

The 2017 Hurricane Season: A Review of Emergency Response and Energy Infrastructure Recovery Efforts

Committee on Energy and Commerce, Subcommittee on Energy

November 2, 2017

Attachment – Additional Questions for the Record

The Honorable Fred Upton

1. The Army Corps of Engineers is the primary agency for ESF#3 related to public works and engineering, including 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 damages public infrastructure and critical facilities.
2. Please detail all activities the Corps engage in under this function to evaluate the integrity and viability of drinking water delivery systems and infrastructure under this authority for Hurricanes Harvey, Irma, and Maria.

Answer: The U.S. Army Corps of Engineers, primary agency under ESF #3 and the U.S. Environmental Protection Agency (EPA), support agency to the Corps under ESF#3 and primary agency under ESF#10, conducted water and wastewater system assessments and provided water-related technical assistance during the 2017 hurricane season. Specifically, the Corps and EPA deployed personnel to coordinate and execute all necessary assessments, evaluation, and design/build response and recovery actions associated with ensuring the safety of drinking water and wastewater systems in the affected area in coordination with the appropriate State agencies, as directed by FEMA and requested by the State or Territorial governments. These actions included but are not limited to providing laboratory support for water sample collection, analysis and data interpretation; assessing public water and wastewater systems; facilitating the contact with Federal, State and local agencies and providing oversight of drinking water and wastewater system restoration, and related activities, including repairs.

3. Please detail the interactions between the Corps and the U.S. Environmental Protection Agency or State/Territorial agencies with primary enforcement authority for Federal environmental laws in support of ESF#3 for Hurricanes Harvey, Irma, and Maria.

Answer: Prior to awarding any contract in response to ESF#3 mission assignments, the Corps coordinates directly with ESF #10 (EPA) to identify and address all environmental requirements set forth by all Federal, State/Territorial agencies. The Corps takes action to avoid, minimize and mitigate actions that impact the environment. In cases where environmental impacts cannot

be avoided, the Corps documents these impacts and follows environmental law to disclose and address these impacts.

4. Please detail any funding requests or response and recovery recommendations made to or denied by the Federal Emergency Management Act for addressing water, waste water, or solid waste under this function.

Answer: FEMA aided the Government of Puerto Rico's request for water, waste water, and solid waste by providing funding under three separate mission assignments. The primary mission assignment was accomplished by funding provided directly to Puerto Rico's water and sewage agency, PRASA, who in turn contracted the assessment of their infrastructure system(s) to a contractor. A second mission assignment was provided to the EPA to focus on environmental impacts and potential threats to people's health, as well as the safety of those in the affected areas. EPA's mission included sampling, analysis and lab support, and getting wastewater systems up and running. The third mission assignment provided to the Corps was limited in scope and amounted to our providing personnel to support the efforts of the previously discussed primary mission assignments. While the Corps had limited interactions with the PRASA contractor conducting the assessments, the Corps did coordinate regularly with EPA as its mission assignment evolved over time. While the PRASA contractor focused their efforts on the major population centers, FEMA modified the Corps mission to conduct assessments to water and waste water infrastructure systems in remote areas of Puerto Rico. In this effort, the Corps included EPA for assistance in determining water potability. All Corps funding requests to FEMA were approved with respect to water, waste water, and debris management in Puerto Rico. Any and all recommendations to FEMA were considered by FEMA and forwarded to the Puerto Rican government for consideration and potential implementation.

5. Please provide all guidance or information to date provided to Army Corps by FEMA or PREPA regarding coordination efforts to rebuild the electrical grid.

Answer: On September, 30 2017, the Corps was given a FEMA mission assignment, within the authority of the Stafford Act, to assist the Puerto Rico Electric Power Authority (PREPA) in further repairing the power system to its pre-storm condition.

This mission assignment from FEMA states that the Corps will "...lead planning, coordination and integration efforts in preparation to execute electrical power grid restoration in Puerto Rico due to impacts caused by Hurricane Maria. Develop and execute applicable temporary repairs to the segments electrical grid to allow interim restoration of system segments as directed by FEMA until the full electrical grid restoration can be implemented."

The Corps works through the unified command group (Governor's power restoration coordinator, FEMA, the Corps and PREPA) on a daily basis to coordinate efforts to rebuild the electrical grid. Through the unified command group, the Corps and PREPA developed a master plan for transmission and another for distribution that prioritizes lines for restoration enabling work to continue in a materials constrained environment to restore power and ensure the public safety. It is important to note the critical path is materials needed to restore power, this is addressed in another response below.

All critical infrastructure such as hospitals have temporary generation until the power grid is restored and they are connected to it. In addition, seven remote communities have micro-grids established using the repaired distribution lines and electric substations connected to generators until the transmission grid is restored. Two more micro-grids are planned for a total of nine at this time. The combination of temporary power, interim micro-grid power and permanent power restoration are proving very effective.

6. Please provide a timeline of Army Corps awareness and involvement with any and all contracts or activities with PREPA since August 2017.

Answer: Although the Corps and PREPA meet daily to establish direction for line assignments, contract oversight for PREPA's contractors and their own workforce are solely the responsibility of PREPA. The Corps has no involvement in contracts awarded and managed by PREPA. However, under the FEMA mission assignment received by the Corps, the Corps oversees only its federal contracts to execute mission assignments.

The Corps coordinates with PREPA on a daily basis for planning and execution of the power grid restoration. This includes identification, acquisition and transport of materials; prioritization, assignment and coordination of work; and synchronization of communication activities. The Corps does have visibility of line assignments being worked by Corps contractors, PREPA and PREPA contractors, and public sector utilities under mutual aid agreement with PREPA. This helps to reduce interferences between workforces.

7. Please provide a copy of all contracts awarded by Army Corps for power restoration on Puerto Rico.

Answer: See attached. As assigned by FEMA, the Corps leads the federal role in repairing the hurricane-damaged electrical power grid in support of the Government of Puerto Rico. The Corps executes this mission in coordination with its other Federal partners from FEMA and the Department of Energy (DOE) and the Corps has received \$1.909 billion towards this effort to date. Below is a description of the contracts.

Line repair contracts

- On October 16, 2017, the Corps awarded a \$240 million time and materials contract to Fluor Corp. to repair the power grid in Puerto Rico. This contract was later modified to increase the ceiling on the original contract to \$505 million. FEMA has provided all these funds. On December 7, 2017, the Corps also awarded a second time and materials contract with an \$831 million ceiling to Fluor Corp. to support ongoing work to restore the power grid in Puerto Rico. To date \$500m have been provided for this second contract. The remaining \$331M is being held FEMA as a risk management reserve until it is needed.
- On October 19, 2017, the Corps awarded a sole source time and materials \$40 million contract to PowerSecure, Inc. to provide additional support to the repair of distribution and transmission lines. In early November, the Corps increased the contract by \$48 million, now totaling \$88 million. This was done to accelerate restoration work. On Nov 17, 2017, the

contract ceiling was increased by \$302M to a total contract capacity of \$390M. The additional funds will bring additional people, equipment and materials to the effort to repair hurricane-damaged transmission and distribution lines to western portion of the island.

Generation contracts

- On November 6, 2017, the Corps awarded a \$19 million contract to APTIM Federal Services, LLC. for the installation of one 25MW generator for temporary power at the Yabucoa Power Plant. This was needed to ensure more reliable power for the Yabucoa and Humacao areas, the most heavily impacted areas located in southeast Puerto Rico. On December 9, 2017, the contract was increased to \$36M to provide two months of operations and maintenance through Feb 12, 2018.
- On October 8, 2017, the Corps awarded a \$35.1 million contract to Weston Solutions to provide 50 MW capacity to the Palo Seco Power Plant, which stabilized the power grid. On October 29, 2017 the contract was increased to \$80M to provide four months of operations and maintenance through February 28, 2018.

Defense Logistics Agency Contract: On October 8, 2017, FEMA provided \$80 million to the Corps to order materials for all entities performing power restoration which now includes: the Corps' contractors, PREPA and its contractors, and public sector utilities under mutual aid agreement with FEMA. Subsequently FEMA provided four additional increases to the Corps' materials mission assignment totaling \$240 million.

FEMA assigned the material acquisition mission to the Corps to ensure only one entity would place demands on an extremely constrained supply chain nationally and internationally to preclude a situation where multiple contractors would be in competition upon the supply chain. It is important to note that many materials needed for the Puerto Rico grid restoration are no longer manufactured and require retooling by manufacturers which adds to delays. In addition, many materials normally used nationwide were depleted at public utilities and suppliers. Many of those recently received had manufacture dates in mid-December 2017. Hence, the decision to leverage the Defense Logistics Agency by the Corps synchronized the entire material demand requirement from one entity for all users in grid power restoration.

The Honorable Gus Bilirakis

1. Would you discuss how we can best streamline agency coordination to prevent bureaucratic overlap and redundancies which can lead to waste and unnecessary delays and hamper the effectiveness of response?

Answer: All agencies involved in the Hurricane Maria response effort will complete a formal After Action Review concerning their emergency response efforts for these events. This process will provide recommendations to FEMA and the affected State and Territorial Governments for potential use in future events, including the 2018 Hurricane Season.

- a. With a coordinated, interagency response, are there interagency goals that drive response and preparedness strategies?

Answer: The National Response Framework (NRF) is the guiding document to assist the Federal Government in ensuring proper agency coordination takes place, and to prevent overlap of missions and to reduce redundancy across the Federal family.

- b. If so, what are these goals?

Answer: The Corps executes its emergency response mission through the National Response Framework (NRF). The NRF, part of the National Preparedness System, sets the strategy and doctrine for how the whole community builds, sustains, and delivers the Response core capabilities identified in the National Preparedness Goal in an integrated manner with the other mission areas. To support the Goal, the objectives of the NRF are to:

- Describe scalable, flexible, and adaptable coordinating structures, as well as key roles and responsibilities for integrating capabilities across the whole community, to support the efforts of local, state, tribal, territorial, insular area, and Federal governments in responding to actual and potential incidents.
- Describe, across the whole community, the steps needed to prepare for delivering the response core capabilities.
- Foster integration and coordination of activities within the Response mission area.
- Outline how the Response mission area relates to the other mission areas, as well as the relationship between the Response core capabilities and the core capabilities in other mission areas.
- Provide guidance through doctrine and establish the foundation for the development of the Response Federal Interagency Operational Plan (FIOP).
- Incorporate continuity operations and planning to facilitate the performance of response core capabilities during all hazards emergencies or other situations that may disrupt normal operations.
- The NRF is composed of a base document, Emergency Support Function (ESF) Annexes, and Support Annexes.

The Federal Government and many state governments organize their response resources and capabilities under the ESF construct. ESFs have proven to be an effective way to bundle and manage resources to deliver core capabilities. The Federal ESFs are the primary, but not exclusive, Federal coordinating structures for building, sustaining, and delivering the response core capabilities. Most Federal ESFs support a number of the response core capabilities. In addition, there are responsibilities and actions associated with Federal ESFs that extend beyond the core capabilities and support other response activities, as well as department and agency responsibilities.

The Corps of Engineers serves as the coordinating agency for one of the fourteen ESFs within the NRF. ESF-3, Public Works and Engineers has as its goal/objective the mission to Stabilize

critical infrastructure functions, minimize health and safety threats, and efficiently restore and revitalize systems and services to support a viable, resilient community.

To that end, the Corps of Engineers in Puerto Rico, established a general officer led division forward headquarters located in San Juan to coordinate our FEMA mission assignments to achieve these objectives and goals. One major subordinate task force was led by a colonel for power restoration and another, was established to execute program management to oversee mission execution for all other FEMA mission assignments.