

Emergency Management Audit

Executive Summary

The Multnomah County Office of Emergency Management (MCEM) is responsible for a comprehensive set of plans to guide hazard mitigation activities to reduce the potential effects of disasters, emergency response and coordination, and post-disaster recovery. This work requires a significant emphasis on departmental and inter-jurisdictional collaboration, training, and exercises to test plans and response capabilities.

Multnomah County contains the most densely populated urban areas in Oregon and houses major interstate highway hubs and bridges. This makes it necessary for MCEM to collaborate with the jurisdictions within the County as well as surrounding counties comprising the emergency management region.

The audit objectives were to: 1) assess the quality of MCEM's communication and collaboration with stakeholders; 2) assess the quality of grant and inventory management systems; and 3) assess the status of existing recommendations for program improvement. We surveyed MCEM's stakeholders to evaluate communication and collaboration efforts. We drew data from the County enterprise management system (SAP) to analyze MCEM's practices related to inventory and grant management to determine whether current practices are adequate. We also reviewed recommendations related to staffing, emergency planning, training, and emergency operations from a prior evaluation of MCEM¹ to determine whether practices have improved. Although not specifically identified in this report, the prior recommendations were incorporated into our audit fieldwork.

¹ Recommendations considered are related to planning, training, staffing, and the Emergency Coordination Center (ECC) from the Emergency Management Program Evaluation, June 2006. Emergency Services Consulting, Inc.

We found that:

- MCEM has been placed under the authority of the Multnomah County Chair's Office and has established new permanent staff positions. This should help promote organizational stability.
- MCEM's communication and collaboration with stakeholders has improved. Continued focus in this area will be needed.
- MCEM has made operational improvements, especially relating to the Emergency Coordination Center (ECC). The ECC provided essential assistance resulting in the successful coordination of the regional medical response to the H1N1 emergency event. Continued inter-agency planning and Homeland Security Exercise and Evaluation (HSEEP) based exercises are necessary to test MCEM's ability to respond to major disasters.
- MCEM has not yet met best practices in developing and maintaining essential emergency management plans, nor has it fully developed a system to effectively manage training for Multnomah County staff and external stakeholders.
- MCEM has not yet developed and documented a consistent record keeping structure to manage grants and inventory coming into Multnomah County government.

Recommendations included in this report are intended to improve MCEM's ability to maintain an emergency services coordination system by planning, preparing and providing for the mitigation, response and recovery coordination for emergencies and disasters in the County. MCEM management has already begun implementing improvements in several areas.

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Introduction

Emergency management is a coordinated and organized effort to mitigate against, prepare for, respond to, and recover from a disaster or operational disruption. Oregon law requires each county to establish an emergency management agency to reduce vulnerability to loss of life, injury to person or property and human suffering, and financial loss resulting from emergencies, and to provide for recovery and relief assistance for the victims of such occurrences.

Multnomah County Code Section 7.502 establishes the Multnomah County Office of Emergency Management (MCEM) as follows:

“The Office maintains an emergency services coordination system by planning, preparing and providing for the mitigation, response and recovery coordination for emergencies and disasters in the County.”

MCEM serves an emergency management role for and with local jurisdictions in Multnomah County. MCEM is required by County code to represent and provide appropriate assistance to jurisdictions in the county that do not have their own emergency management programs. These include Troutdale, Fairview, Wood Village and Maywood Park. The type and degree of assistance needed is based on the widely varying circumstances of each community. MCEM also works with the cities of Gresham and Portland, which have their own emergency management programs, to coordinate grant funds and resources.

Specifically, MCEM is responsible for:

- Coordinating the County’s response to emergencies;
- Advising County officials and incident commanders during an emergency, and facilitating the declaration of a state of emergency in conjunction with the Governor’s Office;

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- Developing plans for emergency response for large disasters affecting a single part of the county as well as those involving multiple jurisdictions within the Multnomah County borders
 - Developing a training program for emergency management personnel within Multnomah County departments and facilitating training opportunities for other stakeholders; and
 - Coordinating the purchase and distribution of supplies and equipment funded with State Homeland Security federal emergency management grants.

MCEM responds to and prepares for specific types of emergencies that can be small events or may develop into large disasters. For example, an extreme, prolonged snow storm starting during the winter of 2008 required MCEM to work with Oregon Emergency Management to declare an emergency and mobilize State resources. They also coordinated with County departments and multiple city jurisdictions throughout the event for warming shelter operations, transportation access and medical support for the aging and disabled.

After the event, MCEM also coordinated with the Small Business Administration (SBA) to locate space at the Gateway Children's Center Building for their post-event field office to process low-interest Economic Injury Disaster Loans for businesses affected by the storm. Additionally they coordinated with Oregon Emergency Management and FEMA to provide damage assessment data and the Request for Public Assistance processes for organizations that incurred storm related costs. The County was reimbursed for over \$130,500 of its expenses in Transportation, Animal Services and the Sheriff's Office as a result of this process.

Many of Multnomah County's departments are responsible for elements of emergency preparedness and response. We limited our audit scope to the role of MCEM. After assessing MCEM's operations and current practices, we determined that recommendations from previous evaluations, communication and collaboration with stakeholders, and grant tracking systems

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related to grant and inventory management were in need of additional review. The specific audit objectives were to: 1) assess the quality of MCEM's communication and collaboration with stakeholders; 2) assess the quality of grant and inventory management systems; and 3) assess the implementation status of existing recommendations for program improvement.

Background Best practices in emergency management require a comprehensive approach to dealing with emergencies. This means that a community should prepare for all categories of hazards and has a responsibility to aid in recovery after a disaster has occurred. While Multnomah County is not subjected to wide-spread disasters on a regular basis, several hazard risks have been identified for the county. Risk levels for each hazard are based on their probability, history, maximum threat to the community, and the community's vulnerability (Figure 1).

Figure 1: Hazard Risks Affecting Multnomah County	
High Risk Hazards <ul style="list-style-type: none">· Earthquakes· Flooding· Forest and Wildfires· Landslides· Severe Weather· Volcano/Ash Fallout· Utility/Internet Outage· Food/Water Shortages/Contamination· Disease Outbreak· Terrorism	Medium Risk Hazards <ul style="list-style-type: none">· Transportation Accident· Hazardous Material Spill· Civil Disturbance· Infrastructure/Bridge Failure· Bioterrorism· Domestic Terrorism
Source: MCEM Hazard Identification Vulnerability Analysis report	

Although the risk levels vary depending on the specifics of each county, similar risk hazards have been identified by MCEM's regional partners. The National Incident Management System (NIMS) has set standards for emergency management. To effectively manage emergencies, MCEM should engage in

practices related to emergency mitigation, preparedness, response, and recovery (Figure 2). MCEM is required by County code to operate the County’s Emergency Coordination Center (ECC), maintain emergency plans, and facilitate appropriate training for County departments as well as other jurisdictions in the county that cannot do so on their own.

Figure 2: Elements of Comprehensive Emergency Management

Mitigation	Activities that eliminate or reduce the effects of a disaster
Preparedness	Planning how to respond when an emergency or disaster occurs and working to marshal the resources to respond effectively
Response	Providing emergency assistance to victims of the event and trying to reduce the likelihood of further damage
Recovery	Restoring vital life support systems to minimum operating conditions with continued efforts until all systems return to normal or near-normal operation

Source: National Incident Management System (NIMS)

According to NIMS, disaster management requires a close working partnership among all levels of government (federal, tribal, regional, state, county, and local) and the private sector (business and industry, volunteer organizations, and the general public). Emergency management professionals should build relationships between a wide range of stakeholders to promote communication, collaboration, and the coordination of resources and expertise that will respond to the unique needs of their community.

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MCEM's stakeholders include the departments internal to Multnomah County government, other jurisdictions in the county, and emergency management partners from the surrounding counties (see Map below). As part of the effort to share resources and provide mutual support, MCEM participates in coordination efforts with Clackamas, Columbia, and Washington Counties in Oregon, and Clark County, Washington.

Multnomah County is the smallest county in Oregon, but the most populous – only 465 square miles and over 700,000 people. It is a mix of highly dense urban settings and open rural land. Urban settings include the city of Portland that stretches into Washington County in the west and into Clackamas County on the south, and which has jurisdictional limits that meet with the city of Gresham farther to the east. The emergency response needs of people in the City of Portland, a densely populated urban area located at the hub of major bridges and roadways, are very different from the needs of the small town of Corbett, a small unincorporated rural community bordering the Columbia Gorge and with mountains and a national forest just to the east.

Multnomah County



Source: Multnomah County Auditor's Office

Audit Findings

Continuity and Capacity

In the past, the lack of staffing continuity and capacity has limited operational and administrative effectiveness at MCEM. MCEM appears to be making improvements, but has not yet met best practices. For example, MCEM does not yet have a formal system for tracking training and identifying where training is needed. Planning efforts have also fallen short of best practices in that the plans MCEM has developed have not been sufficiently maintained and updated. Finally, numerous staffing and organizational changes have significantly complicated the task of complying with federal grant requirements regarding the purchase of materials, supplies, and equipment using federal funds. Details of these findings are presented below.

MCEM Staffing

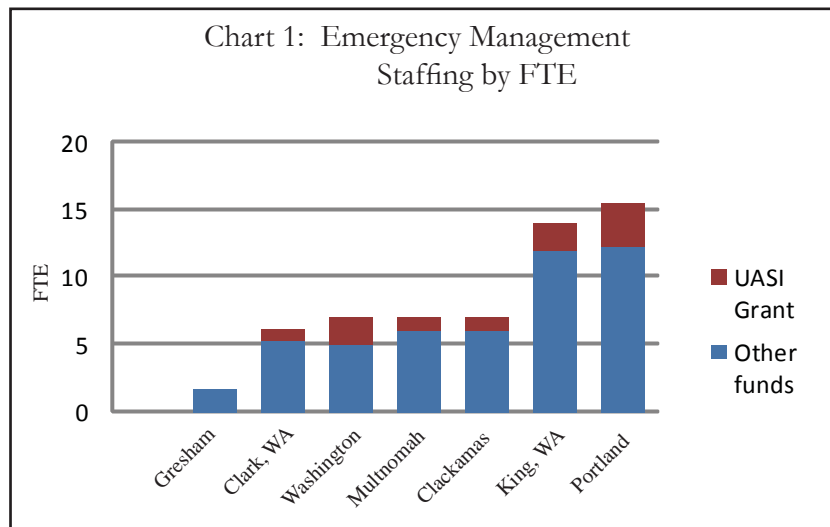
MCEM has experienced instability in organization, management, and staffing since 2000. Problems with instability appear to have led to limited effectiveness internally and with external stakeholders.

- MCEM has been housed within three different County departments.
- MCEM had five different directors between 2000 and 2008.
- Eighteen different staff members have occupied an average of just over three full-time equivalent (FTE) positions over the past ten years.
- Half of the staff hired since the program's inception have been designated as temporary, rather than full-time permanent positions.

Stakeholders report that they have not historically been able to rely on MCEM to play a strong preparation and response role. Instability and lack of programmatic strength that remain a concern left MCEM struggling to accomplish some of its basic functions. Insufficient staffing has contributed to this problem.

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A program evaluation conducted in 2006² reported that MCEM was staffed at a level so far below comparable jurisdictions in the region that it would need to hire 5.8 full time staff to meet the average for the region. The evaluation recommended that MCEM have at least five FTE to support minimum emergency management functions. MCEM is currently budgeted for five FTE with two additional positions funded through an Urban Areas Security Initiative (UASI) grant. Based on our duplication of the prior evaluation, it is our opinion that this puts MCEM more in line with emergency management units in comparable jurisdictions (Chart 1).



Source: Multnomah County Auditor's Office

Emergency Management Training

County code directs MCEM to provide or arrange for training necessary to support each County department in preparing for emergencies. MCEM is also expected to ensure that incident command staff are trained in accordance with NIMS standards. In addition, stakeholders from County departments and other jurisdictions rate training as one of the top three areas in which they expect assistance from MCEM.

² Emergency Management Program Evaluation, June 2006. Emergency Services Consulting, Inc.

Three out of four of those who attended training report that the training conducted by MCEM met their organizational needs. However, only a relatively small number (32 of 93 respondents) of stakeholders have participated in an MCEM training in the past year. Although not expected to provide training to all of its stakeholders, County code does set an expectation that MCEM will provide or arrange for training necessary to support the County's emergency operations plan and train individuals to perform incident command system (ICS) functions that may be needed during a large scale emergency event.

To fully align with best practices, the training program should be linked to stakeholder emergency response plans. The training program should also include a tracking function to ensure that those who need training, either for compliance with NIMS or to ensure the organization's readiness, are able to receive it. Such a system would allow MCEM staff to identify areas in which stakeholders have training deficiencies and assist them to become adequately trained.

MCEM does not have a formal system for tracking training, identifying where training is needed, or asking departments and stakeholders what their needs are and crafting appropriate trainings to meet these needs. Management reports that they are currently exploring options for using the County's existing systems to track some training, but have not yet decided whether they will be sufficient to meet all their needs.

Recommendation 1: Develop a formal system for monitoring needed and completed trainings that is designed to ensure each agency's or department's emergency readiness.

Planning MCEM is responsible for maintaining and assisting with the development of a series of continually reviewed and updated emergency operations plans for Multnomah County's departments and jurisdictions in the County that are unable to do so themselves. The Emergency Operations Plan (EOP), the Continuity of Operations Plan (COOP), the Natural Hazard

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Mitigation Plan (NHMP), and the Emergency Coordination Center (ECC) plan provide information about how the County as a whole will prepare for, respond to, and recover from emergency situations and natural disasters. Planning efforts have fallen short of best practices in that plans have not been maintained and updated on a regular basis. In addition to making it difficult for MCEM to fulfill its primary function, out of date plans make it difficult to fulfill stakeholders' expectations for planning collaboration and assistance.

MCEM is in the process of establishing a system for regularly updating the County's emergency management plans. Consultants have been hired to expedite the process. Management explained that plan review schedules using state and federal guidelines will be included in the updated plans. Historically, MCEM has not maintained updated plans even in the face of legal requirements that they do so. It appears that having permanent staff dedicated to this task will help. However, we believe management will need to implement practices that ensure plan maintenance and revision in the future.

Recommendation 2: Develop a formal system for maintaining and updating the County's emergency plans.

Grant Funding and Inventory Management

MCEM receives and administers federal grant funds intended for the purchase of materials, supplies, and equipment to support emergency management. Organizational and staffing changes have complicated the task of complying with federal grant requirements. The two primary sources of federal emergency management funding are: the Urban Area Security Initiative Program (UASI), where MCEM is primarily a recipient of grant funds, and the State Homeland Security Grant Program (SHS), where MCEM is both a grant administrator and a grant recipient.

For these programs, MCEM is responsible for complying with the federal Uniform Administrative Rules for Grants and Agreements with States and Local Governments (44 CFR Part 13). Specifically, MCEM must ensure that all equipment purchased

by the County or its subcontractors is recorded and maintained in the County's inventory system.³ It is not clear to what extent MCEM is responsible for tracking and locating supplies and equipment purchased by other jurisdictions with funds passed through MCEM or for purchases made by MCEM on behalf of other jurisdictions. A lack of policies and procedures for tracking grant funds in the county's financial system makes it difficult to determine where supplies and equipment are stored within the County and other jurisdictions.

Although Multnomah County maintains documentation on equipment it has purchased for its own use, the documentation from year to year is not consistent. For example, the Multnomah County Sheriff's Office (MCSO) was the administrator of the SHS program until 2007 and maintains records on equipment purchased while it served as administrator. However, not all equipment purchased by the MCSO using either SHS or UASI program funds is included in MCEM's records.

As the administrator of the SHS program, MCEM may also be responsible for maintaining inventory records for equipment it purchases for use by other jurisdictions and possibly for equipment purchased by other jurisdictions that has passed through MCEM. The County's external auditor does not believe Multnomah County must maintain inventory for equipment purchased for other jurisdictions on its books. However, this opinion is not consistent with our reading of the grant rules nor is it consistent with other jurisdictions throughout the state.

The City of Portland is the administrator of the UASI program grants. As a condition of receiving UASI grant money through the City of Portland, MCEM agreed (via inter-governmental agreement) to comply with the terms and conditions of the UASI grant and to provide the City of Portland with an inventory list of equipment purchased using grant funds. MCEM does not have similar agreements with other jurisdictions receiving SHS grant funds or grant funded equipment through MCEM.

³ Equipment is defined in the rules as "...tangible, nonexpendable, personal property having a useful life of more than one year and an acquisition cost of \$5,000 or more per unit. Code of Federal Regulations Administrative Rules for Federal Grants. Part 13.32

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Recently, the Cities of Portland and Gresham started requesting reimbursement for SHS grant purchases directly from the State of Oregon rather than through Multnomah County. This is similar to a process Washington County Office of Consolidated Emergency Management (OCEM) uses. According to the OCEM director, this direct reimbursement arrangement eliminates any ambiguity regarding whether OCEM is responsible for maintaining an inventory of equipment purchased by these jurisdictions.

Recommendation 3: Collaborate with the County Attorney and the State Office of Emergency Management to establish how MCEM will meet the federal requirements for grant and inventory record keeping.

Recommendation 4: Enter into agreements with grant sub-recipients to minimize MCEM's administrative functions related to inventory.

Communication and Collaboration

MCEM is expected to facilitate communication and collaboration among a wide range of private, public, and community stakeholders in responding to emergencies. Emergency management professionals agree that relationship building is an essential element of successful preparation for and response to emergency situations. MCEM's performance during recent exercises and actual emergencies as well as feedback from stakeholders suggests that its execution of this role has improved considerably.

Because of its critical importance to effective emergency management and because MCEM has struggled with collaboration in the past, we wanted to elicit stakeholder perceptions about the current state of communication and collaboration in MCEM. To accomplish this, we surveyed stakeholders both internal and external to Multnomah County government. Of those responding to our question about communication (90 of 93), 91% of MCEM's stakeholders report an improvement in communication and collaboration. Some stakeholders report that as a result of these improvements MCEM is beginning to develop collaborative

partnerships between diverse stakeholder groups that have not previously worked together in the facilitation of a coordinated emergency response.

However, improvements in communication have not been tested on a large scale. The recent exercises and actual emergencies that MCEM has engaged in have been limited in scope and severity and involved fewer stakeholders than would be involved in a large scale disaster. Improvements in communication and collaboration will be essential for future success, but MCEM has yet to be tested in a full-scale exercise or broad emergency.

Emergency Coordination
Center (ECC)

In the event an emergency event surpasses the capability of the regular operations of responding agencies, MCEM is required to provide multi-agency coordination and support for County agencies responding to major emergencies or disasters from a central facility called the Emergency Coordination Center (ECC). The ECC setting provides for face-to-face communication among the members of the ECC staff and others who are asked to participate in the decision making process. It provides a setting in which all decision makers receive updates about the emergency. A smoothly functioning ECC can serve as the single point-of-contact for mutual aid providers, discipline specific coordination centers, regional partners, and state and federal assistance and resource providers. According to management the ECC is expected to operate 24 hours a day and seven days a week if necessary until it is no longer needed.

During the recent H1N1 flu epidemic, MCEM's ECC was activated to coordinate local medical resources. Among other functions, the staff of the ECC provided a single ordering point for hospital systems in the region to obtain resources from the Strategic National Stockpile (SNS), facilitated information sharing, and supported well informed policy decisions. MCEM stakeholders report that the regional hospital systems, and public health organizations had worked toward a single ordering point resource requesting system and tested that concept in a series of exercises over several years. In an exercise in 2008, MCEM's ECC was able to demonstrate that the single ordering point model

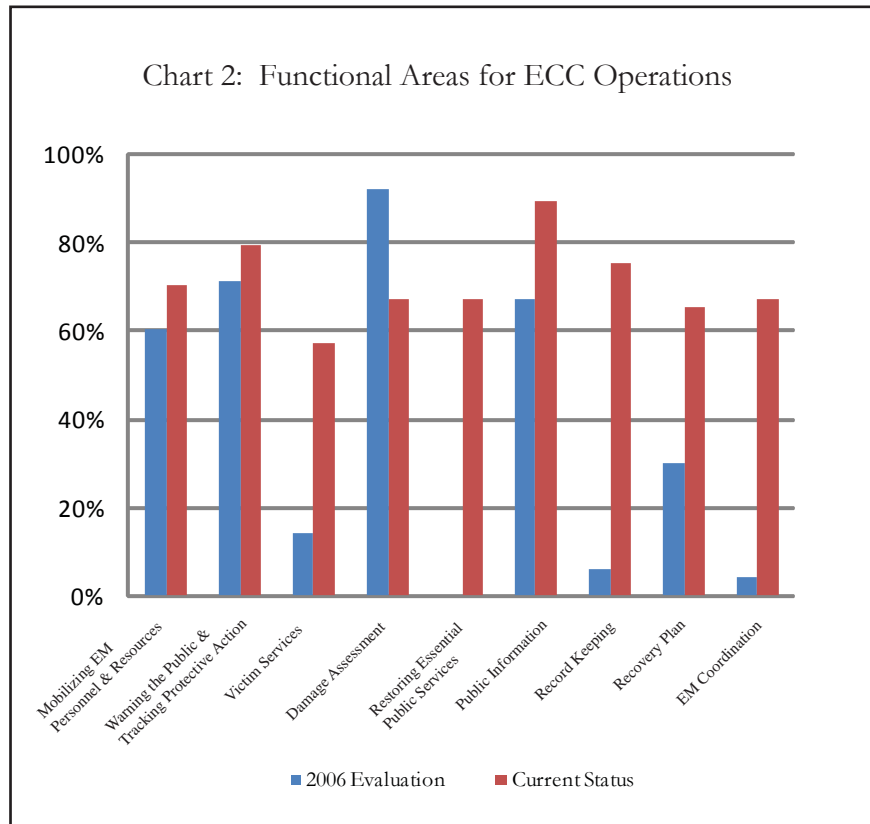
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could function successfully, although continued improvements were needed. MCEM subsequently continued to collaborate with hospital systems, state public health, and emergency management representatives. This led to the MCEM ECC successfully operating as a single ordering point for SNS supplies provided to hospitals in the metropolitan region during the recent H1N1 event. Because of MCEM's successful communication and collaboration with all stakeholders, the ECC provided essential assistance resulting in the successful coordination of the regional medical response to the H1N1 emergency event.

MCEM has made considerable improvements to its critical operations functions by establishing internal procedures and developing formal plans for collaboration with key stakeholders. A previous review⁴ evaluated MCEM on 81 factors (in ten functional areas) that are important to effective ECC operations. MCEM has made improvements in nine of the ten functional areas. Overall, in 2006, MCEM was compliant with approximately 31% of the emergency operations factors. Based on the changes currently underway, we assess MCEM to be about 69% compliant at this point. Chart 2 (next page) shows the extent to which changes have been made by functional area⁵.

⁴ Emergency Management Program Evaluation, June 2006, Emergency Services Consulting, Inc.

⁵ The Emergency Management Program Evaluation combines "Warning the Public" and "Tracking Protective Action" into one category:



Source: Multnomah County Auditor's Office

In our opinion operation improvements make MCEM better prepared to respond to emergency events. However, we still have concerns about whether these improvements would apply to larger scale emergencies that require MCEM to staff a 24/7 ECC during a high intensity emergency requiring extensive coordination with their largest partners: the City of Portland, the Portland Police Bureau, and Portland Fire and Rescue. By all estimations, H1N1 was a slow moving emergency situation that was anticipated by the medical agencies responsible for responding to it. MCEM had conducted a practice exercise with its medical partners and was able to prepare staff for the event. Further, the emergency primarily impacted a community of medical service providers who all speak the same professional language when responding to an emergency.

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The last time MCEM had an opportunity to test its ECC during a full scale disaster was the TOPOFF4 federal disaster drill conducted in 2007. This drill simulated a terrorist attack in downtown Portland and required agencies from the Portland metropolitan area to work together to respond to and recover from the emergency. TOPOFF4 demonstrated considerable difficulty with coordination of efforts between Multnomah County and the City of Portland.

More recently, the State of Oregon conducted a full scale disaster exercise called Cascadia Peril that simulated an earthquake along the Cascade Subduction zone. The exercise could have provided an opportunity to evaluate coordination of emergency efforts based on improved communication between MCEM and the City of Portland. However, due to an actual weather related emergency, large area stakeholders including the Portland Office of Emergency Management essentially passed on the opportunity to participate in a state sponsored regional exercise that might have given MCEM a better indication of how limited scope improvements would translate to larger scale operations.

MCEM bases their emergency exercises on the Homeland Security Exercise and Evaluation Program (HSEEP), which provides tools to plan, conduct, and evaluate exercises to improve overall preparedness. HSEEP is a capability-based exercise program that includes a cycle, mix, and range of exercise activities of varying degrees of complexity and interaction. The purpose of HSEEP is to build self-sustaining exercise programs and provide a standardized methodology for designing, developing, conducting, and evaluating all exercises. To the extent that MCEM is able to conduct HSEEP-based exercises with their partners in the region, management expects to be able to improve their ability to respond to major disasters.

Recommendation 5: Incorporate management's expectations about communication and collaboration in formal policies and procedures to ensure that efforts to maintain and improve communication and collaboration with stakeholders are a priority.

Recommendation 6: Actively seek opportunities to participate in HSEEP-based exercises with the City of Portland and first responders from local, city and county jurisdictions.

Objective Scope and Methodology

The objectives of this audit were to:

- Assess the quality of communication and collaboration with stakeholders
- Assess the quality of inventory management systems
- Assess the status of existing recommendations for MCEM improvement

We limited our audit scope to MCEM rather than including emergency preparation and response work in other departments. We also agreed that there would be benefit to focusing the audit on a status check of the existing 2006 recommendations, which resulted in both positive and negative findings in the final report.

During the course of the audit, we conducted interviews of all MCEM staff as well as a wide range of stakeholders from within and outside of Multnomah County government departments. Interviews included the County Chair and the County Chief Operating Officer to discuss job responsibilities, expectations, and concerns. We also interviewed County staff members outside of MCEM who have emergency operations responsibilities and who coordinate with MCEM for planning and when an emergency occurs as well as a number of regional and community partners to hear their perspectives on working with MCEM.

We reviewed MCEM's policies, procedures, and plans as well as previous assessments of Multnomah County emergency management functions and available after-action reports for actual emergency events such as the 2009 winter storm and emergency exercises (e.g. Cascadia Peril, SARS Attacks, TOPOFF4). We reviewed professional and academic literature in the field of Emergency Management, researched professional standards and best practices, such as: The National Incident Management System (NIMS) and Emergency Management Accreditation Program (EMAP), and federal and state financial management requirements and standards. Additionally, auditors participated in basic training for emergency managers provided by the Federal Emergency

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Management Agency (FEMA). We reviewed audits of emergency management functions, in particular from Snohomish County, Washington and from the Government Accountability Office (GAO). We did not find many performance audits of emergency management.

Stakeholder data were collected using an electronic survey tool and a combination of quantitative and qualitative data. Qualitative data regarding communication and collaboration were gathered using the Success Case Method (SCM) methodology intended to identify specific successes and limitations through targeted brief interviews of outlier respondents. Survey participants (N=142) were identified from MCEM's contact lists and verified for completeness by other emergency managers in the area. The survey resulted in an overall response rate of 65% (n=93), including 79% (48 of 61) of stakeholders internal to Multnomah County government departments and 56% (45 of 81) of external stakeholders.

Where possible, comparisons were made to the program evaluation conducted by Emergency Services Consulting, Inc. in 2006. For example, we assessed improvement to the Emergency Coordination Center (ECC) by recreating the matrix of emergency operating functions identified by the original evaluators. The status of recommendations related to training and planning were evaluated more broadly using professional best practices developed by the National Incident Management System (NIMS) and the Emergency Management Assessment Program (EMAP) standards.

Data used to evaluate the quality of MCEM's grants and inventory management system were drawn from the Multnomah County enterprise management system.

As required by government auditing standards, we also conducted an assessment of risk and significance within the context of the audit objectives to determine if further procedures are needed to detect illegal acts, violations, or fraud.

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Responses to Audit
