

**FEMA Mismanaged the
Commodity Distribution
Process in Response to
Hurricanes Irma and Maria**





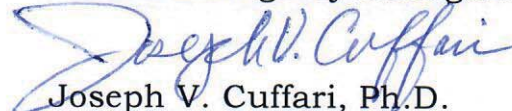
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Department of Homeland Security

Washington, DC 20528 / www.oig.dhs.gov

September 25, 2020

MEMORANDUM FOR: The Honorable Pete T. Gaynor
Administrator
Federal Emergency Management Agency

FROM:


Joseph V. Cuffari, Ph.D.
Inspector General

SUBJECT: *FEMA Mismanaged the Commodity Distribution Process
in Response to Hurricanes Irma and Maria*

Attached for your action is our final report, *FEMA Mismanaged the Commodity Distribution Process in Response to Hurricanes Irma and Maria*. We incorporated the formal comments provided by your office.

The report contains five recommendations aimed at improving the commodity distribution process. Your office concurred with four of the five recommendations. Based on information provided in your response to the draft report, we consider recommendations 1 through 4 resolved and open. Once your office has fully implemented the recommendations, please submit a formal closeout letter to us within 30 days so that we may close the recommendations. The memorandum should be accompanied by evidence of completion of agreed-upon corrective actions and of the disposition of any monetary amounts. Recommendation 5 is considered resolved and closed. Please send your response or closure request to OIGAuditsFollowup@oig.dhs.gov.

Consistent with our responsibility under the *Inspector General Act*, we will provide copies of our report to congressional committees with oversight and appropriation responsibility over the Department of Homeland Security. We will post the report on our website for public dissemination.

Please call me with any questions, or your staff may contact Sondra McCauley, Assistant Inspector General for Audits, at (202) 981-6000.

Attachment



DHS OIG HIGHLIGHTS

FEMA Mismanaged the Commodity Distribution Process in Response to Hurricanes Irma and Maria

**September 25,
2020**

Why We Did This Audit

We conducted this audit to determine the extent to which FEMA managed and distributed commodities in response to Hurricanes Irma and Maria.

What We Recommend

We made five recommendations that, when implemented, should improve FEMA's management and oversight of its disaster response activities.

For Further Information:

Contact our Office of Public Affairs at (202)981-6000, or email us at DHS-OIG.OfficePublicAffairs@oig.dhs.gov

What We Found

The Federal Emergency Management Agency (FEMA) mismanaged the distribution of commodities in response to Hurricanes Irma and Maria in Puerto Rico. FEMA lost visibility of about 38 percent of its commodity shipments to Puerto Rico, worth an estimated \$257 million. Commodities successfully delivered to Puerto Rico took an average of 69 days to reach their final destinations. Inadequate FEMA contractor oversight contributed to the lost visibility and delayed commodity shipments. FEMA did not use its Global Positioning System transponders to track commodity shipments, allowed the contractor to break inventory seals, and did not ensure documented proof of commodity deliveries. Given the lost visibility and delayed shipments, FEMA cannot ensure it provided commodities to Puerto Rico disaster survivors as needed to sustain life and alleviate suffering as part of its response and recovery mission.

In addition, FEMA's mismanagement of transportation contracts included multiple contracting violations and policy contraventions. These violations occurred because of poor acquisition planning that did not address requirements for transoceanic shipments. While we understand FEMA's priority on expediting commodity shipments to disaster survivors, it overrode the importance of following sound inventory management practices, significantly increasing the potential for fraud, waste, and abuse. Contract costs grew without FEMA having proof that services were performed as required and ultimately led to contract overruns of about \$179 million and at least \$50 million in questioned costs.

FEMA Response

FEMA concurred with four of the five recommendations. Appendix B contains FEMA's management comments in their entirety.



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Abbreviations

CO	Contracting Officer
CONUS	Continental United States
COR	Contracting Officer’s Representative
FAR	Federal Acquisition Regulation
FEMA	Federal Emergency Management Agency
FSA	Federal Staging Area
GAO	Government Accountability Office
GPS	Global Positioning System
LSCMS	Logistics Supply Chain Management System
MRE	Meals Ready-to-Eat
OIG	Office of Inspector General
POD	Point of Distribution
PREMA	Puerto Rico Emergency Management Agency
RSA	Regional Staging Area
SOP	Standard Operating Procedure
U.S.C.	United States Code



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Background

On September 6, 2017, the eye of Hurricane Irma passed the northern coast of the U.S. Virgin Islands and Puerto Rico. On September 20, 2017, Hurricane Maria made landfall in Puerto Rico as a Category 4 hurricane. The storm severely damaged Puerto Rico's transportation, electrical, and communication infrastructures. Damage to these critical infrastructures left Puerto Rico's entire population of 3.7 million without electricity and 95 percent of cell towers out of service. All of the island's residents were disaster survivors who had to rely on FEMA's response efforts for basic commodities, such as food and water, for extended time periods. As of December, 2018, FEMA reported it had spent approximately \$2.5 billion in response to Hurricane Maria.

The *Robert T. Stafford Disaster Relief and Emergency Assistance Act* (Stafford Act), permits the President to declare a major disaster when requested by the state governor or tribal government chief executive.¹ The Department of Homeland Security has the primary responsibility for coordinating disaster response for the Federal Government and the Federal Emergency Management Agency (FEMA) leads the Department's response efforts.² The *National Response Framework* describes how the Federal Government, states and localities, and public and private sectors should respond to disasters.³ State and local authorities usually serve as first responders to disasters. Federal agencies become involved in disaster response when response and recovery requirements exceed state and local government capabilities.

In accordance with the *FEMA Region II Hurricane Annex for Puerto Rico & Virgin Islands*, the commodities distribution process should start with Puerto Rico municipalities submitting commodity requests to FEMA. Then, FEMA coordinates the movement of these commodities from its distribution center in Atlanta, GA (or other suppliers as needed) through the closest port (i.e., Jacksonville, FL) via maritime transportation services. FEMA relied on Crowley Maritime Corporation (Crowley) to ship the commodities to Puerto Rico and to distribute them throughout the island.

Once commodities arrive at the Port of San Juan in Puerto Rico, FEMA Logistics⁴ (located at the Joint Field Office) coordinates the movement of these

¹ 42 United States Code (U.S.C.) § 5170.

² 6 U.S.C. § 313(c)(4).

³ The *National Response Framework* is the part of the National Preparedness System established in Presidential Policy Directive 8 that is to be used to manage any type of disaster or emergency response, regardless of scale, scope, and complexity.

⁴ The Joint Field Office is a temporary Federal facility where FEMA coordinates disaster response in the area.

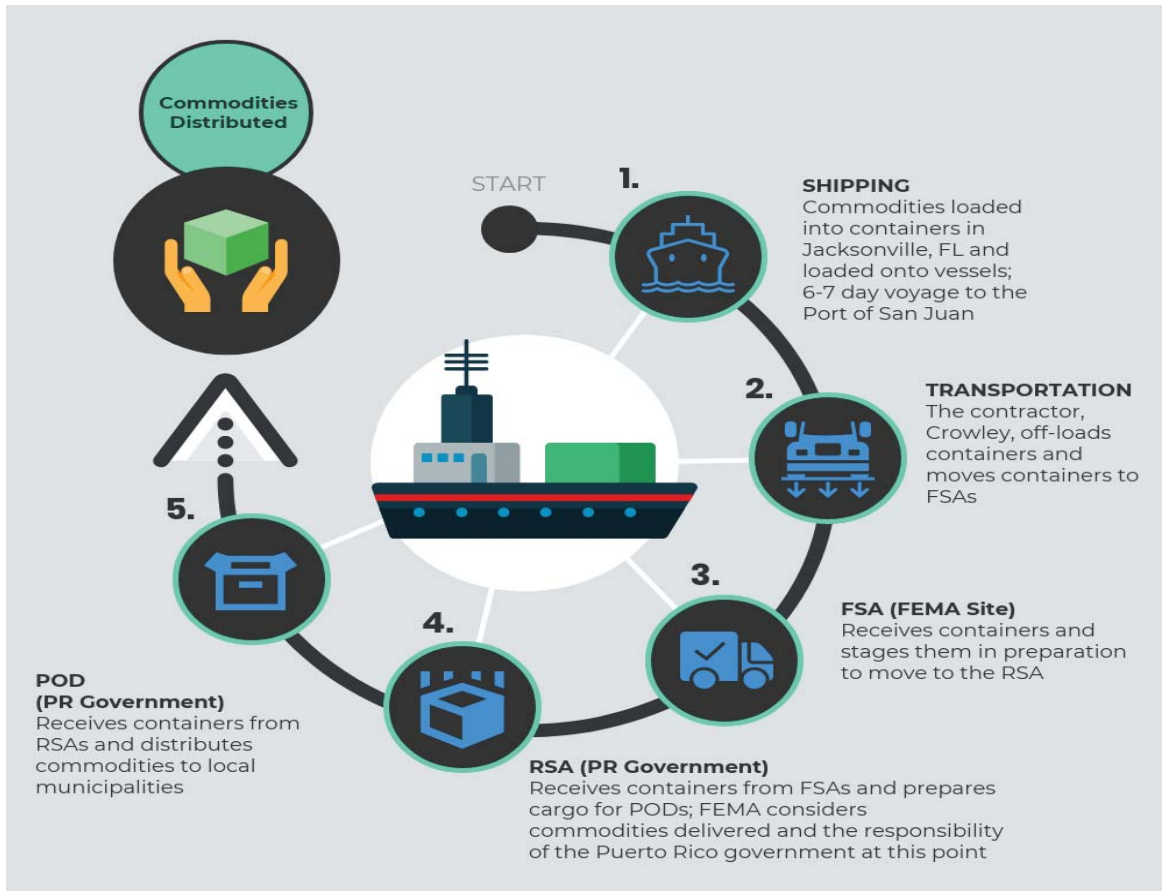


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commodities based on commodity requests. FEMA Logistics directs the movement of the commodities from two Federal staging areas⁵ (FSA) to the Puerto Rico government's regional staging areas⁶ (RSA) or points of distribution⁷ (POD) across the island (see Figure 1).

Figure 1. Commodity Distribution Process to Puerto Rico



Source: DHS Office of Inspector General (OIG) analysis of the commodity distribution process to Puerto Rico

FEMA uses the Logistics Supply Chain Management System (LSCMS) to track commodities and property shipments from initial order to final distribution. The state, or in the case of Puerto Rico, the Commonwealth, generally serves as

⁵ A Federal staging area is a federally-managed area or facility where commodities and equipment are positioned by FEMA, generally in anticipation of or in response to an incident.

⁶ A regional staging area (also called State staging area) is a state-managed area or facility set up and operated solely by the state.

⁷ A point of distribution is a state-operated area where disaster relief supplies are distributed directly to survivors.



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the final distribution point during a disaster response. Once FEMA transfers ownership of the commodities to the state for distribution to disaster survivors, FEMA's responsibility ends. In the case of the Commonwealth of Puerto Rico, the RSAs and PODs represent the final distribution points where FEMA transferred ownership. FEMA can also use LSCMS to track shipments to its own warehouses. In these instances, FEMA maintains ownership of the commodities and stores them for later distribution or future disasters.

LSCMS capabilities provide real-time visibility of commodity shipments, including location, quantity, movement, and status. According to the LSCMS Standard Operating Procedures (SOP), the commodity distribution process is initiated in the system with the placement of a customer order⁸ for commodities necessary to meet the anticipated needs of the affected population. The Logistics Management Center⁹ approves the customer order and forwards it to the Supply Chain Integration Branch.¹⁰ This branch, located at FEMA headquarters, sources the requested commodities, provides order approval, and forwards the customer order to the Transportation Management Branch¹¹ for shipping. The Transportation Management Branch makes all transportation arrangements and moves the commodities between locations. The FSA receives the commodities from the sources and stages them for shipping to the state upon request (see Figure 2).

⁸ As the initial orders for commodities in the supply chain, customer orders are placed in LSCMS to request movement of commodities from one location to another.

⁹ The Logistics Management Center is responsible for managing, collecting, and processing all logistics requirements and requests.

¹⁰ The Supply Chain Integration Branch oversees the commodity inventory at FEMA distribution centers and determines how to source the requested items. Items can be sourced from FEMA's supply chain or from other partners and vendors.

¹¹ This branch is responsible for contracting the transportation of FEMA commodities through the use of transportation companies.



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Figure 2. LSCMS Orders Overview



Source: DHS OIG analysis of the LSCMS Orders Overview

As reported by the Government Accountability Office¹² (GAO) and in FEMA’s own after-action report,¹³ FEMA acknowledged it inadequately planned when stating the agency could have better leveraged open-source information and preparedness data, such as capability assessments and exercise findings, for Puerto Rico and the U.S. Virgin Islands. For example, a 2011 exercise after-action report for Puerto Rico indicated the territory would require extensive

¹² GAO Report to Congressional Addressees, 2017 Hurricanes and Wildfires, *Initial Observations on the Federal Response and Key Recovery Challenges*, September 2018.

¹³ *FEMA After-Action Report, 2017 Hurricane Season*, July 12, 2018.



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Federal support in moving commodities from the mainland to the island and throughout to distribution points. Accordingly, FEMA listed several corrective actions in its after-action report to address its longstanding planning issues.

Results of Audit

FEMA mismanaged the distribution of commodities in response to Hurricanes Irma and Maria in Puerto Rico. FEMA lost visibility of about 38 percent of its commodity shipments to Puerto Rico, worth an estimated \$257 million. Commodities successfully delivered to Puerto Rico took an average of 69 days to reach their final destinations. Inadequate FEMA contractor oversight contributed to the lost visibility and delayed commodity shipments. FEMA did not use its Global Positioning System transponders to track commodity shipments, allowed the contractor to break inventory seals,¹⁴ and did not ensure documented proof of commodity deliveries. Given the lost visibility and delayed shipments, FEMA cannot ensure it provided commodities to Puerto Rico disaster survivors as needed to sustain life and alleviate suffering as part of its response and recovery mission.

In addition, FEMA's mismanagement of transportation contracts included multiple contracting violations and policy contraventions. These violations occurred because of poor acquisition planning that did not address requirements for transoceanic shipments. While we understand FEMA's priority on expediting commodity shipments to disaster survivors, their priority overrode the importance of following sound inventory management practices, significantly increasing the potential for fraud, waste, and abuse. Contract costs grew without FEMA having proof that services were performed as required and ultimately led to contract overruns of about \$179 million and at least \$50 million in questioned costs.

FEMA Mismanaged the Commodity Distribution Process in Response to Hurricanes Irma and Maria

FEMA lost visibility of approximately \$257 million in life-sustaining commodities.¹⁵ The shipments successfully delivered, took an average of 69 days to reach their final destinations. This occurred because Hurricane Maria's catastrophic damage in Puerto Rico and multiple, concurrent disasters

¹⁴ OIG makes no finding with respect to Crowley's responsibility.

¹⁵ Statements and conclusions within this report derived from FEMA-provided data are subject to the limitations and conditions described in Appendix A: Objective, Scope, and Methodology.



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nationwide challenged FEMA. In efforts to expedite commodity shipments, FEMA did not follow established policies and procedures. For example, FEMA did not fully utilize its Global Positioning System (GPS) transponder technology to track commodity movements. It also allowed the transportation contractor to break container seals and redistribute commodities and did not require them to provide proof of commodity deliveries. Although FEMA delivered an estimated 3,743 commodity shipments to the Puerto Rico government's RSAs and PODs, FEMA cannot provide reasonable assurance that it successfully delivered sufficient life-sustaining commodities to the disaster survivors in a timely manner as needed.

FEMA Lost Visibility of Commodity Shipments to Puerto Rico

FEMA's LSCMS SOPs are designed to ensure that FEMA can track its commodities through every part of the FEMA Supply Chain, from initial order to final distribution. LSCMS can provide visibility of commodity movements through the FEMA Supply Chain through the use of GPS transponders attached to trailers, or in the case of Puerto Rico shipments, containers. This allows personnel with LSCMS access to see the location of commodities at any given time during their transfer from one facility location to another. When such capabilities are used as designed, FEMA should have real-time visibility of all commodity orders, order status, such as pending or filled, and the progressive movement of commodities from initial location to the final destination.

Based on LSCMS records, FEMA lost visibility of approximately 38 percent (4,462) of life-sustaining commodity shipments¹⁶ to Puerto Rico. Approximately 98 percent (4,354) of these commodity shipments consisted of meals and water. FEMA personnel at the Jacksonville FSA reported that FEMA headquarters did not record customer orders in a timely manner, or did not record them at all. As such, FSA personnel in Jacksonville often did not know what commodities were shipped until after they had arrived because no LSCMS records existed. This negatively impacted the FSA's ability to plan for transportation of the commodities to Puerto Rico and created backups at the Jacksonville port that exceeded field and vendor storage capacities. In response to the large volume of commodities ordered, FEMA had to open up two overflow sites in Jacksonville to store commodities awaiting shipment, as well as divert a significant amount of commodities to other locations. According to FSA personnel in Jacksonville, some commodity shipments

¹⁶ A shipment represents the movement of one commodity container between one or more locations from its point of origin to the final destination.



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intended for Puerto Rico likely never left the continental United States (CONUS).

For supply chain accounting purposes, FEMA made adjustments to LSCMS to account for the lost visibility of commodity shipments. According to FEMA officials, they adjusted LSCMS records for these shipments by changing the last known locations in LSCMS to “unknown FSAs” or “unknown points of distribution.” FEMA officials advised us that they used ‘unknown’ as a destination as they believed the shipments were delivered throughout Puerto Rico but could not specifically identify the delivery locations. For example, in January 2018, FEMA adjusted 2,402 LSCMS records by changing the final locations to unknown FSAs. These records represented about 54 percent of the lost visibility commodity shipments. The estimated costs of the life-sustaining commodities associated with the lost visibility shipments total approximately \$257 million, as shown in Table 1.

Table 1. Estimated Costs of Lost Visibility Commodities

Commodity	Total Product	Cost Per Unit	Estimated Costs
Meals	43,788,042	\$5.16	\$225,946,297
Water	40,033,770	\$0.55	\$22,018,574
Blankets	32,025	\$12.95	\$414,724
Cots	36,972	\$39.00	\$1,441,908
Tarps	33,520	\$40.00	\$1,340,800
Sheeting	26,738	\$212.40	\$5,679,151
Totals			\$256,841,454

Source: DHS OIG analysis of estimated commodity costs

The loss of visibility resulted in actual financial loss to the Government. According to FEMA, they conducted a physical re-organization of more than 3,000 shipping containers dispersed throughout Puerto Rico. The contents of these containers were reconciled with LSCMS records. After final accounting for all meal and water shipments, FEMA indicated it was unable to locate 19 containers and their associated contents valued at \$303,000. However, we cannot determine the extent of what was lost due to the internal control failures addressed in this report and acknowledged by FEMA.

Commodity Shipments Successfully Delivered Were Significantly Delayed

In a post-disaster situation, FEMA must ensure survivors receive life-sustaining commodities as quickly as possible to help with the recovery process. However, FEMA took an average of 69 days to transfer commodities



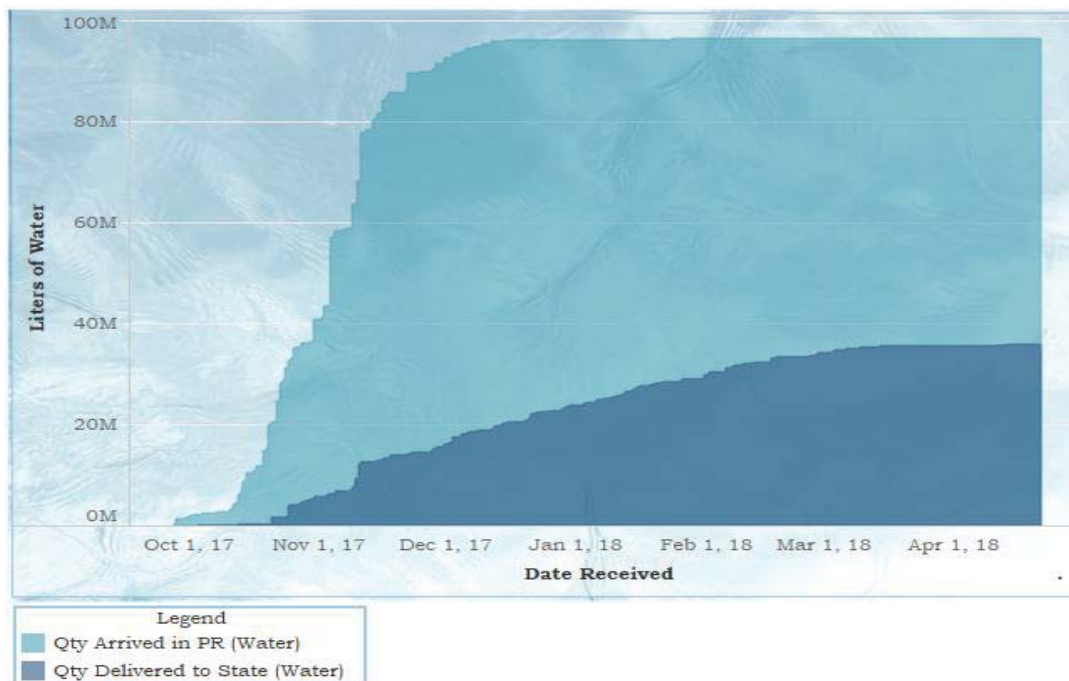
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valued at approximately \$154 million to the Commonwealth's RSAs and PODs. Specifically, it took FEMA an average of 13 days to ship the commodities from various contractor sites located within CONUS to Puerto Rico. Once on the island, commodities sat in FEMA's custody at various locations on the island approximately 48 days. The final transfer of the commodities from FEMA's custody to their end destinations took about 7.5 additional days.

Water and food, two of the most important life-sustaining commodities, experienced average shipping delays of 71 and 59 days, respectively. Of the approximately 97 million liters of water FEMA shipped to Puerto Rico between September 2017 and April 2018, 36 million liters (approximately 37 percent) reached the RSAs or PODs for distribution. Likewise, during the same period, of the 53 million meals FEMA shipped to Puerto Rico, 24 million (approximately 45 percent) reached the RSAs or PODs for distribution. The remaining commodity shipments for both water and meals that arrived in the Commonwealth either remained in FEMA's custody, were in contractor facilities, or had unknown destinations. Figures 3 and 4 illustrate water and food quantities arriving in Puerto Rico versus quantities received by the municipalities for distribution to survivors.

Figure 3. Water Shipments Arriving at the Puerto Rico Port versus Those Delivered to the Commonwealth's RSAs and PODs

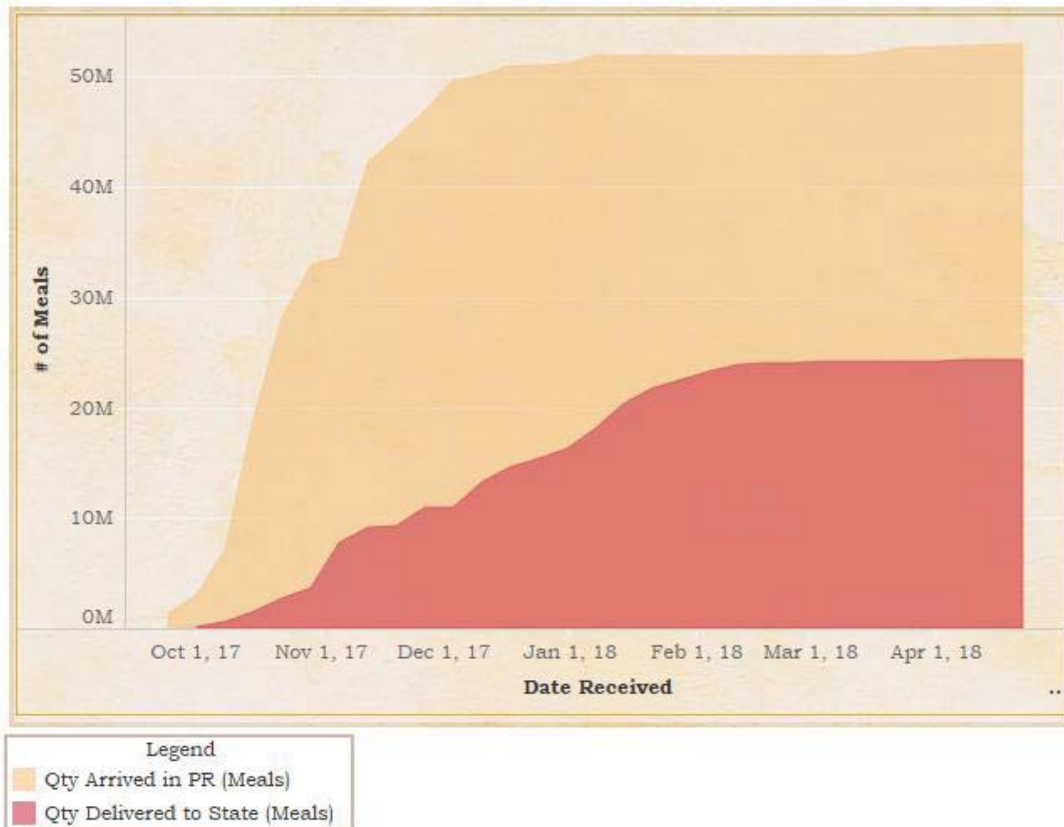


Source: DHS OIG analysis of LSCMS-extracted data



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Figure 4. Meal Shipments Arriving at the Puerto Rico Port versus Those Delivered to the Commonwealth’s RSAs and PODs



Source: DHS OIG analysis of LSCMS-extracted data

As part of our audit, we conducted a Puerto Rico municipality survey,¹⁷ the results of which supported this conclusion regarding delayed commodity shipments. According to our survey results, it took FEMA an average of 10 days immediately after the hurricanes to deliver the first food and water to the disaster survivors.¹⁸ Furthermore, only 27 percent (8 of 30) of the municipalities received sufficient amounts of water and only 20 percent (6 of 30) received sufficient amounts of food in the first commodity delivery.

¹⁷ In October 2018, OIG issued a survey consisting of 45 questions to Puerto Rico’s 78 municipalities to obtain their perspective of FEMA’s response to commodity distribution after Hurricane Maria.

¹⁸ While awaiting the arrival of commodities via maritime transportation, FEMA sent commodities by airplane and helicopter to Puerto Rico in the days immediately following the disaster. These airdropped commodities provided minimal assistance to the disaster survivors while waiting for the maritime shipments to arrive in Puerto Rico. However, these quantities were insufficient to meet the survivors’ needs.



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Although commodity distribution improved over the first 2 months after Hurricane Maria, approximately 24 percent (6 of 25) of municipalities did not receive sufficient food and water to support their disaster survivors. Furthermore, 40 percent (12 out of 30) of municipalities said they experienced significant problems with receiving expired food.

Moreover, the food that was delivered was nutritionally deficient. In an effort to quickly ship commodities to survivors, FEMA provided various food types such as meals ready-to-eat (MRE), snack boxes, and shelf-stable food that it deemed as meals.¹⁹ However, these meals varied widely in food type, and some meal types contained questionable nutritional value. For example, FEMA sent “meal” boxes that included junk food such as Oreos, candy, cereal bars, and other similar items that lacked sufficient nutritional value (see Figure 5).

Figure 5. Contents of Meal Boxes



Source: Photos provided by the Puerto Rico State Guard

FEMA sent these snack boxes because it was unable to order additional meals ready-to-eat due to the demand from concurrent disasters. Advance contract vendors were at capacity in providing nutritional meals following Hurricane Harvey and could not produce any more to support the effort in Puerto Rico. As a result, Puerto Rico increased the number of snack boxes distributed per survivor to account for the nutritional deficiencies of the food items. Puerto Rico officials reported one meal for approximately every 12 snack boxes distributed to a survivor. This created challenges for FEMA when it attempted to reconcile Puerto Rico’s meal distribution records with its LSCMS records as

¹⁹ Shelf stable food is non-perishable food that can be safely stored at room temperature or on the shelf.



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the meal figures did not match FEMA's distribution figures. Approximately 4 months into the disaster response, FEMA and Puerto Rico came to an agreement on the meal conversion factors for reporting purposes, which significantly reduced the number of meals FEMA reported for certain meal types.

FEMA's Inadequate Oversight of the Transportation Contractor Contributed to the Lost Visibility and Delayed Commodity Shipments

The Federal Acquisition Regulation (FAR) requires agencies to establish effective management practices to prevent fraud, waste, and abuse in service contracting. It also requires agencies to ensure supplies or services tendered by contractors meet contract requirements. However, Hurricane Maria's catastrophic damage in Puerto Rico and multiple, concurrent disasters nationwide challenged FEMA. FEMA's efforts to expedite commodity shipments resulted in lost visibility and delayed commodities because FEMA did not provide adequate oversight of the transportation contractor responsible for shipping commodities to and within Puerto Rico. For example, FEMA disregarded commodity tracking SOPs, allowed the contractor to break container seals to redistribute commodities, and did not require the contractor to provide proof of delivery.

FEMA Did Not Fully Utilize Its Global Positioning System Technology to Track Commodity Movements

LSCMS Program SOPs emphasize the importance of maintaining visibility of commodity movements. GPS technology serves as one of the most critical control components in the commodity distribution process. GPS facilitates decision-making processes during a disaster response by providing the physical location of commodities at any given time. When commodity containers arrive within 5 miles of the designated coordinates, GPS capabilities automatically populate LSCMS with the date and time of their arrival.

However, FEMA did not fully utilize its GPS technology to monitor commodity movements for over 75 percent of its shipments to Puerto Rico, and over 96 percent of its shipments within Puerto Rico. To illustrate, FEMA did not ensure GPS transponders worked properly or record GPS numbers in LSCMS. Additionally, FEMA had challenges using its GPS for commodity shipments to Puerto Rico because the vertical stacking of containers on barges and at staging yards caused signal loss that prohibited the transmission of geographic data.



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Given inadequate use of the GPS technology, FEMA had GPS data recorded for only 3.4 percent of the commodity shipments transported within Puerto Rico. FEMA consequently had limited knowledge about the location of the commodity shipments. LSCMS technicians had to manually monitor commodity movements and update LSCMS well after the movements had occurred and without proof of delivery as required by LSCMS policies. This resulted in untimely entries that hampered FEMA's ability to track commodity movements and to manage commodity distribution. FEMA also could not strategically move commodities that it could not locate on the island.

FEMA Allowed the Contractor to Break Container Seals and Redistribute Commodities in Different Containers

FEMA's LSCMS Program SOPs require the use of seals as a means of inventory control and accountability. Seals with unique numbers are affixed to shipping containers to ensure container contents are not modified, stolen, or damaged during shipment. Upon initially receiving ordered commodities, FEMA supervises the packing of each container with the commodities and enters a description into LSCMS regarding the container's contents. FEMA personnel place a seal on each container and record the number in LSCMS immediately prior to transferring the container to the transportation contractor. At the time of removal, FEMA personnel verify the seal numbers against LSCMS records.

However, due to inadequate FEMA oversight, Crowley Maritime Corporation (Crowley), FEMA's transportation contractor, broke the FEMA inventory seals and repackaged commodities at a second cross-docking location²⁰ in Jacksonville, FL. Disregarding the original packing slips and cargo manifests provided by FEMA, Crowley created generic cargo manifests labeled "relief supplies" that negatively impacted subsequent commodity shipment operations. Cargo manifests are critical as they provide details such as descriptions of the goods and their respective quantities, and relevant consignor and consignee information. According to FEMA personnel, the accuracy of Crowley's manifests was questionable. Crowley did not know the contents of all containers shipped due to its generic cargo manifests. Consequently, our data analysis indicates about 1,000 containers may have never left the Jacksonville port. FEMA personnel in Jacksonville indicated that over 1,500 containers that FEMA packed — most of them early in the disaster — may have never made it to Puerto Rico.

²⁰ A Cross Docking Operation takes a product from a truck or trailer and moves that material in its entirety to another trailer or container.

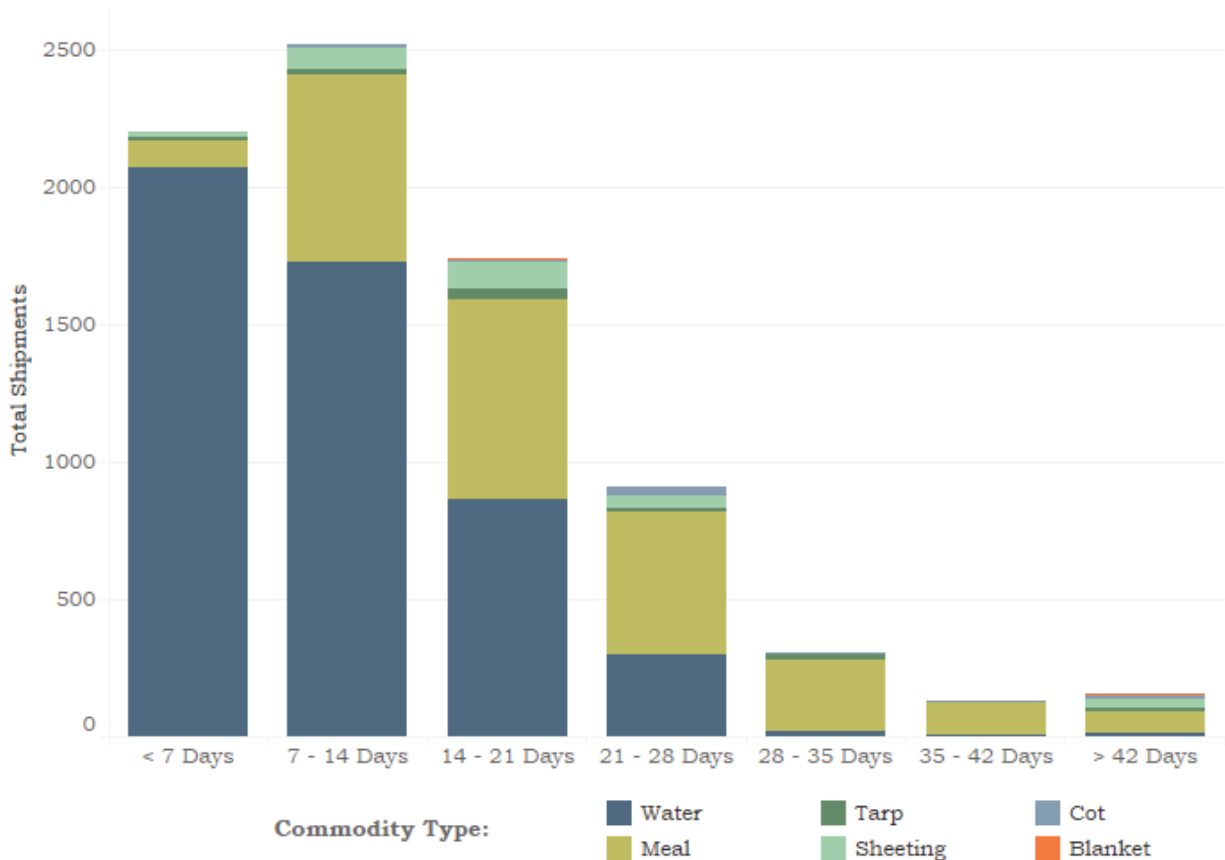


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The contractor reported that it broke the seals to cross-dock and maximize shipping space to balance commercial and FEMA requirements. This contributed to delays in providing commodities to disaster survivors. For example, of the 7,942 commodity shipments sent from the CONUS to Puerto Rico, 41 percent took longer than 14 days to arrive on the island (see Figure 6).

Figure 6. Shipment Times from CONUS to Puerto Rico by Commodity Type



Source: DHS OIG

Not only did the practice of breaking seals to cross-dock delay shipments leaving CONUS, it also delayed shipments traveling within Puerto Rico. For example, LSCMS data shows that 538 shipments departed the Crowley Bayamon Yard in Puerto Rico, where each of these shipments was subject to an additional delay of about 9 days.



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FEMA Did Not Require the Contractor to Provide Proof of Commodity Delivery

The FAR²¹ requires agencies to ensure that services provided by contractors meet contract requirements. Additionally, the LSCMS Program SOPs and the LSCMS Closeout Process Overview require that delivery personnel obtain signatures from receiving officials and return the signed receipt to the FSA. FEMA's process documents also require the use of gate logs²² to record deliveries. FEMA must retain the signed receipts as part of the disaster file.

Despite these requirements, our review of a random sample of 90 LSCMS commodity shipments from September 2017 through April 2018 showed that FEMA could not always substantiate delivery of commodities. Our sample included 45 commodity shipments from CONUS to the Puerto Rico FSA, and another 45 commodity shipments from the Puerto Rico FSA to the Puerto Rico government's regional staging area. We requested documentation required for point-to-point shipping, including gate logs, packing slips, shipping sheets, bills of lading, and manifests.

FEMA could not provide supporting documentation for 86 of the 90 (96 percent) commodity shipments reviewed. FEMA provided packing slips for 4 Puerto Rico FSA shipments to the Puerto Rico government's regional staging area. FEMA did not require Crowley to return proof of delivery for commodities transported from the ports to facilities throughout the island. FEMA also did not require Crowley to provide access to its logistics tracking system. Consequently, FEMA cannot provide assurance that Crowley successfully delivered the commodities to their intended destinations.

FEMA Cannot Provide Reasonable Assurance It Distributed Sufficient Amounts of Life-Sustaining Commodities to Disaster Survivors in a Timely Manner

With limited real-time visibility of commodity movements and over-reliance on the transportation contractor for commodity distribution, FEMA cannot provide reasonable assurance it distributed a sufficient amount of life-sustaining commodities in a timely manner. Because FEMA lacked accountability over the commodities it distributed, FEMA, as previously stated, reconciled its distribution figures with Puerto Rico government-provided data to determine the number of commodities distributed to disaster survivors. We attempted to

²¹ FAR Part 46.102(b).

²² A gate log is a written record of commodity shipments either to or from a given facility consisting of information such as date, time, trailer number, and commodities.



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verify this data with the Puerto Rico government's distribution numbers but determined the data was not reliable for reporting purposes.

The Puerto Rico government lacked a formal records management system to track commodities received from FEMA and distributed to the municipalities. Instead, Puerto Rico government personnel maintained manual records that were not filed in an organized manner in a designated location where they could be easily retrieved. For example, we requested supporting documentation to verify commodity distribution numbers in the Puerto Rico government's summary reports provided to FEMA. Puerto Rico government officials could not provide the supporting commodity distribution records because they were dispersed throughout various locations on the island, including a personal residence.

FEMA's Mismanagement of the Transportation Contracts Led to Multiple Federal Acquisition Regulation Violations

FEMA's mismanagement of its transportation contracts²³ with Crowley and Estes Express Lines (Estes) resulted in multiple violations of Federal regulations. Specifically, we noted the following:

- FEMA's advanced transportation contracts did not include adequate transportation services necessary for disaster response;
- FEMA awarded an unauthorized sole source contract with no reasonable price determination;
- FEMA did not practice sound funds management; and
- FEMA improperly validated and approved payment on contractor invoices.

These actions occurred because FEMA did not develop an acquisition plan that adequately addressed commodity distribution requirements for transoceanic shipments at various surge levels and corresponding cost estimates. Further, management's priority on disaster response, which overrode adherence to sound business practices, contributed to the violations. As a result, FEMA allowed transportation contractors to exceed their contract ceilings by a combined \$179 million. These actions also resulted in significant risk for fraud, waste, and abuse, including questioned costs of approximately \$50 million.

²³ FEMA awarded a transportation contract (Contract No. HSFE70-16-D-0204) to Crowley on August 30, 2016. FEMA awarded another transportation contract (Contract No. HSFE70-16-D-0209) to Estes Express Lines on September 30, 2016.



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FEMA's Advanced Transportation Contract Did Not Include Adequate Transportation Services Necessary for Response to Puerto Rico Disaster

The *Post-Katrina Emergency Management Reform Act of 2006*²⁴ requires FEMA to establish advanced contracts for quick disaster response. The FAR²⁵ also requires agencies to perform acquisition planning and to conduct market research for all acquisitions to ensure that the Government meets its needs in the most effective, economical, and timely manner possible.

FEMA awarded an advanced contract to Crowley on August 30, 2016, for the purpose of commodity prepositioning for the U.S. Virgin Islands. However, the contract did not meet the needs of FEMA for a quick disaster response to provide life-sustaining commodities to disaster survivors. The original contract quickly reached its capacity because it did not effectively outline the following basic transportation services needed for transoceanic shipments:

- cross-docking services,
- transportation to port of embarkation,
- point of embarkation processing,
- transportation to port debarkation,
- port of debarkation processing, and
- transportation to the FSA and regional staging areas.

The planning process should have included early consultation with logistics personnel concerning quantity and delivery requirements. Sound acquisition planning prior to a disaster through the establishment of advanced contracts is essential for FEMA to provide life-sustaining goods and services in the immediate aftermath of disasters.

FEMA Awarded an Unauthorized Sole Source Contract with No Reasonable Price Determination

FAR Part 6.101(b) requires full and open competition using competitive procedures. Any additional work that falls outside of an original contract's scope requires competition unless the agency makes a valid determination that a sole source justification exists and obtains the appropriate approvals.²⁶ Nonetheless, with surging needs for transportation of life-sustaining commodities, FEMA verbally directed Crowley to perform commodity transportation services that significantly exceeded the contract's original scope

²⁴ Pub. L. No. 109-295, § 691 (codified at 6 U.S.C. § 791).

²⁵ FAR Part 7.102 and 7.104.

²⁶ FAR 6.303-1(a) and 6.304(a).



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of work to provide commodity pre-positioning in the U.S. Virgin Islands. The revised, expanded scope provided all-inclusive transportation and shipping services in response to Hurricanes Irma and Maria, triggering competitive requirements that required action from FEMA.

Although FEMA justified its scope revision by citing unusual and compelling urgency, it did not obtain the proper approvals to execute a sole source contract. On September 30, 2017, the contracting officer (CO) initiated a new sole source contract and a justification for other than full and open competition, with a \$250 million contract ceiling. The CO then sent the new sole source justification to FEMA management for review but did not receive any feedback. In the meantime, Crowley continued to perform services and incur costs based on FEMA's verbal direction with no contract in place.

When FEMA officials did not approve the new contract, the CO awarded a contract modification to the existing contract on October 24, 2017. The modification increased the contract ceiling to \$100 million, and added more than 100 contract line item numbers. However, these modifications exceeded the CO's \$25 million warrant authority. According to FAR Part 1.602-1, a CO may bind the Government only to the extent of the authority delegated to them. As a result, the CO made an unauthorized commitment. FAR Part 1.602-3(a) defines an unauthorized commitment as "an agreement that is not binding solely because the Government representative who made it lacked the authority to enter into that agreement on behalf of the Government."

Even if the CO had retained the appropriate authority to modify the contract, the CO did not establish price reasonableness before doing so, as required by Federal regulations.²⁷ Price reasonableness ensures COs purchase supplies and services at fair and reasonable prices. Instead, the CO took the list of services and prices provided by Crowley and incorporated them into the contract without questioning costs.

In March, 2018, Crowley submitted a consolidated invoice totaling approximately \$159 million for services performed from August 27, 2017, to March 7, 2018. This included a \$155 million cost overrun of the \$4 million contract ceiling. FEMA requested assistance from a DHS price analyst to help determine price reasonableness. This price reasonableness determination included reviewing supporting documentation provided by Crowley, examining another Federal contract Crowley had with the Department of Defense for similar services, and consulting with FEMA's Logistics Division. On April 6, 2018, FEMA determined that approximately \$114 million represented a fair

²⁷ FAR 15.402.



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and reasonable price for the services performed and ratified the contract. The agency questioned the approximately \$45 million that remained, stating it would be ratified in an amendment to the document should the prices be found fair and reasonable. Crowley later filed a claim for unpaid or partially paid invoices, including the remaining \$45 million, so this matter is currently in litigation.

FEMA Did Not Practice Sound Funds Management

Acquisition planning includes developing written acquisition plans that contain action plans addressing budget estimates and how the agency intends to obtain funding when required.²⁸ This ensures that government agencies do not violate the *Anti-Deficiency Act*.²⁹ Government officials may not make or authorize an obligation exceeding the amount available in an appropriation or fund for that obligation. According to FAR 32.702, the CO must obtain written assurance of the availability of adequate funds or include a contract clause that limits funds availability.

FEMA's verbal direction to transportation contractors and delays in approving contracting actions contributed to unfunded commitments and potential *Anti-Deficiency Act* violations. FEMA did not develop cost estimates for surge operations during the acquisition planning phase and had significant difficulty determining spending rates on various transportation contracts.

When FEMA received Crowley's consolidated invoice in March 2018 totaling approximately \$159 million, it had only committed and obligated funds totaling \$48 and \$47 million, respectively. Additionally, FEMA's contract with Crowley did not contain any availability of funds clauses until it attempted a fourth contract modification, which was not a valid modification.

Similarly, when FEMA received Estes Express Lines³⁰ invoices totaling approximately \$33 million as of April 20, 2018, FEMA did not modify the Estes contract and increase the ceiling from approximately \$9 million to almost \$64 million until April 26, 2018 — 6 days after it received the latest invoice from the contractor. This resulted in a \$24 million cost overrun of the contract ceiling. The contract was subsequently ratified after Estes performed work in April 2018.

²⁸ FAR Part 7.105(b)(6).

²⁹ 31 U.S.C. § 1341(a)(1)(A).

³⁰ Contract No. HSFE70-16-D-0209 was a transportation contract awarded by FEMA to Estes on September 30, 2016.



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FEMA Improperly Validated and Approved Payment on Contractor Invoices

According to FAR 37.102 (f), agencies shall establish effective management practices to prevent fraud, waste, and abuse in service contracting. Additionally, the *Homeland Security Acquisition Manual Section 3032.7002* states the CO is responsible for review and approval of invoices. It also provides examples of invoice review tasks that include ensuring billed costs are allocable and allowable to the contract.

FEMA did not perform a sufficient review to validate and substantiate charges in contractor invoices prior to invoice payment or contract ratification. We sampled and reviewed 45 line items totaling approximately \$50 million from contractor invoices. FEMA could not provide detailed supporting documentation for these line items. In another review, we could not trace and verify \$72 million of line item expenses to the summary documentation provided with the invoices. Also, the contracting officer representative (COR) files contained no proof of delivery of commodity shipments or support for leased and rented equipment. Instead, the COR relied on verbal statements and emails from FEMA personnel in Puerto Rico to confirm the contractor provided required services and potentially paid for services not rendered.

Poor Acquisition Planning and Mission Focus Contributed to the Federal Contract Violations

Numerous FAR violations, policy contraventions, and potential *Anti-Deficiency Act* violations occurred because of poor acquisition planning and management focus on FEMA's disaster response mission in lieu of following and enforcing essential internal controls. For example, FEMA did not develop an acquisition plan that adequately addressed commodity distribution requirements for transoceanic shipments at various surge levels and corresponding cost estimates. Consequently, poor planning placed the agency in a reactive mode to ensure the continuity of services during the disaster response. Better acquisition planning would have helped ensure timely, successful commodity shipments and lessened the negative impact of the catastrophic disaster on Puerto Rico.

This situation resulted in FEMA making unauthorized, constructive³¹ contract changes it did not legally formalize until well after the response period closed. Contract costs grew without FEMA having proof that services were performed

³¹ A constructive change is when a contractor performs work beyond the contract requirements, without a formal order under the changes clause through the fault of the buyer.



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as required and resulted in at least \$50 million in questioned costs. While we acknowledge emergencies often require improvisation and process adaptation, disregarding management controls had a negative impact on FEMA's administration of critical transportation contracts.

Conclusion

FEMA faced tremendous challenges meeting mission requirements because of the catastrophic nature of Hurricane Maria and multiple, concurrent, nationwide disasters. Although we understand FEMA's priority on expediting commodity shipments to disaster survivors, the extent of the deviations from established operating procedures significantly increased the risk for fraud, waste, and abuse. Some flexibility and adaptation of normal processes is expected during disaster responses, but controls necessary to safeguard commodities cannot be altogether ignored. FEMA's emphasis on delivering commodities to disaster survivors overrode the importance of following sound inventory management practices. When combined with poor acquisition planning prior to the hurricanes, FEMA's management of the commodity distribution process did not function properly.

FEMA lost visibility of approximately 38 percent of its life-sustaining commodity shipments to Puerto Rico worth an estimated \$257 million. Commodities successfully delivered to the Puerto Rico government took an average of 69 days to reach their final destinations. Consequently, FEMA cannot provide reasonable assurance it provided sufficient life-sustaining commodities to Puerto Rico disaster survivors in a timely manner. Furthermore, FEMA's mismanagement included multiple contracting violations and policy contraventions that ultimately led to contract overruns of about \$179 million and at least \$50 million in questioned costs.

Recommendations

We recommend the FEMA Administrator:

Recommendation 1: Develop a comprehensive strategy and implementation plans for improving asset tracking and in-transit visibility across all modes of transportation. These plans should also include specific goals and corrective actions to address the agency's commodity distribution challenges in managing the end-to-end distribution process, ensure the accuracy of underlying data, and strengthen and integrate distribution policies and the governance structure.



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Recommendation 2: Develop and improve management reporting and data gathering business processes to address the data reporting challenges, resulting in more accurate and near-real-time information that enables quality decision making in assessing disaster survivor support needs.

Recommendation 3: Establish robust transportation, supply chain, and general logistics contingency contracts to provide more timely and effective delivery of disaster support.

Recommendation 4: Develop internal controls over contract administration from initiation to closeout. These controls should: 1) ensure all contract requirements are met in accordance with the Federal Acquisition Regulation and corresponding DHS and FEMA policies and procedures; 2) ensure training needs are met by procurement personnel and appropriate approvals are obtained prior to the award or modification of contracts; and 3) ensure contract oversight officials adequately review invoices, including verifying costs, to the extent possible, based on source documentation to ensure billed costs are supported and allowed.

Recommendation 5: Investigate FEMA's transportation contracts in response to the Puerto Rico disaster for potential *Anti-Deficiency Act* violations and appropriately report the results of the review.

Management Comments and OIG Analysis

Although FEMA concurred with four of the five recommendations, it disagreed with our conclusions concerning commodity distribution. According to FEMA, its reconciliation resulted in accounting for all but 19 of 9,775 containers shipped to Puerto Rico. It took FEMA several months to locate these containers throughout the island, and it acknowledged some were empty or were filled with different products than expected. Finding lost containers does not mean FEMA found the commodities in the containers. The amount of commodities that FEMA lost because of its mismanagement of the distribution process is undeterminable.

We consider recommendations 1 through 4 resolved and open. Recommendation 5 is resolved and closed. A copy of FEMA's response in its entirety is included in Appendix B. FEMA also provided technical comments and suggested revisions to our report in a separate document. We reviewed the technical comments and made changes to the report where appropriate. A summary of FEMA's response and our analysis follows.



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FEMA's Comments to Recommendation 1: Concur. FEMA's strategy in response to this recommendation is to address the multi-modal components of asset tracking along with in-transit visibility of FEMA's systems, processes, training, and personnel. FEMA has taken several targeted improvements such as deploying the Transportation Procurement module and implementing other LSCMS system improvements, publishing guidance like the *Transportation Management Guide*, and procuring solar satellite transponders to replace the legacy transponders. Estimated Completion Date: July 30, 2021

OIG Analysis of FEMA's Comments: FEMA's corrective actions are responsive to the recommendation. However, the recommendation will remain open and resolved until we receive and evaluate a comprehensive supply chain strategy and corresponding initiatives, in conjunction with implementation plans that include estimated completion dates, for all critical aspects of supply chain management and distribution. At a minimum, the strategy and implementation plans should address the use of technology for evaluating supply and demand and tracking visibility; communication, collaboration, and accountability with third-party vendors; contracting; key performance metrics for timeliness and delivery based on severity of a disaster; and risk factors impacting the distribution process.

FEMA's Comments to Recommendation 2: Concur. FEMA's efforts to address this recommendation consist of planning, upgrading, and implementing aspects of information technology and data analysis. FEMA has undertaken LSCMS improvements and data collection tasks such as expanded Business Intelligence data models to improve ad-hoc, operational, and management reporting; moved LSCMS to the Cloud resulting in improvements to system agility; and developed a multi-layered disaster logistics reporting and data gathering business tool. Estimated Completion Date: December 31, 2020

OIG Analysis of FEMA's Comments: FEMA's corrective actions are responsive to the recommendation. The recommendation will remain open and resolved until we have reviewed and analyzed documentation supporting actions taken to improve management reporting and data gathering.

FEMA's Comments to Recommendation 3: Concur. FEMA Logistics has improved its logistics capabilities for response operations, including updates and expansions to high-priority, national-level commodity contracts. Improvements include replacement of a previous inter-island contract with a contract that has all-inclusive transportation and shipping services from a CONUS point of origin to Puerto Rico and the U.S. Virgin Islands. FEMA also awarded a National Cross Dock and Incident Support Base contract to aid in the movement control and management of disaster response resources. FEMA



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also plans to award a multi-year contract vehicle to vendors, replacing a previous version, while also developing robust OCONUS transportation contracts for Hawaii, the Commonwealth of Northern Mariana Islands, and Alaska to provide transportation services for the movement of resources during a disaster response. Estimated Completion Date: August 31, 2021

OIG Analysis of FEMA’s Comments: FEMA’s corrective actions are responsive to the recommendation. The recommendation will remain open and resolved until we have reviewed contract documentation supporting these actions.

FEMA’s Comments to Recommendation 4: Non-Concur. FEMA’s Office of the Chief Procurement Officer has processes and procedures in place for internal controls addressing contract administration from initiation to closeout. FEMA contracting personnel receive updated policy guidance through the issuance of standard operating procedures and acquisition alerts throughout the fiscal year. FEMA OCPO continues to refine the internal control processes on an ongoing basis. Among other policies, FEMA issued the “Disaster Contracting Desk Guide,” which covers the entire disaster procurement process from submittal of a requisition through contract closeout. FEMA also created a draft FEMA Acquisition Manual that establishes the FEMA component-wide acquisition procedures that supplement the FAR and other requirements or policies.

OIG Analysis of FEMA Comments: Although FEMA did not concur with the recommendation, the agency’s actions to continuously refine internal control processes are responsive to this recommendation. The recommendation will remain open and resolved until we have received and reviewed the policies and procedures outlined in the response.

FEMA’s Comments to Recommendation 5: Concur. FEMA investigated the possibility of an Anti-Deficiency Act violation while assessing the unauthorized commitment in October 2018. During that assessment, FEMA OCPO analyzed the contract action and used cost and price analysts to demonstrate fair and reasonable pricing. FEMA determined there was no violation as there was money in the Disaster Relief Fund account at the time of the procurement. These conclusions are supported in the ratification letter, which was approved by the Office of General Counsel and the Head of the Contracting Activity.

OIG Analysis of FEMA Comments: FEMA’s corrective actions are responsive to this recommendation, and we have reviewed the signed ratification letter along with documentation supporting the cost assessment. The recommendation is considered resolved and closed.



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Appendix A

Objective, Scope, and Methodology

Department of Homeland Security Office of Inspector General was established by the *Homeland Security Act of 2002* (Public Law 107-296) by amendment to the *Inspector General Act of 1978* (5 U.S.C. app. 3 (1978)).

Our audit objective was to determine to what extent FEMA managed and distributed commodities in the Commonwealth of Puerto Rico in response to Hurricanes Irma and Maria. To answer the objective, we interviewed FEMA, Puerto Rico, and contract officials, reviewed applicable policies and procedures related to disaster support, conducted site visits, observed operations, and analyzed LSCMS data.

We evaluated FEMA's internal controls to the extent necessary to accomplish our objective. Specifically, we developed an understanding of internal controls over the commodity distribution process by reviewing program documentation and other FEMA and DHS guidance, and interviewing FEMA personnel assigned to oversee and manage the process. We assessed the internal controls in place at the time of the response, and examined their effectiveness in light of the evidence obtained throughout the audit.

To determine how FEMA managed and distributed commodities in the Commonwealth of Puerto Rico in response to Hurricanes Irma and Maria, we met with officials from FEMA including FEMA Headquarters, FEMA Region II, the Joint Field Office, and the FSAs in Puerto Rico. We interviewed representatives from the National Response Coordination Center. We also interviewed officials from across the Commonwealth of Puerto Rico, including the Puerto Rico Emergency Management Agency (PREMA), the Puerto Rico National Guard, the Puerto Rico State Guard, and the Puerto Rico municipalities.

We conducted site visits in Jacksonville, FL, which included the Port of Jacksonville and a Federal Staging Area. We also conducted site visits in Puerto Rico, which included the Joint Field Office, the Port of San Juan, FEMA's Caribbean Distribution Center, two FSAs, one RSA, and several warehouse facilities used to store commodities.

We obtained an understanding of FEMA's supply chain management process, including use of LSCMS. We also obtained an understanding of FEMA's regional planning and preparedness process, including PREMA's role and responsibilities in that process.



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Our fieldwork procedures included testing a random, judgmental sample of 90 LSCMS commodity shipments from September 2017 through April 2018 to determine whether FEMA could substantiate delivery of commodities. Supporting documentation requested consisted of required shipping documentation for point-to-point shipping such as gate logs, packing slips, shipping sheets, bills of lading, and manifests.

To analyze FEMA's commodity movements in LSCMS, we performed an analytical review of LSCMS data for 20,012 Puerto Rico commodity shipments for Hurricanes Maria and Irma. We identified our universe by matching unique shipping numbers, purchase orders, and disaster numbers. From the universe, we focused our review on the 11,883 shipments, between September 2017 and April 2018, that contained life-sustaining commodities, specifically meals, waters, blankets, cots, tarps, and sheeting.

LSCMS has data reliability issues, such as missing fields, unknown locations, and no source documentation to provide proof of delivery. However, despite the known challenges, it remains FEMA's system of record for all commodity shipments.

To increase the overall data reliability of the LSCMS records, we accounted for fields containing inconsistent information, such as those with incorrect or mismatched disaster names or numbers. Likewise, we extracted FEMA's shipments to unknown locations. Many of the unknown shipments likely contained erroneous transit data that would have skewed overall transit time and quantity analyses. We analyzed these separately from shipments that never passed through unknown locations. Additionally, we used GPS information, where available, to assess the overall reliability of received dates and determined the data fields, including those with manual entries, were sufficiently reliable for reporting purposes.

Although we could not substantiate the total amount of commodities received by Puerto Rico during our testing because FEMA did not maintain adequate documentation, we believe other corroborating evidence mitigates this issue at a summary level. This included testimonial evidence from FEMA, Puerto Rico, and local government officials along with evidence gathered through a survey of 78 Puerto Rico municipalities to obtain their perspective on FEMA's response to commodity distribution in the aftermath of Hurricanes Irma and Maria. We administered the survey as a structured interview questionnaire via an official DHS OIG email account which yielded a response rate of approximately 38 percent. Additionally, we observed the commodity distribution process and discussed FEMA's performance with Puerto Rico officials, including the Puerto Rico National Guard.



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Overall, while the data is not without errors and FEMA cannot provide proof of delivery, we conclude that our adjustments, in conjunction with corroborating evidence, make the data sufficiently reliable to support the findings, conclusions, and recommendations in this report.

In response to Hurricanes Irma and Maria, FEMA heavily relied on transportation contracts to fulfill transportation needs outside of the continental United States. To obtain an understanding of FEMA's administration and oversight of these contracts, we met with officials in FEMA's Office of Contracting and Procurement. We also met with representatives from Crowley Maritime Corporation. Further, we performed a review and conducted testing of the contracts, including their respective invoices and supporting documentation.

We conducted this performance audit between November 2017 and February 2020 pursuant to the *Inspector General Act of 1978*, as amended, and according to generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based upon our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based upon our audit objectives.



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Appendix B
FEMA Comments to the Draft Report

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



September 11, 2020

MEMORANDUM FOR: Joseph V. Cuffari, Ph.D.
Inspector General
Office of Inspector General

FROM: Cynthia Spishak CYNTHIA
Associate Administrator SPISHAK Digitally signed by CYNTHIA
Office of Policy and Program Analysis SPISHAK DN: 2020.09.11 20:08:49 -0400

SUBJECT: Management Response to Draft Report: "FEMA Mismanaged
the Commodity Distribution Process in Response to Hurricanes
Irma and Maria" (Project No. 18-026-AUD-FEMA)

Thank you for the opportunity to review and comment on this Draft Report. The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) appreciates the work of the Office of Inspector General (OIG) in planning and conducting its review and issuing this report.

Delivering assistance to disaster survivors is one of FEMA's critical responsibilities. As such, FEMA continues to strengthen its assistance through continuous review and evaluation of policies, feedback from internal and external stakeholders, and in partnership with those we serve.

FEMA disagrees with the OIG's draft report conclusion concerning the distribution of commodities in response to Hurricanes Irma and Maria in Puerto Rico. While this response posed a number of logistical challenges, FEMA delivered a historic quantity of 63.6 million (M) meals and 74.1M liters of water to the Commonwealth of Puerto Rico (Commonwealth) government from September 2017 through April 2018.

For the first 45 days of the Hurricane Maria disaster response, FEMA prioritized the speed of processing, handling, and delivery of meals and water to disaster survivors. As the response continued, FEMA recognized the opportunity for improvement to staffing, training, processes, tools, and accounting for meals and water. For example, FEMA Logistics Directorate in partnership with Region II Logistics and FEMA's Logistics Chief in Puerto Rico reassigned and recruited staff, and mission assigned personnel from the Department of Defense to this mission. FEMA deployed logisticians and trained the



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newly assigned staff on lessons learned from the first six weeks of responding to Hurricane Maria, and upgraded processes to adjust to the multi-modal transportation architecture supporting Puerto Rico.

FEMA Logistics used its Logistics Supply Chain Management System (LSCMS) and manual tools to track and account for shipments. Manual tools were required due to volume, speed, and varied sources of supply combined with limited staff trained in supply chain management, and poor IT connectivity. FEMA attached a transponder with GPS to truck trailers to track delivery status for shipments from FEMA distribution centers. Delivery status was then provided manually on cargo shipped directly from vendors and/or their transportation carriers, via our web portal and by email to FEMA to update LSCMS.

To improve tracking, FEMA placed an order for 10,000 more LSCMS transponders the week of September 4, 2017, to double the number of transponders in operational use in October 2017. With operations ongoing, FEMA started reconciling records in LSCMS, and physically validating dispersed shipping containers. In December 2017, the contents of over 3,000 shipping containers were reconciled for ongoing requirements. FEMA updated records to reflect current information at that point in time. As staffing, processes and connectivity improved reporting and record keeping, and conducted 100% reconciliation of the shipping documents carrying meals and water in May 2018. FEMA accounted for all but 19 of 9,775 containers shipped to Puerto Rico.

Over time, FEMA compiled an inventory of more meals and water in Puerto Rico than was accepted by the municipalities. As a result, 5M meals and 45M liters of water were not delivered to the Commonwealth and remained in inventory. The delivery of meals and water that remained in undelivered status skewed average delivery time calculations.

The draft report contained five recommendations, including four with which FEMA concurs, and one with which FEMA non-concurs. Attached find our detailed response to each recommendation. FEMA previously submitted technical comments under a separate cover for OIG's consideration.

Again, thank you for the opportunity to review and comment on this draft report. Please feel free to contact me if you have any questions. We look forward to working with you again in the future.

Attachment



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Attachment: Management Response to Recommendations Contained in OIG 18-026-AUD-FEMA

OIG recommended that the FEMA Administrator:

Recommendation 1: Develop a comprehensive strategy and implementation plans for improving asset tracking and in-transit visibility across all modes of transportation. These plans should also include specific goals and corrective actions to address the agency's commodity distribution challenges in managing the end-to-end distribution process, ensure the accuracy of underlying data, and strengthen and integrate distribution policies and the governance structure.

Response: Concur. FEMA Logistics Directorate uses the "FEMA Strategic Plan, 2018-2022," dated April 2018 as guidance, as FEMA's Strategic Plan has a goal and an objective that closely meshed with FEMA Logistics requirements after Hurricane Maria: Goal 2, "Ready the Nation for Catastrophic Disasters," and Objective 2.3, "Posture FEMA and the Whole Community to Provide Lifesaving and Life-Sustaining Commodities, Equipment, and Personnel from all Available Sources." FEMA's strategy addressing the intent of this recommendation was to address the multimodal components of asset tracking, as well as in-transit visibility in FEMA's systems, processes, training and personnel. For example, FEMA Logistics undertook the following targeted improvements:

- In August 2018, FEMA provided enhanced ocean shipment tracking capabilities by being able to capture key data including vessel and voyage for each shipment.
- In August 2018, FEMA provided enhanced air shipment tracking capabilities by being able to capture key data including flight number and tail number.
- In April 2019, FEMA deployed the Transportation Procurement module within the LSCMS so that FEMA Logistics could establish contracted transportation rates with carriers. This effort was in conjunction with FEMA Logistics establishing the Standard Tender of Service (STOS) program, allowing FEMA to better define its unique transportation requirements for carriers. This action was previously accomplished via the General Services Administration (GSA).
- In June 2018, FEMA implemented shipment attributes that help better track trailer and ocean container loads through their lifecycle across multiple supply chain nodes (e.g., origin, ports, destination).
- In December 2018, FEMA expanded LSCMS Asset functionality to track additional asset data, including the ownership and point of contact information of deployed assets.



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- From May 2019 - June 2020, FEMA expanded the scope of items and assets tracked in LSCMS beyond FEMA Logistics-controlled commodities and assets (e.g., adding telephone/power poles, construction material).
- From July 2017 - August 2018, FEMA developed and implemented Electronic Data Interface (EDI) capability to improve and automate order and fulfillment data between FEMA and its partners and vendors. This effort also includes the capability for partners and vendors to communicate in-transit visibility tracking messages (e.g., EDI 214 messages).
- FEMA published their Transportation Management Guide, March 2019 to provide doctrine and guidance throughout the transportation enterprise, from national to local moves.
- In 2019, FEMA linked Emergency Management Performance Grant funding to a requirement for all grant recipients (56 States/Territories) to develop and update their distribution management plans to cover the “last tactical mile” of commodity delivery to the disaster survivor.
- FEMA secured funding for and sponsored a National Academies of Sciences, Engineering, and Medicine Consensus Study, “Strengthening Post-Hurricane Supply Chain Resilience: Observations from Hurricanes Harvey, Irma, and Maria.” The final report was released to FEMA in late December 2019. FEMA applied this work starting in October 2018 when preliminary case studies were released to the Agency which focused on food, water, and fuel for the 2017 hurricane season. Both products provided supply chain analysis that shaped FEMA’s thinking on commodity movement and staging operations.
- FEMA published a Supply Chain Resilience Guide, April 2019 to help emergency managers and leaders better understand critical supply chains in their own jurisdictions.
- In June 2020, FEMA initiated a project to integrate directly with UPS and FedEx to receive real-time in-transit data for parcel packages.
- In June 2020, FEMA initiated a project to implement multiple enhancements to existing multimodal tracking capabilities, including tracking of carrier-contracted, door-to-door moves.

From March through December 2019, FEMA Logistics increased staging capabilities by hiring personnel to establish five new staging management teams in five different geographical locations that would be capable of deploying and establishing staging bases and operations within 12-24 hours. Logistics also created a fourth National Staging team on October 2019 to increase staging capabilities using Incident Management personnel, and coordinated with the Department of Defense (DoD) to refine pre-scripted mission assignments requesting staging personnel support, so DoD personnel knew to prepare and train for hurricane response work. FEMA Office of Chief Procurement Officer (OCPO) also awarded a National Cross Dock contract in July 2020, which includes a contract line item number for scalable staging manpower and support. These marked improvements in



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staging capacities enabled positive response operations in the deployment, accountability and visibility of resources.

In addition to these actions, FEMA's LSCMS Total Asset Visibility Resource Accountability Coordination Center (TRACC) serves as the LSCMS helpdesk, which: 1) verifies consistent and accurate system transactions; 2) assists users on the most efficient use of the system; 3) coordinates and communicates best business practices from the field to FEMA Headquarters; and, 4) provides accountability during declared events and initiatives. After increasing staffing levels by five government positions in 2018, the TRACC officially transitioned from contractor management to government management on December 19, 2019, which now provides a 12-hour workday using shifts across time zones rather than 8 hours for contractors on the East Coast. Consequently, the government workforce can rapidly adapt to 24/7 scheduling to support disasters. In addition, there are three dedicated members of the TRACC who will deploy to the field at staging bases, cross-docking facilities, and other logistics nodes within the supply chain to ensure that the management of the end-to-end distribution process is supported with subject matter experts. These LSCMS Field TRACC experts are invaluable in ensuring accurate data is captured and inserted into LSCMS, as well as compliance with processes and policies. As an example, a Field TRACC member was deployed to Puerto Rico in January 2020 in response to the earthquakes the island experienced as well as the 2020 FEMA Response to COVID-19.

Since these actions, increased LSCMS expertise dramatically improved Logistics' ability to take advantage of LSCMS capabilities since Hurricane Maria. In addition, operating procedures and training focus more on improving cargo tracking. Logistics has drafted a multimodal Standard Operating Procedure that is currently under review. Cross-dock training has been built into LSCMS courseware which includes a full end-to-end multimodal scenario.

With regard to LSCMS hardware, FEMA Logistics contracted for the procurement of 2,000 solar satellite transponders to replace the aging fleet of legacy transponders in August 2020. These new solar-charged transponders upgrade FEMA's previous remote monitoring and tracking capabilities, and the rechargeable batteries will drastically reduce maintenance time and cost for labor and parts. These next-generation devices let users intelligently configure reporting times and intervals for custom information delivery.

Ultimately, FEMA's Logistics improved asset tracking and in-transit visibility through its consistent efforts to increase staging team capabilities by hiring government employees and contract workforce, implementing LSCMS system improvements (personnel, IT, hardware, and training), and adding doctrine and guidance in the form of new policies.

Estimated Completion Date (ECD): July 30, 2021



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Recommendation 2: Develop and improve management reporting and data gathering business processes to address the data reporting challenges, resulting in more accurate and near-real-time information that enables quality decision making in assessing disaster survivor support needs.

Response: Concur. In 2017, FEMA Logistics Directorate and OCPO began the process of updating the pre-positioned disaster contracts for Initial Response Resources and commodities, such as meals and water, to include increased asset tracking responsibility of the contractors. In order to conduct business with FEMA, the contractors must now enter advance shipping notification and/or in-transit information using the EDI prior to arrival of commodities at destinations.

FEMA Logistics also worked closely with FEMA's Office of Chief Information Officer (OCIO) to fund LSCMS capabilities and provide technical expertise to gain LSCMS functionality for three warehouses in Bayamon, Cayey, and Ponce, Puerto Rico. This effort consists of planning and gaining funding for all aspects of information technology and network infrastructure required to establish: 1) Two redundant telecommunication circuits (e.g., AT&T and Verizon) to support DHS OneNet connectivity; 2) Build out Information Technology network infrastructure to include internal Main Distribution Frame and multiple Intermediate Distribution Frame locations to support required network devices (e.g., servers, routers and switches) and facilitate FEMA Enterprise Network (FEN) connectivity; and, 3) Implement wireless FEN infrastructure, which includes cabling and wireless equipment necessary to operate Logistics new wireless remote warehouse scan devices (which have been procured).

On September 23, 2019, the LSCMS achieved Full Operational Capability status granted from the DHS, and earned a 3-year Authority to Operate from the FEMA Chief Information Officer (CIO) through August 2022. These achievements included 99% operational availability, added security, quicker response time to required system updates and geographical system survivability in multiple availability zones.

In response to lessons learned since Hurricane Maria, FEMA Logistics undertook the following LSCMS improvements and data collection tasks:

- In August 2019, FEMA expanded Business Intelligence data models to allow for improved ad-hoc, operational, and management reporting.
- In August 2019, FEMA upgraded underlying Business Intelligence software which provided major enhancements, including Storytelling, Dashboards, and Data Modeling.
- In April 2020, FEMA implemented better vendor contract language to ensure vendors provide timely and accurate order fulfillment data.



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- In September 2020, FEMA developed LSCMS data web services for use by their geographic information system and Web Emergency Operations Center (WebEOC) to enable data sharing across teams and aid strategic decision making.
- In August 2019, FEMA moved LSCMS to the Cloud in 2019, which resulted in significant improvements to system up-time and the agility of the system to adapt to the unique requirements of each incident response. This performance was demonstrated during the COVID-19 response.
- In September 2018, FEMA improved carrier trailer tracking reporting to support their efforts to identify the "owners" of empty trailers.
- In June 2020, FEMA initiated discussions with their Finance and Procurement to better integrate LSCMS data with relevant vendor contract data.
- In April 2020, FEMA Logistics in coordination with the Data Analytics team developed a multi-layered disaster logistics reporting and data gathering business tool. Through the software of Power Business Intelligence (Power BI), FEMA Logistics now aggregates the information streams of LSCMS, WebEOC, donations, Transportation tracker spreadsheet, and other supporting logistical data into a single dashboard and reporting platform.

In review, this effort consists of planning, upgrading and implementing many aspects of information technology and data analysis. As FEMA improved management reporting and business processes to address the data reporting challenges and opportunities since Hurricanes Irma and Maria, these efforts resulted in accurate near-real-time information for asset tracking and visibility.

ECD: December 31, 2020

Recommendation 3: Establish robust transportation, supply chain, and general logistics contingency contracts to provide more timely and effective delivery of disaster support.

Response: Concur. FEMA Logistics Directorate has, and will continue to, improve its logistics capabilities for response operations, including updates and expansions to high-priority, national-level commodity contracts. FEMA Logistics increased readiness stock targets, in many cases by seven-fold, at its distribution centers in the Caribbean and the Pacific. FEMA also increased planning factors for the Caribbean and disaster supplies, including meals, water, tarps, sheeting, cots, blankets, infant and toddler kits, durable medical kits, consumable medical kits and generators. FEMA is in the process of changing water configuration from 2-year bottle to 10-year can or boxed water, which enables a longer product shelf life, as well as eliminates multiple moves and frequent disposal. In July and August 2020, FEMA executed a Vendor-Managed Inventory (VMI) strategy within its supply chain commodity contracts starting with meals and infant formula, which will expand commodity capabilities in availability and rapid deployment.



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In May 2019, FEMA Logistics also established its own STOS program to better define FEMA's unique transportation requirements for carriers in a disaster situation. Previously this transportation carrier selection platform was accomplished through GSA.

Furthermore, in March 2019, FEMA replaced the 2017 inter-island, sealift-only contract with a 2019 version that has all-inclusive transportation and shipping services from a CONUS point of origin to Puerto Rico and the U.S. Virgin Islands, as well as intra- and inter-islands commodity movement capability. The transportation services include maritime, air transportation and ground shuttle services. The contract increased responsibility of vendor reporting and program management support for in-transit visibility and staging yard container accountability.

In July 2020, FEMA Logistics designed and FEMA Procurement awarded a strong National Cross Dock and Incident Support Base contract that provides cross-dock services, shuttle transportation services, trailer management, and CONUS-based staging support that will aid in the movement control and management of disaster response resources. Contract services will enhance in-transit visibility by ensuring FEMA representation throughout the pipeline and reduce detention costs by ensuring consistent accountability of all trailers. The contract added flexibility to be used by the FEMA Regions by providing the same support for localized operations. This contract can also be used to supplement the Outside Continental United States (OCONUS) movement contracts.

In late 2020, FEMA Procurement will award a multi-year contract vehicle to multiple vendors that will replace the 2019 version, even while FEMA develops robust OCONUS transportation contracts for Hawaii, the Commonwealth of Northern Mariana Islands, and Alaska to provide door-to-door transportation services for the movement of resources during a disaster response. These Atlantic and Pacific contracts include provisions for multi-modal transportation, enhanced in-transit visibility, movement enablers at ports of embarkation and debarkation, and incident level distribution management, and are also designed to meter the flow of resources from point-of-origin to destination based on throughput and reception capability. Ultimately, these contracts will help to prevent port saturation by providing staging and holding yards throughout the distribution pipeline.

FEMA Procurement working with FEMA Logistics awarded transportation, supply chain, and general logistics contingency contracts and agreements that:

- Secured \$16M in out-of-cycle funding from the Office of Management and Budget (OMB) in 2018 to increase storage overseas.
- Increased OCONUS meals and water objectives from 2.2M meals to 8.9M meals and 4.3M liters to 13.4M liters, respectively.
- Awarded a \$23M contract for 253 new environmentally compliant tier IV generators ranging in sizes from 50kW to 400kW in 2018.



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- Purchased 283 forty-foot shipping containers in 2019 with plans to gain speed, reduce handling and improve tracking of cargo to OCONUS destinations.
- Awarded a water box and canned water contract that extends the shelf life of the product from 2 years to 10 years.
- In coordination with Defense Logistics Agency, FEMA expanded its bulk fuel capabilities to include all OCONUS responsibilities including Guam, the Commonwealth of Northern Mariana Islands, Hawaii and Alaska. Additionally, jet fuel and bulk propane gas were added to the disaster energy menu.
- Updated the FEMA Logistics Readiness Measure for the Government Performance and Results Act based on Harvey, Irma, and Maria to target increased OCONUS stock levels enabling timely delivery of disaster supplies.
- FEMA Logistics implemented its own STOS transportation carrier program providing to better define FEMA's unique transportation requirements and greater agency control of carriers in a disaster situation.
- Awarded a National Cross Dock and Incident Support Base contract that provides cross-dock services, shuttle transportation services, trailer management and staging management team support.
- Awarded a Vendor Managed Inventory (VMI) contract for shelf-stable meals.
- In coordination with DLA, FEMA updated its short shelf-life meal nutritional profile to included meals with longer shelf life and reduced saturated fats, sodium and sugars.

In sum, FEMA Logistics improved the content of and expanded disaster transportation, supply chain, and general logistics contingency contracts throughout the agency over the past 2.5 years. These actions also demonstrate FEMA's commitment to enact improvements across the supply chain capabilities portfolio in terms of effectiveness, visibility and delivery for impacted states, territories and tribes.

ECD: August 31, 2021

Recommendation 4: Develop internal controls over contract administration from initiation to closeout. These controls should: 1) ensure all contract requirements are met in accordance with the Federal Acquisition Regulation and corresponding DHS and FEMA policies and procedures; 2) ensure training needs are met by procurement personnel and appropriate approvals are obtained prior to the award or modification of contracts; and, 3) ensure contract oversight officials adequately review invoices, including verifying costs, to the extent possible, based on source documentation to ensure billed costs are supported and allowed.

Response: Non-Concur. FEMA's Office of Chief Procurement Officer (OCPO) has processes and procedures currently in place for internal controls addressing contract administration from initiation to closeout. These internal controls ensure FEMA contracting personnel adhere to the Federal Acquisition Regulations (FAR), the



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Homeland Security Acquisition Regulation (HSAR), and the Homeland Security Acquisition Manual (HSAM). Furthermore, FEMA contracting personnel are provided updated policy guidance through the issuance of Standard Operating Procedures and Acquisition Alerts throughout the fiscal year (FY). On February 24, 2020, FEMA OCPO issued the “Disaster Contracting Desk Guide,” which provides FEMA contracting personnel with information pertaining to the acquisition of supplies and services in support of disaster operations. This guide covers the entire disaster procurement process from submittal of a requisition through receipt of the services or supplies, payment to the vendor, and contract closeout.

FEMA OCPO continues to refine the revised internal control processes on an ongoing basis, and created a draft FEMA Acquisition Manual that establishes the FEMA component-wide acquisition procedures, which implement or supplement the FAR, the HSAR, the HSAM, and other DHS regulations and statutory requirements or policies.

Furthermore, FEMA OCFO published the “SharePoint Invoice Processing Desk Guide for Contracting Officer Representatives (CORs) and Approving Officials (AOs),” which discusses the CORs responsibility in the invoicing process, and serves as a guidebook for FEMA’s entire invoicing process. In addition, invoice and voucher review and approval are covered in HSAM 3032.7002, the “DHS COR Guidebook,” which discusses the expectations of CORs regarding invoice processing.

FEMA’s entire contracting acquisition workforce is required to take core competency training to obtain their required certification, as well as conduct continuous learning training annually to maintain their critical acquisition skills and warrants. The actions of a single contracting officer cannot correlate to a systemic lack of internal controls within the contract administration, closeout, or billing process.

We request that OIG consider this recommendation resolved and closed as implemented.

Recommendation 5: Investigate FEMA’s transportation contracts in response to the Puerto Rico disaster for potential Anti-Deficiency Act violations and appropriately report the results of the review.

Response: Concur. FEMA investigated the possibility of an Anti-Deficiency Act violation while assessing the unauthorized commitment in October 2018. During that assessment, FEMA OCPO had to analyze the contract action. During that time, it was determined the contractor provided FEMA services to facilitate the movement of various containerized commodities from the Continental United States (CONUS) to various ports, and other services from which FEMA derived a benefit. FEMA used Cost and Price Analysts to demonstrate fair and reasonable pricing. Lastly, the assessment determined there was no violation as there was money in the Disaster Relief Fund account at the time of the procurement. These conclusions are supported in the



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ratification letter, which was approved by the Office of General Counsel and the Head of the Contracting Activity.

We request that OIG consider this recommendation resolved and closed, as implemented.



Appendix C

Survey Results of Puerto Rico Municipalities

We conducted a survey of the 78 municipalities of Puerto Rico to assess and incorporate their perspectives into our analysis of the overall commodity distribution mission. The emailed survey consisted of 45 questions; each question was designed and tested to ensure that responses could be used to further inform our analysis of this mission.

Lack of Coordination and Pre-positioned Commodities Hampered Initial Distribution Operations

Survey responses indicated that, in spite of widespread participation in various disaster response exercises and the existence of municipality-level commodities distribution plans, the responding municipalities were generally not adequately prepared to conduct the commodities distribution operation in the days immediately following Hurricanes Irma and Maria. The most relevant issues addressed in the survey occurred in the areas of planning and coordination and commodity pre-positioning.

The state-level planning document, “Plan de Distribucion de Suministros” (Emergency Commodities Distribution Plan), is a flawed, yet comprehensive, document that outlines roles, responsibilities, and expectations for municipalities and other key stakeholders positioned throughout the distribution process. We found that 27 percent of responding municipalities claim to have had no familiarity with this document. Furthermore, only 23 percent of responding municipalities participated in the creation of this critical plan.

In addition to the comprehensive plan just mentioned, most municipalities received additional guidance from state and Federal entities on their commodities distribution process. We determined that 73 percent of responding municipalities received such guidance; however, 20 percent of responding municipalities neither received this guidance nor had familiarity with the Commodities Distribution Plan. This lack of coordinated guidance contributed to lapses in plan performance, further compounding the additional responsibilities that would, at least partially, fall on FEMA.

An additional component of preparedness cited in the survey is the pre-positioning, or pre-distribution, of commodities in advance of the Hurricanes of 2017. Current plans do not call for any commodities to be distributed to municipalities in advance of an incident. In accordance with these plans, 90 percent of respondents reported they did not receive any commodities in



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preparation for Hurricane Maria. This result, while not surprising, further substantiates a lack of pre-positioned items on Puerto Rico.

In the days immediately following the Hurricanes of 2017, most of the municipalities were either without needed commodities, guidance, or communication. These shortcomings led to delays in the receipt of life saving commodities. However, disaster responders would soon ramp up their efforts to aid survivors.

The Disaster Response Effort Improved Dramatically over the Following Weeks, Though Some Problems Persisted

Initial response efforts were largely unprepared to supply survivors with needed commodities. Deficiencies in communication and coordination, coupled with a lack of pre-positioned commodities hampered the response following Hurricane Maria, yet in the weeks that followed, marked improvements would be made to the efficiency and effectiveness of the operation.

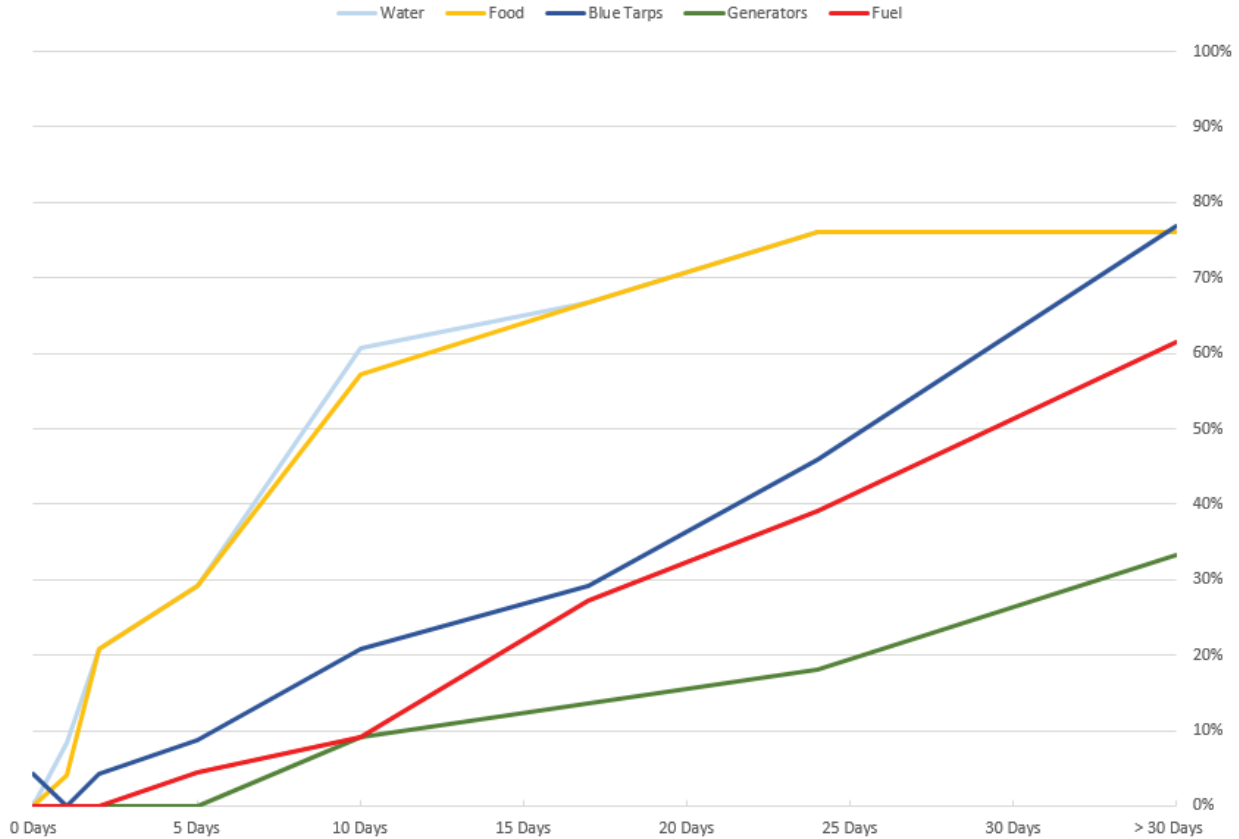
On average, municipalities received their first deliveries of food and water about 10 days after Hurricane Maria. The first deliveries of blue tarps, generators, and fuel were received after 22, 31, and 27 days, respectively. However, only 27 percent of responding municipalities received enough water in that first shipment while only 20 percent received enough food.

Over time the distribution process would become more effective at meeting the commodities needs of municipalities. Within the first week, less than 30 percent of responding municipalities stated they had received enough food to sustain survivors; that proportion nearly doubled by the end of week two, and reached its peak of 76 percent within 4 weeks. The progress in distribution of tarps, generators, and fuel lagged behind — the 50 percent threshold was exceeded for tarps and fuel beyond 30 days, while the proportion of responding municipalities that received enough generators never exceeded 33 percent (see Figure 7).



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Figure 7. Percent of Municipalities Receiving ‘Enough’ Commodities



Source: DHS OIG analysis of Puerto Rico Municipality survey responses

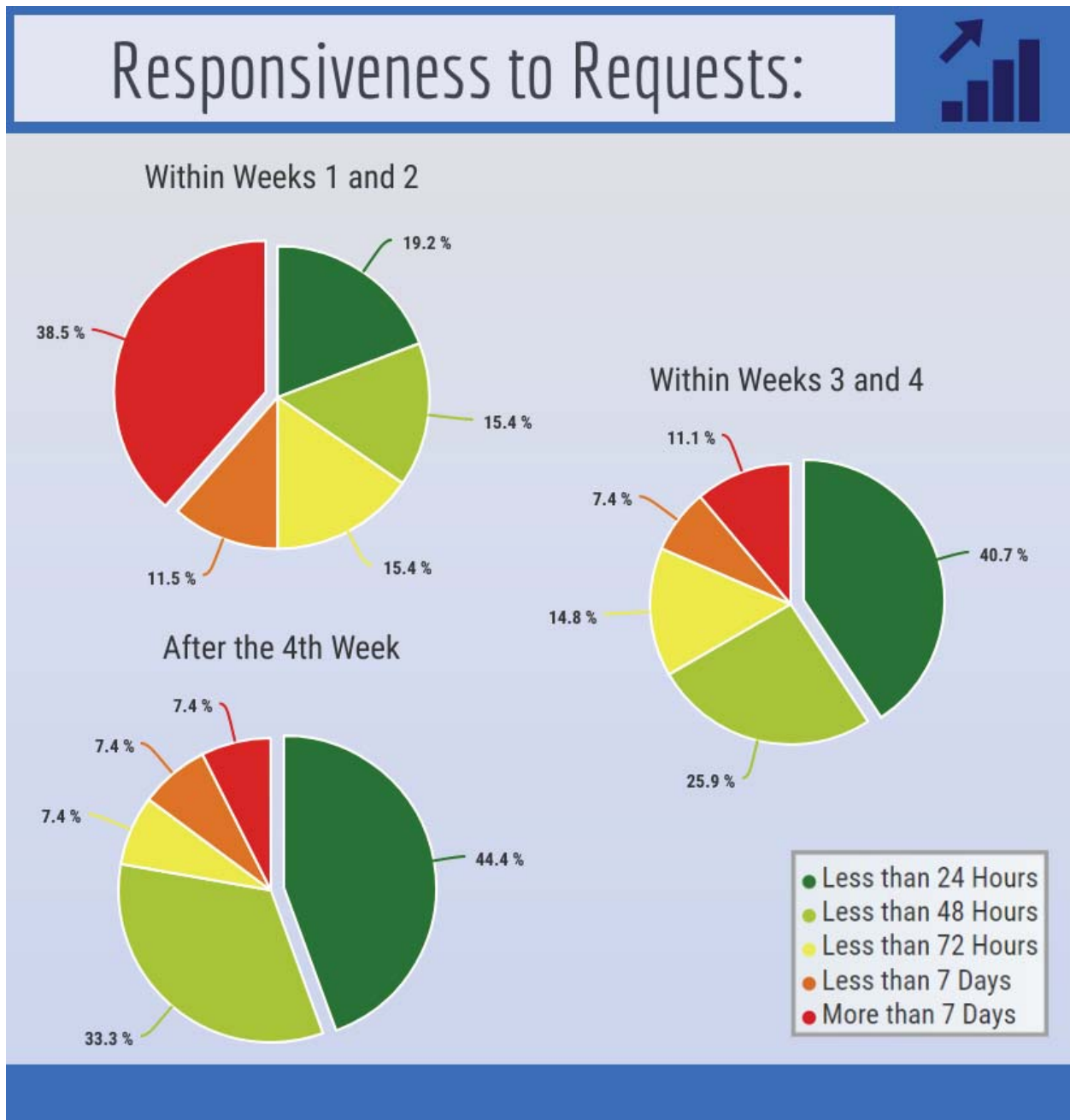
Specifically, the commodities distribution effort became markedly more responsive to municipality requests over time. Within the first 2 weeks, half of the responding municipalities reported they waited, on average, more than 3 days for requested commodities to be provided; 38 percent experienced average wait times of more than 7 days. However, in weeks three and four, more than 81 percent of municipalities stated that requested commodities were provided within 3 days; more than 40 percent received them within 24 hours. Responsiveness improved even further after the first month of operations.

Figures 8, 9, and 10 illustrate the increasing responsiveness to commodities requests from municipalities over time. Within the first 2 weeks, half of the responding municipalities experienced wait times of longer than 3 days; that proportion shrank to 19 percent after week two.



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Figure 8. Responsiveness to Requests



Source: DHS OIG analysis of Puerto Rico Municipality survey responses



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Despite the marked increase in the amount of commodities received over time, municipalities faced issues with the commodities received. To illustrate, 27 percent of responding municipalities stated that they had “significant problems” with the packaging of water. More concerning is the proportion of responding municipalities that had significant problems with food; the combination of expired or damaged meals, meals with damaged packaging, or other issues were a “significant problem” for a majority of municipalities. Only 40 percent of responding municipalities reported no “significant problems” with meals. Figure 11 shows an example of damaged meal packaging.

Figure 11: Example of damaged meal packaging



Source: Picture taken by DHS OIG

Even with the aforementioned issues pertaining to the quality of commodities received, the overall satisfaction of municipalities regarding the response increased dramatically over time. Only 7 percent of responding municipalities stated Federal efforts were effective in meeting the needs of the municipality with the first 2 days following Hurricane Maria. This proportion increased to 81 percent after 2 weeks, and eventually 89 percent indicated Federal efforts were effective in meeting their needs.



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