IS-803: ESF #3 – Public Works and Engineering Instructor Guide

February 2009



Purpose: The purpose of this course is to familiarize participants with the function and composition of ESF #3 – Public Works and Engineering.

Approximate Time: 1 hour

Content Outline: This module includes the following major topics:

- ESF Overview
- ESF #3 Purpose and Scope
- ESF #3 Coordinator and Primary Agency Response
- ESF #3 Response Actions
- ESF #3 Response Resources
- ESF #3 Primary Agency Recovery
- ESF #3 Recovery Actions
- ESF #3 Partners
- Summary

Materials:

- Instructor Guide
- Student Manual (including the ESF #3 Public Works and Engineering Annex)

Display Visual 2	Objectives
	 Describe the overall purpose and scope of ESF #3.
	 Identify the supplemental assistance ESF #3 provides to State, tribal, and local governments.
	 Identify typical activities accomplished by ESF #3 resources.
	 Describe the types of partnerships formed between ESF #3 and other response agencies and organizations.

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

- Describe the overall purpose and scope of ESF #3.
- Identify the supplemental assistance ESF #3 provides to State, tribal, and local governments.
- Identify typical activities accomplished by ESF #3 resources.
- Describe the types of partnerships formed between ESF #3 and other response agencies and organizations.



Welcome the participants and introduce yourself. Then ask the participants to introduce themselves to the members of their table groups. Ask for:

- Their names.
- Their roles in emergency management.
- What they hope to gain from this course.

Display			
Visual 4	National Response Framework (NRF)		
	 Establishes a comprehensive, national, all-hazards approach to domestic incident response. Presents an overview of key response principles, roles, and structures that guide the national response. Includes Core Document, Annexes, and Partner Guides. 		

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.



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.



Review the general ESF duties listed on the visual.

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



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.



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.



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.



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.



The 15 ESFs are listed on the visual. The complete ESF Annexes are available at the NRF Resource Center at www.fema.gov/nrf.

This course focuses on ESF #3 – Public Works and Engineering.

Describe your roles or associations with ESF #3.



Once the immediate danger of a hurricane, flash flood, or other disaster has passed, basic needs such as safe access routes, electricity, drinking water, and sanitation must be addressed.

ESF #3 – Public Works and Engineering supports State and local governments by:

- Constructing emergency access routes.
- Providing temporary emergency power to critical facilities.
- Demolishing damaged structures.
- Conducting debris clearing, removal, and disposal.



ESF #3 – Public Works and Engineering provides the delivery of services, technical assistance, construction management, and other support when a disaster or an incident requires a coordinated Federal response.

Public works and engineering assistance includes:

- · Conducting infrastructure risk and vulnerability assessments.
- Providing potable water and ice during and after an incident.
- Coordinating the removal of debris in the wake of an incident.
- Implementing and managing infrastructure recovery assistance programs.

In this course, response actions under ESF #3 will be addressed first, then recovery actions.

Refer to the purpose statement on page 1 of the ESF #3 – Public Works and Engineering Annex.

Display	
Visual 14	ESF #3: Scope
	 Public works and infrastructure assessment. Engineering expertise. Construction management. Repairs public infrastructure and critical facilities. Management of the FEMA Public Assistance Program. Contracting support and real estate services.

ESF #3 is structured to provide public works and engineering-related support for the changing requirements of domestic incident management to include preparedness, response, and recovery actions. Activities within the scope of this function include:

- Conducting preincident and postincident assessments of public works and infrastructure.
- Executing emergency contract support for life-saving and life-sustaining services.
- Providing technical assistance to include engineering expertise, construction management, and contracting and real estate services.
- Providing emergency repair of damaged public infrastructure and critical facilities.
- Implementing and managing the FEMA Public Assistance Program and other recovery programs.

Scope information can be found on page 1 of the ESF #3 – Public Works and Engineering Annex.



The U.S. Army Corps of Engineers (USACE), an agency of the Department of Defense, is designated as the coordinator for ESF #3. As ESF coordinator, USACE is responsible for planning and coordinating activities affecting public works and engineering through prevention, preparedness, response, recovery, and mitigation. These activities include coordination of meetings, plans, exercises, training, and other activities with:

- FEMA.
- The private sector.
- The ESF #3 support agencies.

As the primary ESF #3 agency for response, USACE provides direction and coordination of ESF #3 on-the-ground, response-related activities and resources, including:

- ESF #3 technical assistance.
- Engineering.
- Construction management resources.
- Support during response activities.

USACE has developed an ESF #3 Field Guide that provides information on tools and processes used for ESF #3 mission support.

Information on USACE roles can be found on page 6 of the ESF #3 – Public Works and Engineering Annex.



While ESF #3 addresses response activities in the aftermath of an incident, ESF #3 also provides Federal assistance to supplement State, tribal, and local efforts to prepare for and prevent incidents.

Preincident actions can reduce or prevent damage and may include:

- Inspecting flood control works.
- Implementing structural and nonstructural mitigation measures.
- Pre-positioning assessment teams and contractors.
- Deploying advance support elements.

Display Visual 17	Postincident Actions
	Postincident actions include:
	 Providing temporary emergency power to critical facilities and providing potable water and sanitation.
	 Stabilizing or demolishing structures designated as immediate hazards.
	 Restoring critical infrastructure and water navigation systems.
	 Clearing, removing, and disposing of debris.
	Assessing damages.
	 Managing public assistance programs for infrastructure repairs.

When a storm or other disaster overwhelms efforts to prevent damage, ESF #3 and USACE help State, tribal, and local resources respond by providing Federal assistance for:

- Providing temporary emergency power to critical facilities and providing potable water and sanitation.
- Stabilizing or demolishing structures designated as immediate hazards.
- Restoring critical infrastructure and water navigation systems.
- Managing the clearance, removal, and disposal of debris.
- Conducting postincident assessments of damage to help determine critical needs and potential workloads.
- Managing public assistance programs for infrastructure repairs.



The next portion of this unit addresses the following USACE resources:

- Readiness Branch
- 249th Engineer Battalion
- Planning and Response Teams
- Deployable Tactical Operating System
- ENGLink



The 249th Engineer Battalion (Prime Power) is a Corps asset headquartered at Ft. Belvoir, VA.

The 249th:

- Generates and distributes prime electrical power in support of warfighting, disaster relief, stability, and support operations.
- Provides advice and technical assistance in all aspects of electrical power and distribution systems.
- Maintains Army power generation and distribution war reserves.
- Coordinates with ESF #12 Energy and power companies, as required, for generator installation.
- Coordinates with and assists the Emergency Power Action Officer in fulfilling generator requirements.



Each of the Corps's 41 districts has a Planning and Response Team dedicated to one of the emergency tasks for which the Corps is responsible: ice, water, emergency power, debris removal, temporary housing, temporary roofing, and structural safety assessment.

With several teams available for each task area, the Corps can tailor its response to the specific emergency.

Planning and Response Team members are deployable within 6 hours of notice of alert. The teams can expand rapidly for 24-hour operations and extended deployments.

Display Visual 21	USACE Deployable Tactical O	perating System
	 The USACE Deployable Tactical Operating System (DTOS): Includes mobile command, control, and communications units. Provides for operations and communications in the disaster environment. Can deploy within 18 hours. 	
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The USACE Deployable Tactical Operating System (DTOS):

- Includes strategically located, state-of-the-art, mobile command, control, and communications units.
- Provides the platform for operations and communications in the disaster environment.
- Includes self-sustaining, generator-powered vehicles and trailers positioned to deploy within 18 hours to most areas of the country.

DTOS mobile units were deployed to New York City after the September 11th attacks and provided communications support for nearly a month afterwards.



The Corps uses the ENGLink system to track commodities and mission status and manage deployments. Through ENGLink, team members can report in real time activities that are occurring, commodities being used/installed, personnel needs, and the amount of commodities needed.

ENGLink:

- Provides real-time access to critical information for deployed personnel.
- Compiles reports from data entered at the site of an emergency operation and from other responding elements in the organization's chain of command.

ENGLink is maintained by the Corps's Readiness Support Center.



The USACE Operations Center (UOC) coordinates and activates the deployment of national USACE teams and resources. The Operations Center expands or surges as required to meet the needs of the incident.



For longer term recovery under ESF #3, the Federal Emergency Management Agency (FEMA) steps in to help State, tribal, and local governments rebuild and more forward.

FEMA, as the primary ESF #3 agency for recovery, assigns an ESF #3 Public Assistance Officer to coordinate and manage interagency infrastructure recovery programs and the FEMA Public Assistance Program.

The Public Assistance Program provides:

- Supplemental Federal disaster grant assistance for debris removal and disposal.
- Emergency protective measures.
- Repair, replacement, or restoration of disaster-damaged public facilities and the facilities
 of certain qualified private nonprofit organizations.

FEMA maintains and provides a Public Assistance Guide that contains information regarding program eligibility, application processes, and project requirements.

Public Assistance staff:

- Coordinate the Public Assistance Program within the Federal recovery effort.
- Help applicants with the process, including offering specialized assistance when needed.

Refer to page 6 of the ESF #3 – Public Works and Engineering Annex.

Display Visual 25	Debris Clearing, Removal, and Disposal Funding is available for work that: • Eliminates an immediate threat to lives, public health, and safety. • Eliminates immediate threats of
	 Ensures economic recovery. Mitigates the risk to life and property by removing substantially damaged structures.

The Public Assistance Program may fund debris clearing, removal, and disposal if the work is necessary to:

- Eliminate an immediate threat to lives, or to public health and safety.
- Eliminate immediate threats of significant damage to improved public or private property.
- Ensure the economic recovery of the affected community.
- Mitigate the risk to life and property by removing substantially damaged structures.

Examples of eligible debris removal activities include:

- Removing tree limbs from a street to allow the safe passage of emergency vehicles.
- Clearing floodwater sediment from public property to eliminate health and safety hazards.

Display /isual 26	Emergency Protective Measures
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Emergency protective measures are actions taken before, during, and after a disaster to save lives, protect public health and safety, and prevent damage to improved public and private property.

Expenses for emergency protective measures can include:

- Search and rescue.
- Firefighting.
- The provision of food and water.
- Police overtime during an incident.
- Cost of sandbagging and erecting temporary levees.



The majority of projects funded by the Public Assistance Program are for permanent repair activities. Categories of permanent work that may be eligible for this funding include repairs to:

- Roads and bridges.
- Water control facilities, such as levees.
- Buildings, including their contents and equipment.
- Utility facilities, such as water treatment plants and power stations.
- Parks and other recreational facilities.



ESF #3 support agencies provide additional expertise and resources to help accomplish the ESF's mission. Support agency representatives co-locate with ESF #3 field personnel to coordinate support as necessary.

Agencies listed on the visual represent a sampling of the agencies that contribute to ESF #3.

Use pages 6 through 9 of the ESF #3 – Public Works and Engineering Annex to review the activities of support agencies.

Display Visual 29	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.

Conduct the review as follows:

- Direct the participants to the Knowledge Review located at the end of their Student Manuals.
- Allow 5 minutes for the participants to answer the questions.
- Monitor the time. When 5 minutes have passed, ask for volunteers to provide their answers.
- If not mentioned by participants, provide the correct responses from the answer key on the next page.
- Ask the participants if they have any questions on the material covered in this course. Be sure to answer all questions before moving on to the exam.

Additional information about the National Response Framework and Emergency Support Functions may be obtained at the NRF Resource Center at www.fema.gov/nrf.

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Display	
Visual 30	Taking the Exam
	Instructions:
	1. Take a few moments to review your Student Manuals and identify any questions.
	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.

Present the following 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 . . .
 - 1. Read each item carefully.
 - 2. Circle your answer on the test.
 - 3. Check your work and transfer your answers to the computer-scan (bubble) answer sheet or enter the answers online.

Tell the participants that they may refer to their Student Manuals and the annex when completing this test.

Important Instructor Note: It is important that you allow the participants enough time for them to review the course materials prior to taking the exam. If time permits, you can facilitate a structured review of the materials using the following techniques:

- Assign each team a lesson and have them summarize and present the key points to remember.
- Select five to seven of the most critical points from each lesson. Present a brief review of these points. Ask questions to ensure that the participants remember the most important information.

When the review is completed, distribute the exams. Remain in the room to monitor the exam and to be available for questions. Collect the completed exams.

Instructor Note: To receive a certificate of completion, students must take the 10-question multiplechoice posttest, submit an answer sheet (to EMI's Independent Study Office), and score 75% on the test. Explain that students may submit their tests online, and receive a certificate in the mail. Direct them to:

- Go to http://training.fema.gov/EMIWeb/IS/ and click on the link for IS-801.
- Click on "Download Final Exam Questions" (found at the bottom of the page). You may want to print the test.
- Click on "Take Final Exam" (found at the bottom of the page).



Ask the participants to complete any course evaluation/feedback forms. Use standard course evaluation forms from your agency or jurisdiction.

ESF #3 – Knowledge Review

1. Who serves as the coordinator for ESF #3?

Answer: U.S. Army Corps of Engineers

2. Who serves as the primary agency for recovery under ESF #3?

Answer: Federal Emergency Management Agency

- 3. Which ESF #3 resource is deployable within 6 hours of an alert and specializes in one of the Corps's seven emergency tasks?
 - a. Deployable Tactical Operating System
 - b. ENGLink System
 - c. Planning and Response Team
 - d. 249th Engineer Battalion
- 4. Which ESF #3 resource tracks commodities and mission status and manages deployments?
 - a. Deployable Tactical Operating System
 - b. Planning and Response Team
 - c. Prime Power
 - d. <u>ENGLink</u>
- 5. Decide whether the following statement is **TRUE** or **FALSE**: The scope of ESF #3 includes providing temporary emergency power to critical facilities and providing potable water and sanitation.

Answer: True

6. Match the activities with the ESF #3 support agencies that perform them.

	Activities		Support Agencies
В.	Supports the management of radioactive - debris.	A.	Department of Agriculture
C.	Assists with water system damage assessments.	В.	Department of Energy
D.	Assists with the repair and restoration of - transportation infrastructure.	C.	Department of the Interior
Е.	_ Helps protect drinking water infrastructure.	D.	Department of Transportation
Α.	Assists with emergency removal of debris.	E.	Environmental Protection Agency

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

Your Notes