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**IS-812: ESF #12 – Energy  
Student Manual**

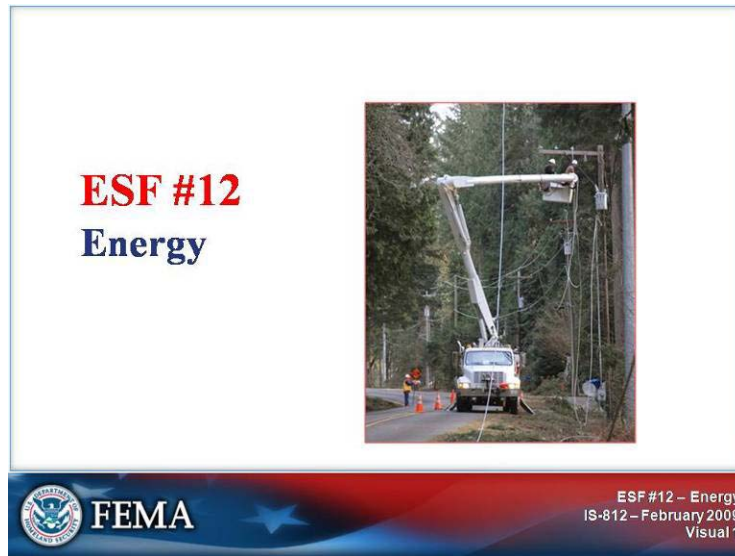
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**February 2009**



Topic	Course Overview
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**Display  
Visual 1**



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**Key Points**

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**Purpose:** The purpose of this course is to familiarize you with the function and composition of ESF #12 – Energy.

**Approximate Time:** 1 hour

**Content Outline:** This module includes the following major topics:

- ESF Overview
- ESF #12 Purpose and Scope
- ESF #12 Coordinator and Primary Agency
- ESF #12 Support Agencies
- ESF #12 Actions
- Concept of Operations
- DOE Emergency Operations Center
- Interagency Teams
- National Energy Technology Laboratory
- Summary

**Materials:**

- Instructor Guide
- Student Manual (including the ESF #12 – Energy Annex)

**Topic**

**Course Overview**

**Display  
Visual 2**

### Objectives

- Describe the overall purpose and scope of ESF #12.
- Identify the supplemental assistance ESF #12 provides to State, tribal, and local governments.
- Identify typical activities accomplished by ESF #12 resources.
- Describe the types of partnerships formed between ESF #12 and other response agencies and organizations.



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Visual 2

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### Key Points

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At the end of this course, you will be able to:


- Describe the overall purpose and scope of ESF #12.
- Identify the supplemental assistance ESF #12 provides to State, tribal, and local governments.
- Identify typical activities accomplished by ESF #12 resources.
- Describe the types of partnerships formed between ESF #12 and other response agencies and organizations.

**Topic**

**Course Overview**


**Display  
Visual 3**

### Introductions



**Tell us:**

- **Your name.**
- **Your role in emergency management.**
- **What you hope to gain from this course.**



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Visual 3

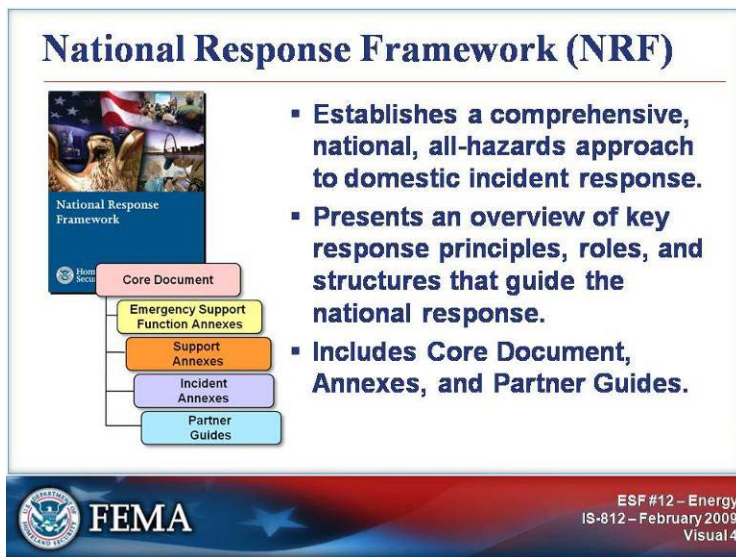
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**Key Points**

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Introduce yourself to the members of your table groups, providing:

- Your name.
- Your role in emergency management.
- What you hope to gain from this course.

**Topic** ESF Overview**Display  
Visual 4****Key Points**

The National Response Framework (NRF):

- Is a guide to how the Nation conducts all-hazards response.
- Builds upon the National Incident Management System (NIMS) coordinating structures to align key roles and responsibilities across the Nation, linking all levels of government, nongovernmental organizations, and the private sector.

The NRF is comprised of:

- The Core Document, which describes the doctrine that guides our national response, roles and responsibilities, response actions, response organizations, and planning requirements to achieve an effective national response to any incident that occurs.
- Emergency Support Function Annexes, which identify Federal resources and capabilities that are most frequently needed in a national response (e.g., transportation, firefighting, mass care).
- Support Annexes, which describe essential supporting aspects that are common to all incidents (e.g., financial management, volunteer and donations management, private-sector coordination).
- Incident Annexes, which address the unique aspects of how we respond to seven broad categories or types of incidents (e.g., biological, nuclear/radiological, cyber, mass evacuation).
- Partner Guides, which provide ready references describing key roles and actions for local, tribal, State, Federal, and private-sector response partners.

<b>Topic</b>	<b>ESF Overview</b>
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Display  
Visual 5

### Emergency Support Functions (ESFs)

**ESFs are:**

- The primary operational-level mechanism to provide assistance.
- Organized around functional capabilities (e.g., emergency management, transportation, search and rescue, etc.).



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Visual 5

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## Key Points

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The Federal Government and many State governments organize many of their resources and capabilities—as well as those of certain private-sector and nongovernmental organizations—under Emergency Support Functions (ESFs).

The ESFs:

- Are coordinated by the Federal Emergency Management Agency (FEMA) through the National Response Coordination Center (NRCC), Regional Response Coordination Centers (RRCCs), and Joint Field Offices (JFOs).
- Are a critical mechanism to coordinate functional capabilities and resources provided by Federal departments and agencies, along with certain private-sector and nongovernmental organizations.


Note that some States also have organized an ESF structure along this approach.



<b>Topic</b>	<b>ESF Overview</b>
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Display  
Visual 6

### ESF General Duties

- Commit agency assets.
- Approve and implement mission assignments.
- Maintain situational awareness and report on ESF operations.
- Represent agency on task forces and ad hoc groups.
- Serve as technical experts.



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Visual 6

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## Key Points

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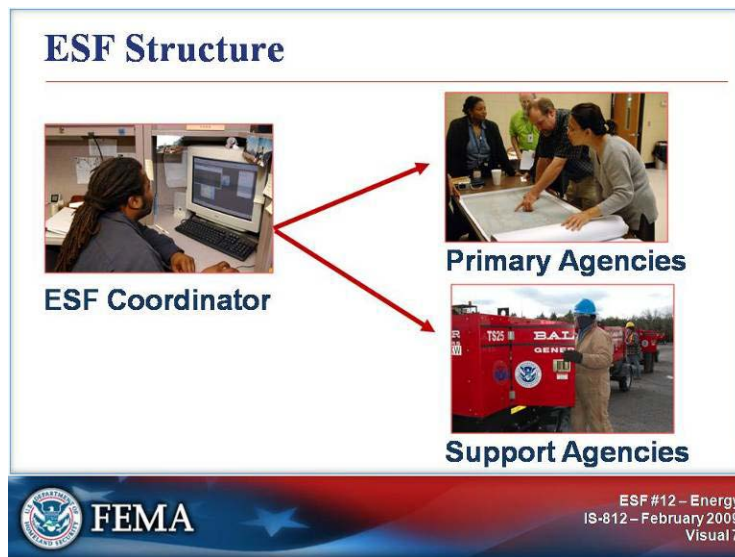
Review the general ESF duties listed on the visual.

Why is it important that ESFs have the authority to commit agency assets?



<b>Topic</b>	<b>ESF Overview</b>
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**Display  
Visual 7**



**Key Points**

The ESF structure includes:

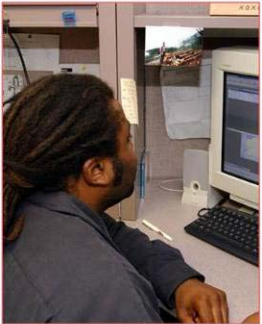
- **ESF Coordinator.** The entity assigned to manage oversight for a particular ESF.
- **Primary Agencies.** ESF primary agencies are Federal agencies with significant authorities, resources, or capabilities for a particular function within an ESF. A Federal agency designated as an ESF primary agency serves as a Federal executive agent under the Federal Coordinating Officer (or Federal Resource Coordinator for non-Stafford Act incidents) to accomplish the ESF mission.
- **Support Agencies.** Support agencies are those entities with specific capabilities or resources that support the primary agencies in executing the mission of the ESF.

ESFs provide support to other ESFs. For example: ESF #3 – Public Works and Engineering may support rural ESF #5 – Emergency Management forces to obtain heavy equipment and/or demolition services as needed to suppress incident-related fires.


<b>Topic</b>	<b>ESF Overview</b>
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Display  
Visual 8

### ESF Coordinator



- Pre-incident planning and coordination
- Ongoing contact with primary and support agencies
- Coordination with private-sector organizations
- Preparedness planning and exercises

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Visual 8

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### Key Points

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The ESF coordinator has management oversight for that particular ESF.

Note that, as described on the visual, the ESF coordinator has a role throughout the incident management cycle.

## Topic

## ESF Overview

Display  
Visual 9

### Primary and Support Agencies

- **Primary Agency:** Federal agency with significant authorities, resources, or capabilities for a particular function within an ESF.
- **Support Agency:** Assists the primary agency by providing resources and capabilities in a given functional area.



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Visual 9

## Key Points


When an ESF is activated in response to an incident:

- The **primary agency** is responsible for:
  - Serving as a Federal executive agent under the Federal Coordinating Officer (or Federal Resource Coordinator for non-Stafford Act incidents) to accomplish the ESF mission.
  - Orchestrating Federal support within its functional area for an affected State.
  - Providing staff for the operations functions at fixed and field facilities.
  - Notifying and requesting assistance from support agencies.
  - Managing mission assignments and coordinating with support agencies and appropriate State agencies.
  - Working with appropriate private-sector organizations to maximize use of all available resources.
  - Supporting and keeping other ESFs and organizational elements informed of ESF operational priorities and activities.
  - Maintaining trained personnel to support interagency emergency response and support teams.
- **Support agencies** are responsible for:
  - Conducting operations, when requested by the Department of Homeland Security (DHS) or the designated ESF primary agency, using their own authorities, subject-matter experts, capabilities, or resources.
  - Participating in planning for short- and long-term incident management and recovery operations and the development of supporting operational plans, standard operating procedures (SOPs), checklists, or other job aids, in concert with existing first-responder standards.
  - Assisting in the conduct of situational assessments.
  - Furnishing available personnel or other resource support as requested by DHS or the ESF primary agency.
  - Providing input to periodic readiness assessments.
  - Participating in training and exercises aimed at continuous improvement of response and recovery capabilities.
  - Identifying new equipment or capabilities required to prevent or respond to new or emerging threats and hazards, or to improve the ability to address existing threats.

<b>Topic</b>	<b>ESF Overview</b>
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Display  
Visual 10

### Activation of ESFs



- Not every incident requires the activation of ESFs.
- ESFs may be selectively activated for:
  - Stafford Act Emergency and Major Disaster Declarations.
  - Non-Stafford Act incidents as specified in Homeland Security Presidential Directive 5 (HSPD-5).

ESF deployment must be coordinated, even if under the agency's own authority!

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Visual 10

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## Key Points

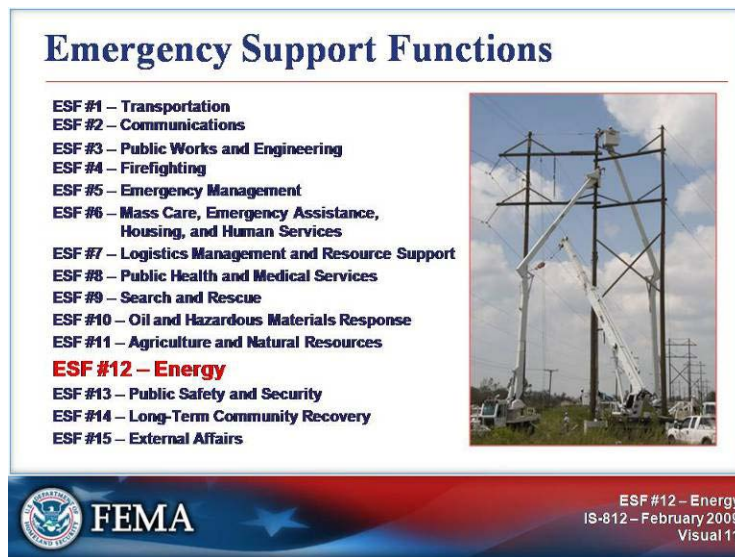
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ESFs may be selectively activated for both Stafford Act and non-Stafford Act incidents under circumstances as defined in Homeland Security Presidential Directive 5 (HSPD-5). Not all incidents requiring Federal support result in the activation of ESFs.

FEMA can deploy assets and capabilities through ESFs into an area in anticipation of an approaching storm or event that is expected to cause a significant impact and result. This coordination through ESFs allows FEMA to position Federal support for a quick response, though actual assistance cannot normally be provided until the Governor requests and receives a Presidential major disaster or emergency declaration.

<b>Topic</b>	<b>ESF Overview</b>
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Display  
Visual 11



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### Key Points

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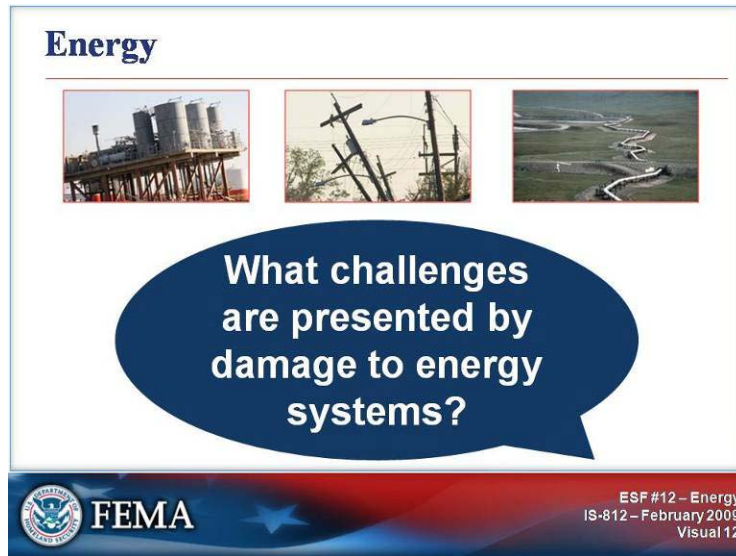
The 15 ESFs are listed on the visual. The complete ESF Annexes are available at the NRF Resource Center at [www.fema.gov/nrf](http://www.fema.gov/nrf).

This course focuses on ESF #12 – Energy.

Describe your roles or associations with ESF #12.

<b>Topic</b>	<b>ESF Overview</b>
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Display  
Visual 12



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**Key Points**

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What challenges are presented by damage to energy systems?

This course explains how ESF #12 – Energy works with private industry and local, State, and Federal governments to maintain the critical power infrastructure in our communities.




<b>Topic</b>	<b>ESF #12 Purpose and Scope</b>
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Display  
Visual 13

### ESF #12: Purpose


**ESF #12:**

- **Facilitates the restoration of damaged energy systems for incidents requiring a coordinated Federal response.**
- **Helps maintain continuous, reliable energy supplies through preventive measures and restoration and recovery actions.**



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Visual 13

 See page 1 of the Annex.

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## Key Points

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ESF #12 – Energy is intended to facilitate the restoration of damaged energy systems for incidents requiring a coordinated Federal response.

Under Department of Energy (DOE) coordination, ESF #12 is an integral part of the larger DOE responsibility of maintaining continuous and reliable energy supplies for the United States through preventive measures and restoration and recovery actions. This function is coordinated by DOE's Office of Electricity Delivery and Energy Reliability.

Refer to the purpose statement on page 1 of the ESF #12 – Energy Annex.


<b>Topic</b>	<b>ESF #12 Purpose and Scope</b>
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Display  
Visual 14

### ESF #12: Scope


**ESF #12:**

- Collects, evaluates, and shares information on energy system damage and estimations on the impact of energy system outages within affected areas.
- Provides information concerning the energy restoration process.
- Facilitates the restoration of energy systems.



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Visual 14

 See page 1 of the Annex.

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## Key Points

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ESF #12:

- Collects, evaluates, and shares information on energy system damage and estimations on the impact of energy system outages within affected areas.
- Provides information concerning the energy restoration process such as projected schedules, percent completion of restoration, and geographic information on the restoration.
- Facilitates the restoration of energy systems through legal authorities and waivers.
- Provides technical expertise to the utilities, conducts field assessments, and assists government and private-sector stakeholders to overcome challenges in restoring the energy system.


The scope information can be found on page 1 of the ESF #12 – Energy Annex.



<b>Topic</b>	<b>ESF #12 Coordinator and Primary Agency</b>
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Display  
Visual 15


### ESF #12 Coordinator and Primary Agency



**Department of Energy (DOE):**

- Serves as the focal point for issues and policy decisions relating to energy response and restoration.
- Assesses energy system damage and monitors repair work.
- Provides information on energy supply, demand, and market impacts.
- Identifies resources required to restore energy systems.
- Deploys DOE response teams.

 See page 5 of the Annex.

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Visual 15

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## Key Points

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ESF #12 coordinator and primary agency, DOE:

- Serves as the focal point for issues and policy decisions relating to energy response and restoration efforts.
- Assesses energy system damage and monitors repair work.
- Provides information on energy supply, demand, and market impacts.
- Identifies resources required to restore energy systems.
- Deploys DOE response teams as needed.

More information can be found on page 5 of the ESF #12 – Energy Annex.

<b>Topic</b>	<b>ESF #12 Support Agencies</b>
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Display  
Visual 16

### ESF #12 Support Agencies (1 of 2)

The following ESF #12 partners offer specialized information and technical support:

- Department of Commerce
- Department of Homeland Security
- Department of Labor
- Department of State
- Environmental Protection Agency



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Visual 16

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## Key Points

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ESF #12 partners represent a variety of resources, such as specialized information and technical support:

- Department of Commerce provides weather forecasting for planning and response activities.
- Department of Homeland Security (DHS) manages the National Infrastructure Coordinating Center (NICC). The National Communications System (a DHS agency) coordinates restoration of telecommunications for the energy sector.
- Department of Labor provides worker safety technical assistance during energy restoration.
- Department of State coordinates with foreign nations and implements international energy agreements.
- Environmental Protection Agency issues enforcement waivers to address fuel shortages and identifies water systems for priority power restoration.

<b>Topic</b>	<b>ESF #12 Support Agencies</b>
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Display  
Visual 17

### ESF #12 Support Agencies (2 of 2)

The following ESF #12 partners have an energy-restoration role in specific environments or situations:

- Department of Agriculture
- Department of Defense
- Department of the Interior
- Department of Transportation
- Nuclear Regulatory Commission
- Tennessee Valley Authority



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Visual 17

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## Key Points

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Other ESF #12 partners have an energy restoration role in specific environments or situations:

- Department of Agriculture restores power for rural utilities service facilities.
- Department of Defense/U.S. Army Corps of Engineers coordinates/prioritizes emergency generator installation.
- Department of the Interior maintains information on energy systems within its jurisdiction and assists with repair of hydropower facilities.
- Department of Transportation ensures safety of natural gas pipeline and coordinates maritime movement of energy supplies.
- Nuclear Regulatory Commission regulates civilian use of nuclear fuels.
- Tennessee Valley Authority (TVA) assesses damage within TVA and supplies surplus power and other resources as required.

<b>Topic</b>	<b>ESF #12 Actions</b>
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Display  
Visual 18

### ESF #12 Actions

ESF #12 actions include:

- Preincident training and planning.
- Assessment of energy impacts.
- Technical advice.
- Facilitation of energy system restoration.
- Coordination of generators at farms/animal facilities.



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Visual 18

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## Key Points

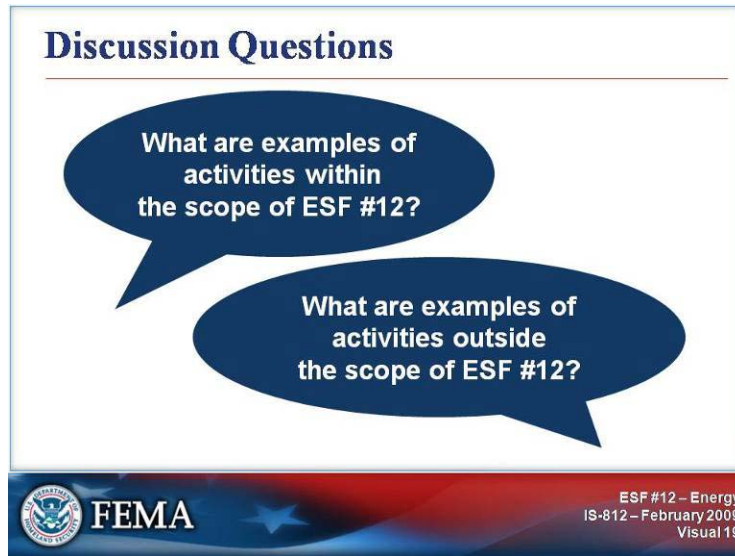
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Federal assistance through ESF #12 may include:

- Preincident training and planning.
- Assessment of energy impacts.
- Technical advice to local, tribal, State, and Federal partners.
- Facilitation of energy system restoration.
- Coordination of generators at farms/animal facilities.

<b>Topic</b>	<b>ESF #12 Actions</b>
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Display  
Visual 19



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**Key Points**

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Activity Instructions:

- Work in your table teams.
- Think about activities that DO and DO NOT fall within the scope of ESF #12. List the examples on chart paper.
- You have approximately 5 minutes to complete your lists. Have a spokesperson from your team present your answers.




<b>Topic</b>	<b>Concept of Operations</b>
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Display  
Visual 20

### Concept of Operations

**ESF #12:**

- Serves as the focal point for information on damage to and restoration of energy systems.
- Advises authorities on priorities for energy restoration, assistance, and supply.
- Assists Federal departments and agencies by locating fuel for transportation, emergency operations, communications, and national defense.



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Visual 20

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### Key Points

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Collectively, the primary and support agencies that comprise ESF #12:

- Serve as the focal point within the Federal Government for receipt of information on damage to and restoration of energy systems.
- Advise Federal, State, tribal, and local authorities on priorities for energy restoration, assistance, and supply.
- Assist Federal departments and agencies by locating fuel for transportation, communications, emergency operations, and national defense.


<b>Topic</b>	<b>DOE Emergency Operations Center</b>
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Display  
Visual 21

### DOE Emergency Operations Center

**The DOE Emergency Operations Center:**

- Is staffed all day, every day.
- Maintains current contact information for DOE officials and ESF #12 personnel.
- May be staffed by ESF #12 personnel when activated by FEMA.



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Visual 21

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## Key Points

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DOE operates a 24-hour Emergency Operations Center at its Headquarters in Washington, DC. The Center:

- Is staffed every day.
- Maintains current contact information for DOE officials and ESF #12 personnel.
- May be staffed by ESF #12 personnel when activated by FEMA.




<b>Topic</b>	<b>Interagency Teams</b>
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Display  
Visual 22

### Interagency Teams

**Interagency incident management teams:**

- **Deploy to Emergency Operations Centers and the field to establish or support local incident command.**
- **Translate technical data into information that can be readily used, helping government agencies make informed decisions.**



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Visual 22

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## Key Points

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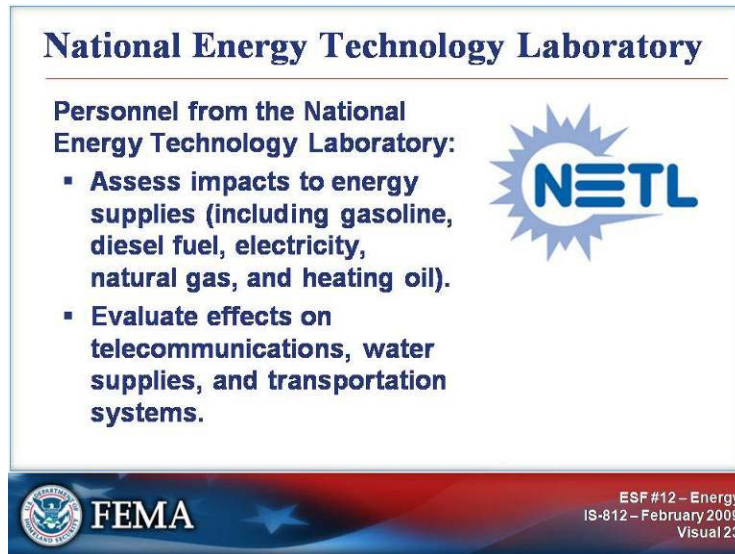
When an incident requires a coordinated Federal response, representatives from ESF #12 may deploy to national, regional, and State Emergency Operations Centers, and to the field as part of an interagency incident management team to establish or support local incident command. These subject-matter experts translate technical data into information that can be readily used, helping government agencies make informed decisions.

In the event of a catastrophic disaster, the State may request a Rapid Needs Assessment Team to deploy to the site and provide information about immediate needs, such as life-threatening situations and imminent hazards. ESF #12 representatives may be part of the Rapid Needs Assessment Team, assessing damage to the energy infrastructure and its potential impact on the affected area.



<b>Topic</b>	<b>National Energy Technology Laboratory</b>
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Display  
Visual 23



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### Key Points

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The effort to collect, analyze, and share information begins before a natural event. DOE's National Energy Technology Laboratory (NETL) coordinates modeling, visualization, and analytical work to predict the impact of an approaching event on the energy system.

The NETL coordinates state-of-the-art technologies to offer predictive information—for example, potential impacts to energy systems when a hurricane threatens.

NETL personnel are deployed to Emergency Operations Centers and provide information about critical infrastructure by:

- Assessing impacts to energy supplies (including gasoline, diesel fuel, electricity, natural gas, and heating oil).
- Evaluating effects on telecommunications, water supplies, and transportation systems.

Topic	Summary
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Display  
Visual 24

### Knowledge Review and Summary



**Instructions:**

- Answer the review questions on the next page in your Student Manual.
- Be prepared to share your answers with the class in 5 minutes.
- If you need clarification on any of the material presented in this course, be sure to ask your instructors.



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Visual 24

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### Key Points

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Instructions:

- Answer the review questions on pages 27 and 28 of your Student Manual.
- Be prepared to share your answers with the class in 5 minutes.
- If you need clarification on any of the material presented in this course, be sure to ask your instructors.

Additional information about the National Response Framework and Emergency Support Functions can be obtained at the NRF Resource Center at [www.fema.gov/nrf](http://www.fema.gov/nrf).

Topic	Summary
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Display  
Visual 25

### Taking the Exam

**Instructions:**

1. Take a few moments to review your Student Manuals and identify any questions.
  2. Make sure that you get all of your questions answered prior to beginning the final test.
  3. When taking the test . . .
    - Read each item carefully.
    - Circle your answer on the test.
    - Check your work and transfer your answers to the computer-scan (bubble) answer sheet or enter the answers online.
- You may refer to your Student Manuals and the Annex when completing this test.



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Visual 25

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### Key Points

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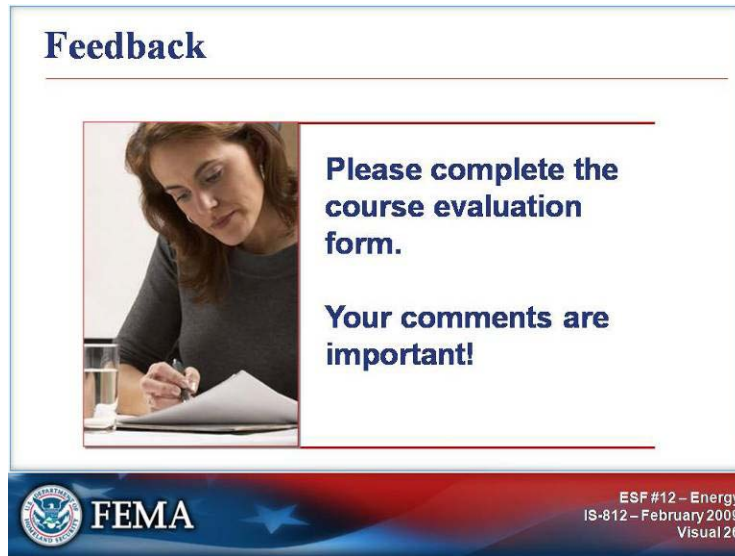
Instructions:

1. Take a few moments to review your Student Manuals and identify any questions.
2. Make sure that you get all of your questions answered prior to beginning the final test.
3. When taking the test . . .
  - Read each item carefully.
  - Circle your answer on the test.
  - Check your work and transfer your answers to the computer-scan (bubble) answer sheet or enter the answers online.

You may refer to your Student Manuals and the annex when completing this test.

Topic	Summary
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Display  
Visual 26



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## Key Points

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Please complete the course evaluation/feedback form.

**ESF #12 – Knowledge Review**

1. Who serves as the coordinator and primary agency for ESF #12?
  
2. Read the following scenario, and then list three priority actions for ESF #12.

**Scenario:** An ice storm has caused extensive power outages throughout the Northeast States. Below-freezing temperatures are expected for the next 3–5 days. Governors of all the affected States have already requested Federal assistance.

3. Decide whether the following statement is **TRUE** or **FALSE**: ESF #12 normally takes the lead in the rapid restoration of infrastructure-related services after an incident occurs.

4. Match the activities with the ESF #12 support agencies that perform them.

<b>Activities</b>	<b>Support Agencies</b>
_____ Coordinates modeling, visualization, and analytical work to predict the impact of an approaching event on the energy system.	A. Department of Agriculture
_____ Trains and deploys Infrastructure Liaisons and Advisors to support incident management activities.	B. Department of Energy – National Energy Technology Laboratory
_____ Provides assistance in restoring power for Rural Utilities Service facilities.	C. Department of Homeland Security
_____ Ensures the safety of the Nation’s natural gas and hazardous liquid pipelines and liquefied natural gas facilities.	D. Department of Transportation
_____ Issues enforcement waivers to address fuel shortages and identifies water systems for priority power restoration.	E. Environmental Protection Agency

5. Use the space below to make note of any questions you have about the material covered in this course.