

# **EMERGENCY MANAGEMENT:** Coordination improved and most essential functions complete

June 2013

**LaVonne Griffin-Valade**  
City Auditor

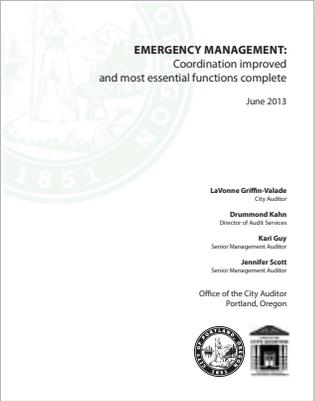
**Drummond Kahn**  
Director of Audit Services

**Kari Guy**  
Senior Management Auditor

**Jennifer Scott**  
Senior Management Auditor

Office of the City Auditor  
Portland, Oregon





**Production / Design**  
Robert Cowan  
Public Information Coordinator



# CITY OF PORTLAND

Office of City Auditor LaVonne Griffin-Valade

## Audit Services Division

Drummond Kahn, Director

1221 S.W. 4th Avenue, Room 310, Portland, Oregon 97204

phone: (503) 823-4005

web: [www.portlandoregon.gov/auditor/auditservices](http://www.portlandoregon.gov/auditor/auditservices)



June 24, 2013

TO: Mayor Charlie Hales  
Commissioner Nick Fish  
Commissioner Amanda Fritz  
Commissioner Steve Novick  
Commissioner Dan Saltzman  
Carmen Merlo, Director, Portland Bureau of Emergency Management

SUBJECT: Audit Report: Emergency Management: Coordination improved and most essential functions complete (Report #441)

The primary benefit of audits is the effective implementation of recommendations. In Portland, bureau managers are responsible for resolving and implementing audit recommendations promptly and effectively. Auditors are responsible for following up to see that action is taken and the intended results are achieved.

My office follows up on all audit recommendations and annually reports to City Council on the percentage of recommendations that are implemented. For some audits we will conduct a formal follow-up audit, such as in the attached report, documenting bureau implementation and results.

This report follows up on recommendations in our 2010 audit, Emergency Management: Coordination limited and essential functions incomplete. The audit identified problems with the City's emergency management governance structure, planning, training, and public outreach, and made seven recommendations for improvements. In this 2013 report, we found that the Portland Bureau of Emergency Management (PBEM) implemented all audit recommendations, resulting in significantly improved coordination of Portland's emergency preparedness and response.

We appreciate the cooperation and assistance we received from management and staff at PBEM and all of the City's emergency response bureaus as we conducted this audit.

LaVonne Griffin-Valade  
City Auditor

Audit Team: Drummond Kahn  
Kari Guy  
Jennifer Scott

Attachment



## **EMERGENCY MANAGEMENT:**

Coordination improved  
and most essential functions complete

### **Audit Results**

In 2010, we issued an audit report on the Portland Bureau of Emergency Management (PBEM), the City bureau charged with centralizing leadership and coordination of the City's emergency management functions. That report, *Emergency Management: Coordination limited and essential functions incomplete*, identified problems with the City's emergency management governance structure, planning, training, and public outreach.

In a disaster such as an earthquake, flood, or major fire in Portland, multiple City bureaus must work together to maintain safety and City operations. For example, the Fire Bureau relies on the Water Bureau to keep the water flowing to fire hydrants, and the Bureau of Transportation to clear debris. The Police Bureau may provide traffic and crowd control, and the Parks Bureau may offer assembly sites. It is the responsibility of PBEM to coordinate the City's preparedness and response.

In our 2010 audit, we made seven recommendations to address problems with PBEM's coordination of the City's emergency management activities. The Director of PBEM requested the 2010 audit, and committed to implementing all recommendations. We conducted this 2013 audit to determine whether PBEM had implemented the 2010 recommendations, and whether implementation had improved the City's emergency management program. As detailed in Figure 1, we found that PBEM has implemented all audit recommendations. More information on implementation actions can be found in the following pages.

**Figure 1**

Recommendations	Status	Page
Review and document the governance structure, roles and responsibilities, and operating principles for the City's emergency management program, including PBEM and bureau advisory committees.	Implemented	4
Complete a city-wide risk assessment that includes an evaluation of threats, vulnerabilities, and internal weaknesses. Based on the risk assessment, complete a strategic plan to define emergency management goals.	Implemented	4
Define the scope of the City's emergency planning, and document the process for plan development, approval, and review.	Implemented	6
Document and implement a needs-based training and exercise program.	Implemented	8
Define the strategy for public education.	Implemented	10
Develop policies for clear and consistent use of emergency public information tools.	Implemented	12
Complete and implement the Emergency Coordination Center operating procedures.	Implemented	14

Emergency management is an ongoing activity – federal standards recommend that all emergency activities be continually evaluated and updated to maintain coordinated emergency response capabilities. Within the recommendations we evaluated in this audit, we found some PBEM projects that are still underway, or completed projects that are being revised as PBEM learns from its earlier plans, training, or outreach efforts.

Full implementation of audit recommendations by PBEM does not eliminate all risks to City residents. Work remains before City government and residents are adequately prepared for a major disaster. Much of the City's infrastructure, including roads, bridges, water and sewer systems, is old and vulnerable to earthquakes. The City's information technology systems do not have adequate recovery plans, threatening the operations of key emergency response services such as emergency dispatch, fire and rescue, and police in an emergency. Resolving these challenges will take time, and may require additional funding.

Although challenges remain, we found that PBEM now has the structure and strategic approach it needs to continue its progress in coordinating the City's emergency preparedness efforts.

# RECOMMENDATION ACTIONS

## Governance

**Issue** An effective emergency management program should have clearly documented roles and responsibilities and a multi-year strategic plan to guide emergency management efforts. In our 2010 audit, we found that the City did not have a clear definition of emergency management roles or a structure to ensure effective oversight of emergency management activities. Multiple steering committees were established through City Code, but the authority and purpose of the committees was unclear. In addition, there was no strategic plan to focus the City’s emergency preparations on the highest priority risks.

2010 Audit Recommendations	
Review and document the governance structure, roles and responsibilities, and operating principles for the City’s emergency management program, including PBEM and bureau advisory committees.	Implemented
Complete a city-wide risk assessment that includes an evaluation of threats, vulnerabilities, and internal weaknesses. Based on the risk assessment, complete a strategic plan to define emergency management goals.	Implemented

### PBEM Actions

- City Council adopted the changes into City Code in July 2011 to revise PBEM’s role and responsibilities, as well as those for bureau emergency managers and advisory committees. The changes require the Disaster Policy Council, a committee of bureau directors chaired by the Mayor, to take an active role in overseeing and approving the work of PBEM and City bureaus. The Disaster Policy Council now approves all PBEM strategic, response, and work plans, and is charged with monitoring progress of individual bureaus towards completing tasks identified in the plans.
- PBEM completed, and City Council adopted, the 2010 Natural Hazards Risk Reduction Strategy to provide a comprehensive profile of the natural hazards Portland faces, the people and

---

facilities at risk, and the action items needed to lessen loss. We questioned whether a comprehensive risk assessment should include other, human-caused hazards. However, the PBEM Director told us that the earthquake risk identified in the Natural Hazards Risk Reduction Strategy drives much of PBEM's current work, and by preparing for a major earthquake, the City will be ready for other disasters.

- PBEM developed a strategic plan in coordination with City bureaus, and the plan was approved by City Council in September 2011. The strategic plan includes broad goals to focus the work of PBEM and response bureaus. Action items and key responsibility for each action are identified in the plan, and the PBEM Director reviews progress on the strategic plan monthly.

## **Conclusion**

Clarifying roles and adopting a strategic plan helped focus the work of PBEM and City bureaus, as evidenced by successful completion of work in other areas such as planning, training, and public outreach.

Despite these improvements, some bureau emergency coordinators questioned PBEM's role. One bureau director pointed to a need to better use the risk assessment to prioritize the City's emergency needs. PBEM can use the forum of the Disaster Policy Council and bureau emergency manager meetings to continue to work on these issues.

## Emergency planning

**Issue** Emergency planning provides a methodical way to think through a potential crisis, determine response capabilities, and set priorities for recovery. In our 2010 audit, we found that the City's Basic Emergency Operations Plan was outdated and incomplete. The Basic Emergency Operations Plan is an overarching plan, with many sub-plans to address specific hazards or emergency response activities. There was no agreement among bureaus regarding who would complete the plans or whether all plans were needed, and no clear method for plan development or approval. This resulted in duplicated work, consultant contracts that did not result in useable products, and less than a quarter of required plans and appendices complete.

### 2010 Audit Recommendation

Define the scope of the City's emergency planning, and document the process for plan development, approval, and review.	Implemented
---	-------------

### PBEM Actions

- PBEM developed a planning process and timeline that ensures involvement of critical bureau stakeholders, while retaining responsibility for plan completion. In January 2013, the Disaster Policy Council narrowed the list of required sub-plans in the Basic Emergency Operations Plan.
- City Code revisions require that response plans be approved by the Disaster Policy Council. In practice, PBEM has also brought plans to City Council for approval.
- Half of the required plans and appendices are now complete, including the Basic Emergency Operations Plan and sub-plans related to earthquake and flood response. The Disaster Policy Council approved a schedule for completing all plans by 2015.

- 
- Bureau managers we interviewed told us that PBEM solicited input from operational bureaus and included their comments in the final plans.
  - PBEM is currently developing a City Continuity of Operations Plan, which will identify dependencies between bureaus, and the systems and priorities for restoring services after a disaster. PBEM scheduled this plan for completion in 2013.

**Conclusion** By taking ownership of the planning process, PBEM has more control over plan contents, timing, and final products. The result has been a simpler plan structure, and more plans completed.

## Training and exercise

**Issue** Well-designed and executed training and exercises are the most effective means of assessing plans, equipment, and assumptions; improving interagency coordination; and identifying gaps in resources. In our 2010 audit, we found that emergency training and exercises were infrequent and had little follow through. The lack of training and exercise was a key concern identified by bureau managers and emergency responders during our 2010 audit.

2010 Audit Recommendation	
Document and implement a needs-based training and exercise program.	Implemented

### PBEM Actions

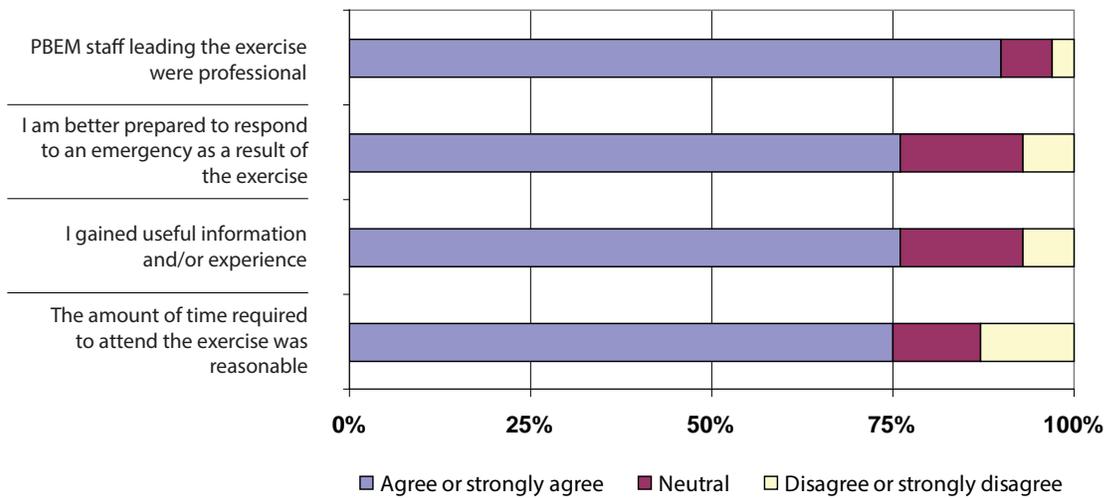
- PBEM prepares two-year exercise and training schedules, focused on the highest priority risks identified in the Natural Hazards Risk Reduction Strategy.
- PBEM training is linked to operation of the City’s Emergency Coordination Center (ECC) using the federal incident command system. The City is currently building a new ECC to serve as a multi-agency emergency coordination hub.
- PBEM’s approach to exercises has changed, with a new focus on learning, testing, and revising City emergency response plans. Exercises are held over multiple days as bureau managers first learn plan contents and discuss various potential emergency response scenarios. The final step is a live exercise with emergency responders in the field and possible activation of the Emergency Coordination Center.
- PBEM evaluates each exercise and completes an after action report that identifies exercise weaknesses and corrective actions. PBEM tracks implementation of corrective actions from the after action reports.

**Conclusion**

In our 2010 audit, infrequent training and exercise was a top concern of bureau emergency managers. In 2013, almost all managers we interviewed noted improvements to training and exercise.

For the initial audit, we conducted a survey of all City staff listed as Emergency Coordination Center responders in 2009. We repeated the survey this year. In the 2013 survey, 66 percent of respondents said they had attended a training or exercise in the last year, compared with 38 percent in 2009. Survey respondents were positive about recent exercises, as shown in Figure 2.

**Figure 2 Emergency exercise feedback**



Source: 2013 Audit Services Division survey of ECC Responders

In our interviews, bureau emergency managers expressed the need for more training and exercise, ranging from detailed training in ECC operations to table-top exercises with bureau directors and the Mayor. PBEM management told us the new ECC will allow them to have more frequent real-world training.

## Public education

**Issue** National standards for emergency management include public education, defined as the process of informing the public of hazard risks, and preparing the public to face and respond to these hazards. Experts agree that there is a positive correlation between the level of public awareness and success of disaster recovery. In our 2010 audit, we found that PBEM lacked a plan to guide their public education strategy. In the absence of a public education plan, we evaluated PBEM's public education efforts and found that they were disjointed and lacked a consistent message and audience. During our review of PBEM's public education efforts in 2010, we also examined the Neighborhood Emergency Team (NET) program and identified a number of program risks related to a lack of controls that put volunteers and the City at risk.

### 2010 Audit Recommendation

Define the strategy for public education.	Implemented
---	-------------

### PBEM Actions

- PBEM developed a Public Information and Outreach Plan in April 2011 that contains the Bureau's long term strategy for public education. PBEM's short term strategies are articulated in monthly work plans prepared by staff. Public Information staff told us PBEM regularly urges residents to prepare for a major earthquake since Portland is close to the Cascadia subduction zone, and they reason that if people prepare for a major earthquake, they will be prepared for other less serious emergencies.

PBEM's Public Information and Outreach plan acknowledges Portland's diverse communities with various levels of preparedness, some of which speak languages other than English, although the plan does not outline strategies to reach those varied audiences. Public Information staff said that they are constantly looking for new ways to reach various audiences. In the case of a postcard they mailed to households in December 2012 publicizing a new program, Spanish and Russian versions were available online and in the PBEM office.

- 
- PBEM disseminates preparedness information through various means including radio spots, television commercials, newspaper ads, journal articles, and collaboration with other organizations that do outreach. The impact of PBEM's public education efforts on community preparedness is unknown at this time. Since we began asking residents about their level of disaster preparedness in the 2010 Auditor's Annual Community Survey, resident ratings of household disaster preparedness have not changed.
  - PBEM re-launched the Neighborhood Emergency Team (NET) program in 2012 and added a number of controls intended to clarify the role and responsibilities of volunteers. They added language to the City Code about the NET program, created a Code of Conduct for NET volunteers, implemented an online volunteer registration system, and added new introductory emergency preparedness training. In 2012, all NET volunteers were asked to reapply for the program, and those who did not were no longer considered part of the NET program. To become credentialed, NET volunteers sign a Code of Conduct and pass an Oregon criminal background check. According to PBEM management approximately 1,500 people have received emergency preparedness training through the NET program. In 2013, there are 513 active NET volunteers, 286 who had become credentialed. PBEM management explained that the number of credentialed volunteers is relatively low due to the time it takes to complete the background check process.

**Conclusion** PBEM has defined their strategy for public education through their Public Information and Outreach plan. PBEM's public education staff define their short term goals through their monthly work plans and appear to be using various means to spread preparedness information to the public.

Additionally, PBEM strengthened the NET program with improved volunteer tracking and training. The controls they instituted may help protect the City and volunteers from liability.

## Public information

**Issue** An effective emergency management program should have tools to deliver information to the public during an emergency and a plan to guide their efforts. In our 2010 audit, we found that PBEM lacked policies for clear and consistent use of emergency public information tools, which limited PBEM's ability to get timely and accurate information to all segments of Portland's population during an emergency. In 2010, we expressed concern that PBEM relied too heavily on web-based tools to disseminate information and that people without internet access may be missed.

### 2010 Audit Recommendation

Develop policies for clear and consistent use of emergency public information tools.	Implemented
--	-------------

### PBEM Actions

- PBEM created an Alert and Warning Annex in May 2011. The document outlines the use of various web and non-web based emergency public information tools, and outlines the various parties with communication roles and their responsibilities during an emergency.
- PBEM widened the potential reach of their public information messages to people without internet access through their use of a Community Emergency Notification System, which contains published landline numbers, City employee information, as well as the landline, voice over IP and cell phone numbers registered in PublicAlerts. The City has also entered into a Memo of Understanding with FEMA to use the Wireless Emergency Alert System, which will contact all cell phones located in a geographic area at a certain time.
- PBEM has a Memo of Understanding with the 211info to serve as a non-emergency call center after a disaster. PBEM will rely on first responders to make connections with non-English speaking populations during an emergency and PBEM will assist in providing information in languages other than English.

---

**Conclusion**

PBEM's Alert and Warning Annex outlines the use of public information tools. PBEM established agreements with other agencies that may better ensure that all segments of the population receive information during and after an emergency.

**Other matters related to Emergency Public Information**

PBEM unveiled the Basic Earthquake Emergency Communication Node (BEECN) program on December 11, 2012. PBEM mailed postcards to Portland residents and City employees containing a map with 48 BEECN sites around the city where people can go to get information after a major earthquake.

A few weeks after the BEECN postcards were mailed, we learned that the program was not yet operational. Though PBEM had verbal agreements with most of the 48 advertised BEECN sites, there were not yet formal agreements with all the sites, and site tests were not planned until spring 2013. In addition, when the postcards were mailed in December, PBEM didn't have funding for supplies needed to equip the 48 sites.

When we asked PBEM management about this in December, they assured us that if there were an earthquake that day, the 48 sites would be staffed within 24 hours by City employees equipped with radios. They also told us that some of the BEECN sites may change as a result of site testing. PBEM management told us they had spent \$70,000 on printing and mailing the postcards in December and would likely not have money in their budget to send another postcard when BEECN sites are finalized. They also told us that their timeline was dictated by the former mayor who wanted PBEM to mail the postcard before he left office. We believe City resources would have been better leveraged if PBEM waited to send the postcard until BEECN locations were confirmed and the program was fully operational.

## Emergency Coordination Center

**Issue** An Emergency Coordination Center (ECC) provides a location and system for emergency managers to coordinate and support first responders working in the field during an emergency. In our 2010 audit, we identified issues related to staffing, communication, and training in ECC operations. By 2010, PBEM had already begun to improve operations at the City’s ECC.

2010 Audit Recommendation	
Complete and implement the Emergency Coordination Center operating procedures.	Implemented

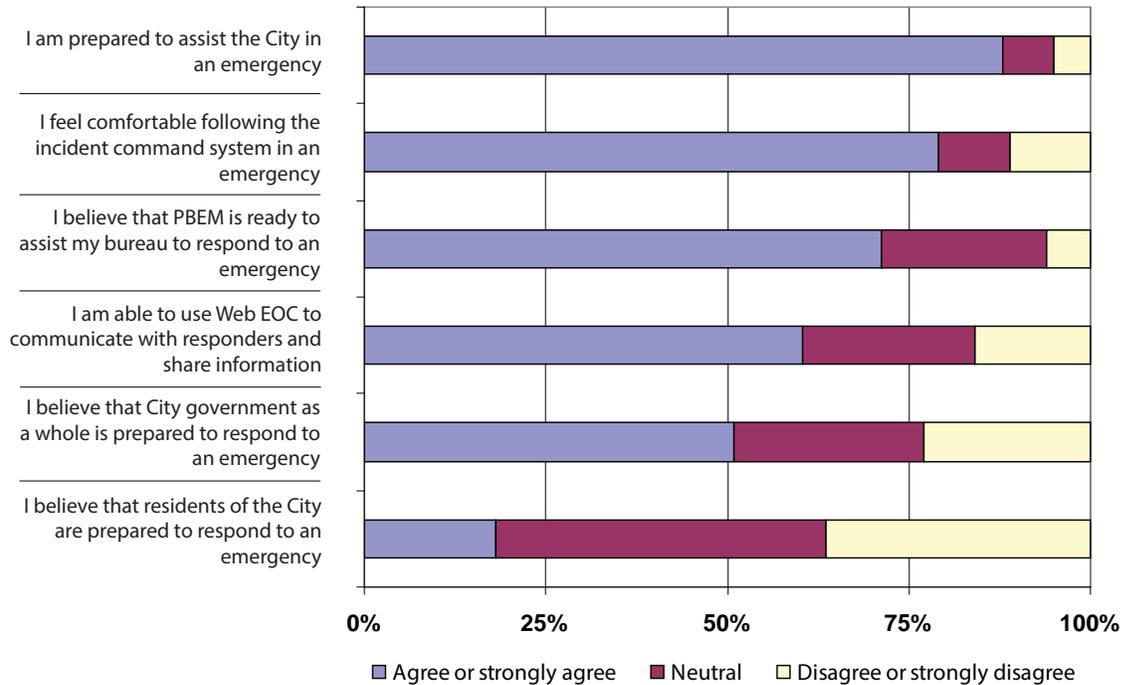
**PBEM Actions**

- PBEM completed standard operating procedures for the ECC in 2011. As discussed on page 8, PBEM increased the amount of training offered for all responders in ECC operations.
- PBEM management told us that they are reviewing ECC operations and the ECC staffing model that relies on bureau volunteers. As that review is completed, PBEM may update the ECC standard operating procedures.

**Conclusion**

In our 2013 survey of City staff assigned to the ECC, 80 percent of respondents indicated that they had received training or information from PBEM about ECC operations within the last year, compared to 47 percent in 2009. In 2013, survey respondents also reported a higher level of confidence in their ability to assist the City in an emergency, follow the incident command system, and use the Web-based emergency information system (Web EOC) than they did in 2009. In both 2009 and 2013, Survey respondents reported more confidence in the City’s overall level of preparedness to respond to an emergency than they did in residents’ overall level of preparedness, as shown in Figure 3.

**Figure 3 Readiness of ECC Responders**



Source: 2013 Audit Services Division survey of ECC Responders

Once the ECC building is complete, more frequent training will be available to City bureau emergency responders. In addition, completion of the building will allow PBEM to continue the improvements they have made to ECC operations.

## Objective, scope and methodology

The objective of this audit was to determine whether the recommendations in our 2010 report, *Emergency Management: Coordination limited and essential functions incomplete*, had been implemented, and whether implementation had improved the City's emergency management program.

To determine whether recommendations were implemented, we reviewed information submitted by PBEM, and conducted additional research by reviewing City Budgets, program documentation, and media reports. We met with PBEM management to discuss implementation of audit recommendations, and interviewed lead program staff associated with each key audit area.

To determine whether implementation of the recommendations had improved the City's preparedness, we interviewed emergency managers from the Fire, Police, Water, Transportation, Environmental Services, and Emergency Communication Bureaus. We also interviewed emergency managers from Multnomah and Washington Counties, and volunteers from Portland Neighborhood Emergency Teams (NET). To assess changes PBEM made to training and outreach to City staff with emergency response and emergency management roles in their bureaus, we conducted an on-line survey of staff assigned these roles.

The Audit Services Division reports directly to the elected City Auditor, who is charged by City Charter with conducting performance audits in accordance with generally accepted government auditing standards. These standards require auditors to be independent of the audited organization to avoid an actual or perceived relationship that could impair the audit work. The City Auditor serves as a member of the City's Disaster Policy Council (DPC). Because the DPC is only a small part of the City Auditor's overall duties, and because the audit team planned and performed the audit without the direct involvement of the City Auditor, we determined that the City Auditor's involvement with the DPC did not impair our independence.

---

We conducted this audit in accordance with 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 on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.



# RESPONSE TO THE AUDIT





An Equal Opportunity Employer

Steve Novick, Commissioner  
Carmen Merlo, Director

1001 SW 5th Avenue/ Suite 650  
Portland, Oregon 97204  
Phone: (503) 823-4375  
Fax: (503) 823-3903  
TDD: (503) 823-3947  
[www.portlandoregon.gov/bem](http://www.portlandoregon.gov/bem)

June 18, 2013

LaVonne Griffin-Valade  
Auditor  
1221 SW 4<sup>th</sup> Avenue, Suite 310  
Portland, OR 97204

Dear Auditor Griffin-Valade:

Thank you for noting the great strides the Portland Bureau of Emergency Management (PBEM) has made following your 2010 audit of our programs. After working more than two years to implement recommendations from that audit, we are pleased by the conclusions in this follow-up report.

We're also proud to share this progress with the public. PBEM now has a multi-year strategic plan that effectively guides our emergency management goals from one week to the next. Also, as you've described in this report, our bureau has:

- measurably improved coordination among key partners
- increased public alert and notification capabilities
- increased the frequency of emergency preparedness training and exercises
- clarified and codified emergency management roles
- taken clear, consistent steps in preparing residents for earthquakes and other hazards

From the time PBEM originally requested an audit of PBEM's services in 2010, our staff and the residents we serve have benefitted greatly from your office's scrutiny, analysis and thoughtful recommendations. We personally want to thank you for this.

Respectfully,

Steve Novick  
Commissioner-in-charge

Carmen Merlo  
Director





**Audit Services Division  
Office of the City Auditor  
1221 SW 4th Avenue, Room 310  
Portland, Oregon 97204  
503-823-4005  
[www.portlandoregon.gov/auditor/auditservices](http://www.portlandoregon.gov/auditor/auditservices)**

*Emergency Management: Coordination improved  
and most essential functions complete*

Report #441, June 2013

Audit Team Members: Kari Guy  
Jennifer Scott

This report is intended to promote the best possible management of public resources. This and other audit reports produced by the Audit Services Division are available for viewing on the web at: [www.portlandoregon.gov/auditor/auditservices](http://www.portlandoregon.gov/auditor/auditservices). Printed copies can be obtained by contacting the Audit Services Division.

LaVonne Griffin-Valade, City Auditor  
Drummond Kahn, Director of Audit Services

**Other recent audit reports:**

*Portland's Fiscal Sustainability and Financial  
Condition: Long-term financial position needs  
attention (#443, June 2013)*

*Portland Development Commission: Records  
management systems in place, but support and  
direction needed (#442, April 2013)*

*Public Safety Systems Revitalization Program:  
Management problems impact cost and schedule  
goals (#422, April 2013)*

