is resilient. OCRSO is working in coordination with the Office of Operations Coordination, Continuity Division, to ensure that the framework builds on the continuity process by prioritizing the projects that will help attain the continuation of the DHS mission during an event and sustain operations through improved management. Only with a coordinated, organization-wide approach can we ensure resilience and the ability to continue to perform essential functions during both normal operations and disruptions to operations.

I am requesting that each Component participate in all Resilience Framework Tiger Team activities to the greatest extent possible, with representatives for each of the focus areas listed above. Activities include development of the DHS Resilience Framework, providing feedback on various pieces of the framework, development of your own Component Plan for Resilience, and planning and execution of projects that incorporate resilience for mission assurance.

Additionally, the Department of Energy, Federal Energy Management Program Office signed a Memorandum of Understanding with DHS to provide technical support in the development of this framework and pilot projects to serve as examples. Components may be requested to serve as a pilot site for a resilience project.

Components will be required to submit their Plan for Resilience to OCRSO by August 31, 2019. Please make every effort to support this initiative. If you have any questions, please contact Ms. Crystall Merlino, DHS Energy Manager, at crystall.merlino@hq.dhs.gov or (202) 823-0883.

Attachment
Under Secretary for Management

www.dhs.gov

Each Component participate in all Resilience Framework Tiger Team activities to the greatest extent possible, with representatives for each of the focus areas

Activities:
- Development of the DHS Resilience Framework
- Providing feedback on various pieces of the framework
- Development of your own Component Plan for Resilience
- Planning and execution of projects that incorporate resilience for mission assurance.

**Components will be required to submit their Plan for Resilience to OCRSO by August 31, 2019.

DHS Resilience Framework

Resilience Framework: signed August 2018

RESILIENCE FRAMEWORK

Homeland Security

Providing a Roadmap for the Department in Operational Resilience and Readiness

U.S. DEPARTMENT OF HOMELAND SECURITY

Claire M. Grady
Under Secretary for Management

15 Ag 2018
Date

Resilience Focus Areas

Resilience Focus Areas

Critical Infrastructure

Energy and Water

Maintain a continuous power and water supply, and enable energy and water systems to adapt to changing conditions and withstand and rapidly recover from disruption.

Facilities

Ensure that buildings, structures, and land assets can adapt to and continually operate during a disruption, and rapidly recover.

Information and Communication Technology

Ensure that hardware, software, internal telecommunications infrastructure, programming, and information systems can adapt to changing conditions and withstand and rapidly recover from disruption.
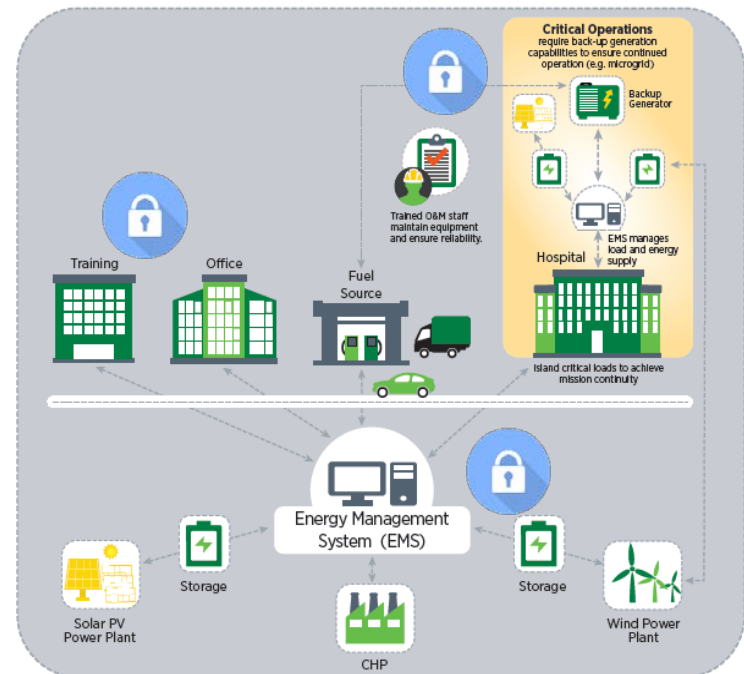
Transportation

Maintain continuously available mobile assets (air, marine, and fleet) that can adapt to changing conditions and mobilize resources to assist the mission, and withstand and rapidly recover from disruption.

Critical Infrastructures Interdependencies

- Determine which systems and applications are most critical to stakeholders
- Identify criticality: recovery time objective and maximum tolerable downtime
- *(how long systems can be down before their loss begins to negatively affect mission)*


Primary energy provider with redundant supply lines.

Resilience Interdependencies Among Infrastructure

All four infrastructure focus areas are interdependent to each other. A site's mission can be vulnerable to threats and hazards due to cascading effects of single-system disruptions or outages. Resilient sites understand these interdependencies and mitigate risks at each node to support their mission functions.
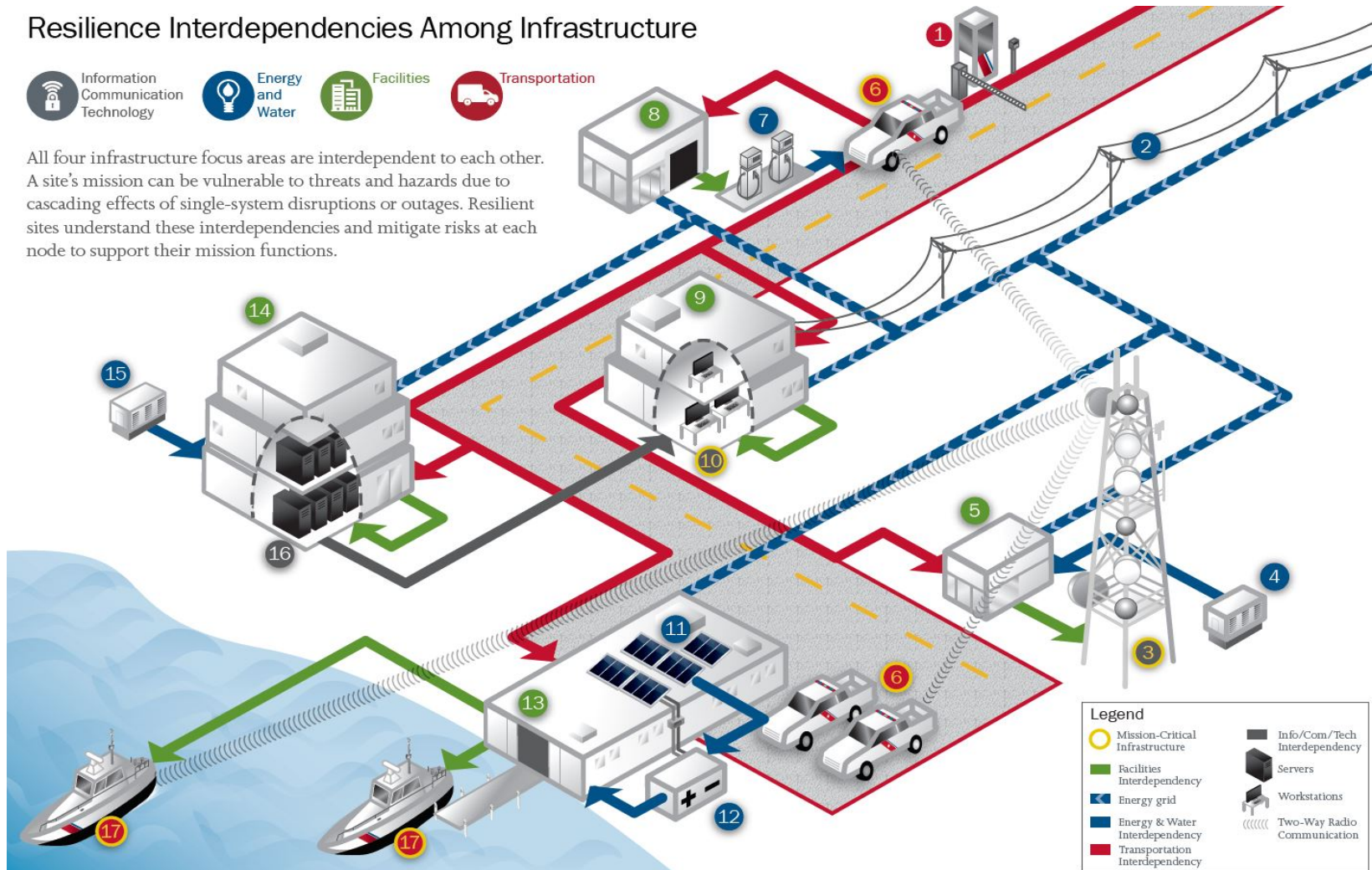
Resilience Framework Method

*Framework applies **common principles** across DHS Operations to **identify, assess, prioritize, and protect** DHS' **Critical Infrastructure***

Resilience Framework

- Engage Stakeholders
- Identify Critical Mission
- Conduct Criticality Assessment
- Assess Liabilities
- Resolve Gaps for Integrating Resilience
- Determine Resilience Readiness

Continuity requirements must be incorporated into the operational activities of all Components to ensure the sustainment of mission essential functions.
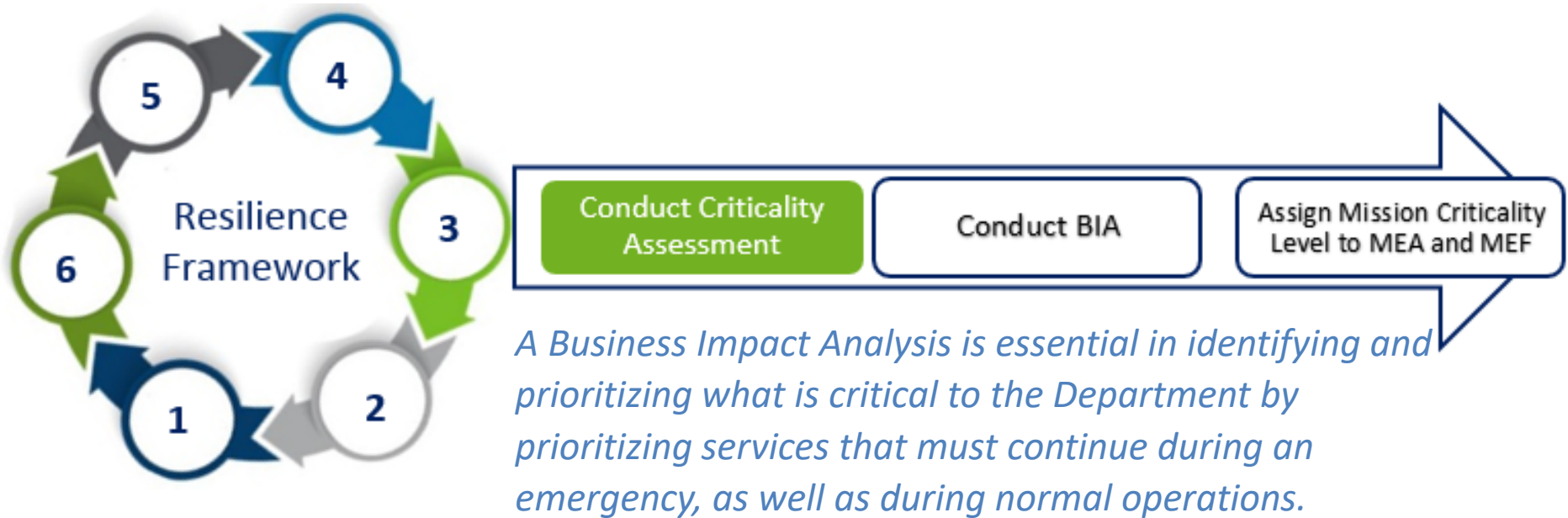

Resilience Framework

| Identify Critical Mission | Conduct BPA | Identify Mission Essential Assets and Mission Essential Functions |

Critical mission activities and assets are those activities and assets so vital that their incapacity or destruction would have a debilitating impact on security.

Resilience Relationship - Identify Critical Missions

Integration of Resilience and Continuity

Through the continuity process a business impact analysis is conducted. The results of the BIA integrate with intelligence and threat reporting, inform risk management activities to ensure the continued performance of essential functions, emphasizing the performance of MEFs and PMEFs. (i.e. What are the Gaps that exist?)

| Conduct Criticality Assessment | Conduct BIA | Assign Mission Criticality Level to MEA and MEF |

A Business Impact Analysis is essential in identifying and prioritizing what is critical to the Department by prioritizing services that must continue during an emergency, as well as during normal operations.

Resilience Relationship – Conduct Criticality Assessment

For critical infrastructure protection, risk management requires leveraging resources to address the most critical assets that are most vulnerable and have greatest threat exposure. Assess Liabilities identifies the hazards, threats, risks, and vulnerabilities of the Mission Essential Assets. The end goal of assessing liabilities is to determine the level of risk that exists under each critical infrastructure.
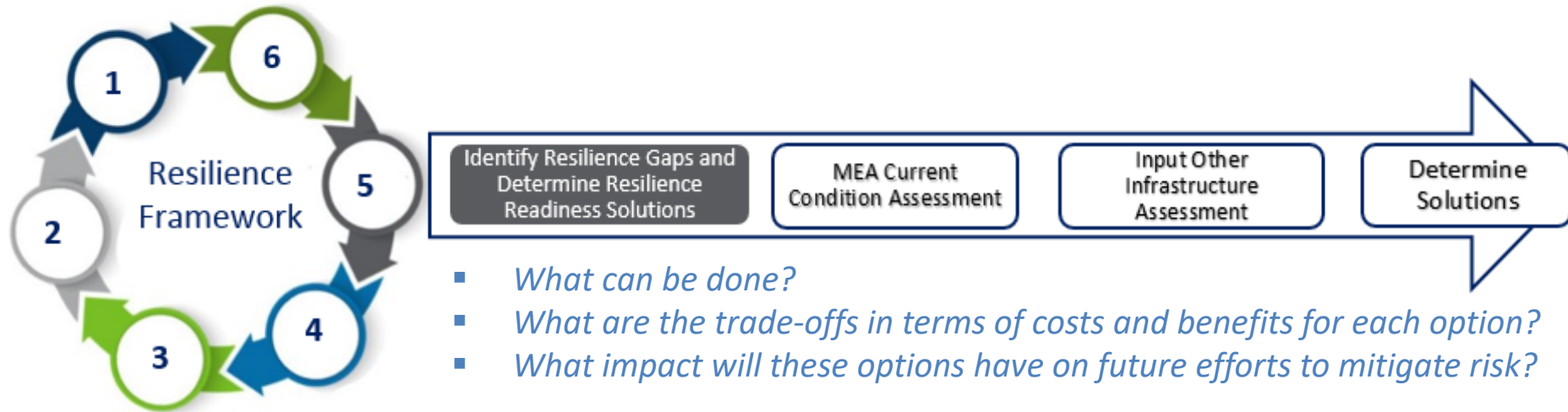

Resilience Framework

| Assess Liabilities | Identify Hazards and Threats | Identify Vulnerabilities | Analyze Risks | Prioritize Liabilities |

Liabilities should be evaluated based on the degree of mission impact and the extent to which a liability will cause interruption.

Resilience Relationship – Assess Liabilities

Integration of Resilience and Continuity

Risk management involves the consideration and implementation of strategies and measures to reduce the challenges identified in the risk assessment and seeks to answer the following questions:

- *What can be done?*
- *What are the trade-offs in terms of costs and benefits for each option?*
- *What impact will these options have on future efforts to mitigate risk?*

Resilience Relationship – Resolve Gaps & Determine Resilience Readiness

Assessment for Resilience Scoring

Assess Baseline

Process-based Information	Energy and Water	Information and Communication Technology	Fa...
Recovery Plans			
Emergency Management Plan			
Cyber Plan			
Continuition of Operations Plan (COOP)			
Memorandum of Understanding (MOU)			
Site Master Plan for Development			
Critical Mission Functions			
Information Sharing			
Communication			
First Responders			

Operational Data	Energy and Water	Information and Communication Technology	Fa...
Energy Consumption per Building			
Water Consumption pser building			
Fuel Consumption by Mobile Assets			
List of Backup Generators			
Fuel Storage on-site			

Geospatial Data	Energy and Water	Information and Communication Technology	Fa...
Electrical System Maps			
Natural Gas Maps			
Water and Wasterwater Maps			
Facility Maps			
Communication Network Maps			

Historical Data	Energy and Water	Information and Communication Technology	Fa...
Grid Outages			
Utility Disruption			
After-Action Plans			
Weather Related Events			

1 - Engage Stakeholders

Stakeholder Identification	2	2	3

2 - 3 Indentify Critical Mission and Conduct Criticality Assessment

Critical Mission Identification	2	2	3
Criticality Assessment	2	2	3

4 - Assess Liabilities

Risk Assessment	2	2	3
Identify Vulnerabilities	2	2	3
Analyze Risks	2	2	3
Prioritize Liabilities	2	3	

5 - Identify Resilience Gaps and Determine Solutions

Electric	2	2	3
Natural Gas	2	2	3
Transportation	2	3	3
Information Communication and Technology	2	3	3
Energy	2	3	3
Facilities	2	3	3
Water	2	3	3
Wastewater	2	3	3

6 - Integrate Resilience Readiness Solutions

Mitigation with Alternative Sites	2	2	3

The Resilience Readiness Planning Assessment provides Stakeholders with guidance on how to prepare, ensure vulnerabilities of critical assets are identified and mitigated, and ensure mission continuity and readiness

In Conclusion...

- Aligns with Executive Order 13834 *"enhance the resilience of Federal infrastructure and operations"*

- Aligns with DHS Secretary strategy for prioritization of mission

- Establishes roadmap for Components & other Agencies

- Easily transfers to other Civilian Agencies