DEPARTMENT OF HOMELAND SECURITY
Office of Inspector General

Letter Report:

FEMA's Progress in Addressing
Information Technology Management
Weaknesses

Homeland
Security

December 8, 2006

MEMORANDUM FOR: R. David Paulison
                             Director
                             Federal Emergency Management Agency

FROM: Richard L. Skinner
                             Inspector General

SUBJECT: FEMA's Progress in Addressing Information Technology
                             Management Weaknesses

This letter provides the results of our follow-up audit of the Federal Emergency Management Agency's (FEMA) efforts to address the response and recovery technology weaknesses identified in our September 2005 audit report, *Emergency Preparedness and Response Could Better Integrate Information Technology with Incident Response and Recovery* (OIG-05-36). In the report, we reviewed the Department of Homeland Security's (DHS) approach to responding to and recovering from terrorist attacks, major disasters, and other domestic emergencies; assessed the effectiveness of guidance and processes to support information technology (IT) users during incident management; and, identified and evaluated existing and proposed systems and other technologies to help carry out FEMA's mission. For this follow-up audit, we evaluated the progress that FEMA has made to address our prior report recommendations within the context of its plans and activities to improve the National Emergency Management Information System (NEMIS). We examined FEMA's IT improvement efforts in both the short-term as the agency prepare for the 2006 hurricane season, as well as in the long-term as it works to align with the department's overarching strategic direction.

To conduct our follow-up audit, we evaluated compliance updates that FEMA provided us in December 2005 and April 2006, outlining milestones, action plans, and scheduled or actual dates for completing activities that address our report recommendations. We also obtained details from FEMA on two of its key IT improvement efforts: eNEMIS, a short-term upgrade effort intended to modernize current NEMIS components; and, Next Generation NEMIS, a large-scale restructuring effort involving system-wide transformation. We subsequently interviewed FEMA personnel and gathered and reviewed additional documentation, as appropriate, to assess the progress of FEMA's initiatives. We conducted this audit according to generally accepted government auditing standards from June to August 2006, in the Washington, D.C. metropolitan area.

cc: Jeanne Etzel, FEMA Acting Chief Information Officer

SUMMARY RESULTS OF AUDIT

FEMA has made progress in several areas, particularly short-term adjustments to prepare for the 2006 hurricane season. These improvements primarily included increasing NEMIS capacity and online system access and strengthening verification of registration data. In addition, FEMA and its program offices specifically addressed our recommendations by documenting training resources, developing a plan to implement its enterprise architecture (EA), gathering requirements for new business tools, and improving configuration management.

However, despite these positive steps, FEMA has not documented or communicated a strategic direction to guide long-term IT investment and system development efforts. FEMA also has not performed crosscutting requirements gathering to determine business needs, which would allow Information Technology Services Division (ITSD) personnel to analyze alternatives to continued development of the complex, custom NEMIS system. We note below several resource challenges for FEMA to accomplish these tasks, including personnel needs, time limitations, and funding constraints. For example, high-level officials acknowledged the need for personnel who can effectively and efficiently manage system development efforts, especially as key personnel are allocated to assist in disaster and emergency response activities. Further, FEMA officials told us that funding constraints also have prevented the creation of sufficient training and testing environments. Therefore, constrained by limited resources, FEMA has focused its efforts on preparing for the 2006 hurricane season and has made little progress in addressing long-term needs, such as updating strategic plans, defining cross-cutting requirements, and evaluating systems alternatives.

RECOMMENDATION #1: STRATEGIC PLANS

Office of Management and Budget (OMB) Circular A-11 recommends that component agencies create their own strategic plans linked to overarching departmentwide plans.[1] In September 2005, we reported that FEMA's strategic and IT plans did not align completely with DHS' strategic plan. Because FEMA had not updated its plans, there was little assurance that the agency could monitor and achieve the emergency management goals established by the department. We recommended that:

The Under Secretary for Emergency Preparedness and Response (EP&R) update the FEMA strategic plan to support achievement of DHS goals and ensure that all FEMA systems provide the performance data necessary to measure progress toward achieving response and recovery goals. Subsequently, direct the EP&R CIO to update the IT strategic plan in line with the updated FEMA strategic plan.[2]

In their December 2005 response to our recommendation, the Acting Director and the Chief Information Officer (CIO) of FEMA said that they were working in close coordination with the Office of Plans and Programs, and that the FEMA strategic plan would be updated during FY 2006,

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[1] Circular A-11, Part 6, *Preparing and Submitting a Strategic Plan*, Executive Office of the President, Office of Management and Budget, June 2005.

[2] On October 1, 2005, the Emergency Preparedness and Response (EP&R) Directorate was dismantled, with preparedness functions moved to a new Preparedness Directorate. FEMA, originally part of EP&R, became a separate DHS entity that reports directly to the Secretary and retained responsibility for consequence management after catastrophes, including response and recovery activities.

with the IT strategic plan following thereafter. However, a subsequent response, dated April 2006, stated that due to longer-term retooling of FEMA and evaluations of FEMA by the Congress, the Government Accountability Office, the DHS Inspector General, and the White House Homeland Security Council, FEMA could not specify when its strategic plan would be updated, although it anticipated that the plan would be updated this fiscal year.

FEMA's decision to focus on short-term improvements for the 2006 hurricane season has increased system capabilities; however, it also has created risks for long-term strategic coordination and IT development. Because necessary updates to FEMA's strategic plan and the IT strategic plan have been put aside, the misalignment of DHS and FEMA strategic plans continues. This misalignment complicates efforts to link IT initiatives to overarching mission direction. It also increases the potential that IT initiatives might not support the achievement of DHS response and recovery goals in both the short- and long-term.

Short-term
In the short-term, FEMA has successfully planned for and implemented solutions that address many of the IT shortfalls identified during the 2004 and 2005 hurricane seasons. For example, FEMA improved the capacity, scalability, and survivability of NEMIS to support disaster management. To do so, FEMA created an additional site for servers that could share the load of victim registrations and applicant processing across several sites. As a result, FEMA increased its disaster victim registration capacity so that NEMIS now can handle up to 200,000 registrations within a 24-hour period, which is approximately double the number handled during the hurricane Katrina recovery effort. Such increased capacity should decrease disaster victims' wait time to register with FEMA; and ultimately, victims should receive assistance more efficiently and effectively. In addition, FEMA worked to reduce the potential for fraudulent disaster claims by adding automated applicant verification and validation checks during online and call center disaster registrations, allowing program area discretion in using this capability. Although these actions should improve FEMA's ability to respond to disasters, the concentration on short-term solutions has been to the detriment of long-term planning.

Long-term
FEMA has not established long-term direction as an agency. In the absence of up-to-date FEMA and IT strategic plans, system development efforts may not meet the long-term mission needs of the department and the agency. Previous FEMA plans to upgrade NEMIS included a long-term integrated approach to system development. However, recent NEMIS updates have continued without sufficient definition and understanding of the future direction of the NEMIS architecture. For example, the Emergency Management Mission Integrated Environment (EMMIE), an effort to provide a single grants processing capability within the NEMIS platform, is being developed without a clear understanding and definition of Next Generation NEMIS. The EMMIE project scope document acknowledges the risks of developing system components without first defining the long-term vision of NEMIS, stating that:

- Insufficient planning may result in unnecessary system rework and delays;
- The existing NEMIS architecture may be significantly different from the expected Next Generation NEMIS future architecture, hindering the ability to design, as required, a system that integrates with both; and,
- The EMMIE project may be seen as duplicative of DHS or other federal efforts.

Without meaningful strategic plans that provide direction and focus for aligning IT with response and recovery goals, FEMA cannot ensure that its IT funding is effectively spent and that projected systems will meet future needs. As such, our recommendation will remain open until the FEMA and IT strategic plans have been updated.

RECOMMENDATION #2: TRAINING, GUIDANCE, AND COMMUNICATION

OMB Circular A-130 states that users of federal information resources must have the skills, knowledge, and training to manage information resources.[3] In September 2005, we reported that additional guidance and training were necessary to ensure that FEMA system users have the knowledge and information necessary to perform their jobs efficiently and effectively. We recommended that:

The Under Secretary for EP&R direct the EP&R CIO to ensure that personnel, through the EP&R training division, receive adequate systems training, guidance, and communication needed to support disaster response and recovery activities effectively.

FEMA has taken a number of positive steps to respond to this recommendation. First, FEMA met with our office to clarify the scope of the recommendation. Following that meeting, FEMA established plans to address user training, guidance, and communication. Specifically, FEMA surveyed users' training needs and partnered with the Emergency Management Institute to develop a training plan. Second, FEMA began offering online training and linked system training ("how" to perform a task) with job training ("when" or "why" to perform a task). Third, FEMA provided up-to-date system user guidance. FEMA also has updated and standardized operating procedures for system users across all National Processing Service Centers.

Although FEMA has improved training and guidance, additional resources are necessary to develop a robust training environment. For example, FEMA officials said that they do not have a training environment where new users can practice or test their skills and that this has limited their ability to train personnel effectively. Although FEMA has a test and development lab that it uses for training, it has limited capacity and is unable to accommodate the large numbers of new employees that FEMA hires and trains during disaster responses. The lack of a sufficient training environment also makes it difficult to evaluate more experienced users as they take on increasingly complex jobs within the system.

In addition, better communication between FEMA system users and program offices regarding system changes and strategic system direction is needed. In particular, experienced system users do not receive adequate communication or documentation of system updates or business process changes. Users also need additional communication on the scope of the eNEMIS project and plans for future IT developments that may benefit response activities. For example, when asked to explain NEMIS development efforts, several program area officials could not differentiate between eNEMIS, Next Generation NEMIS, or EMMIE.

Moreover, even though FEMA's CIO created the Project Management Office to develop personnel and capabilities in project, program, and portfolio management, the appointed IT liaisons within this

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[3] Revision of Office of Management and Budget Circular A-130, Transmittal 4, *Management of Federal Information Resources*, November 2000.

office are not always effective. For example, officials said that IT liaisons are overburdened or unavailable for consultation on program needs and development. Also, high-level FEMA officials said that personnel with customer relationship management skills are needed to improve communication between ITSD and the FEMA program offices regarding system updates and training. Based on these findings, our recommendation will remain open until FEMA ensures that users receive adequate communication on system updates and overall IT direction. A sufficient training environment available for system users would be beneficial to support this effort.

RECOMMENDATION #3: ENTERPRISE ARCHITECTURE

The Clinger-Cohen Act of 1996 requires the CIO to develop, maintain, and facilitate the implementation of a sound, enterprise-wide IT architecture.[4] In September 2005, we reported that FEMA had not yet defined its 'to be' enterprise architecture (EA). We recommended that:

The Under Secretary for EP&R direct the EP&R CIO to complete the FEMA enterprise architecture, linked to the departmentwide architecture and ongoing initiatives that may impact EP&R operations.

In response, FEMA developed a comprehensive five-year roadmap for achieving the highest possible EA level, including a long-term plan for completion of the "to be" architecture and a transition strategy. Once documented, the EA is expected to support systems integration and effective information exchange, define a strategy for IT, and allow FEMA to map its IT initiatives and link them to departmentwide IT goals.

As a result, we are leaving this recommendation open until FEMA completes execution of its EA plan and the "to be" EA is fully documented and approved by the DHS CIO.

RECOMMENDATION #4: REQUIREMENTS GATHERING AND ALTERNATIVES ANALYSIS

OMB Circular A-11 directs agencies to reduce project risk by involving stakeholders in the design of IT assets, as users can play an important role in helping to define systems requirements to meet mission needs.[5] In addition, OMB Circular A-130 encourages agencies to consider various options for providing automated systems to meet their mission needs.[6] However, in September 2005, we reported that FEMA's approach to defining requirements to support development of its principal disaster management system, NEMIS, was ineffective. We said that without fully defining and documenting system requirements, it was difficult for FEMA to evaluate viable alternatives to NEMIS. We recommended that:

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[4] *Clinger-Cohen Act* (formerly the *Information Technology Reform Act of 1996*), Public Law 104-106, Division E.
[5] Circular A-11, Part 7, *Budgeting, Acquisition, and Management of Capital Assets*, Executive Office of the President, Office of Management and Budget, June 2005.
[6] Revision of Office of Management and Budget Circular A-130, Transmittal 4, *Management of Federal Information Resources*, November 2000.

The Under Secretary for EP&R ensure crosscutting participation from headquarters, regions, and states in processes to develop and maintain a complete, documented set of FEMA business and system requirements. Direct the EP&R CIO to analyze alternatives and determine the most appropriate approach to providing the technology needed to support these business and system requirements.

FEMA has taken a number of positive steps to address this recommendation. Specifically, FEMA identified three initiatives to obtain, manage, and implement requirements. First, as noted above, FEMA created the Project Management Office to facilitate requirements gathering and communication. Second, FEMA prepared to implement system development life cycle governance as part of its capital planning and investment control process. Third, FEMA created an Agile System Development branch to gather and respond to urgent requirements identified during disasters. Despite these improvements, program offices did not gather crosscutting business and system requirements. For example, the Public Assistance branch supported EMMIE development, the new grants management application, but the Mitigation Division chose not to participate because ITSD's plan was insufficient. Mitigation officials said that ITSD did not have an adequate number of personnel with appropriate skill sets to meet emerging needs in project and customer management. One senior ITSD official said that the systems engineering and development branch would need to double its staff to successfully meet demand.

As a result, FEMA has not sufficiently documented requirements for NEMIS, and therefore, is unable to perform an adequate alternatives analysis for this system. Specifically, the business cases for Next Generation NEMIS and eNEMIS limited consideration to custom solutions, although FEMA program officials said that components of NEMIS likely could be replaced with off-the-shelf alternatives. Without gathering requirements and analyzing alternatives, FEMA ITSD may not take advantage of the most appropriate technologies available.

Our recommendation will remain open until FEMA ensures crosscutting participation in developing and documenting business and system requirements, and the FEMA CIO analyzes alternatives to establish the most appropriate approach to providing technology for those requirements.

RECOMMENDATION #5: CONFIGURATION MANAGEMENT AND TESTING ENVIRONMENT

In September 2005, we reported that FEMA did not have an adequate test environment and did not always test systems sufficiently prior to release to ensure that new IT functionality will work properly and contain needed safeguards. Without an adequate testing environment, FEMA is vulnerable to the risks associated with improper testing, such as increased failure rates and development costs.[7] We recommended that:

The Under Secretary for EP&R direct the EP&R CIO to develop and maintain a testing environment that duplicates the real systems environment and ensures that all systems components are properly and thoroughly tested prior to their release. Additionally, direct the EP&R CIO to ensure that proper configuration management activities are followed and documented.

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[7] *Planning Report 02-3, The Economic Impacts of Inadequate Infrastructure for Software Testing*, National Institute of Standards and Technology, May 2002.

In response, FEMA officials said that they were compiling a comprehensive update for configuration management policy and provided copies of their updated procedures. FEMA also outlined a two-phased approach for implementing an adequate testing environment. During the first phase, FEMA planned to upgrade the equipment in the testing and development lab (TDL) in time to test applications for the 2006 hurricane season. For the second phase, FEMA plans to establish a new test environment completely independent of the existing TDL by the 2008 hurricane season.

Despite these plans, FEMA has not yet established an adequate testing environment. FEMA officials stated that insufficient funding limited their ability to provide a proper testing environment. A senior FEMA IT official requested the establishment of a new test environment as part of the Next Generation NEMIS project; however, project funding was denied. Further, the complex NEMIS system, with over 1,000 business rules, makes it difficult and costly to replicate in a mirror testing environment. As such, FEMA has not implemented phase 1 improvements for the 2006 hurricane season and does not have a schedule to implement phase 2 improvements. This recommendation will remain open until FEMA takes the steps needed to ensure availability of an adequate testing environment.

MANAGEMENT COMMENTS AND OIG EVALUATION

We obtained written comments on a draft of this report from FEMA's Acting Chief Information Officer, through the FEMA Director. We have included a copy of the comments in their entirety in Appendix A of this report.

In the comments, the Acting CIO concurred with our follow-up assessment of progress made and provided updates on the status of FEMA's efforts to implement each of the five recommendations included in our prior September 2005 report. The Acting CIO understood that each of the recommendations will remain open until actions within FEMA's Plans of Action and Milestones are completed. Since the initial September 2005 audit report, FEMA's Office of the CIO has consistently provided the OIG with 90-day status updates concerning its plans and actions to address our recommendations. In addition, the Acting CIO holds bi-weekly meetings to ensure that progress is being made on implementing the recommendations.

In response to recommendation 1, the Acting CIO acknowledged the importance of linking FEMA's Strategic Plan to the long-term retooling of FEMA. The Acting CIO recounted that to prepare for the 2006 hurricane season, however, the DHS Secretary directed that short-term retooling efforts take precedence over long-term planning efforts. Because of the concentration on short-term retooling efforts, FEMA's Strategic Planning Office was unable to update FEMA's Strategic Plan in FY 2006, but intends to do so. Once this plan is revised, the Acting CIO will update the Information Technology Strategic Plan within nine months. We look forward to receiving progress reports on the Strategic Planning Office's efforts to update FEMA's Strategic Plan, as well as the Office of the CIO's subsequent efforts to revise its IT Strategic Plan.

In response to recommendation 2, the Acting CIO stated that FEMA has made significant progress by continuing to improve NEMIS training and guidance through field training, train-the-trainer activities, and continued development of user support materials. However, the Acting CIO conceded that systems training still occurs in a test and development environment, making it challenging for FEMA to ensure that personnel receive suitable IT instruction. Additional physical space also is needed within the data center to establish distinct training environments. As NEMIS is updated, there are plans to create a dedicated training environment. In addition, an internal working group is being formed to support the further enhancement of FEMA's training and guidance activities. Lastly, the Acting CIO believes that ongoing efforts to refine its Program Management Office, the Enterprise Architecture, and IT customer liaison functions will improve customer relationship management and communications with system stakeholders. We are encouraged by the recent activities completed and believe that the steps outlined mark progress toward ensuring that FEMA personnel receive adequate systems training, guidance, and communication.

To address recommendation 3, FEMA has restarted its efforts to formulate the "to be" enterprise architecture and has filled previously vacant employee positions to support this effort. These additional resources should place FEMA in a better position to refine its enterprise architecture. We look forward to receiving updates concerning the status of FEMA's efforts to formulate its "to be" enterprise architecture.

In response to recommendation 4, the Acting CIO discussed plans for ensuring crosscutting representation and participation by the various stakeholder communities to maintain a complete, documented set of FEMA business and system requirements. Specifically, the Acting CIO stated that FEMA performed an extensive analysis of the requirements and design and development

alternatives for the EMMIE system, the new application to replace NEMIS grants functionality. As stated in our report, not all program areas participated in the requirements definition for EMMIE, which therefore did not ensure complete, cross-functional requirements. Additionally, the business case for eNEMIS limited consideration to custom solutions, although FEMA program officials said that components of NEMIS likely could be replaced with off-the-shelf alternatives. Specifically, the eNEMIS business case lists the following three alternatives: (1) using the existing, custom-based system, (2) upgrading the existing two-tiered client-server technology to an internet, custom-based application, or (3) building a new custom system to meet all of the requirements. However, the business case does not consider potential off-the-shelf solutions to meet customer needs and also states that "No known disaster assistance system provides the level of access, redundancy, functionality and mobility as NEMIS/eNEMIS currently provides."

We believe that although off-the-shelf systems may not provide all of the functionality of a custom-based system, there is no indication that an analysis was performed to determine if an off-the-shelf solution could meet FEMA's disaster assistance needs. Without such an analysis, FEMA ITSD may not take advantage of the most appropriate technologies available.

Finally, to address recommendation 5, the Acting CIO said that in addition to needing an adequate testing environment, FEMA also requires the establishment of sufficient production, development, and training environments. The Acting CIO is working to resolve current space constraints within the data center to add the additional hardware needed to expand the existing technical environments. Further, the Acting CIO is refining FEMA's configuration and software release management processes and ensuring the availability of sufficient personnel resources to support these processes. We are encouraged by the Acting CIO's efforts to expand the existing technical environments and look forward to hearing about progress in this area.

Appendix A
MANAGEMENT COMMENTS

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MEMORANDUM FOR: Frank Deffer
Assistant Inspector General,
Information Technology
Department of Homeland Security

THROUGH: R. David Paulison
Director
Federal Emergency Management Agency

FROM: Jean A. Etzel
Acting Chief Information Officer/Director
Information Technology Services Division

SUBJECT: Draft Letter Report: *FEMA's Progress in Addressing Information Technology Management Weaknesses* dated September 18, 2006

The Federal Emergency Management Agency (FEMA) provides the following comments to the Office of the Inspector General (OIG) Draft Letter Report: *FEMA's Progress in Addressing Information Technology Management Weaknesses.* The Draft Letter Report provides the OIG's assessment of FEMA's progress in implementing the recommendations contained in the September 2005 report, *Emergency Preparedness and Response Could Better Integrate Information Technology with Incident Response and Recovery* (OIG-05-36).

The Office of the Chief Information Officer (CIO) has been reporting the status of Plans of Action and Milestones (POA&M) to implement audit recommendations to the OIG every 90 days since issuance of the initial report. We appreciate that the OIG considers recommendations 1 through 5 resolved based on FEMA's quarterly reporting of progress on implementing the POA&M. We understand that each recommendation will remain open until the actions in the POA&M for each recommendation is implemented. FEMA concurs with the implementation status of recommendations as reported by the OIG in the above referenced report, as described below.

Recommendation #1: Strategic Plans. *Update the FEMA strategic plan to support achievement of DHS goals and ensure that all FEMA systems provide the performance data necessary to measure progress toward achieving response and recovery goals. Subsequently, direct the EP&R CIO to update the IT strategic plan in line with the updated FEMA strategic plan.*

    Concur. The updating of the FEMA Strategic Plan is linked to the long-term retooling of FEMA. At the direction of the Secretary of Homeland Security and the Director of FEMA, the focus up to now has been implementing short-term retooling recommendations to better prepare for the 2006 hurricane season. The longer-term

retooling of FEMA, which will shape FEMA's strategic direction, will be dependent on the outcome of evaluations of FEMA, including those done by the Congress, the Government Accountability Office, the DHS Office of Inspector General, and the White House Homeland Security Council. Although FEMA's Strategic Planning Office initially anticipated updating the strategic plan in FY 2006, it was unable to accomplish this due to "Retooling Initiatives." However, the Strategic Planning Office fully expects to update the FEMA Strategic Plan. The Acting CIO plans to have the Information Technology (IT) Strategic Plan updated within nine months of the publication of the FEMA Strategic Plan.

Recommendation #2: Training, Guidance, and Communication. *Direct the EP&R CIO to ensure that personnel, through the EP&R training division, receive adequate systems training, guidance, and communication needed to support disaster response and recovery activities effectively.*

Concur. Training is a joint responsibility of the Program Offices and the Information Technology Services Division (ITSD). Prior to Katrina, FEMA had approximately 12,000 active National Emergency Management Information System (NEMIS) accounts; during Katrina that surged to nearly 50,000 accounts, all of which required training. FEMA made significant progress during the past year to implement the audit recommendation. The Emergency Management Institute (EMI) continues to work with our partners in program offices and the ITSD to improve NEMIS training and guidance by conducting field training, and train-the-trainer activities, as well as working to prepare training and guidance materials for the next generation of information systems. However, with so many information systems in the process of being replaced or modified, an even greater degree of cooperation and information sharing among our partners will be required. To meet this challenge, the EMI Training Leads involved in IT system training will form an internal working group designed to further enhance FEMA's training and guidance activities.

One of the ongoing challenges associated with NEMIS training is the lack of a dedicated training environment. As mentioned in the report, no such environment currently exists. EMI has consistently advocated for and supported the creation of such an environment. While NEMIS training continues to take place in the Testing and Development Lab (TDL), this is a less than ideal training environment. Both EMI and ITSD strongly recommend that as new systems are developed to replace the current NEMIS modules, a dedicated training environment in which to conduct training should be made available.

FEMA understands the value of improved communications between FEMA system users and program offices and will work to make improvements in this area. Students who attend EMI training are apprised of future IT system changes and direction.

The Acting CIO believes that the refinement of the ITSD Program Management Office, the Enterprise Architecture (EA) initiatives described in your report, and new leadership of the IT customer liaisons will help to improve customer relationship management and communications with ITSD's customer in the coming months. FEMA needs data center

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space for servers to establish the needed training environments to fully implement this recommendation.

Recommendation #3: Enterprise Architecture. *Direct the EP&R CIO to complete the FEMA enterprise architecture, linked to the department-wide architecture and ongoing initiatives that may impact EP&R operations.*

> **Concur.** FEMA's Enterprise Architecture Office contained one permanent full time (PFT) employee and one contractor. The PFT was deployed to the Gulf Coast twice in the past year for Katrina IT support, and three months for a DHS mandatory Emergency Communications initiative. FEMA has restarted its efforts to formulate the "to be" enterprise architecture (EA). The Acting CIO has reprogrammed and filled PFT vacancies in the EA Office. EA plans are being produced.

Recommendation #4: Requirements Gathering and Alternatives Analysis. *Ensure cross cutting participation from headquarters, regions, and states in processes to develop and maintain a complete, documented set of FEMA business and system requirements. Direct the EP&R CIO to analyze alternatives and determine the most appropriate approach to providing the technology needed to support these business and system requirements*

> **Concur.** FEMA would like to clarify some of the information contained in the assessment related to this recommendation since the audit team may not have interviewed those that were involved with this activity. Specifically, ITSD developed the Emergency Management Mission Integrated Environment (EMMIE) based on the requirements collected by an interdisciplinary team. ITSD conducted a requirements gathering process across all grant areas over an eighteen-month period. Weekly all grant holders were invited to attend the weekly meetings, with some participating to a greater extent than others. Program Offices provided the crosscutting requirements for their individual functional area. The interdisciplinary team was committed to the capturing and documenting of these requirements. An extensive analysis of the requirements and design and development alternatives was performed. The design and development of the grants application (EMMIE) incorporates the crosscutting business and system requirements defined by the Program Areas that participated.
>
> FEMA has not limited NEMIS design and development considerations to custom solutions as indicated in the report. NEMIS currently integrates several off-the-shelf software products with custom software. Off-the-shelf products that are NEMIS components include Address Broker, PRISM, Viewstar, Integrated Financial Management Information System, PowerBuilder and other applications. Processes currently exist in FEMA to capture system requirements. The system change request (SCR) process is available for Program Offices to document and submit requests and requirements for system changes throughout the year for analysis and approval. Every new project is required to document their requirements in accordance with program management best practices and the Department of Homeland Security (DHS) systems development life cycle guidance. Requirements and alternatives analysis are documented in business cases, to include the justification for the alternative selected for

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implementation. Alternatives analysis is performed as part of the FEMA Capital Planning and Investment Control (CPIC) process.

Recommendation #5: Configuration Management and Testing Environment. *Direct the EP&R CIO to develop and maintain a testing environment that duplicates the real systems environment and ensures that all systems components are properly and thoroughly tested prior to their release. Additionally, direct the EP&R CIO to ensure that proper configuration management activities are followed and documented.*

> **Concur with clarification.** FEMA agrees with the OIG assessment that it does not have an adequate testing environment but wishes to point out that it also does not have adequate development and training environments. FEMA requires the establishment of four complete environments (i.e., production, test, development and training). FEMA 's constraint is data center space to house the hardware. The Acting CIO is working with the DHS Office of the CIO to resolve this constraint.
>
> The Acting CIO has reprioritized its resources to refine and refocus IT configuration management (CM) and release management (RM) processes. The Acting CIO is reviewing vacancies for possible reassignment.

The Acting CIO will continue providing the OIG with reports on the status of milestones on the POA&M. The Acting CIO holds bi-weekly meetings to ensure that progress is made on implementing the recommendations. The senior leadership of FEMA is committed to addressing the deficiencies in the audit report and is monitoring progress under the POA&M during performance reviews.

FEMA appreciates the opportunity to review and comment on your draft letter report.

If you have any questions, please contact Jeanne Etzel at 202-646-3368.

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