HAITI EARTHQUAKE RESPONSE QUICK LOOK REPORT

03 June 2010

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EXECUTIVE SUMMARY

On Tuesday, January 12, 2010, at 4:53 p.m. Eastern Standard Time (EST), an earthquake with a 7.0 magnitude occurred in the Atlantic Ocean approximately 15 miles southwest of Port-au-Prince, Haiti. The nation suffered massive damage in Port-au-Prince and in numerous other towns and cities. According to the Government of Haiti, the earthquake collapsed 100,000 structures and damaged another 200,000 across Haiti, resulting in over 220,000 deaths, 300,000 injuries, and 1.1 million displaced people.

The United States (U.S.) Government, along with other nations, international organizations, and nongovernmental organizations, rushed to provide critical life-saving and other assistance to Haiti. President Barack Obama directed the U.S. Agency for International Development (USAID) to lead the coordination of the U.S. Government assistance to Haiti. USAID worked with other Federal agencies to organize and deliver assistance to the victims of the earthquake. The Department of Homeland Security (DHS) deployed over 1,000 personnel from various components to support U.S. assistance in Haiti. As of April 2, 2010, the U.S. Government had provided over $1 billion in assistance to Haiti.

FEMA negotiated an Interagency Agreement (IAA) with USAID to facilitate support to response operations. FEMA activated the National Response Coordination Center (NRCC) and deployed liaisons to other agencies' operations centers to help coordinate the multi-agency relief effort. FEMA also activated eight Urban Search and Rescue (US&R) task forces and deployed four to Haiti to conduct search and rescue operations. These 4 task forces, combined with 2 task forces activated by USAID, were responsible for 47 of 134 live rescues in Haiti. The national US&R system includes 28 task forces, 2 of which have agreements with both FEMA and USAID (CA-TF2 and VA-TF1). In order to serve in foreign disasters, task forces must meet additional requirements identified by USAID. This report refers to task forces as either FEMA US&R or USAID Search and Rescue (SAR) depending on the activating agency.

By February 10, FEMA, in coordination with the Department of Defense (DOD), delivered more than 1.42 million meals; 24,365 blankets; 767,164 liters of water; 7,645 cots; and 94,709 comfort kits to Haiti.

The After-Action Process

FEMA Administrator Craig Fugate directed that FEMA conduct an after-action review with USAID for the Haiti earthquake response and include activated US&R task force leadership, program leadership, and others as appropriate. The review had to be completed quickly – before FEMA became heavily engaged in preparations for Hurricane Season – and produce preliminary findings that could be applied to U.S. Government catastrophic earthquake response planning for both domestic and foreign emergencies. Administrator Fugate instructed that the review should focus on the US&R deployment and other operational components that assisted in that deployment. The after-action team reviewed after-action reports (AARs) and surveys (see Appendix B) to develop a draft Quick Look Report. The after-action team also identified

whether issues applied primarily to domestic or foreign disaster responses. An after-action conference was held on March 23-24, 2010, which included panel discussions on command and control, transportation, US&R deployment, telecommunications, and external affairs. Breakout groups addressed health and safety, information requirements and sources, transportation, and US&R tiered response. Throughout the conference, FEMA, US&R, and other response personnel reviewed and discussed the observations and recommendations in the draft Quick Look Report as well as successes, innovations, and challenges during response operations. Conference participants discussed both near-term and long-term next steps. The after-action team revised the draft report based on the discussion.

This Quick Look Report is organized into two main sections. The first section examines the US&R response while the second section examines additional response and support topics. Each section contains observations that describe both strengths and opportunities for improving FEMA US&R, response, and support processes and operations. This Quick Look Report is not a comprehensive AAR and, as such, does not contain an Improvement Plan. Rather, it is intended to provide information to support on-going efforts by FEMA program offices to improve capabilities for catastrophic preparedness.

Major Strengths

This Quick Look Report identifies the following as major strengths that were demonstrated during the response to the Haiti earthquake:

- The success of the US&R task forces deployed to Haiti demonstrates their versatility and value as national assets.
- Federal personnel demonstrated their flexibility, dedication, and professionalism throughout disaster response operations.
- US&R task forces successfully maintained the health of their members throughout the deployment in Haiti.
- FEMA personnel effectively supported USAID disaster operations despite a general unfamiliarity with USAID disaster assistance processes or with foreign disaster operations.

Primary Areas for Improvement

This Quick Look Report identifies the following as primary areas for improvement that were demonstrated during the response to the Haiti earthquake:

- Additional FEMA US&R task forces should be prepared for deployment to a foreign disaster. FEMA and USAID should develop baseline requirements for any additional US&R task forces that may be identified for future foreign disaster deployments.
- FEMA US&R task forces and Incident Support Teams (IST) should complete USAID training on the foreign disaster response system, including command and control procedures. FEMA US&R teams should also become familiar with International Search and Rescue Advisory Group (INSARAG) guidelines and markings.

- FEMA should identify a single POC, the Emergency Support Function (ESF) 9 desk in the NRCC, to coordinate the movement of US&R task forces with the FEMA Movement Coordination Center (MCC), Logistics, and Transportation.
- FEMA should ensure that NRCC staffing is a priority and should increase the number of full-time NRCC positions. FEMA should ensure that NRCC assignments are considered desirable by personnel.
- FEMA liaison standard operating procedures (SOP) should include travel authorization, deployment logistics, roles and responsibilities, pay, and other administrative issues that may be different from a typical disaster assignment. FEMA should provide liaisons with a "Smart Book" that contains all the critical information they will need during their liaison duty.
- NRCC training should address higher-level collective tasks, including managing the center, planning for future operations, maintaining situational awareness, and providing resources to the field.

Cross-Cutting Strategic Themes

Three strategic themes emerge that cut across the observations contained in this Quick Look Report. Together, these can further enhance FEMA's and the U.S. government's preparedness for and response to a catastrophic earthquake.

- Tactics and Approaches: The Haiti earthquake response demonstrated the fundamental validity of the US&R concept, including tactics, organization, and equipment. Among the preliminary findings that identified opportunities for additional enhancements to US&R tactics and approaches include:
    - Emergency planners need to have a deeper understanding of the resilience of post-disaster societies so that surviving elements can be identified and used to deliver resources.
    - USAID and FEMA should develop a document that delineates the differences between the National Response Framework (NRF) and USAID foreign disaster response processes. Further, the NRF should be modified to better address incidents when FEMA is a supporting Federal agency, and support to foreign disasters.
    - US&R task forces may need to consider additional approaches to locate persons trapped for several days in collapsed structures.
    - FEMA needs to review its procedures for responding to requests for assistance in disaster areas so that it can take greater advantage of all communications mediums, including social media (emails, text messages, etc).

- The US&R Deployment Model: FEMA and USAID successfully deployed 6 US&R task forces to Haiti to conduct search and rescue operations. This experience revealed opportunities for refining deployment and transportation processes, including:
    - FEMA should work with USAID to develop pre-determined air transportation for

immediate use by FEMA US&R task forces for foreign disasters, if possible. This should include commercial, DOD, and DHS air transportation assets.

- FEMA should define and develop a US&R tiered response concept, including a modular US&R response. This review should assess how task force base loads can be made more flexible and lighter. It should also address such issues as phased deployment, assessment teams, and reconnaissance teams.
- FEMA US&R task forces should design palletization plans so caches can be palletized in a timely fashion for deployment. Task forces should consider having the ability to palletize their equipment on wooden pallets to ensure flexibility across all modes of transportation.
- FEMA should review and validate the current planning assumptions for transportation needs, including the 1,200 mile ground transportation threshold.
- FEMA US&R Program Office should ensure that all task force load plans are loaded into JOPES (Joint Operations Planning and Execution System). The plans should be reviewed and updated annually. Every task force should have a unit type code (UTC) that is loaded into JOPES.
- FEMA US&R task forces should conduct exercises in partnership with primary and secondary transportation planners and providers that address multi-modal transportation planning and execution, including load plans.
- Dedicated local transportation should be secured, if possible, when US&R task forces are unable to deploy with their transportation assets. Limited resources may require that task forces share resources through an organized motor pool.

- Information Requirements and Sources for Catastrophic Incidents: Haiti earthquake response operations illustrated opportunities for improving the delivery of information and imagery to US&R task forces for catastrophic response operations, including:
  - Task forces must have the appropriate maps prior to deployment and must ensure that information on GPS units is up to date.
  - US&R task forces should utilize a standard GPS format that is preloaded in all equipment prior to deployment.
  - Task forces should identify pre-scripted mapping packages prior to deployment and should adhere to the U.S. National Grid (USNG) for search and rescue operations. Alternately, task forces may use the Military Grid Reference System (MGRS) if the USNG is unavailable for an international location. This will ensure that priority areas are identified and that grid searches are accomplished in the most efficient way possible.

SECTION 1: INCIDENT OVERVIEW

1.1 The Earthquake

On Tuesday, January 12, 2010, at 4:53 p.m. EST, an earthquake with a 7.0 magnitude occurred in the Atlantic Ocean approximately 15 miles southwest of Port-au-Prince, Haiti. The nation suffered massive damage in Port-au-Prince and in numerous other towns and cities. According to the Government of Haiti, the earthquake collapsed 100,000 structures and damaged another 200,000 across Haiti, resulting in over 220,000 deaths, 300,000 injuries, and 1.1 million displaced people. This constituted, according to the U.S. Geological Survey, the greatest loss of life in the Western Hemisphere due to an earthquake on record. The disaster incapacitated the Government of Haiti and aid organizations previously working in the country and disrupted the nation's critical infrastructure, including the Toussaint Louverture International Airport in Port-au-Prince and seaport.

1.2 The United States Government Response

The U.S. Government, along with other nations, international organizations, and nongovernmental organizations, rushed to provide critical life-saving and other assistance to Haiti. President Barack Obama directed USAID to lead the coordination of the United States Government assistance to Haiti. USAID activated a Response Management Team (RMT) in Washington, DC, and deployed a Disaster Assistance Response Team (DART) and two USAID SAR task forces to the disaster area.

USAID worked with other Federal agencies to organize and deliver assistance to the victims of the earthquake. DHS deployed over 1,000 personnel from various components to support U.S. assistance in Haiti. U.S. Coast Guard (USCG) personnel delivered immediate humanitarian relief by conducting urgent medical evacuations using aircraft and putting teams ashore from Coast Guard Cutters to deliver immediate medical care. In addition, USCG personnel supported port security, at-sea rescue and interdiction, military air traffic and control, and damage assessment operations. The U.S. Customs and Border Protection (CBP), Immigration and Customs Enforcement, Transportation Security Administration, FEMA, and the USCG collaborated on the DHS Homeland Security Task Force Southeast's planning for Operation Vigilant Sentry to manage the repatriation of U.S. citizens and the potential mass migration of Haitian citizens to the U.S. By January 28, 2010, the USCG had evacuated 1,164 American citizens from Haiti, while CBP had processed 982 evacuation flights to the U.S. carrying 18,331 civilian passengers, 506 military passengers, 197 patients, 675 parolees, and 483 orphans.

The U.S. Department of Health and Human Services (HHS) deployed five Disaster Medical Assistance Teams (DMAT), four Disaster Mortuary Operational Response Teams (DMORT), and an International Medical Surgical Response Team to Haiti. DOD deployed thousands of personnel to Haiti to provide security and to reestablish operations at the Toussaint Louverture International Airport in Port-au-Prince so that planes with relief resources could begin arriving. The U.S. Southern Command (USSOUTHCOM) established Joint Task Force-Haiti to manage DOD efforts in Haiti. DOD personnel also worked with USCG personnel to conduct port

assessments and to restore piers to receive relief ships. As of April 2, 2010, the U.S. Government had provided over $1 billion in assistance to Haiti.

1.3 Federal Emergency Management Agency Support

On January 14, 2010, FEMA activated the NRCC to Level II operations, which included ESFs 6 and 9 as well as logistics, operations, planning, and external affairs sections. FEMA Administrator Fugate worked closely with DHS Secretary Janet Napolitano and USAID Administrator Rajiv Shah to ensure that FEMA provided prompt and effective support to response operations. FEMA and USAID negotiated an IAA, which addressed reimbursement and other funding issues. FEMA deployed liaisons to other agencies' operations centers to help coordinate the multi-agency relief effort. FEMA activated eight National US&R task forces to prepare for deployment to Haiti to join the two task forces deployed by USAID. FEMA activated and deployed the US&R Red IST to the Homestead Air Reserve Base (HARB) in Homestead, Florida. By January 16, 2010, four additional task forces had been deployed, bringing a total of six American US&R task forces consisting of 506 personnel to Haiti. FEMA deployed Assistant Administrator Damon Penn to lead a DHS Integrated Response Team, along with personnel from the Incident Management Assistance Team (IMAT) West and the USCG Deployable Operations Group to support command and control. A 6-person FEMA US&R Red IST Advance Element deployed to Haiti from HARB and augmented the USAID DART to provide support and assist with the demobilization of the four FEMA US&R task forces. FEMA also deployed Mobile Emergency Response Support (MERS) personnel and equipment to provide tactical communications for the United States Embassy, USAID, and US&R task forces in Haiti.

On January 16, FEMA's Logistics Management Directorate established an Incident Support Base (ISB) at HARB, Florida. The ISB served as the main staging area for emergency supplies, equipment, and personnel en route to Port-au-Prince, Haiti. FEMA partnered with DOD's Transportation Command to transport 220 containers of supplies to Haiti and the Dominican Republic to support disaster relief efforts. By February 10, FEMA, in coordination with DOD, delivered more than 1.42 million meals; 24,365 blankets; 767,164 liters of water; 7,645 cots; and 94,709 comfort kits to Haiti. Overall, through its support to USAID, FEMA delivered critical life-saving and life-sustaining resources to help the victims of the Haiti earthquake.

1.4 The After-Action Process

FEMA Administrator Fugate directed that FEMA conduct an after-action review with USAID for the Haiti earthquake response and include activated US&R task force leadership, program leadership, and others as appropriate. He instructed that the review should focus on the US&R deployment and other operational components that assisted in that deployment. The review had to be completed quickly – before FEMA became heavily engaged in preparations for Hurricane Season – and produce preliminary findings that could be applied to U.S. Government catastrophic earthquake response planning for both domestic and foreign emergencies.

The after-action process was designed to collect data from three primary sources: AARs submitted by the 8 US&R task forces and the IST that FEMA activated, AARs submitted by the 2 SAR task forces that USAID activated, and a survey (see Appendix B) of FEMA officials who played a key role in the response. In order to maximize the collection by the deadline of February 26, 2010, the US&R program office also distributed the survey to all 10 US&R task forces activated for the Haiti response, in coordination with USAID. Six US&R task forces and one IST activated by FEMA submitted AARs. The after-action team received 32 survey responses, 21 from FEMA personnel, 1 from a USCG liaison, and 10 from US&R task force personnel. The team also conducted 8 interviews, 7 with FEMA personnel and 1 with a US&R task force leader.

The after-action team reviewed the AARs, survey responses, and interview notes to develop a draft Quick Look Report. An after-action conference was held on March 23-24, 2010, which allowed FEMA, US&R, and other response personnel to review and discuss the observations and recommendations in the draft Quick Look Report. The after-action team revised the draft Quick Look Report based on the discussion at the conference.

1.5 Quick Look Report Organization

Section 2 of this report examines the US&R response, while Section 3 examines additional FEMA response and support activities related to the Haiti earthquake. Each section identifies each observation as either a strength or an area for improvement. Section 4 lists the report's preliminary findings according to whether they apply primarily to domestic or foreign disaster responses. The preliminary findings are categorized according to whether they are immediately actionable or would require an extended period before becoming actionable. Section 4 also identifies areas for further study. Appendix A presents a chronology of critical events. Appendix B contains the survey distributed by the after-action team to US&R task forces and other response and support personnel.

The observations included in this Quick Look Report do not represent an official FEMA position. The preliminary findings included in this Quick Look Report are subject to further analysis and revision.

SECTION 2: THE US&R RESPONSE

Introduction

This section presents observations about the US&R activation and deployment for the Haiti earthquake. These observations describe both strengths and areas for improvement related to US&R efforts. The observations in this section are derived from US&R AARs, survey responses, interviews, and discussion at the Haiti earthquake response after-action conference.

1. General Observations

Observation 1.1: *Strength:* The success of the US&R task forces deployed to Haiti demonstrates their versatility and value as national assets.

> **Discussion:** The Haiti earthquake constituted the first time that domestic FEMA US&R task forces augmented the two USAID task forces for a foreign disaster response. Together, the American US&R task forces were responsible for a significant number of live rescues in Haiti: 47 of 134 total (35%) live rescues. This constitutes the greatest number of lives saved in a collapse rescue environment in the history of the FEMA US&R program. US&R task forces did not suffer any significant work-site related injuries despite the magnitude of rescue operations. The successful performance of the FEMA US&R task forces validates the overall concept of operations, strategy, tactics, training, and equipment as well as the national approach to US&R preparedness.

Observation 1.2: *Area for Improvement:* Earthquake victims survived in collapsed structures beyond several days, contrary to previous assumptions.

> **Discussion:** Search and rescue efforts often assume that trapped survivors are unlikely to live beyond a short period of time. However, a number of survivors found air pockets, food, or drink that enabled them to survive for extended periods of time. Some used cellular phones to inform the Government of Haiti and others that they were alive and where they were located. Haitian cellular providers waived all text message fees to facilitate text messaging by earthquake victims. This may indicate that US&R teams should consider using live search dogs for longer periods of time after a collapse than had been previously believed.
>
> **Preliminary Findings:**
>
> 1. US&R task forces may need to consider additional techniques to locate persons trapped for several days in collapsed structures.
> 2. FEMA needs to review its procedures for responding to requests for assistance in disaster areas so that it can take greater advantage of all communications mediums, including social media (emails, text messages, etc). This review should address how to manage responses to social media whenever a public service answering point is rendered inoperable due to a disaster.

2. Activation and Pre-Deployment

Observation 2.1: *Area for Improvement:* FEMA US&R task forces encountered a range of challenges related to a foreign disaster deployment.

Discussion: The two USAID SAR task forces are prepared for and have significant experience with foreign disaster deployments. These task forces have the necessary elements in place—including passports, vaccinations, and foreign cultural awareness training—to enable them to deploy rapidly to a foreign disaster. Conversely, the Haiti response was the first time other FEMA US&R task forces had been activated for a foreign disaster. In the hours after the earthquake, these task forces undertook a variety of measures to prepare quickly for the Haiti deployment. The Department of State Special Issuance Passport Office developed a process within one hour to issue no fee travel books to FEMA US&R task force members. However, addressing passport and vaccination issues reduced the time available for other critical pre-deployment activities after this no-notice incident. Some respondents indicated that some task force personnel were not prepared for the cultural dimension of a foreign disaster response. The FEMA US&R Program Office and task forces should be made aware of the following issues as part of the activation and pre-deployment for a foreign assignment: cultural awareness training, international medical insurance, medical evacuation insurance, operating in an austere foreign environment, professional and tort liability, worker's compensation protection, and reduced cube and weight for equipment transport.

Preliminary Finding:

1. Additional FEMA US&R task forces should be prepared for deployment to a foreign disaster. Some respondents recommended up to one-third of total U.S. US&R capacity. This could reduce the possibility of overextension of the two international task forces and help ensure that the U.S. is prepared for multiple foreign disasters or a single, large-scale foreign disaster, such as the Haiti earthquake.
2. FEMA and USAID should develop baseline requirements for any additional US&R task forces that may be identified for future foreign disaster deployments. These requirements should address training, passports, vaccinations, and prophylaxis, among other issues.

Observation 2.2: *Area for Improvement:* FEMA US&R task forces encountered a number of challenges related to the activation.

Discussion: The FEMA US&R Program Office promptly contacted US&R task forces, IST members, and their program managers by telephone to discuss the unusual nature of this foreign response. This enabled the Program Office to confirm that both task force leaders and IST members would support this deployment. IST members received the standard Activation Order through proper notification methods once all issues, including travel, had been addressed. However, FEMA US&R task forces indicated that they received communications by various methods, including telephone, email, and fax. In

one case, the activation email was sent to a task force leader but not to the task force's 24-hour POC. Further, FEMA US&R task forces did not receive an alert status for this deployment, which had the potential to delay deployment and increase costs to the task forces. These issues may have resulted from the hectic pace to provide assistance after a large-scale foreign disaster in close proximity to the U.S.

Preliminary Finding:

1. FEMA should establish a program directive that identifies the acceptable method of communicating official correspondence to US&R task forces and system members, including for advisory, alert, and activation status. This should include the use of pre-designated 24-hour telephone or fax numbers. FEMA should also notify the National Geospatial-Intelligence Agency (NGA) through appropriate DOD channels so that it can prepare to deploy analysts to support the mission as needed.

Observation 2.3: ***Area for Improvement:*** The USAID DART did not receive prompt information about which FEMA US&R task forces were being deployed to Haiti.

Discussion: Early in the disaster, the DART did not receive important information about the FEMA US&R task forces being deployed, including their organizational charts, manifests, cube/weight, the number of canines, and other details. Respondents observed that the FEMA US&R task force rotation system might not be efficient for supporting USAID foreign disaster response.

Preliminary Finding:

1. During a foreign disaster, FEMA should promptly inform USAID of which US&R task forces it plans to activate. USAID should share this information with the search and rescue officer on the RMT and the DART.

3. Command and Control

Observation 3.1: ***Area for Improvement:*** The IST lacked a designated timeframe for its assumption of command and coordination responsibilities upon its arrival in Haiti.

Discussion: The Red IST indicated that a designated timeframe for the IST's assumption of command and coordination activities should be carefully planned. Command and coordination responsibilities should not be assigned to IST members upon activation because these members are often dispersed across the U.S. or are not accessible due to air travel.

Preliminary Finding:

1. ISTs should develop and designate a specific timeframe for assuming command and coordination responsibilities during deployments.

Observation 3.2: ***Area for Improvement:*** FEMA US&R task forces and IST personnel were generally unfamiliar with foreign disaster response command and control procedures,

which caused confusion in the initial stages of their deployment.

Discussion: FEMA US&R task forces typically deploy to domestic incidents with an IST which coordinates with Federal, State, and local officials. ISTs also provide critical logistical, medical, and other support to the task forces during deployments. After the earthquake, a full IST did not deploy to Haiti to support the four FEMA US&R task forces. The USAID DART supported the four FEMA US&R task forces as well as the two USAID SAR task forces. The DART allowed the task forces to make all operational decisions. The FEMA US&R task forces coordinated with the DART as well as the United Nations Office for the Coordination of Humanitarian Affairs' (OCHA) On-Site Operations Coordination Center (OSOCC). However, the FEMA US&R task forces were unfamiliar with DART and OSOCC procedures, as well as with INSARAG markings. One respondent indicated that it took his task force three days before it understood INSARAG and its marking system or how to report to the OSOCC. Further, IST logistics personnel did not have a clear understanding of the USAID chain of command for disaster response operations.

Respondents indicated that Haiti search and rescue operations illustrate the importance of promoting further integration between the FEMA domestic US&R system and the foreign INSARAG system. Another large-scale foreign disaster in close proximity to the U.S. may require the augmentation of USAID SAR task forces by FEMA task forces. Greater familiarity among FEMA US&R task forces and the IST with USAID and INSARAG procedures can ensure that such assistance is provided in the most efficient and effective manner possible. Conversely, a catastrophic earthquake or incident of similar magnitude within the U.S. would necessitate a massive search and rescue effort, conducted by FEMA US&R task forces as well as State, local, and foreign teams. This could result in coordination challenges among the different types of search and rescue teams similar to the ones encountered in Haiti.

Preliminary Findings:

1. FEMA US&R task forces and ISTs should complete USAID training on the foreign disaster response system, including command and control procedures. FEMA US&R teams should also become familiar with INSARAG guidelines and markings.
2. FEMA should develop a module on foreign disaster operations, USAID and OSOCC processes, and INSARAG markings into the appropriate US&R manuals and presentations. FEMA should consider developing an online, independent study course that addresses these topics.
3. USAID should develop and disseminate operations guides for logistics operations during foreign disaster responses.
4. FEMA should establish processes to ensure that State, local, and foreign search and rescue teams can be rapidly integrated with FEMA US&R task forces in the event of a catastrophic earthquake or incident of similar magnitude within the U.S. FEMA should leverage its outreach efforts with the State Urban Search & Rescue System for this effort.

5. FEMA and USAID should be prepared to establish reception centers for foreign search and rescue teams during a catastrophic earthquake or other similar incident in the U.S.
6. USAID, the DART, and other partners should be invited to deliver presentations on foreign disaster response requirements at FEMA US&R annual conferences.

4. Communications

Observation 4.1: *Area for Improvement:* US&R task forces experienced difficulties using their communications technologies in Haiti.

Discussion: Task forces in Haiti had difficulty maintaining reliable radio communication due to the Port-au-Prince topography. The IST communications unit could not reach task forces during the alert and activation period, which resulted in the task forces being deployed without direction regarding communications channel assignments. One task force concluded that more effective radio repeaters are needed to increase communications capabilities during similar deployments. Another task force noted that the austere communications in Haiti were similar to those encountered after hurricanes in the U.S. This task force is committed to purchasing Broadband Global Area Network terminals to address its communication challenges in future deployments.

Preliminary Findings:

1. US&R task forces should include additional radio repeaters and field backpack units in their communications caches for foreign disaster response. Task force communications plans should be sufficiently flexible so that they do not depend solely on repeaters or mobile radios during foreign deployments.
2. US&R task forces must ensure that their communications equipment can be used outside the U.S. Task forces should address export restrictions on encryption-capable radios, etc.

Observation 4.2: *Area for Improvement:* US&R task forces lacked a sufficient number of communications personnel during the deployment to Haiti.

Discussion: US&R task forces typically deploy with two communications members which limits the amount of work they can perform. Communications members work 12-hour rotations, with one working while the other one rests. During the Haiti deployment, one task force had five communications members who were occupied for the entire day. These members repaired and maintained communications equipment, set up communications at remote work sites, or ensured the base of operations (BoO) had redundant communications.

Preliminary Finding:

1. US&R task forces should consider deploying with three or four communications members.

5. Transportation

Observation 5.1: ***Area for Improvement:*** FEMA US&R task forces encountered challenges regarding their air transportation to Haiti.

Discussion: USAID has developed a pre-determined method for deploying its US&R task forces during foreign disasters. USAID contacts DOD and commercial carriers to determine the best method to transport the task force. During the Haiti response, both VA-TF1 teams traveled on commercial aircraft while CA-TF2 used DOD aircraft. The FEMA NRCC activated an MCC shortly after the earthquake to help manage the movement of personnel and resources to Haiti. However, several FEMA US&R task forces noted that there was no pre-established method to transport them to Haiti. One task force was transported via a commercial carrier, while its cache was transported on a different aircraft. The cache arrived later than the task force, thus requiring the task force to borrow equipment from another task force.

Preliminary Findings:

1. FEMA should work with USAID to develop pre-determined air transportation for immediate use by FEMA US&R task forces for foreign disasters, if possible. This should include commercial, DOD, and DHS air transportation assets.
2. FEMA should identify a single POC, the ESF-9 desk in the NRCC, to coordinate the movement of US&R task forces with the FEMA MCC, Logistics, and Transportation.
3. FEMA should institutionalize the MCC within the NRCC to facilitate transportation execution of FEMA assets, based on priorities.
4. There should be a single POC for US&R transportation, FEMA for domestic responses and USAID for foreign responses.

Observation 5.2: ***Area for Improvement:*** FEMA and US&R task forces can take steps that will make the task forces better prepared for transport by DOD aircraft after a disaster.

Discussion: Most FEMA US&R task forces had used ground transportation for deployments in recent years. Consequently, task forces were not used to deploying by air, including DOD aircraft. One task force was directed to a military base to deploy to Haiti only to find that the military unit had not been informed of this mission.

Task forces cited several measures that made them better prepared to use DOD air transportation. One task force noted the benefits of a DOD air load planning training course. Other task forces had maintained strong relations with DOD—as well as USCG—units in their area. Respondents noted that while all FEMA US&R task forces' load plans should be submitted to the DOD's Joint Operations Planning and Execution System (JOPES), it is not clear if all have done so or if the data is up to date.

Preliminary Findings:

1. The FEMA US&R Program Office should ensure that all task force load plans are

loaded into JOPES. The plans should be reviewed and updated annually. Every task force should have a unit type code (UTC) that is loaded to JOPES.

2. FEMA should assign a military liaison to assist with the transport of critical FEMA US&R personnel and equipment to foreign disaster areas.
3. FEMA should ensure it has trained air load planners who can draft accurate plans, coordinate with the requisite military offices, and assist with the loading of equipment and assets.
4. FEMA US&R task forces should establish and maintain relationships with the Air National Guard in their states. This could facilitate air transport for deployments.

Observation 5.3: ***Area for Improvement:*** Some US&R task forces lacked appropriate transportation assets for ground operations in Haiti.

Discussion: Some US&R task forces deployed to Haiti with vehicles that enabled them to conduct their operational assignments. Other task forces competed with each other and with the U.S. Embassy to use a small contingent of transport vehicles. Available vehicles were usually limited to large bullet-proof utility vehicles or passenger vans, neither of which were suited to carry US&R task force personnel and equipment. Further, some task force members rode in the back of open-bed trucks due to the lack of larger passenger vans. As some respondents noted, dedicated transport for each US&R task force is frequently not possible in austere foreign environments. Limited resources may require that task forces share resources through an organized motor pool.

Preliminary Findings:

1. Dedicated local transportation should be secured if possible, when US&R task forces are unable to deploy with their transportation assets.
2. FEMA US&R task forces should conduct exercises in partnership with primary and secondary transportation planners and providers that address multi-modal transportation planning and execution, including load plans.
3. FEMA should assess whether US&R task forces should be allowed to rent vehicles at their home base and refund their costs through the reimbursement process.

6. Logistics and Equipment

Observation 6.1: ***Area for Improvement:*** The US&R task forces' deployments to Haiti may indicate that task forces have lost the fast, light, and mobile concept.

Discussion: USAID SAR task forces employ multiple cache load plans to ensure that military or commercial airframes can be used for foreign deployment. However, several FEMA US&R task forces had caches that were unsuitable for air transport. Type 1 caches were too extensive and burdensome for the DOD or USAID logistics that provided transport. For example, the IST C-Cache is not ready to be transported by air because such transport was never envisioned. Task forces and FEMA underestimated the

amount of time necessary to properly prepare a cache for air transport. Respondents indicated that the base loads of FEMA US&R task forces need to be re-evaluated so that task forces can be more flexible, lighter, and modular. This will enable them to be transported on a wider range of airframes. However, respondents noted that each deployment tends to require a specific set of tools that can only be determined in the field or in hindsight. Further, task force personnel should be prepared to operate in austere conditions with minimal comforts. Other respondents indicated that US&R task forces may need to bring additional food, water, and other resources to enable them to operate in disaster areas when re-supply may prove very challenging (see Observation 6.2 below).

Preliminary Findings:

1. FEMA should define and develop a US&R tiered response concept, including a modular US&R response. This review should assess how task force base loads can be made more flexible and lighter. The review should also address such issues as phased deployment, assessment teams, and reconnaissance teams.
2. FEMA US&R task forces should evaluate caches for mission-specific requirements necessary for air transport and confirm that they are not carrying non-essential cache items.
3. FEMA US&R task forces should be prepared to live in austere conditions with basic or limited support. FEMA should reevaluate the requirements for task force self-sufficiency during deployments.
4. FEMA and USAID should coordinate the use of commercial cargo aircraft for transporting equipment and commercial passenger aircraft for transporting personnel in a foreign disaster.
5. FEMA and DOD should exercise preparing caches for transport to decrease the amount of time the process currently takes and to coordinate the types of aircraft that will be used in future transports.
6. FEMA US&R task forces should design palletization plans so caches can be palletized in a timely fashion for a deployment. Task forces should consider having the ability to palletize their equipment on wooden pallets to ensure flexibility across all modes of transportation.
7. FEMA should review and validate the current planning assumptions for transportation needs, including the 1,200 mile ground transportation threshold.
8. FEMA should review information sharing processes that enable deployed US&R task forces to share information about tools and techniques with task forces preparing to deploy so that they can tailor their equipment cache.

Observation 6.2: ***Area for Improvement:*** Some US&R task forces encountered challenges receiving re-supply resources, including food and water.

Discussion: The Activation Order for some US&R task forces called for them to deploy with a standard 3-day supply of food and water. One task force deployed with a 5-day supply, based upon its experience after Hurricane Katrina. However, deploying

with additional supplies may present challenges to recommendations to make US&R task forces lighter (see Observation 6.1). Some respondents noted that the USAID DART and the IST kept US&R task forces informed of critical logistics movement and re-supply activities through daily meetings.

Preliminary Findings:

1. Task forces should consider deploying to catastrophic disasters (domestic and foreign) with a 10-day supply of food and water. This issue should be addressed in task force SOPs.
2. ISTs should be deployed with US&R task forces to assist with re-supply and other logistics issues during foreign disasters. This will allow the task forces to focus on rescue operations.

7. Search and Rescue Operations

Observation 7.1: *Strength:* US&R task forces employed successful information gathering and site triage methods to conduct effective operations.

Discussion: One US&R task force often had to gather information to conduct site and structural triage during its operations in Haiti. The concepts taught prior to deployment during the task force's "Search, Planning, and Management" course proved invaluable to performing this mission. Respondents noted that wide area search planning in urban environments differs from that in typical search and rescue missions. Foreign differences, including terminology, can compound this, which results in local level coordination problems. To address this issue, INSARAG is developing a search team manager training program which can be shared with FEMA once it is completed.

Preliminary Finding:

1. US&R task forces should regularly evaluate their rapid triage and information gathering methodology to increase efficiency in operations.

Observation 7.2: *Area for Improvement:* US&R task forces of varying size and composition were assigned to conduct operations over areas of similar sizes.

Discussion: Some geographic sectors lacked sufficient resources to perform prioritized search operations in a given operational period. This arose, in part, due to the contribution of search and rescue teams from many different nations during the Haiti response. These teams were of varying sizes and composition which presented challenges for coordination and the uniform search areas.

Preliminary Findings:

1. FEMA should continue to develop and implement the National Incident Management System (NIMS) uniform resource-typing standard for US&R task forces. This standard will allow an incident commander to make informed decisions when assigning resources to an impacted area. However, it should be

recognized that this recommendation may have limited impact for foreign disasters due to the inconsistent use of ICS by foreign responders. FEMA should consult the resource typing models within the INSARAG Guidelines.

Observation 7.3: *Area for Improvement:* US&R task forces in Haiti had limited communication with each other and conducted a limited information exchange.

Discussion: The two task forces based at the Port-au-Prince airport never met those based at the U.S. Embassy. Post-mission conference calls indicated that it would have been helpful to share information among the task forces.

Preliminary Finding:

1. Task forces should meet and discuss successes and failures at regular intervals during deployments.

Observation 7.4: *Area for Improvement:* US&R task forces in Haiti lacked adequate mapping resources and technology.

Discussion: NGA elements were with the IST but did not deploy to Haiti. Consequently, during the initial stages of the deployment, task forces used tourist maps provided to them by the United States Embassy in Haiti. Task forces utilized open-source maps on their global positioning system (GPS) units once Internet access became available. Still, the level of sophistication was considered "primitive." Some respondents noted that, in certain cases, tourists maps with street names may be the most useful maps during a deployment.

The NGA has been providing mapping and imagery products to US&R missions for many years. The NGA is able to make information derived from many sources available at the unclassified level. No other Federal agency has access to both classified and unclassified environments and has the ability to get information classified appropriately for the widest possible dissemination. The NGA has been developing a handheld GPS capability that would address these challenges. Further, NGA has instituted a production capability to create Map Books designed specifically for US&R task forces. These books can be generated within the first 24 hours of an incident, in electronic (pdf) form. NGA then posts the book to Intelink (www.intelink.gov).

Preliminary Findings:

1. Task forces must have the appropriate maps prior to deployment and must ensure that information on GPS units is up to date.
2. The NGA should explore National Technical Means (NTM) disclosure agreements with internal policy for designated IST members. This will alleviate the costs and concerns of a security clearance during a crisis.
3. FEMA and USAID should coordinate on developing a relationship with NGA for foreign and domestic responses. NGA should conduct outreach to USAID about NGA's role and support to US&R operations. FEMA should consider NGA as a full member of US&R task forces and ISTs so that it is automatically embedded

with those teams whenever they are deployed and receive the necessary logistical support. NGA should conduct outreach about its capabilities to the two foreign US&R task forces. This can ensure that the task forces are aware of NGA mapping and imagery capabilities when they are deployed without an IST.

4. NGA and FEMA should develop mechanisms to ensure that the NGA's handheld GPS capability is made operational and available to US&R task forces during deployments.
5. FEMA should develop a standard toolbox for US&R task forces. NGA and FEMA should coordinate to ensure that NGA Map Books are disseminated to US&R task forces and other response elements.

Observation 7.5: ***Area for Improvement:*** US&R task forces did not use consistent GPS formats.

Discussion: The OSOCC established incident datum early in the disaster response, which was confirmed by the Joint Planning Section. One task force received coordinates in numerous formats (i.e., Latitude, Longitude, Universal Transverse Mercator, and USNG), which required several conversions. The NGA has supported FEMA's use of the USNG for domestic deployments by providing training to US&R task forces. However, the USNG is only applicable for domestic deployments; there is an equivalent global system, the MGRS, which is practically similar in function to the USNG.

Preliminary Findings:

1. US&R task forces should utilize a standard GPS format that is preloaded in all equipment prior to deployment.
2. Task forces should identify pre-scripted mapping packages prior to deployment and should adhere to the USNG for search and rescue operations. This will ensure that priority areas are identified and that grid searches are accomplished in the most efficient way possible.
3. FEMA, NGA, and USAID should coordinate the use of the USNG for domestic deployments and the MGRS for foreign deployments. All US&R task forces should use World Geodetic System (WGS) 84 datum which is also global.
4. NGA should consider entering into an IAA with FEMA for GEOINT support to US&R foreign deployments. This will make it easier for USAID to access NGA support during foreign deployments by referencing the IAA between FEMA and NGA.

8. Health and Safety

Observation 8.1: ***Area for Improvement:*** Several FEMA US&R task forces and the IST had difficulty obtaining the necessary pharmaceutical supplies on short notice prior to deployment.

Discussion: FEMA US&R task forces that had not deployed to foreign incidents were

not as well prepared for health and medical issues as US&R task forces that had. Medicines required for foreign deployments are typically not included in the caches of task forces that are not designated for foreign operations. Several US&R task forces did not have the necessary pharmaceutical supplies, such as malarial prophylaxis, insect repellant, or sun block, prior to activation. Some sent physicians to local pharmacies to obtain the supplies. However, one task force arranged for its members to receive the recommended vaccinations for Haiti within hours of receiving its activation orders. The task force leveraged its relationship with the state's department of health to accomplish this. Respondents noted that task forces lacked the medical intelligence necessary to prepare for the deployment.

Respondents commented that the experiences of international search and rescue and medical disaster teams should be leveraged to identify best practices related medical caches, medical supply mechanisms, immunization requirements, hydration, water purification, disease prevention, and timely medical intelligence. These best practices can help prepare FEMA US&R task forces for both domestic and foreign responses.

Preliminary Findings:

1. FEMA should develop contractual agreements with pharmaceutical and medical supply companies to ensure the availability of medications and supplies for use by FEMA US&R task forces and ISTs during foreign disasters.
2. FEMA should develop a repository of international disaster medical best practices for FEMA US&R task forces to help them prepare for domestic and foreign responses. FEMA should develop health and medical policies, as appropriate, based on the best practices identified in the repository.

Observation 8.2: *Strength:* US&R task forces successfully maintained the health of their members throughout the deployment in Haiti.

Discussion: The Haiti earthquake deployment presented a range of health risks to US&R task force members, including native vector transmitted infectious diseases (Malaria, Dengue Fever), native epidemic diseases (Measles, Tuberculosis), bloodborne pathogens (HIV), and food borne illnesses. Task force leaders and medical team managers worked to maintain the health of task force members throughout the deployment. Personal protective equipment and other safety practices ensured that no task force members suffered any serious injuries during rescue operations. Still, respondents noted that there are several opportunities for enhancing task force health during deployments, particularly related to sleep derivation, acclimatization, hydration, and evacuation of injured or ill task force members. The failure to deploy the IST medical component to Haiti left FEMA US&R teams without medical support that has become a critical component of domestic deployments.

Preliminary Findings:

1. US&R medical directors should have a greater understanding of problems associated with sleep deprivation, particularly among command and logistics

personnel. Medical directors need to consider the timing of activations and the potential for forced sleep cycles.
2. FEMA and US&R task forces should establish defined evacuation plans for injured or seriously ill members. The plans should include contact information, means/routes, receiving medical facility, and medical care in route.
3. The IST Medical Working Group should address the necessity of electrolyte solutions to maintain and replenish hydration status.
4. The IST medical component should continue to be deployed to support FEMA US&R task forces. FEMA US&R task forces should be promptly notified if the component will not be deployed so it can develop alternative plans.

Observation 8.3: *Area for Improvement:* FEMA US&R teams deployed to Haiti without veterinarians, which resulted in medical care issues for canines.

Discussion: ISTs can include a veterinarian who provides medical care to canines during domestic US&R deployments. Some US&R task forces roster a veterinarian in secondary role, such as a driver. During the Haiti response, the IST veterinarian did not deploy, leaving the 28 task force canines in Haiti without veterinary support. In one case, a task force medical director used a satellite phone to practice veterinary telemedicine to care for a canine that suffered a seizure. Respondents emphasized the importance of having veterinary care available for deployments, particularly foreign operations. Medical directors may be able to provide basic care for canines, but veterinarians are required for any injuries or other advanced care issues.

Preliminary Findings:

1. FEMA should establish a policy for providing veterinary care whenever a significant number of canines are deployed with task forces to an incident.
2. US&R task forces should be informed immediately if an IST will not deploy to an incident. This will enable the task force to address veterinary support issues prior to deployment.

Observation 8.4: *Area for Improvement:* US&R task forces sometimes operated in Haiti with minimal or no security protection.

Discussion: During domestic deployments, FEMA ensures that US&R task forces have the required level of security protection. During the Haiti deployment, task forces were protected by a variety of sources, including United Nations (UN) troops, local law enforcement, and the U.S. Diplomatic Security Service. The UN demobilized its security force 2 days after the disaster, which created a lack of security assets for task forces. One task force bartered use of its shower with a foreign security force to gain security for its BoO. On one occasion, a task force felt threatened, but one task force member, who is Haitian-American and speaks French-Creole, defused the situation. Participants noted that personal security requires acute situational awareness and following established policies, procedures, and common sense. Task forces should be prepared to withdraw whenever situations become unstable.

Preliminary Finding:

1. Task forces should collect information about their members' language capabilities and special skills. This can assist in force protection as well as other operational activities during deployments. Task forces should consider a formal interpreter process so they can have access to or roster interpreters from universities or other institutions.

Observation 8.5: *Area for Improvement:* Some US&R task forces' BoOs suffered from security and safety risks.

Discussion: One task force BoO was located close to the entrance of the Port-au-Prince airport. Aircraft and vehicles were often allowed in and out of the airport with no screening of cargo. Additionally, as other task forces established BoOs nearby, visitors and trespassers walked up to or through the task force's BoO without permission. Respondents also noted that there are no SOPs regarding decontamination or hygiene during ingress and egress from BoOs.

Preliminary Findings:

1. Task forces should consider safety and security when establishing a BoO.
2. Task forces should add more plastic sand fencing and plastic poles to their equipment caches for future deployments. This will allow task forces to secure their BoO area and equipment from intruders.
3. FEMA should develop SOPs for hygiene and decontamination of personnel and equipment for BoO ingress and egress. The SOPs should be incorporated into task force leader, HazMat, safety, and medical training. FEMA should develop forms or consider adding a box on the 206 form to ensure critical information is recorded.

Observation 8.6: *Area for Improvement:* FEMA lacks doctrines and processes for assessing the physical and mental health of personnel deployed for incident response operations.

Discussion: FEMA personnel were exposed to a range of risks during their deployments in Haiti. For example, US&R task force members had to assume that asbestos was present due to a lack of knowledge about building codes in Haiti. Federal partners provided a range of support to FEMA and DHS personnel deployed to Haiti. The DHS Office of Health Affairs developed post-deployment medical screening guidelines and a guide to post-deployment post traumatic stress disorder. HHS's Federal Occupational Health office provided immunizations, medications, and health guidance to FEMA and other government personnel deployed in Haiti. However, there was no FEMA-wide approach to monitoring the health of deployed personnel. Further, response personnel did not receive complete and timely health and safety information related to their deployment. Respondents noted that there are gaps in health and safety for deployable personnel. Currently, medical surveillance, pre- and post-deployment screening, immunization, and respiratory clearance programs are not mandatory. There is a need for hygiene compliance SOPs and training on infectious disease risks during

deployments. Policies also need to be developed regarding hygiene configuration and decontamination after water rescue. Finally, respondents noted that there is a wide variation among US&R task forces in prophylaxis, post-deployment surveillance, and treatment of possible acquired infectious diseases.

Preliminary Findings:

1. FEMA should develop doctrines and processes for assessing the physical and mental health of its personnel deployed to disaster responses. This should include pre- and post-deployment screening and risk assessments. FEMA should also identify processes and timeframes (3 months, 6 months, etc.) for surveying task force members.
2. FEMA, in collaboration with US&R task force leaders and medical directors, should develop SOPs for hygiene compliance during deployments.
3. The US&R Program Office should work with the Emergency Management Institute (EMI) to develop an independent study (IS) course on infectious disease risks during deployments for all US&R task force members.
4. US&R task forces must assume that asbestos is present during foreign operations and wear masks until proven otherwise.
5. FEMA should consider conducting a fiscal analysis of the impact of transportation modes (ground, air, marine) on the health of deployed US&R task force members.
6. The IST Medical Working Group should develop recommendations for universal prophylaxis and post-deployment surveillance of communicable and infectious diseases.

SECTION 3: ADDITIONAL RESPONSE AND SUPPORT TOPICS

Introduction

This section presents observations about U.S. Government and FEMA operations related to the Haiti earthquake drawn from surveys submitted by and interviews with FEMA personnel, liaisons, and others. These observations are also based on discussion at the Haiti earthquake response after-action conference. These observations describe both strengths and areas for improvement.

9. General Observations

Observation 9.1: *Strength:* The Federal Government mobilized quickly to support USAID and to deliver assistance to Haiti in a coordinated manner.

> **Discussion:** The White House provided clear direction for the overall Federal assistance effort, with USAID coordinating the delivery of Federal resources. Many Federal agencies provided assistance, including agencies that are not typically involved in a U.S. response to a foreign disaster. Throughout the response, Federal agencies cooperated in order to meet the needs of Haitians impacted by the disaster.

Observation 9.2: *Area for Improvement:* Many planning assumptions about a post-earthquake environment were proven wrong in Haiti.

> **Discussion:** Looting and other security issues did not occur to the extent that some expected. Haitian society proved to be remarkably resilient, despite its poverty and the enormous devastation from the earthquake. Haitian cellular providers restored 80 percent of the networks within the first week after the earthquake. Businesses that survived the earthquake began utilizing existing supply chains to deliver goods in this very austere environment.
>
> **Preliminary Finding:**
>
> 1. Emergency planners need to have a deeper understanding of the resilience of post-disaster societies so that surviving elements can be identified and used to deliver resources.

Observation 9.3: *Strength:* Federal personnel demonstrated their flexibility, dedication, and professionalism throughout disaster response operations.

> **Discussion:** Federal personnel operated in an austere post-disaster environment to rescue victims, to deliver critical medical care and relief supplies, to provide logistical support, and to perform countless other missions. These field responders were supported by numerous other Federal personnel at staging areas and operations centers. Together, their commitment, professionalism, and dedication provided the foundation for the successful delivery of critical assistance to Haiti.

10. FEMA Support to USAID

Observation 10.1: ***Area for Improvement:*** FEMA personnel effectively supported USAID disaster operations despite a general unfamiliarity with USAID disaster assistance processes or with foreign disaster operations.

Discussion: The Haiti earthquake response was the first time some FEMA personnel had worked directly with USAID or on any foreign disaster response. A lack of knowledge regarding either USAID or foreign disaster assistance mechanisms hampered response operations. This indicates the need for greater familiarity among Federal personnel with both foreign disaster assistance processes generally as well as USAID processes specifically. Respondents commented that FEMA needs to coordinate with USAID on a routine basis, not just during foreign disasters.

Preliminary Findings:

1. USAID and FEMA should develop training for IMAT, MERS, US&R, and other FEMA-activated personnel on USAID disaster assistance response operations. This training should include training about the UN Cluster System for disaster response and the role of non-governmental organizations (NGO) in foreign responses.
2. USAID and FEMA should develop a document that delineates the differences between the NRF and USAID foreign disaster response processes.
3. The NRF should be modified to better address incidents when FEMA is a supporting Federal agency, and support to foreign disasters.

Observation 10.2: ***Area for Improvement:*** FEMA did not have an IAA with USAID to provide support for foreign disasters prior to the Haiti earthquake.

Discussion: The lack of an IAA delayed FEMA's ability to provide assistance to USAID. Many initial requests for assistance were oral agreements with limited follow-up in writing. This made it difficult to determine whether other agencies would reimburse FEMA for its actions. FEMA and USAID negotiated an IAA, which enabled FEMA to provide critical assistance to the disaster response. There was a lack of knowledge about what was and was not authorized under the IAA.

Preliminary Finding:

1. FEMA and USAID should develop a pre-scripted IAA or a pre-incident memorandum of understanding for foreign disaster responses. This should include a corresponding concept of operations for use of FEMA US&R task forces to support foreign disaster operations.

11. FEMA Operations

Observation 11.1: ***Strength:*** The Haiti earthquake response constituted the largest foreign disaster operation in FEMA's history.

Discussion: Federal personnel deployed by FEMA provided a wide range of assistance to Haiti, including the deployment of a multi-agency IMAT, four US&R task forces, one US&R IST, MERS personnel and equipment, as well as logistics and other support. Two other US&R task forces were deployed by USAID. FEMA's logistical capabilities enabled the agency to deploy large amounts of personnel and emergency supplies to Haiti quickly.

Observation 11.2: ***Area for Improvement:*** FEMA's role as a supporting agency was atypical and unfamiliar to many within and outside the agency.

Discussion: The Post-Katrina Emergency Management Reform Act of 2006 augmented FEMA authorities for non-Stafford Act incidents. Still, there was uncertainty due to FEMA playing a supporting rather than a lead role in a disaster that was foreign rather than domestic. Many Governors and mayors contacted FEMA to offer resources without realizing that FEMA was supporting, not coordinating, the U.S. assistance effort. Some FEMA and other personnel did not know or understand that FEMA could not mission assign for the Haiti response because it was not a Stafford Act disaster. FEMA needed permission from USAID before it could sub-task other agencies under the IAA.

Preliminary Findings:

1. FEMA should develop programs that build awareness among Government personnel of the agency's authority and responsibilities in non-Stafford Act disaster responses.
2. FEMA should develop training for its personnel on the agency's role in non-Stafford Act responses. Training should clarify processes for obtaining reimbursements for expenditures.
3. FEMA should educate its Federal, State, local, and private sector partners about the agency's supporting role in foreign disasters.

Observation 11.3: ***Area for Improvement:*** FEMA liaisons to other operations centers and military commands lacked the support and guidance needed to maximize their effectiveness.

Discussion: FEMA liaisons at other agencies' operations centers were often uncertain about their roles, responsibilities, and reporting chains. A number of FEMA liaisons encountered problems related to their clearance information. First, in some cases, FEMA personnel who hold clearances through other agencies arrived at their duty locations to find that their clearance information had not been provided because FEMA did not have their security information on file. In one case, a liaison had to be recalled until the issue was resolved several days later. Second, respondents noted numerous problems related to signing in and gaining access to their duty locations at other agencies. Third, liaisons

received contradictory information and guidance from FEMA, indicating ineffective internal FEMA coordination about liaisons and their roles. One liaison received conflicting information from FEMA headquarters about their length of service at another agency operations center. Together, these factors prevented the liaisons from assuming their responsibilities promptly or maximizing their overall effectiveness.

Preliminary Findings:

1. FEMA should define the roles and responsibilities of liaisons clearly to help manage the expectations of all parties.
2. FEMA should consider pre-identifying liaisons and providing them with the necessary training and badges. This can help to ensure that FEMA liaisons will be ready to serve in a no-notice disaster.
3. FEMA liaison SOPs should include travel authorization, deployment logistics, roles and responsibilities, pay, and other administrative issues that may be different from a typical disaster assignment. FEMA should provide liaisons with a "Smart Book" that contains all the critical information they will need during their liaison duty.
4. FEMA should develop and conduct training for FEMA liaisons assigned to support other agencies during disaster responses.
5. FEMA should review its policies related to clearances, particularly related to FEMA personnel who possess clearances through other agencies. This review should also examine whether to increase the number of FEMA personnel who hold security clearances.

12. NRCC Operations

Observation 12.1: ***Strength:*** NRCC personnel demonstrated their professionalism by adapting to the requirements of a large-scale foreign disaster.

Discussion: NRCC personnel worked diligently to support USAID and to deliver assistance to Haiti. They demonstrated their willingness to use new approaches and systems to meet the needs of the response mission.

Observation 12.2: ***Area for Improvement:*** Some NRCC personnel lacked training on and demonstrated unfamiliarity with NRCC processes and systems.

Discussion: Some NRCC personnel had to receive on-the-job training to be effective in their assignments. One respondent noted that it seemed that NRCC personnel had either not received the necessary training for their position or had forgotten their training. Respondents observed that some FEMA personnel do not volunteer for duty at the NRCC, partly because of concerns over poor experiences reported by others.

Preliminary Findings:

1. FEMA should ensure that NRCC staffing is a priority and should increase the number of full-time NRCC positions. FEMA should ensure that NRCC assignments are considered desirable by personnel.
2. FEMA should revise, expand, and modify NRCC training so that personnel are familiar with operations, duty assignments, and systems prior to an activation. There should be enhanced Incident Command System (ICS) and NIMS training on both position skills and knowledge.
3. NRCC training should address higher-level collective tasks, including managing the center, planning for future operations, maintaining situational awareness, and providing resources to the field.
4. FEMA should consider establishing a certification program to improve NRCC staff proficiency.
5. NRCC exercises and simulations should identify gaps in staff performance. Exercises should include all partner agencies should be conducted.

Observation 12.3: ***Area for Improvement:*** NRCC information management and analysis capabilities need to be enhanced to provide effective support to decision making.

Discussion: NRCC personnel received a large volume of unconfirmed reports and data. This forced staff to resort to fact checking conflicting information and limited the amount of time that could be spent on meaningful analysis and completion of more urgent tasks. The NRCC utilized the Homeland Security Information Network (HSIN), DHS's Web-based information sharing and collaboration platform, to maintain situational awareness throughout response operations. Respondents noted that the NRCC could expand its use of HSIN to help manage information and alleviate the reliance on email. Other respondents observed that while many Federal agencies relied on Intellipedia.gov during the Haiti response, the NRCC did not use the site. Others noted that the NRCC needs to filter information and passed to FEMA US&R task forces more rapidly.

Preliminary Findings:

1. FEMA should establish an analysis capability within the NRCC and should develop a collection plan/matrix.
2. The NRCC should consider expanding its use of HSIN to include passing information. This can help decrease the reliance on email and improve decision-making capabilities.

Observation 12.4: ***Area for Improvement:*** NRCC infrastructure and systems need to be improved.

Discussion: Respondents identified a range of problems with NRCC processes and systems. Several noted that the NRCC lacks the space and work areas necessary to coordinate assistance to a large-scale foreign disaster. Others indicated that the NRCC information technology (IT) infrastructure should be up-dated and that routine NRCC-

wide updates would improve situational awareness and mitigate a "stovepipe environment."

Preliminary Finding:

1. The NRCC needs improved operational processes and updated IT infrastructure.

Observation 12.5: *Area for Improvement:* NRCC doctrine and planning processes need to be reviewed and, if necessary, expanded.

Discussion: The NRCC remained activated for a longer period of time and took a greater coordination role during the Haiti earthquake response because it was a foreign disaster. Several respondents noted that a lack of planning for the next operational period led the NRCC to often being reactive rather than proactive. Respondents indicated that this experience reinforced the need for improvements in NRCC doctrine.

Preliminary Findings:

1. FEMA should develop an action planning process for the NRCC. The Response and Recovery Directorate had already begun to develop such a process prior to the earthquake.
2. FEMA should develop doctrine and training to clarify the interaction between the NRCC's future operations and the future planning elements.
3. The NRCC should have standard processes and protocols for providing support to foreign disaster responses.
4. FEMA should evaluate the extent to which NIMS can be applied to catastrophic disasters.

13. Command and Control

Observation 13.1: *Strength:* The deployment of a senior FEMA official to Haiti with the multi-agency IMAT and MERS personnel provided United States Department of Homeland Security (DHS) and FEMA leaders with "ground truth."

Discussion: The team in Haiti communicated critical information to ensure that leaders did not make decisions either blindly or on the basis of erroneous media reports.

Preliminary Findings:

1. FEMA should consider establishing a formal process for deploying senior FEMA officials to large-scale disasters to relay critical information to senior leaders. This process should address training, equipment, and reporting processes.
2. FEMA should clarify the role of IMATs in relation to the NRCC and to Regional Response Coordination Centers.

14. Communications

Observation 14.1: *Strength:* MERS personnel provided critical disaster communications support to FEMA and to other Federal personnel in Haiti.

Discussion: Some non-FEMA Federal personnel lacked their own organic communications capabilities and depended on MERS for communications support while deployed in Haiti. While MERS successfully provided such support, this indicates the need for other Federal agencies to assess their communications capabilities in disaster areas. Further, the reliance on MERS equipment for prolonged foreign disaster responses may have the potential to impact MERS support to domestic disaster responses.

Preliminary Findings:

1. FEMA should convene a working group with other agencies to address their expectations for communications support when deploying to an austere disaster environment.
2. FEMA should establish a working group to examine MERS personnel levels to ensure that MERS is able to support domestic and foreign disaster responses, as well as support National Special Security Events (NSSE) and other taskings.

Observation 14.2: *Area for Improvement:* FEMA encountered challenges arranging for the appropriate airlift to return MERS equipment from Haiti.

Discussion: The MERS assets deployed to Haiti are critical for FEMA's ability to respond to a domestic disaster. The delay in returning the assets from Haiti had the potential to impact a domestic response.

Preliminary Finding:

1. FEMA and USAID should establish processes to ensure the prompt return of FEMA equipment after foreign disaster response operations. This should include commercial, DOD, and DHS transportation assets.

15. Donations and Recovery Support

Observation 15.1: *Strength:* FEMA and USAID formed an international donation coordination team (IDCT) to manage the large number of donations and volunteers for the disaster response.

Discussion: The IDCT developed a Web page to facilitate American contributions to relief efforts. The Web page linked users to a registration page for medical and non-medical volunteers and allowed potential donors to post unsolicited offers and to view donation requests.

Preliminary Finding:

1. Donations management could have been more effective if existing USAID policies and structures had been more widely understood and supported.

Observation 15.2: *Area for Improvement:* FEMA mitigation personnel provided support to USAID, ensuring that it had access to other government recovery resources.

Discussion: FEMA mitigation personnel enabled USAID to receive additional technical support beyond that available from its pre-existing relationships. Respondents noted that the separation between domestic and foreign recovery government expertise allows duplication of efforts to continue. It also limits the opportunities for exchanging knowledge and information among recovery experts.

Preliminary Finding:

1. FEMA should ensure that ESF-14 (Long Term Recovery) is integrated promptly into USAID foreign disaster response operations.

16. External Affairs

Observation 16.1: *Strength:* FEMA External Affairs personnel established a U.S. Government Joint Information Center (JIC) in Haiti which ensured a unified and consistent approach to information dissemination.

Discussion: The JIC coordinated closely with Joint Task Force-Haiti to disseminate current information about response, recovery, and mitigation operations. The JIC offered in-person and telephone media briefings twice daily during response operations. Some respondents noted that JIC personnel lacked familiarity with foreign disaster response processes and operations.

Preliminary Finding:

1. FEMA should ensure that any personnel deployed to staff a JIC for a foreign disaster response are trained on OSOCC, USAID, DART and other foreign disaster response processes.

Observation 16.2: *Area for Improvement:* Federal agencies directed interested citizens to Web sites that are not compliant with Section 508 of the Rehabilitation Act.

Discussion: Directing citizens to these Web sites prevented some people and NGOs from accessing information about the disaster and response operations. This limited the further dissemination of information and participation of experts.

Preliminary Finding:

1. FEMA, in collaboration with other Federal agencies, should ensure that citizens are directed to Section 508 compliant Web sites after a disaster.

SECTION 4: SUMMARY

This section presents the preliminary findings in this report and whether they are relevant for foreign or domestic disasters as well as the projected timeline for implementation (short-term or long-term).

Preliminary Finding	Foreign or Domestic	Short-Term or Long-Term
1. US&R General Observations		
1.2.1: US&R task forces may need to consider additional techniques to locate persons trapped for several days in collapsed structures.	Domestic	Short-Term
1.2.2: FEMA needs to review its procedures for responding to requests for assistance in disaster areas so that it can take greater advantage of all communications mediums, including social media (emails, text messages, etc). This review should address how to manage responses to social media whenever a public service answering point is rendered inoperable due to a disaster.	Domestic	Short-Term
2. US&R Activation and Pre-Deployment		
2.1.1: Additional FEMA US&R task forces should be prepared for deployment to a foreign disaster. Some respondents recommended up to one-third of total U.S. US&R capacity. This could reduce the possibility of overextension of the two international task forces and help ensure that the U.S. is prepared for multiple foreign disasters or a single, large-scale foreign disaster, such as the Haiti earthquake.	Foreign	Short-Term
2.1.2: FEMA and USAID should develop baseline requirements for any additional US&R task forces that may be identified for future foreign disaster deployments. These requirements should address training, passports, vaccinations, and prophylaxis, among other issues.	Foreign	Short-Term
2.2.1: FEMA should establish a program directive that identifies the acceptable method of communicating official correspondence to US&R task forces and system members, including for advisory, alert, and activation status. This should include the use of a pre-designated 24-hour telephone or fax numbers. FEMA should also notify the NGA through appropriate DOD channels so that it can prepare to deploy analysts to support the mission as needed.	Domestic	Short-Term
2.3.1: During a foreign disaster, FEMA should promptly inform USAID of which US&R task forces it plans to activate. USAID should share this information with the search and rescue officer on the RMT and the DART.	Foreign	Short-Term
3. US&R Command and Control		
3.1.1: ISTs should develop and designate a specific timeframe for assuming command and coordination responsibilities during deployments.	Domestic	Short-Term
3.2.1: FEMA US&R task forces and ISTs should complete USAID training on the foreign disaster response system, including command and control procedures. FEMA US&R teams should also become familiar with INSARAG guidelines and markings.	Foreign	Short-Term

Preliminary Finding	Foreign or Domestic	Short-Term or Long-Term
3.2.2: FEMA should develop a module on foreign disaster operations, USAID and OSOCC processes, and INSARAG markings into the appropriate US&R manuals and presentations. FEMA should consider developing an online, independent study course that addresses these topics.	Foreign	Long-Term
3.2.3: USAID should develop and disseminate operations guides for logistics operations during foreign disaster responses.	Foreign	Long-Term
3.2.4: FEMA should establish processes to ensure that State, local, and foreign search and rescue teams can be rapidly integrated with FEMA US&R task forces in the event of a catastrophic earthquake or incident of similar magnitude within the U.S. FEMA should leverage its outreach efforts with the State Urban Search & Rescue System for this effort.	Domestic	Short-Term
3.2.5: FEMA and USAID should be prepared to establish reception centers for foreign search and rescue teams during a catastrophic earthquake or other similar incident in the U.S.	Domestic	Short-Term
3.2.6: USAID, the DART, and other partners should be invited to deliver presentations on foreign disaster response requirements at FEMA US&R annual conferences.	Foreign	Short-Term
4. US&R Communications		
4.1.1: US&R task forces should include additional radio repeaters and field backpack units in their communications caches. Task force communications plans should be sufficiently flexibility so that they do not depend solely on repeaters or mobile radios during deployments.	Domestic	Long-Term
4.1.2: US&R task forces must ensure that their communications equipment can be used outside the U.S. Task forces should address export restrictions on encryption-capable radios, etc.	Foreign	Long-Term
4.2.1: US&R task forces should consider deploying with three or four communications members.	Domestic	Short-Term
5. US&R Transportation		
5.1.1: FEMA should work with USAID develop pre-determined air transportation for immediate use by FEMA US&R task forces for foreign disasters, if possible. This should include commercial, DOD, and DHS air transportation assets.	Foreign	Short-Term
5.1.2: FEMA should identify a single POC, the ESF-9 desk in the NRCC, to coordinate the movement of US&R task forces with the FEMA MCC, Logistics, and Transportation.	Domestic	Short-Term
5.1.3: FEMA should institutionalize the MCC within the NRCC to facilitate transportation execution of FEMA assets, based on priorities.	Domestic	Short-Term
5.1.4: There should be a single POC for US&R transportation, FEMA for domestic responses and USAID for foreign responses.	Domestic	Short-Term
5.2.1: The FEMA US&R Program Office should ensure that all task force load plans are loaded into JOPES. The plans should be reviewed and updated annually. Every task force should have a UTC that is loaded to JOPES.	Domestic	Short-Term
5.2.2: FEMA should assign a military liaison to assist with the transport of critical FEMA US&R personnel and equipment to foreign disaster areas.	Foreign	Short-Term

Preliminary Finding	Foreign or Domestic	Short-Term or Long-Term
5.2.3: FEMA should ensure it has trained air load planners who can draft accurate plans, coordinate with the requisite military offices, and assist with the loading of equipment and assets.	Domestic	Long-Term
5.2.4: FEMA US&R task forces should establish and maintain relationships with the Air National Guard in their states. This could facilitate air transport for deployments.	Domestic	Short-Term
5.3.1: Dedicated onsite transportation should be secured if possible, when US&R task forces are unable to deploy with their transportation assets.	Domestic	Long-Term
5.3.2: FEMA US&R task forces should conduct exercises in partnership with primary and secondary transportation planners and providers that address multi-modal transportation planning and execution, including load plans.	Domestic	Short-Term
5.3.3: FEMA should assess whether US&R task forces should be allowed to rent vehicles at their home base and refund their costs through the reimbursement process.	Domestic	Long-Term
6. US&R Logistics and Equipment		
6.1.1: FEMA should define and develop a US&R tiered response concept, including a modular US&R response. This review should assess how task force base loads can be made more flexible and lighter. It should also address such issues as phased deployment, assessment teams, and reconnaissance teams.	Domestic	Short-Term
6.1.2: FEMA US&R task forces should evaluate caches for mission-specific requirements necessary for air transport and confirm that they are not carrying non-essential cache items.	Domestic	Short-Term
6.1.3: FEMA US&R task forces should be prepared to live in austere conditions with basic or limited support. FEMA should reevaluate the requirements for task force self-sufficiency during deployments.	Domestic	Short-Term
6.1.4: FEMA and USAID should coordinate the use of commercial cargo aircraft for transporting equipment and commercial passenger aircraft for transporting personnel in a foreign disaster.	Foreign	Short-Term
6.1.5: FEMA and DOD should exercise preparing caches for transport to decrease the amount of time the process currently takes and to coordinate the types of aircraft that will be used in future transports.	Domestic	Short-Term
6.1.6: FEMA US&R task forces should design palletization plans so caches can be palletized in a timely fashion for a deployment. Task forces should consider having the ability to palletize their equipment on wooden pallets to ensure flexibility across all modes of transportation.	Domestic	Long-Term
6.1.7: FEMA should review and validate the current planning assumptions for transportation needs, including the 1,200 mile ground transportation threshold.	Domestic	Short-Term
6.1.8: FEMA should review information sharing processes that enable deployed US&R task forces to share information about tools and techniques with task forces preparing to deploy so that they can tailor their equipment cache.	Domestic	Long-Term
6.2.1: Task forces should consider deploying to catastrophic disasters (domestic and foreign) with a 10-day supply of food and water. This issue should be addressed in task force SOPs.	Domestic	Long-Term

Preliminary Finding	Foreign or Domestic	Short-Term or Long-Term
6.2.2: ISTs should be deployed with US&R task forces to assist with re-supply and other logistics issues during foreign disasters. This will allow the task forces to focus on rescue operations.	Foreign	Short-Term
7. US&R Search and Rescue Operations		
7.1.1: US&R task forces should regularly evaluate their rapid triage and information gathering methodology to increase efficiency in operations.	Domestic	Short-Term
7.2.1: FEMA should continue to develop and implement the NIMS uniform resource-typing standard for US&R task forces. This standard will allow an incident commander to make informed decisions when assigning resources to an impacted area. However, it should be recognized that this recommendation may have limited impact for foreign disasters due to the inconsistent use of ICS by foreign responders. FEMA should consult the resource typing models within the INSARAG Guidelines.	Domestic	Short-Term
7.3.1: Task forces should meet and discuss successes and failures at regular intervals during deployment.	Domestic	Long-Term
7.4.1: Task forces must have the appropriate maps prior to deployment and must ensure that information on GPS units is up to date.	Domestic	Short-Term
7.4.2: The NGA should explore NTM disclosure agreements with internal policy for designated IST members. This will alleviate the costs and concerns of a security clearance during a crisis.	Domestic	Short-Term
7.4.3: FEMA and USAID should coordinate on developing a relationship with NGA for foreign and domestic responses. NGA should conduct outreach to USAID about NGA's role and support to US&R operations. FEMA should consider NGA as a full member of US&R task forces and ISTs so that it is automatically embedded with those teams whenever they are deployed and receive the necessary logistical support. NGA should conduct outreach about its capabilities to the two foreign US&R task forces. This can ensure that the task forces are aware of NGA mapping and imagery capabilities when they are deployed without an IST.	Foreign	Short-Term
7.4.4: NGA and FEMA should develop mechanisms to ensure that the NGA's handheld GPS capability is made operational and available to US&R task forces during deployments.	Domestic	Short-Term
7.4.5: FEMA should develop a standard toolbox for US&R task forces. NGA and FEMA should coordinate to ensure that NGA Map Books are disseminated to US&R task forces and other response elements, as needed.	Domestic	Short-Term
7.5.1: US&R task forces should utilize a standard GPS format that is preloaded in all equipment prior to deployment.	Domestic	Short-Term
7.5.2: Task forces should identify pre-scripted mapping packages prior to deployment and should adhere to the National Grid Reference System for search and rescue operations. This will ensure that priority areas are identified and that grid searches are accomplished in the most efficient way possible.	Domestic	Short-Term
7.5.3: FEMA, NGA, and USAID should coordinate the use of the USNG for domestic deployments and the MGRS for foreign deployments. All US&R task forces should use WGS-84 datum which is also global.	Foreign	Short-Term

Preliminary Finding	Foreign or Domestic	Short-Term or Long-Term
7.5.4: NGA should consider entering into an IAA with FEMA for GEOINT support to US&R foreign deployments. This will make it easier for USAID to access NGA support during foreign deployments by referencing the IAA between FEMA and NGA.	Foreign	Short-Term
8. US&R Health and Safety		
8.1.1: FEMA should develop contractual agreements with pharmaceutical and medical supply companies to ensure the availability of medications and supplies for use by FEMA US&R task forces and ISTs during foreign disasters..	Foreign	Long-Term
8.1.2: FEMA should develop a repository of international disaster medical best practices for FEMA US&R task forces to help them prepare for domestic and foreign responses. FEMA should develop health and medical policies, as appropriate, based on the best practices identified in the repository.	Domestic	Short-Term
8.2.1: US&R medical directors should have a greater understanding of problems associated with sleep deprivation, particularly among command and logistics personnel. Medical directors need to consider the timing of activations and the potential for forced sleep cycles.	Domestic	Short-Term
8.2.2: FEMA and US&R task forces should establish defined evacuation plans for injured or seriously ill members. The plans should include contact information, means/routes, receiving medical facility, and medical care in route.	Domestic	Long-Term
8.2.3: The IST Medical Working Group should address the necessity of electrolyte solutions to maintain and replenish hydration status	Domestic	Short-Term
8.2.4: The IST medical component should continue to be deployed to support FEMA US&R task forces. FEMA US&R task forces should be promptly notified if the component will not be deployed so it can develop alternative plans.	Domestic	Long-Term
8.3.1: FEMA should establish a policy for providing veterinary care whenever a significant number of canines are deployed with task forces to an incident.	Domestic	Short-Term
8.3.2: US&R task forces should be informed immediately if an IST will not deploy to an incident. This will enable the task force to address veterinary support issues prior to deployment.	Domestic	Long-Term
8.4.1: Task forces should collect information about their members' language capabilities and special skills. This can assist in force protection as well as other operational activities during deployments. Task forces should consider a formal interpreter process so they can have access to or roster interpreters from universities or other institutions.	Domestic	Short-Term
8.5.1: Task forces should consider safety and security when establishing a BoO.	Domestic	Long-Term
8.5.2: Task forces should add more plastic sand fencing and plastic poles to their equipment caches for future deployments. This will allow task forces to secure their BoO area and equipment from intruders.	Domestic	Short-Term
8.5.3: FEMA should develop SOPs for hygiene and decontamination of personnel and equipment for BoO ingress and egress. The SOPs should be incorporated into task force leader, HazMat, safety, and medical training. FEMA should develop forms or consider adding a box on the 206 form to ensure critical information is recorded.	Domestic	Long-Term

Preliminary Finding	Foreign or Domestic	Short-Term or Long-Term
8.6.1: FEMA should develop doctrines and processes for assessing the physical and mental health of its personnel deployed to disaster responses. This should include pre- and post-deployment screening and risk assessments. FEMA should also identify processes and timeframes (3 months, 6 months, etc.) for surveying task force members.	Domestic	Short-Term
8.6.2: FEMA, in collaboration with US&R task force leaders and medical directors, should develop SOPs for hygiene compliance during deployments.	Domestic	Short-Term
8.6.3: The US&R Program Office should work with the EMI to develop an IS course on infectious disease risks during deployments for all US&R task force members.	Domestic	Long-Term
8.6.4: US&R task forces must assume that asbestos is present during foreign operations and wear masks until proven otherwise.	Foreign	Long-Term
8.6.5: FEMA should consider conducting a fiscal analysis of the impact of transportation modes (ground, air, marine) on the health of deployed US&R task force members.	Domestic	Long-Term
8.6.6: The IST Medical Working Group should develop recommendations for universal prophylaxis and post-deployment surveillance of communicable and infectious diseases.	Domestic	Short-Term
9. General Observations		
9.2.1: Emergency planners need to have a deeper understanding of the resilience of post-disaster societies so that surviving elements can be identified and used to deliver resources.	Domestic	Short-Term
10. FEMA Support to USAID		
10.1.1: USAID and FEMA should develop training for IMAT, MERS, US&R, and other FEMA-activated personnel on USAID foreign disaster assistance response operations. This training should include training about the UN Cluster System for disaster response and the role of NGOs in foreign responses.	Foreign	Long-Term
10.1.2: USAID and FEMA should develop a document that delineates the differences between the NRF and USAID foreign disaster response processes.	Foreign	Long-Term
10.1.3: The NRF should be modified to better address incidents when FEMA is a supporting Federal agency, and support to foreign disasters.	Foreign	Long-Term
10.2.1: FEMA and USAID should develop a pre-scripted IAA or a pre-incident memorandum of understanding for foreign disaster responses. This should include a corresponding concept of operations for use of FEMA US&R task forces to support foreign disaster operations.	Foreign	Short-Term
11. FEMA Operations		
11.2.1: FEMA should develop programs that build awareness among Government personnel of the agency's authority and responsibilities in non-Stafford Act disaster responses.	Domestic	Long-Term
11.2.2: FEMA should develop training for its personnel on the agency's role in non-Stafford Act responses. Training should clarify processes for obtaining reimbursements for expenditures.	Domestic	Short-Term
11.2.3: FEMA should educate its Federal, State, local, and private sector partners about the agency's role in foreign disasters.	Foreign	Long-Term

Preliminary Finding	Foreign or Domestic	Short-Term or Long-Term
11.3.1: FEMA should define the roles and responsibilities of liaisons clearly to help manage the expectations of all parties.	Domestic	Short-Term
11.3.2: FEMA should consider pre-identifying liaisons and providing them with the necessary training and badges. This can help to ensure that FEMA liaisons will be ready to serve in a no-notice disaster.	Domestic	Short-Term
11.3.3: FEMA liaison SOPs should include travel authorization, deployment logistics, roles and responsibilities, pay, and other administrative issues that may be different from a typical disaster assignment. FEMA should provide liaisons with a "Smart Book" that contains all the critical information they will need during their liaison duty.	Domestic	Short-Term
11.3.4: FEMA should develop and conduct training for FEMA liaisons assigned to support other agencies during disaster responses.	Domestic	Short-Term
11.3.5: FEMA should review its policies related to clearances, particularly related to FEMA personnel who possess clearances through other agencies. This review should also examine whether to increase the number of FEMA personnel who hold security clearances.	Domestic	Long-Term
12. NRCC Operations		
12.2.1: FEMA should ensure that NRCC staffing is a priority and should increase the number of full-time NRCC positions. FEMA should ensure that NRCC assignments are considered desirable by personnel.	Domestic	Short-Term
12.2.2: FEMA should revise, expand, and modify NRCC training so that personnel are familiar with operations, duty assignments, and systems prior to an activation. There should be enhanced ICS and NIMS training on both position skills and knowledge.	Domestic	Long-Term
12.2.3: NRCC training should address higher-level collective tasks, including managing the center, planning for future operations, maintaining situational awareness, and providing resources to the field.	Domestic	Long-Term
12.2.4: FEMA should consider establishing a certification program to improve NRCC staff proficiency.	Domestic	Long-Term
12.2.5: NRCC exercises and simulations should identify gaps in staff performance. Exercises should include all partner agencies should be conducted.	Domestic	Short-Term
12.3.1: FEMA should establish an analysis capability within the NRCC and should develop a collection plan/matrix.	Domestic	Long-Term
12.3.2: The NRCC should consider expanding its use of HSIN to include passing information. This can help decrease the reliance on email and improve decision-making capabilities.	Domestic	Long-Term
12.4.1: The NRCC needs improved operational processes and updated IT infrastructure.	Domestic	Short-Term
12.5.1: FEMA should develop an action planning process for the NRCC. The Response and Recovery Directorate had already begun to develop such a process prior to the earthquake.	Domestic	Short-Term
12.5.2: FEMA should develop doctrine and training to clarify the interaction between the NRCC's future operations and the future planning elements.	Domestic	Long-Term

Preliminary Finding	Foreign or Domestic	Short-Term or Long-Term
12.5.3: The NRCC should have standard processes and protocols for providing support to foreign disaster responses.	Foreign	Short-Term
12.5.4: FEMA should evaluate the extent to which NIMS can be applied to catastrophic disasters.	Domestic	Long-Term
13. Command and Control		
13.1.1: FEMA should consider establishing a formal process for deploying senior FEMA officials to large-scale disasters to relay critical information to senior leaders. This process should address training, equipment, and reporting processes.	Domestic	Short-Term
13.1.2: FEMA should clarify the role of IMATs in relation to the NRCC and to Regional Response Coordination Centers.	Domestic	Long-Term
14. Communications		
14.1.1: FEMA should convene a working group with other agencies to address their expectations for communications support when deploying to an austere disaster environment.	Domestic	Long-Term
14.1.2: FEMA should establish a working group to examine MERS personnel levels to ensure that MERS is able to support domestic and foreign disaster responses, as well as support NSSEs and other taskings.	Domestic	Long-Term
14.2.1: FEMA and USAID should establish processes to ensure the prompt return of FEMA equipment after foreign disaster response operations. This should include commercial, DOD, and DHS transportation assets.	Foreign	Short-Term
15. Donations and Recovery Support		
15.1.1: Donations management could have been more effective if existing USAID policies and structures had been more widely understood and supported.	Foreign	Long-Term
15.2.1: FEMA should ensure that ESF-14 (Long Term Recovery) is integrated promptly into USAID foreign disaster response operations.	Foreign	Short-Term
16. External Affairs		
16.1.1: FEMA should ensure that all personnel deployed to staff a JIC for a foreign disaster response are trained on OSOCC, USAID, DART and other foreign disaster response processes.	Foreign	Long-Term
16.2.1: FEMA, in collaboration with other Federal agencies, should ensure that citizens are directed to Section 508 compliant Web sites after a disaster.	Domestic	Long-Term

APPENDIX A: CHRONOLOGY OF EVENTS

12 January 2010 4:53 p.m. EST	A magnitude 7.0 earthquake occurs in the Atlantic Ocean approximately 15 miles southwest of Port-au-Prince, Haiti.
12 January 2010	USAID activates CA-TF2 (Los Angeles County Fire Department) and VA-TF1 (Fairfax County Fire Department) US&R task forces.
12 January 2010	USAID activates a Washington, DC-based RMT to support the USAID DART in Haiti.
13 January 2010	Florida Emergency Management Director notifies the FL-TF1 (Miami-Dade Fire Rescue) task force leader that FEMA intends to activate the task force.
13 January 2010	FL-TF1 command staff notify members to roster a team.
13 January 2010 1:45 p.m. EST	At the request of USAID, FEMA issues an official activation order for FL-TF1 and FL-TF2 (Miami City) for Type 1 US&R task forces.
13 January 2010 4:15 p.m. EST	VA-TF1, 7 USAID DART team members, and 4 support staff arrive in Port-au-Prince, Haiti. VA-TF1 establishes a BoO at the U.S. Embassy.
13 January 2010 10:30 p.m. EST	FEMA activates TX-TF1, VA-TF2, CA-TF5, NY-TF1, and OH-TF1 for deployment to Haiti.
13 January 2010	USAID DART and VA-TF1 deploy a small team of reconnaissance personnel to the Montana Hotel in Port-au-Prince, Haiti.
13 January 2010	The UN World Food Program (WFP) distributes high-energy biscuits to 3,000 beneficiaries in Jacmel, Haiti.
13 January 2010	Kenneth H. Merten, U.S. Ambassador to Haiti, issues a disaster declaration.
13 January 2010	The American Red Cross (ARC) reports depleted medical supplies in Haiti.
13 January 2010	FEMA issues an official activation order for CA-TF7 to deploy a Type 1 US&R task force to Haiti.
13 January 2010	USSOUTHCOM personnel arrive in Port-au-Prince to assist with air traffic control and security operations at the airport as well as assess conditions and facilitate U.S. military support.
13 January 2010	Doctors without Borders reports the urgent need for emergency medical supplies including bandages, gauze, disinfectant solutions, and antibiotics.
13 January 2010	The Government of Haiti reports that 3,500 bodies have been transported to morgues.

14 January 2010 4:00 a.m. EST	OH-TF1 reports to team warehouse in Kettering, OH.
14 January 2010 5:00 a.m. EST	11 of 17 USAID DART members are in Haiti at this time.
14 January 2010 7:00 a.m. EST	Members of USAID DART and VA-TF1 travel to the collapsed UN Stabilization Mission in Haiti (MINUSTAH) headquarters to respond to calls for help from survivors.
14 January 2010 7:00 a.m. EST	The WFP establishes a logistics hub in the Dominican Republic and begins acquiring logistics resources.
14 January 2010 7:00 a.m. EST	NY-TF1 arrives at Stewart Air National Guard Base near Newburgh, NY.
14 January 2010 7:00 a.m. EST	FL-TF2 arrives at HARB in Homestead, FL.
14 January 2010 8:00 a.m. EST	CA-TF2 arrives in Haiti on DOD aircraft.
14 January 2010 9:00 a.m. EST	OH-TF1 cache arrives at Wright Patterson Air Force Base (WPAFB) in Dayton, OH.
14 January 2010 10:00 a.m. EST	OH-TF1 personnel complete mobilization processing.
14 January 2010 10:30 a.m. EST	FL-TF1 arrives in Port-au-Prince, Haiti, with an 80-person team.
14 January 2010 1:00 p.m. EST	13 USAID DART members in Haiti identify priority emergency relief supplies for immediate delivery to Port-au-Prince from the USAID warehouse in Miami, FL.
14 January 2010 6:00 p.m. EST	US&R teams in Haiti identify priority rescue sites at the Hotel Montana, Caribbean market, Citibank building, and a high school building.
14 January 2010 6:00 p.m. EST	Four flights transporting FL-TF2, six rescue canines, and equipment arrive at the Toussaint Louverture International Airport, Port-au-Prince, Haiti.
14 January 2010 6:00 p.m. EST	Three USCG cutters containing water and relief supplies arrive near the Port-au-Prince port.
14 January 2010 10:00 p.m. EST	VA-TF1 locates eight individuals in Hotel Montana and begins rescue missions.
14 January 2010 10:00 p.m. EST	OH-TF1 cache is fully palletized and ready for loading on aircraft.
14 January 2010 10:30 p.m. EST	FEMA activates 24 members of the Red IST.
14 January 2010	HHS activates four DMATs and four DMORTs for immediate deployment to Haiti.

14 January 2010	USSOUTHCOM installs a portable communications tower at the Toussaint Louverture International Airport, Port-au-Prince, Haiti, to allow for 24-hour air operations.
14 January 2010	FEMA activates the NRCC to Level II (24/7 operations), which includes ESFs 6 and 9 as well as logistics, operations, planning, and external affairs components.
14 January 2010	FEMA activates the National IMAT West and MERS personnel and equipment from Georgia, Maryland, and Massachusetts.
14 January 2010	CA-TF7 mobilizes at Travis AFB where the team awaits transportation to Haiti.
14 January 2010	USAID has provided approximately $55 million in humanitarian assistance for the Haiti earthquake by this date.
14 January 2010	USCG conducts a port assessment that determines the Port-au-Prince port is inoperable.
14 January 2010	VA-TF1 rescues a UN security guard from the collapsed MINUSTAH headquarters.
14 January 2010	UN Force Commander reports that additional troops are currently not required in Haiti.
14 January 2010	USAID DART leader and deputy team leader arrive at the Toussaint Louverture International Airport, Port-au-Prince, Haiti, to investigate reports of supplies stockpiled at the airport.
14 January 2010	USAID coordinates with DOD and USTRANSCOM to establish an air bridge for daily transportation of emergency relief supplies to Haiti.
14 January 2010	More than 300 American US&R personnel have arrived in Haiti to date from VA-TF1, CA-TF2, FL-TF1, and FL-TF2.
15 January 2010 3:30 a.m. EST	An additional 42-member medium team from VA-TF1 arrives in Haiti.
15 January 2010 4:00 a.m. EST	Pan American Health Organization reports that at least eight hospitals and health centers are non-functional due to earthquake damage.
15 January 2010 4:00 a.m. EST	A 13-member USAID DART team is stationed in Haiti at this time.
15 January 2010 early morning	FL-TF1 utilizes rescue equipment loaned by CA-TF2 to rescue a 23-year-old student.
15 January 2010 8:00 a.m. EST	FL-TF2 leader and plans chief meet with the UN OSOCC at the Toussaint Louverture International Airport, Port-au-Prince, Haiti, to receive the team's daily assignments.
15 January 2010 10:00 a.m. EST	OH-TF1 prepares manifests for loading team equipment and personnel.
15 January 2010 11:50 a.m. EST	WPAFB notifies OH-TF1 that incoming aircraft has been diverted. The task force is informed to stand down.

15 January 2010 4:00 p.m. EST	U.S. US&R personnel have rescued or assisted in rescuing 11 individuals by this date.
15 January 2010 5:00 p.m. EST	US&R task forces reach the end of the 72-hour window after which live rescues are generally unlikely following an earthquake.
15 January 2010 8:00 p.m. EST	U.S. US&R task forces have rescued 15 individuals by this date.
15 January 2010 11:30 p.m. EST	FL-TF2 Team Alpha arrives at the Caribbean market and incorporates a light Turkish US&R team into the team's operations.
15 January 2010	FEMA deploys a senior representative to Haiti to lead DHS integrated response.
15 January 2010	President Préval of Haiti appoints cabinet ministers to lead sector groups to support the following emergency needs: temporary sheltering and public buildings; food and potable water distribution; health; fuel distribution; and reconstruction.
15 January 2010	USAID has provided approximately $85 million in humanitarian assistance for the Haiti earthquake to date.
15 January 2010	Thirteen North and South American nations have confirmed the deployment of medical teams. Twenty-four US&R task forces are operating in Haiti, with four additional task forces en route.
15 January 2010	VA-TF2 (Virginia Beach) arrives in Haiti as an 80-member Type I team. The total number of U.S. US&R personnel in Haiti is now 426.
15 January 2010	Four DMATs and a DMORT arrive in Haiti.
15 January 2010	USS Carl Vinson arrives in Port-au-Prince and delivers 30 pallets of relief supplies to earthquake victims.
15 January 2010	WFP receives $55 million from donor governments and $5 million from private companies by this date.
15 January 2010	FEMA deploys liaison officers to DOD, DOS, USAID, and USCG operations centers.
15 January 2010	An additional 108 DMAT personnel arrive in Port-au-Prince.
15 January 2010	UN OCHA reports that a total of 180 tons of relief supplies have arrived in Haiti by this date.
15 January 2010	An additional 6 USAID-supported communications specialists from FEMA arrive in Haiti.
16 January 2010 4:00 a.m. EST	OCHA reports that 26 US&R teams are on the ground in Haiti.
16 January 2010 6:00 a.m. EST	NY-TF1 Team 1 departs for Haiti. NY-TF1 Team 2 departs an hour later.

16 January 2010 10:50 a.m. EST	NY-TF1 Team 1 arrives in Haiti.
16 January 2010 11:00 a.m. EST	NY-TF1 Team 1 establishes a BoO at the Toussaint Louverture International Airport, Port-au-Prince, Haiti.
16 January 2010 11:30 a.m. EST	NRCC ESF 9 desk instructs OH-TF1 to stand down and contact the Acting Chief of FEMA's US&R branch for further instructions.
16 January 2010 12:00 p.m. EST	NY-TF1 Team 2 arrives in Haiti.
16 January 2010 2:00 p.m. EST	WFP requests $279 million to feed 2 million people and provide logistical support for 6 months.
16 January 2010 8:00 p.m. EST	US&R task forces conduct rescue operations at Hotel Montana and Unibank in central Port-au-Prince.
16 January 2010 8:00 p.m. EST	6 U.S. US&R task forces have rescued 23 individuals by this date.
16 January 2010	FEMA's Logistics Management Directorate opens an ISB at HARB in Homestead, FL, to serve as the main staging area for emergency supplies, equipment, and personnel en route to Haiti.
16 January 2010	NY-TF1 arrives in Port-au-Prince as the 6th and final U.S. US&R team to deploy to Haiti. The U.S. Government now has 506 US&R personnel in Haiti.
16 January 2010	The National IMAT-West arrives in Port-au-Prince.
16 January 2010	USAID has provided nearly $38,700,000 in humanitarian assistance to Haiti by this date.
16 January 2010	Two of five HHS DMATs have commenced field hospital operations in Haiti.
16 January 2010	U.S. Embassy in Port-au-Prince reports that the public water system has shown limited signs of recovery.
16 January 2010	Relief agencies and USAID DART report that the town of Léogâne has lacked sufficient water, medical assistance, and food since the earthquake struck.
17 January 2010 2:00 a.m. EST	NY-TF1 and FL-TF2 rescue 2 survivors from the Caribbean market.
17 January 2010 4:00 a.m. EST	Relief agencies report that 1,300 houses are damaged and 1,800 families need assistance in Jacmel.
17 January 2010 4:00 a.m. EST	USAID DART airlifts 1,920 hygiene kits and 200 rolls of plastic sheeting from the USAID warehouse in Miami to Port-au-Prince.
17 January 2010 4:00 a.m. EST	WFP reports that the distribution of high-energy biscuits must increase from 2,146 to 60,000 beneficiaries to avoid civil unrest.
17 January 2010 6:30 a.m. EST	NY-TF1 and FL-TF2 rescue a third survivor from the Caribbean market.

17 January 2010 11:50 a.m. EST	NY-TF1 collaborates with a light search and rescue team from Taiwan to rescue a survivor near the Christopher Hotel.
17 January 2010 5:00 p.m. EST	DART requests six Red IST members deploy to Haiti to facilitate task force coordination. Within an hour, FEMA orders the remaining Red IST members stationed in Homestead, FL, to demobilize.
17 January 2010 6:00 p.m. EST	FEMA orders OH-TF1 to demobilize. OH-TF1 completes demobilization within an hour.
17 January 2010 11:00 p.m. EST	U.S. US&R task forces have performed 37 of the 69 total rescues in Haiti by this date.
17 January 2010	UN Secretary General Ban Ki-Moon arrives in Haiti to assess humanitarian conditions.
17 January 2010	DOD coordinates airlift for 7 flights of relief supplies into Port-au-Prince.
17 January 2010	USAID DART delivers 7,008 hygiene kits, 576 kitchen sets, 90 rolls of plastic sheeting, 1,800 ten-liter collapsible water containers, and two 10,000-liter water bladders to the International Organization for Migration (IOM).
17 January 2010	WFP distributes high-energy biscuits and other assistance to 73,000 people.
17 January 2010	263 HHS personnel currently operate in Haiti.
17 January 2010	DART members meet with NGOs to develop additional USAID funding recommendations.
17 January 2010	FEMA orders OH-TF1 and their cache to remain on stand-by until January 31, 2010.
18 January 2010 10:00 a.m. EST	FEMA orders CA-TF7 to reduce from activation to alert status.
18 January 2010 11:00 a.m. EST	U.S. US&R task forces have performed 40 of the 70 total rescues in Haiti by this date.
18 January 2010 2:00 p.m. EST	USAID and DOD have delivered 9,600 ten-liter water containers, 7,602 hygiene kits, and 300 rolls of plastic sheeting to Port-au-Prince by this date.
18 January 2010 2:00 p.m. EST	MERS personnel establish command and control and radio networks for USAID and U.S. Embassy staff in Haiti.
18 January 2010 2:00 p.m. EST	WFP reports that 95 metric tons (MT) of high-energy biscuits are available for distribution in Haiti.
18 January 2010 2:00 p.m. EST	DOD reports a daily flight capacity of approximately 100 aircraft at the Toussaint Louverture International Airport, Port-au-Prince, Haiti.
18 January 2010 as of 2:00 p.m. EST	USCG completes its assessment of Haitian ports and finds that eight ports are fully operational while the Port-au-Prince port remains inoperable.

18 January 2010 3:00 p.m. EST	A DOD C-17 aircraft delivers 14,500 meals ready-to-eat (MRE) and 15,000 liters of water to a drop zone northeast of the Toussaint Louverture International Airport.
18 January 2010	USAID has delivered nearly $63,300,000 in humanitarian assistance to Haiti by this date.
18 January 2010	USAID and the Dominican Republic have provided $1 million to help establish distribution networks in Haiti for NGOs that operate on both sides of the Haiti-Dominican Republic border.
18 January 2010	The Government of Haiti declares a countrywide state of emergency and one month of mourning for earthquake victims.
18 January 2010	WFP distributes emergency food items to approximately 100,000 people in and around Port-au-Prince. WFP purchases an additional 2.2 million meals for distribution.
18 January 2010	Forty-three international US&R task forces are currently operating in Haiti with 1,739 rescue workers and 161 rescue canines.
18 January 2010	DOD approves the transfer of 16 million MREs to the WFP.
18 January 2010	Three ARC water and sanitation emergency response units have arrived in Haiti by this date.
18 January 2010	USAID has provided $113.5 million in humanitarian assistance to Haiti by this date.
18 January 2010	USAID DART delivers 8,448 hygiene kits, 48 kitchen sets, 300 rolls of plastic sheeting, 2,460 10-liter collapsible water containers, and 10 water bladders to IOM.
18 January 2010	Relief agencies establish 80 water distribution sites.
18 January 2010	USAID has provided $114.5 million in humanitarian assistance to Haiti by this date.
18 January 2010	FEMA orders the demobilization of TX-TF1.
19 January 2010 2:00 a.m. EST	The air control center at the Toussaint Louverture International Airport, Port-au-Prince, Haiti, halts all air traffic entering the airport for 3.5 hours due to airspace saturation.
19 January 2010 3:00 a.m. EST	HHS DMATs have treated 1,265 patients.
19 January 2010 4:00 a.m. EST	4,000 U.S. military personnel are in Haiti, with an additional 7,200 personnel en route. 9,000 UN military personnel are in Haiti.
19 January 2010 7:00 a.m. EST	HHS medical professionals report treating a total of 3,763 patients by this date, including 3,145 individuals on January 18.
19 January 2010 8:00 p.m. EST	U.S. US&R task forces have performed 40 of the 90 total rescues in Haiti by this date.

19 January 2010 8:00 p.m. EST	USAID has delivered 9 water treatment units, 71,000 10-liter water containers, 19,000 hygiene kits, 700 rolls of plastic sheeting, and 18 water bladders to Port-au-Prince by this date.
19 January 2010 8:35 p.m. EST	NY-TF1, VA-TF2, and FL-TF2 rescue two survivors near Avenue Martin Luther King and Ruelle Archille.
19 January 2010	HHS personnel have treated approximately 5,290 patients by this date.
19 January 2010	The UN reports that 18 hospitals are currently operational in Port-au-Prince.
19 January 2010	DOD has authorized $20 million in humanitarian and disaster assistance appropriations to Haiti by this date.
19 January 2010	USAID has provided $130 million in humanitarian assistance to Haiti by this date.
19 January 2010	A six-person augmentation team from the Red IST arrives in Haiti.
20 January 2010 6:03 a.m. EST	A magnitude 5.9 aftershock occurs 35 miles southwest of Port-au-Prince.
20 January 2010 6:30 a.m. EST	USNS Comfort arrives in Port-au-Prince and begins treating survivors through an onboard medical treatment facility.
20 January 2010 3:00 p.m. EST	HHS reports that five DMATs and one International Medical Surgical Team are fully operational and conducting missions in Haiti.
20 January 2010 11:00 p.m. EST	USNS COMFORT medical staff have treated 83 patients and conducted 9 surgeries by this date.
20 January 2010	U.S. US&R task forces report that they have rescued 43 individuals by this date.
20 January 2010	USAID has provided $90 million in humanitarian assistance to Haiti by this date, including $7 million in support of the IOM; $10 million to the WFP; and $5 million to the UN World Health Organization.
20 January 2010	An estimated 370,000 people currently reside in improvised shelters in more than 300 spontaneous shelter sites in Haiti. An additional 1 million individuals are in need of immediate shelter support.
20 January 2010	USAID emergency relief supplies arrive in Port-au-Prince, including an HHS trauma kit, an air-conditioning unit, and equipment to maintain a field hospital.
21 January 2010 1:00 p.m. EST	HHS teams have treated 7,266 patients by this date.
21 January 2010	17 of the 43 search and rescue teams that deployed to Haiti are currently still in the country.

21 January 2010	USAID DART estimates that 500,000 people in Haiti have received assistance by this date, 85 locations in Haiti are currently receiving water, and the WFP has distributed assistance to 200,000 individuals.
21 January 2010	IOM identifies 447 improvised housing settlements in Port-au-Prince currently holding approximately 500,000 people.
21 January 2010	USAID DART reports that 90% of structures in Léogâne have been destroyed and 3 spontaneous housing settlements have been established.
21 January 2010	OCHA reports increased distribution of emergency relief supplies in affected areas outside Port-au-Prince.
21 January 2010	OCHA reports that 150 planes are arriving daily at the Toussaint Louverture International Airport, Port-au-Prince, Haiti.
21 January 2010	USAID DART and the UN report that relief agencies have assessed 314 of 500 spontaneous settlement sites and project that site populations could exceed 770,000 individuals.
22 January 2010 10:00 a.m. EST	U.S. US&R task forces continue to conduct search and rescue operations at the Hotel Montana and other locations in Port-au-Prince.
22 January 2010 12:00 p.m. EST	FL-TF2 conducts several humanitarian missions throughout Port-au-Prince including a visit to an orphanage in need of humanitarian aid.
22 January 2010 9:00 p.m. EST	Search and rescue teams in Haiti have rescued 132 individuals by this date, 47 of which are the result of U.S. US&R task forces.
22 January 2010 10:00 p.m. EST	USNS COMFORT medical staff have treated 1,173 patients and performed more than 70 surgeries by this date.
22 January 2010 10:00 p.m. EST	HHS teams have treated 7,748 patients by this date.
22 January 2010 10:30 p.m. EST	VA-TF2 receives its deactivation order.
22 January 2010	USAID has contributed more than $179.5 million in earthquake response funding by this date.
22 January 2010	USNS LUMMUS arrives in Port-au-Prince delivering relief supplies, including 3,552 kitchen sets, 400 rolls of plastic sheeting, water, fuel, and rubble removal machines and equipment.
22 January 2010	Government of Haiti estimates the death toll from the earthquake to be more than 111,400 people.
22 January 2010	The Toussaint Louverture International Airport, Port-au-Prince, Haiti, reports that it is now receiving between 120 and 140 flights per day.

22 January 2010	WFP provides emergency food assistance to 66,321 beneficiaries in and around Port-au-Prince.
22 January 2010	An estimated 225,000 individuals in 98 of the highest density settlement sites and hospital locations are receiving water deliveries. These deliveries provide approximately four liters of water per person per day.
22 January 2010	150 health facilities, including 47 hospitals, 2 floating hospitals with helicopter transport capacities, and 11 mobile clinics are operational in Port-au-Prince.
22 January 2010	IOM reports that more than 100,000 people are receiving relief items daily, including blankets, kitchen sets, plastic sheeting, water containers, water purification tablets, and mosquito nets.
22 January 2010	HHS teams have treated 8,060 patients by this date.
22 January 2010	USAID has provided over $179 million in humanitarian assistance to Haiti by this date.
22 January 2010	USAID DART reports that 200,000 individuals have received shelter support services by this date.
22 January 2010	FEMA orders OH-TF1 to release its cache items from staging at WPAFB.
23 January 2010 4:00 a.m EST	USAID has delivered 3,552 kitchen sets, 30,000 liters of bottled water, 59,400 10-liter water containers, 9 water purification units, 2,080 rolls of plastic sheeting, 24,498 hygiene kits, 5 WHO standard medical kits, and 18 water bladders to Port-au-Prince by this date.
23 January 2010 1:00 p.m. EST	USNS COMFORT medical staff have treated a total of 1,427 patients and performed more than 93 surgeries by this date.
23 January 2010 6:00 p.m. EST	NY-TF1 departs Haiti.
23 January 2010	USAID Administrator Shah and FEMA Administrator Fugate travel to Port-au-Prince to meet with Haiti government officials and relief agencies.
23 January 2010	U.S. US&R task forces assist Greek and French search and rescue teams with the rescue of a survivor from the Neopheli Hotel.
23 January 2010	Three flights carrying emergency relief commodities from USAID/OFDA warehouses land in Port-au-Prince. Commodities include 500 rolls of plastic sheeting, 18,000 10-liter water containers, and 10,176 hygiene kits.
23 January 2010	VA-TF2 departs Haiti.
23 January 2010	USAID has contributed nearly $184 million in earthquake response funding.

23 January 2010	WFP food distributions have reached a total of 321,313 individuals, including 207,392 in Port-au-Prince and 113,021 in other affected areas.
24 January 2010 3:10 a.m. EST	NY-TF1 arrives home and completes its demobilization process within three hours.
24 January 2010 9:00 a.m. EST	USNS COMFORT medical staff have performed more than 113 surgeries by this date and are currently treating 304 patients.
24 January 2010 12:00 p.m. EST	FL-TF2 departs Haiti and arrives in Santo Domingo nine hours later.
24 January 2010	HHS teams have treated approximately 9,500 patients by this date.
25 January 2010 12:00 p.m. EST	FL-TF2 departs Santo Domingo and arrives in Miami, FL, four hours later.
26 January 2010	USAID has delivered approximately 95,000 10-liter water containers, 50,000 family hygiene kits, and 20 10,000-liter water storage bladders to Haiti by this date.
26 January 2010	FEMA Program Office requests that OH-TF1 keep its cache in a ready state at the task force warehouse.
28 January 2010	USAID DART and WFP develop a revised food distribution plan to meet the long-term needs of earthquake survivors.
28 January 2010	USAID has contributed approximately $263 million in earthquake response funding.
28 January 2010	USAID has organized 31 flights to Haiti containing relief commodities from its warehouses by this date.
29 January 2010	USAID DART staff coordinates the donation and distribution of U.S. US&R supplies to the UNICEF-supported SOS Villages d'Enfants International orphanage in Port-au-Prince. Supplies include 6 large tents, 100 sleeping pads, and 100 sleeping bags.
30 January 2010	WFP launches the first systematic food distribution network in Port-au-Prince since the earthquake.
31 January 2010	DOD medical staff personnel have treated more than 3,000 patients and performed a total of 456 surgeries, 92 percent of which were conducted onboard U.S. ships.
1 February 2010 14:00	NGOs complete food distributions at 12 of 16 designated distribution points.
3 February 2010	USAID provides $7 million in additional funding to Relief International and the Agency for Technical Cooperation and Development to support economic recovery and market systems, shelter and settlements, healthcare, and other activities.
3 February 2010	Haitian Prime Minister Jean-Max Bellerive reports that the earthquake death toll has exceeded 200,000 people.

4 February 2010	U.S. US&R personnel in Haiti donate $500,000 of cache equipment to the Cap-Haïtien Fire Department in the Carrefour neighborhood of Port-au-Prince.
4 February 2010	WFP announces that all 16 distribution sites are operational for the first time since the new distribution system began on January 31.
5 February 2010	UN Special Envoy for Haiti and former President Bill Clinton visit Port-au-Prince to observe ongoing emergency humanitarian efforts and meet with Haitian government and UN officials.
5 February 2010	NGOs distribute food to 165,654 people at all 16 designated distribution points. 784,000 individuals have received food through this system.
7 February 2010	NGA identifies a 45-square-kilometer area of vacant land in Port-au-Prince available for the resettlement of earthquake survivors.
8 February 2010	OCHA reports that more than 1.2 million individuals currently reside in spontaneous settlements and an additional 76,800 reside at organized sites.
9 February 2010	Haiti has experienced 59 aftershocks of magnitude 4.5 or greater by this date. 16 of these aftershocks were magnitude 5.0 or greater and two were magnitude 5.9 and 6.0.
10 February 2010	USAID reimburses FEMA for $49 million used to support search and rescue and emergency response activities during the earthquake response.
10 February 2010	All FEMA personnel depart Haiti; one FEMA representative remains to provide ongoing support.

APPENDIX B: KEY OFFICIALS' SURVEY

The following survey was distributed to key personnel to solicit their views for this Quick Look Report.

U.S. Department of Homeland Security
Washington, DC 20472

FEMA

FEB 17 2010

Joint USAID-FEMA After Action Review
Support to the Haiti Earthquake
Survey of Key Officials

Since the tragic earthquake on January 12, 2010, the United States Government has been extending support to the people of Haiti and their government. This effort has been led by the State Department and the United States Agency for International Development (USAID), the lead Federal agency for foreign disasters. FEMA has been providing support to USAID as requests for supporting assets have come in.

We are conducting a joint USAID-FEMA after-action review, focused on the Urban Search and Rescue (USAR) deployment and other operational components that assisted in the deployment. The goal is to identify critical issues, including strengths and areas for improvement, and publish a Quick Look Report as soon as possible.

We are soliciting written survey responses from key officials involved in the response to the Haiti Earthquake, both in Washington, DC, and in the field. The target audience for the survey is key officials who are not part of the established USAR after-action process. We have also established a channel on LLIS.gov for the Haiti Earthquake, to promote information sharing on observations and lessons learned.

This survey has been developed to enable you to provide your written observations to the after-action review team. Please feel free to skip questions that do not apply to you. The survey includes general observations as well as a form to submit specific observations. Please add as much space as you need to adequately answer the questions. If you have any questions about this survey, you may contact the after-action team at the above email.

You may forward the survey to other officials in your organization who played a key role in the response to the Haiti Earthquake. We would appreciate any input. Completed surveys can be emailed to haitisupport@llis.dhs.gov. The deadline for this collection is **Friday, February 26, 2010**. If you prefer, you can arrange an interview in lieu of the survey by contacting Lisa Lofton, Chief, Integration Branch, National Preparedness Directorate, at (202) 786-9615 or Lisa.Lofton@fema.gov.

Thank you for contributing to this after-action review.

David Kaufman
Director, Office of Policy and Program Analysis

General Observations

Name:	
Title:	**Organization:**
Email:	**Phone Number:**
Emergency Assignment for Haiti Earthquake:	
Years in current job:	**Years in emergency assignment:**

General

1. Please briefly describe your role, responsibilities, and major activities during the response to the Haiti Earthquake.

2. What were the three greatest strengths that you observed concerning U.S. Government operations for this event? Please briefly explain why you believe each is a strength.

3. What are the three most critical areas for improvement that you observed? Please briefly explain why you believe that each is critical, the suspected root cause, and any recommended corrective actions.

4. Based on your experience in this event, would you recommend that doctrine needs to be revised, expanded, or modified? For example, doctrine may include the National Incident Management System, National Response Framework, and/or specific operating procedures for your assigned missions and tasks. Please be specific.

5. Based on your experience in this event, would you recommend that training needs to be revised, expanded, or modified? Please be specific.

6. What departments and agencies and international partners did you coordinate with during the response? Describe the strengths of that coordination and areas for improvement. Do you have any specific recommendations to improve interagency coordination?

7. Are there any other issues that have not been discussed in this survey that you would like to bring to the attention of the after-action review team?

Please submit the completed survey to haitisupport@llis.dhs.gov by Friday, February 26 COB.

Specific Observations

Name:	
Title:	**Organization:**
Email:	**Phone Number:**
Emergency Assignment for Haiti Earthquake:	
Years in current job:	**Years in emergency assignment:**

Observation: *An observation can be (1) positive about something done exceptionally well or procedures used that should be shared, or (2) negative about something that happened that should not have occurred or something that did not occur but should have. Please provide a brief factual statement of the observation and include "Who, What, When, Where, Why, and How."*

Severity: *If the observation addresses an issue that negatively impacts an individual's or group's capability to accomplish their assigned missions and tasks, then please rank the severity, as follows: minor – an issue that could not be resolved in the field; moderate – an issue that requires the attention of senior leadership and/or office/program managers; or significant – an issue that if left uncorrected could negatively impact future operations and lead to loss of life or destruction of property.*

☐ Minor ☐ Moderate ☐ Significant

Lesson Learned: *Lessons learned are positive or negative experiences derived from exercises, training, and real-world events.*

Corrective Action / Recommendation: *Corrective actions are concrete, actionable steps that are intended to resolve preparedness gaps and shortcomings experienced in exercises or real-world events. The recommendation could result in a requirement for new or modified publications, organizational structure, staffing, equipment, training and/or exercises.*

Please submit the completed survey to haitisupport@llis.dhs.gov by Friday, February 26 COB.

APPENDIX C: ACRONYMS

Acronym	Meaning
AAR	After-Action Report
ARC	American Red Cross
BoO	Base of Operations
CBP	U.S. Customs and Border Protection
DART	Disaster Assistance Response Team
DHS	U.S. Department of Homeland Security
DMAT	Disaster Medical Assistance Team
DMORT	Disaster Mortuary Operational Response Team
DOD	U.S. Department of Defense
EMI	Emergency Management Institute
ESF	Emergency Support Function
EST	Eastern Standard Time
FEMA	Federal Emergency Management Agency
GPS	Global Positioning System
HARB	Homestead Air Reserve Base
HHS	U.S. Department of Health and Human Services
HSIN	Homeland Security Information Network
IAA	Interagency Agreement
IDCT	International Donation Coordination Team
IMAT	Incident Management Assistance Team
INSARAG	International Search and Rescue Guidelines
IOM	International Organization for Migration
IS	Independent Study
ISB	Incident Support Base
IST	Incident Support Team
IT	Information Technology
JIC	Joint Information Center
JOPES	Joint Operations Planning and Execution System
MCC	Movement Coordination Center
MERS	Mobile Emergency Response Support
MGRS	Military Grid Reference System
MINUSTAH	UN Stabilization Mission in Haiti
MRE	Meals Ready to Eat
NGA	National Geospatial-Intelligence Agency
NIMS	National Incident Management System
NRCC	National Response Coordination Center
NRF	National Response Framework

NSSE	National Special Security Event
NTM	National Technical Means
OCHA	UN Office for the Coordination of Humanitarian Affairs
OFDA	Office of Foreign Disaster Assistance
OSOCC	On-Site Operations Coordination Center
POC	Point of contact
RMT	Response Management Team
SAR	Search and Rescue
SOP	Standard Operating Procedures
UN	United Nations
USAID	U.S. Agency for International Development
USCG	U.S. Coast Guard
USNG	U.S. National Grid
USSOUTHCOM	U.S. Southern Command
US&R	Urban Search and Rescue
UTC	Unit Type Code
WFP	UN World Food Program
WGS	World Geodetic System
WPAFB	Wright Patterson Air Force Base