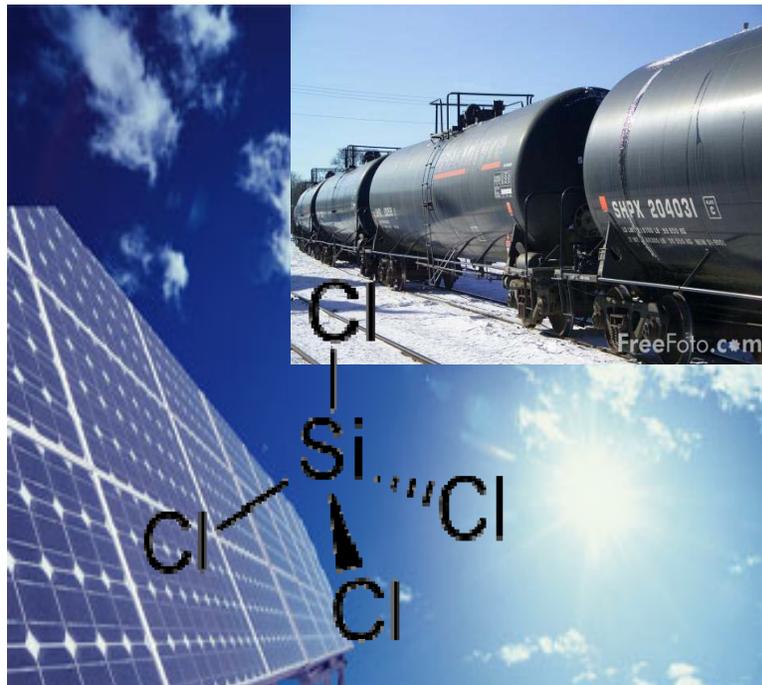


Looming Plume

September 16, 2011

AFTER ACTION REPORT/IMPROVEMENT PLAN

November 15, 2011



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HANDLING INSTRUCTIONS

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EXECUTIVE SUMMARY

The Multnomah County and City of Gresham joint full scale exercise Looming Plume was developed to test the tools, resources and processes present in the County Emergency Coordination Center (ECC) and the City of Gresham Emergency Operations Center (EOC). Specifically, these are the tools, resources, and processes that support the flow of critical information necessary to make timely and strategic decisions during the response phase of a hazardous materials transportation incident.

The exercise planning team was made up of a core team of emergency management staff from Multnomah County and the City of Gresham and a steering committee of agencies from both jurisdictions; Multnomah County Chairs Office, Emergency Management, GIS, Sheriff's Office, Human Services, Roads Services, Communications Office and City of Gresham Emergency Management, Fire Department, and Police Department. The exercise planning team in consultation with the steering committee considered the following factors when determining the scope and exercise objectives: both the City of Gresham and Multnomah County have new staff in the Emergency Operations Centers, WebEOC and Bridge are two new technologies that are available to emergency operations staff and finally, coordination processes between the jurisdictions should be explored for common understanding.

The planning process began in April of 2011 and included an Initial Planning Conference, a Mid Planning Conference and a Final Planning Conference. Several additional activities took place to ensure that players were adequately prepared for the exercise. These activities included a technology tools training and emergency operations center orientation.

Based on the exercise planning team's deliberations, the following objectives were developed for Looming Plume:

- Objective 1: Establish and maintain a Common Operating Picture across command and coordination entities in Multnomah County
- Objective 2: Demonstrate awareness of plans, procedures and resources required to implement population protection measures
- Objective 3: Ensure communications to partners and the public is accurate and consistent between Gresham Emergency Operations Center (EOC) and the County Emergency Coordination Center (ECC)
- Objective 4: Establish and maintain the timely flow of information
- Objective 5: Implement appropriate critical incident action planning steps at the EOC and ECC
- Objective 6: Gresham EOC to demonstrate ability to check-in staff and establish communications with the Incident Command Post (ICP) and County ECC
- Objective 7: Gresham EOC to demonstrate ability to support onsite incident management

The objectives above were formulated by applying a local perspective to the following Target Capabilities List (TCL) capabilities.

- Emergency Operations Center Management

- This capability was the primary focus during the exercise. Of interest was how the County ECC and the City of Gresham EOC independently mobilized and then connected in order to support the needs of the hazmat incident. Some elements designed into the exercise that would highlight this focus included K12 and Higher Education schools, a hazardous plume threatening other jurisdictions, and incident needs that could only be met by both jurisdictions providing resources.
- Citizen Evacuation and Shelter in Place
 - This capability was addressed by selecting a chemical that had qualities that could be controlled yet could be volatile (i.e. reactive to water). Responders and Incident Command were expected to take a measured response and coordinate effective population protection measures. This included sheltering in place for certain areas and evacuation at others based on pre-planned criteria and dynamic conditions. Necessary logistical issues would be planned for including traffic control measures and standing up shelters.
- Emergency Public Information and Warning
 - During the exercise, this capability was addressed by involving the warning and notification activities that may take place during a hazardous materials incident. Exercise design elements included impacts of social media in the emergency management environment, multi-jurisdictional coordination of communication with and via the media as well as the need to reach a variety of sectors within the community impacted; schools, assisted living facilities, businesses, support organizations and responding agencies.
- Hazmat Response and Decon
 - During this exercise, Gresham’s Hazmat 3 conducted a drill involving reviewing protocols, assessing the hazardous substance, reviewing equipment, discussing interface with EOC.

The purpose of this report is to analyze exercise results, identify strengths to be maintained and built upon, identify potential areas for further improvement, and support development of corrective actions.

Major Strengths

The major strengths identified during this exercise are as follows:

- Teamwork and cross-functional collaboration were evidenced in both Gresham EOC and County ECC.
- Population protection measures involved sound reasoning and were focused on the “whole community”.
- Public information processes and outputs were consistent with best practice and the use of WebEOC to organize and share press releases was effectively demonstrated.

Primary Areas for Improvement

Throughout the exercise, several opportunities for improvement in the City of Gresham EOC and Multnomah County ECC’s ability to respond to the incident were identified. The primary areas

for improvement, including recommendations, are as follows:

- A common operating picture was never fully established.
 - **Analysis:** The main emphasis of this exercise was to exercise the ability to build a common operating picture and to identify the root causes of factors that made this challenging. Several factors and their causes will be covered in more detail in Section 3. In general, there were issues with new technology, unclear information gathering and sharing protocols, new staff inexperienced in Incident Command System (ICS), and overlooked activation steps. It is likely that much of this would eventually iron out during the progress of a real incident. For the sake of this exercise however, valuable insight was gained into systemic issues that would likely affect a real incident of this nature.
 - **Recommendation:**
 - Review the recommendations in this report and develop an improvement plan that supports the implementation of identified improvement actions.
- Technology revealed itself as being useful when properly operated and likely valuable with more proficiency.
 - **Analysis:** Building situational awareness and insuring a common operating picture requires both accuracy of information and robust sharing platforms. Two such tools were available to staff; Bridge and WebEOC. Due to lack of staff proficiency with these tools and the lack of integrating these tools into operational procedures, their full benefit was never attained and at times they even proved to be distractions. A lesson learned is that while proficiency and planning with this technology mature, it is important to empower staff to be resourceful and find the appropriate balance between manual and technological tools to gather and share information.
 - **Recommendations:**
 - Define who is responsible for having high proficiency in operating Bridge.
 - Define operational use of Bridge between site, command and coordination entities.
 - Insure that administrative level technology support is available during activation.
 - Implement short experiential training and exercises for technology familiarization.
 - Develop and implement section/function based WebEOC training.
 - Integrate Bridge and WebEOC activities into standard operating procedures and position checklists.
 - Consider “low tech” alternatives for gathering and displaying information during the initial activation phase.

- Consider sharing technical expertise through mutual aid practices.
- Integration of social media into the emergency management organization brings up questions about planning, staffing and placement into ECC/EOC organization.
 - **Analysis:** The rapid introduction of social media into crisis communication management has introduced factors into every major part of the incident management system. From gathering information and intelligence to sharing critical guidance and nurturing confidence, social media has a presence in several functions including, but not limited to; PIO, intelligence unit and planning section. It is important that these functions be explored and resources and plans be evaluated to ensure that the dynamics introduced by social media are appropriately and efficiently prepared for.
 - **Recommendations:**
 - Engage with partners to explore possible strategies to integrate social media into the incident management organization.
 - Explore enhancing the situation unit within the planning section to include tracking trends during a crisis.
 - Recruit additional staff to the PIO responsible for capturing and disseminating information via social media.

Lessons learned were not exclusive to only after the exercise. As the planning team researched and planned this exercise, there were several insights and secondary benefits.

- As the scenario was crafted, the complexity level revealed that there were positions within the EOC and ECC that had yet to be established.
- As the team conducted research during scenario development; local, state and federal partners were identified, existing relationships were strengthened and emergency response roles were clarified.
- Recent events regarding alert and notification of citizens within Multnomah County provided some context for exploring responsibilities for alerting residents. This exercise reinforced a discussion among local jurisdictions that brought forth more clarity regarding these responsibilities.

This exercise was successful because it brought a broad group of stakeholders together that very likely would be working together during an incident and had not yet conducted an exercise. Furthermore, systemic strengths and gaps were identified that have resulted in a set of actionable improvement activities. The overall goal of any exercise process is to apply an objective lens to the procedures, resources and tools that make up our community's emergency response system. This exercise met this goal.

Based on the discoveries and confirmations that this exercise produced, future exercise should include short function- based drills as well as more complex multi-departmental, multi-jurisdictional exercises. Emergency operations center capabilities should be emphasized and the interface and interdependencies between vertical and horizontal emergency response entities should continue to be evaluated.

SECTION 1: EXERCISE OVERVIEW

Exercise Details

Exercise Name

Looming Plume Full Scale Exercise

Type of Exercise

Full Scale Exercise

Exercise Start Date

9/16/11

Exercise End Date

9/16/11

Duration

3hrs

Locations

Multnomah County ECC, 501 SE Hawthorne Blvd, Portland, Oregon 97214

Gresham EOC, 1333 NE Eastman Parkway, Gresham, Oregon 97030

Sponsor

Multnomah County Emergency Management

City of Gresham Emergency Management

Program

Fiscal Year EMPG 2011

Mission

Response

Capabilities

Emergency Operations Center Management

Citizen Evacuation and Shelter-In-Place

Emergency Public Information and Warning

Hazmat Response and Decon

Scenario Type

Hazardous Materials-Transportation

Exercise Planning Team

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Participating Organizations

Participating Agencies	
Gresham	
Police Department	
Fire Department	
Office of Neighborhoods and Community Engagement	
Public Affairs Office	
Emergency Management	
Multnomah County	
Sheriff's Office	
Roads and Transportation	
Health Department	
Communities Organizations Active During Disasters (COAD)	
Human Services	
GIS	
Chair's Office	
County Management	
Risk Management	
Information Technology	
Public Affairs Office	
Emergency Management	
Regional Partners	
Regional Hospital	

Number of Participants

- Players: 38
- Controllers: 9
- Evaluators: 2
- Observers: 47

SECTION 2: EXERCISE DESIGN SUMMARY

Exercise Purpose and Design

Looming Plume was a full scale exercise (FSE) designed to establish a learning environment for players to exercise emergency response plans, policies, and procedures as they pertain to a hazardous materials incident. A FSE is a complex event that requires detailed planning.

To design this exercise, a core team made up of Multnomah County Emergency Management staff and the City of Gresham Emergency Manager developed a roadmap that included a needs assessment, a draft scope and purpose and the identification of potential participants. Likely participants were organized into planning, consulting and playing roles. The steering committee was formalized from this list and was instrumental in reviewing the evolving objectives, scenario and significant events list that would drive the exercise. The steering committee met three times during the course of exercise development.

Several other activities undertaken were interviews with subject matter experts, narrative and script writing workshops, trainings and orientations for participants, and briefings for control and evaluation staff.

Exercise Objectives, Capabilities, and Activities

Capabilities-based planning allows for exercise planning teams to develop exercise objectives and observe exercise outcomes through a framework of specific action items that were derived from the Target Capabilities List (TCL). The capabilities listed below form the foundation for the organization of all objectives and observations in this exercise. Additionally, each capability is linked to several corresponding activities and tasks to provide additional detail.

Based upon the identified exercise objectives below, the exercise planning team has decided to demonstrate the following capabilities during this exercise:

- **Objective 1:** Establish and maintain a common operating picture across command and coordination entities in Multnomah County.
 - Emergency Operations Center Management
 - Direct EOC Tactical Operations
 - Provide EOC Connectivity
 - Support and Coordinate Response

- **Objective 2:** Demonstrate awareness of plans, procedures and resources required to implement population protection measures.
 - Citizen Evacuation and Shelter in Place

- Direct Evacuation and/or In Place Protection Tactical Operation
- Emergency Public Information and Warning
 - Manage Emergency Public Information and Warnings
 - Issue Emergency Warnings
- **Objective 3:** Ensure Communications to partners and the public is accurate and consistent between Gresham EOC and County ECC.
 - Emergency Public Information and Warning
 - Activate Emergency Public Information, Alert/Warning, and Notification Plans
 - Conduct Media Relations
- **Objective 5:** Establish and maintain the timely flow of information.
 - Emergency Operations Center Management
 - Gather and Provide Information
- **Objective 5:** Implement critical action planning steps.
 - Emergency Operations Center Management
 - Identify and Address Issues
- **Objective 6:** Gresham EOC demonstrates ability to check-in staff and establish communications with Incident Command Post (ICP) and County ECC.
 - Emergency Operations Center Management
 - Activate EOC
- **Objective 7:** Gresham EOC demonstrates the ability to support onsite incident management.
 - Emergency Operations Center Management
 - Prioritize and Provide Resources
 - Hazmat Response and Decon

Scenario Summary

Monday, September 19, at 1300 hours, a train carrying a tanker car of Silicon Tetrachloride collided with a delivery truck on Wilkes Rd. causing the train to derail. During the derailment, the tanker car carrying the chemical ruptured, spilling the chemical at the rate of 50 GPM. Although the driver of the delivery truck was able to exit the vehicle, the truck's fuel tanks caught fire. Due to the proximity of the collision to I-84, drivers passing by who were distracted

by the fire, created a 5 car pile-up. Several passers-by notified 9-1-1, as did several businesses in the area. Drivers stopped on I-84 due to the accident began taking pictures of the scene and also began texting and tweeting friends and family. Police, Fire, EMS were dispatched to the scene and began arriving within 10 minutes.

At 1310 hours a Gresham Fire Battalion Chief arrived on-scene, assumed command, and began assessing the situation. It was determined that I-84 needed to be closed, and efforts went underway to close the freeway.

The placard on the side of the rail car was visible, and identified as containing Silicon Tetrachloride. The Battalion Chief requested that Hazmat 3 (HM3) be dispatched to the scene. HM3 arrived at 1320 hours. Police begin to block off the area to a .25 mile radius. At 1330 hours, the EOC was activated and personnel were alerted to report to the EOC. The County Duty officer reached out to the Gresham Emergency Manager to inquire if assistance was required. The decision was to activate the County ECC in order to support the EOC and to maintain a forward leaning stance. The Gresham Fire Chief would be performing the Incident Commander (IC) role from the EOC.

Gresham's Public Information Officer, upon receiving notice of activation, began monitoring social media to gain awareness of what was taking place. By 1400 hours, the Fire Chief received an initial briefing from the field that included an Incident Briefing form 201.

The 201 included details regarding multiple injuries-25 employees from a nearby business, the initial hot/warm zones and resources currently on the scene.

Accurate and inaccurate information continued through social media. Calls were received from a broad group of interested parties including community groups, schools, local businesses and county and state officials.

Several schools in the area proceeded to shelter in place and upon recommendation from Incident Command decided to relocate students and follow established parent reunification protocols.

At around 1600 hrs, a change in wind direction was detected in the field that impacted the scope and complexity of the incident. As a result, existing evacuation and sheltering activities were expanded to include an at risk homeless population not previously in the impacted area.

SECTION 3: ANALYSIS OF CAPABILITIES

This section of the report reviews the performance of the exercised capabilities, activities, and tasks. In this section, observations are organized by capability and associated activities. The capabilities linked to the exercise objectives of Looming Plume are listed below, followed by corresponding activities. Each activity is followed by related observations, analysis, and recommendations. The general references used for this exercise were the City of Gresham Emergency Operations Plan (EOP), Multnomah County EOP and NIMS Doctrine.

CAPABILITY 1: EMERGENCY OPERATIONS CENTER MANAGEMENT

Capability Summary: Emergency Operations Center (EOC) management is the capability to provide multi-agency coordination (MAC) for incident management by activating and operating an EOC for a pre-planned or no-notice event. EOC management includes: EOC activation, notification, staffing, and deactivation; management, direction, control, and coordination of response and recovery activities; coordination of efforts among neighboring governments at each level and among local, regional, State, and Federal EOCs; coordination of public information and warning; and maintenance of the information and communication necessary for coordinating response and recovery activities.

This capability was the primary focus during the exercise. Of interest was how the County ECC and the City of Gresham EOC independently mobilized and then connected in order to support the needs of the hazmat incident. Some elements designed into the exercise that would highlight this focus included K12 and Higher Education schools, a hazardous plume threatening other jurisdictions, and incident needs that could only be met by both jurisdictions providing resources.

Activity 1.0: General

Observation 1.1: Area for Improvement: A common operating picture was never fully established.

Analysis: The main emphasis of this exercise was to exercise the ability to build a common operating picture and to identify the root causes of factors that made this challenging. Several factors and their causes will be covered in more detail in the following observations. In general, there were issues with new technology, unclear information gathering and sharing protocols, new staff inexperienced in ICS, and overlooked activation steps. It is likely that much of this would eventually iron out during the progress of a real incident. For the sake of this exercise however, valuable insight was gained into systemic issues that would likely affect a real incident of this nature.

Recommendations: Planning, Organization, Equipment, Training, Exercise

1. Review the following recommendations and develop an improvement plan that supports the implementation of identified improvement actions.

Activity 2.0: Activate EOC/MACC/IOF

Observation 2.1: Strength: Both EOC and ECC independently demonstrated the ability to transcend organizational differences of staff that do not work routinely together in order to develop a cohesive team.

Analysis: Both the EOC and ECC had new staff, new roles and new tools. Both groups were able to maintain a collaborative environment while also navigating an unfamiliar working arrangement. Plans and training are great but without a foundation of team work, the challenges of a stressful incident could rapidly undermine the strength of the response.

Recommendations: Organization, personnel

1. Hold meet and greets, trainings and exercises.
2. When recruiting, highlight the importance of being a team player.
3. Promote organizational and leadership principles in all events.
4. Explore the development of a basic competencies standard to provide professional development guidance and build administrator support for needed training.

Observation 2.2: Area for Improvement: The County ECC did not take adequate steps to address appropriate staffing needs. Some of the potential needs were liaison to Gresham EOC, PIO assistance and transportation planning expertise.

Analysis: The initial call down with any incident may never adequately cover all the needed positions. An important first step in assuming Emergency Operations Management is determining the staffing needs of the incident. Furthermore, validating staffing needs should be part of ongoing incident management. Critical to this is “up and down” communication whereby the responsibility to determine appropriate staffing levels lies on both Command and Section levels.

Recommendations: Planning

1. Develop a checklist that covers the critical decisions of activation.
2. Command and General Staff should ensure that they have appropriate staff to meet the needs of the Incident.

Observation 2.3: Area for Improvement: Gresham EOC experienced challenges in activation and operation of the EOC including set-up, in-briefings and role clarity.

Analysis: Technology access and desk space were physical constraints that impacted the activation and operation of the EOC. The arrival and availability of staff, through design and by circumstance, was challenging but provided valuable insight as to basic activation requirements. Finally, roles and responsibilities were unclear due to inadequate exchange of information.

Recommendations:

1. Explore ways to increase desk writing space.

2. Build more experience with basic workstation setup.
3. Consider methods to identify positions.
4. Additional training on ICS and planning processes

Activity 3.0: Direct EOC/ECC Tactical Operations

Observation 3.1: Strength: Good lateral communication in the ECC helped bridge the chaotic needs during the complexity of the initial periods of the incident.

Analysis: Formal communication in ICS is often emphasized more often than informal communication. While it is critical that roles and chain of command be followed, informal communication within the ECC and EOC are critical for gaining situational awareness, understanding the incident complexities and nurturing collaborative decision making. As ICS knowledge and experience increase for the EOC and ECC, it is important to encourage informal communication.

Recommendations: Training

1. Training should emphasize the value and interdependence of both formal and informal communication.

Observation 3.2: Strength: Reaching out to Communities Organizations Active during Disasters (COAD) for non-governmental incident support.

Analysis: The person with the role of ECC Services Director was not able to be physically present within the ECC because he was facilitating a COAD workshop. Nonetheless, the ECC Logistics Chief was able to reach out to him and request assistance with locating translating assistance. The ability to rapidly identify potential non-governmental support resources is a valuable capability to sustain.

Recommendations: Personnel

1. Ensure that there is back up staff that can likewise connect rapidly with COAD.
2. Ensure that contact information for COAD is up to date and accessible.

Observation 3.3: Area for Improvement: The ECC Manager and the EOC Incident Commander did not communicate until nearly the end of the exercise. It is likely that this resulted in the confusion that was experienced in ECC, EOC and the SimCell.

Analysis: Participating effectively within a Multi-Agency Coordination System demands timely and clear communication between entities. This communication establishes the working relationship, one another's lanes of responsibility and the strategy to address changes and contingencies. By not establishing this link early on, several inefficiencies were unavoidable.

Recommendations:

1. Essential actions during activation should be outlined in a checklist.

Observation 3.4: Area for Improvement: A liaison/Agency Rep with Gresham EOC was not established.

Analysis: By having a presence in a partner EOC or Incident Command Post, it is possible to accomplish several integration activities. First, potential gaps or inefficient overlaps can be foreseen and mitigated. Holding a common operating picture would be facilitated. Finally, overall communication could be strengthened by bridging organizational differences and reducing distraction caused by incident “noise”.

Recommendations: Training, Exercise

1. When holding individual training and exercise events, it is advantageous to invite observers from likely partnering agencies.

Observation 3.5: Area for Improvement: Services Branch Director while not present in the ECC was nonetheless part of the organizational structure and could have been better integrated into the Logistics Section.

Analysis: It is likely that the exercise artificiality for this aspect was flawed however it is none the less worthwhile to analyze this observation. Shortly after Command and General Staff meetings, it is highly recommended that there be section specific briefings covering basic section administration and working relationship. This would include staff that is physically present or located at another location. In this exercise, the Logistics Section’s Services Director was not contacted or kept up to date on the incident.

Recommendations: Training

1. Do section specific training that includes managing a group of staff that may or may not be physically together.

Activity 4.0: Gather and Provide Information

Observation 4.1: Area for Improvement: Technology revealed itself as being useful when properly operated and likely valuable with more proficiency.

Analysis: Building situational awareness and insuring a common operating picture requires both accuracy of information and robust sharing platforms. Two such tools were available to staff; Bridge and WebEOC. Due to lack of staff proficiency with these tools and the lack of integrating these tools into operational procedures, their full benefit was never attained and at times they even proved to be distractions. A lesson learned is that while proficiency and planning with this technology mature, it is important to empower staff to be resourceful and find the appropriate balance between manual and technological tools to gather and share information.

Recommendations: Organization, personnel, training

1. Define who is responsible for having high proficiency in operating Bridge.
2. Define operational use of Bridge between site, command and coordination entities.
3. Insure that administrative level technology support is available during activation.
4. Implement short experiential training and exercises for technology familiarization.
5. Develop and implement section/function based WebEOC training.
6. Integrate Bridge and WebEOC activities into standard operating procedures and position checklists.
7. Consider “low tech” alternatives for gathering and displaying information during the initial activation phase.
8. Consider sharing technical expertise through mutual aid practices.

Observation 4.2: Strength: Regularly scheduled briefings.

Analysis: Holding a consistent briefing/huddle establishes a rhythm that builds confidence in team communication while distributing pertinent information. There are a variety of briefings and meetings that may take place during activation. These may or may not be part of the steps in “planning P” and should be identified by what purpose they serve. The knowledge that there is a pattern of information sharing forming out of the potential chaos is powerful in reducing stress in a stressful environment.

Recommendations: Training

1. Provide training that helps differentiate “planning p” briefings and other types of briefings.

Observation 4.3: Area for Improvement: ECC SITREP did not include contingency planning.

Analysis: Contingency planning could have created a space for the operational, strategic and safety related thinking that was going on in the ECC. Without this activity, staff was inclined to hold a focus too narrow into the incident and may have inefficiently intersected with the scope of the Gresham EOC.

Recommendations: Planning

1. Define a process for contingency planning that supports tactical planning.
2. Build a template that facilitates the construction of contingency plans.
3. Ensure that initial communication between coordination entities identifies strategic, operational and contingency planning scopes and parameters.

Activity 5.0: Prioritize and Provide Resources

Observation 5.1: Area of Improvement: Unfamiliarity with the City of Gresham internal

phone list to facilitate internal resource acquisition.

Analysis: Some EOC personnel were not familiar with internal directories and other resources available to them in the EOC.

Recommendations:

1. Additional EOC orientation training.

Activity 6.0: Provide EOC Connectivity

Observation 6.1: Strength: SITREPs were distributed on time between the EOC and ECC.

Analysis: NA

Recommendations: NA

Observation 6.2: Area of Improvement: Issues related to school evacuations and sheltering were not shared between the EOC and ECC.

Analysis: There were several issues from schools that were present in both the EOC and ECC that were never consolidated into a common operating picture. The scope of governmental jurisdictions is seldom as simple as the physical boundaries that define them. What falls out of the scope of one jurisdiction may very easily fall within the scope of another's jurisdiction. It is therefore important that there be clear communication of decisions regarding responsibility between emergency coordination centers so that there is appropriate logging, tracking and resolving of issues.

Recommendations: Planning, Training, Exercise

1. Review "Concept of Operations" and "Command and Control" sections of jurisdictional EOPs regarding interdependencies between jurisdictional partners during an incident.
2. Review Gresham EOP School Crisis Management Functional Annex.
3. Integrate cross-jurisdictional complexities into exercises to build experience determining interdependencies.

Observation 6.3: Area of Improvement: The use of the planning section Situation Unit was underutilized. Situation information was not gathered into one central location.

Analysis: The Planning Section is the heart of the organization; establishing the rhythm, discipline and incident awareness. The Planning Sections had new and relatively in experienced staff regarding standard ICS processes. While information comes in to the EOC/ECC through different means and persons, especially towards the beginning of the incident, it is important to establish a process to centralize this information through the Situation Unit.

Recommendations: Training, Exercise

1. Provide training to all EOC/ECC staff on the process of sharing critical information with the Situation Unit Staff.
2. Encourage informal and lateral communication between the EOC/ECC staff and the Situation Unit.
3. Provide visual communication training for Situation Unit staff including both manual and technological mediums.

Activity 7.0: Support and Coordinate Response

Observation 7.1: Strength: EOC and ECC Finance Sections were well coordinated and forward leaning.

Analysis: ECC Finance was leaning forward and watched for secondary costs associated to resource requests. Knowing that it is likely that multiple operational periods would be required, finance also looked into establishing p-cards for upcoming events while noting issues that require coordination with County General Ledger (GL) and Information Technology (IT) security protocols. Finance Sections are closely linked to the organizations routine operations and therefore demand a strong knowledge of both emergency response and routine operations processes.

Recommendations: Personnel

1. Ensure that finance section expertise is sustained and that there is adequate depth in personnel able to meet the challenge of dual emergency response and routine business roles.

Observation 7.2: Strength: EOC logistics section utilized vendor list.

Analysis: Gresham finance management services hosts a vendor list which documents vendor capabilities and resources.

Recommendations:

1. Formalize use of vendor database in EOC operations.

CAPABILITY 2: CITIZEN EVACUATION AND SHELTER IN PLACE

Capability Summary: Citizen evacuation and shelter-in-place is the capability to prepare for, ensure communication of, and immediately execute the safe and effective sheltering-in-place of an at-risk population (and companion animals), and/or the organized and managed evacuation of the at-risk population (and companion animals) to areas of safe refuge in response to a potentially or actually dangerous environment. In addition, this capability involves the safe reentry of the population where feasible.

During this exercise, this capability was addressed by selecting a chemical that had qualities that could be controlled yet could be volatile (i.e. reactive to water). Responders and Incident

Command would take a measured response and coordinate effective population protection measures from sheltering in place for certain areas to evacuation at others based on pre-planned criteria and dynamic conditions. Necessary logistical issues would be planned for including traffic control measures and standing up shelters.

Activity 1.0: Direct Evacuation and/or In Place Protection Tactical Operation

Observation 1.1: Strength: Followed protocols for shelter in place.

Analysis: There was evidence in the SIMCELL and in the activities of the Gresham EOC that the appropriate steps were taken to protect the public during this incident. The initial sheltering in place directions was consistent with standard procedure. As the substance was identified and its potential impacts were determined, an evacuation was later called. The messaging in the published press releases also confirmed these decisions.

Recommendations: NA

Observation 1.2: Strength: Transportation needs for homeless population and assisted living facilities were coordinated.

Analysis: It was apparent that good situational awareness as well as the understanding of the County's capabilities informed the effective coordination between Gresham and the County regarding the functional and access needs of the impacted population. Transportation resources and mental health expertise were well coordinated.

Recommendations: Planning, Training, Personnel

1. Mental Health resources that may be deployed for an incident should have basic ICS training.
2. Social Services capabilities that may be needed during an incident should be pre-identified, categorized and evaluated.

Observation 1.3: Area of Improvement: The ECC and EOC experienced challenges producing and sharing a traffic plan for the incident.

Analysis: Some indicators that a comprehensive traffic plan would have been helpful were the closure of I-84, alternate routes, area of concern, traffic control points, and routes for evacuation and first responders. Several factors may have contributed to inability to develop and share a traffic plan for the incident. Some of these factors were recent changes in staffing at the city of Gresham, lack of familiarity with jurisdictional planning responsibility, scarcity of documented procedures for developing and sharing traffic plans.

Recommendations: Planning

1. Develop a traffic plan template that meets basic requirements.
2. Establish an agreement on drawing tool conventions that would be used on Bridge.

CAPABILITY 3: EMERGENCY PUBLIC INFORMATION

Capability Summary: Develop, coordinate, and disseminate accurate alerts and emergency information to the media and the public prior to an impending emergency and activate warning systems to notify those most at-risk in the event of an emergency. By refining its ability to disseminate accurate, consistent, timely, and easy-to understand information about emergency response and recovery processes, a jurisdiction can contribute to the well-being of the community during and after an emergency.

During this exercise, this capability was addressed by involving the warning and notification activities that may take place during a hazardous materials incident. Some of the issues that were designed into the exercise related with the impacts of social media in the emergency management environment, multi-jurisdictional coordination of communication with and via the media as well as the need to reach a variety of sectors within the community impacted; schools, assisted living facilities, businesses, support organizations and responding agencies.

Activity 1.0: Manage Emergency Public Information and Warning

Observation 1.1: Strength: Sound decision making was implemented, resulting in not standing up a Joint Information Center (JIC).

Analysis: NA

Recommendations: NA

Observation 1.2: Area of Improvement: Call center staff at Gresham EOC was given limited guidance on call center procedures and talking points.

Analysis: While verbal guidance was given to call center staff, it is preferable to have talking points available for staff reference. Likewise, how calls are routed and responded to should be well understood by call center staff.

Recommendations: Planning, Training

1. Develop a quick reference tool or flow chart that helps call center staff route calls appropriately.

Observation 1.3: Area of Improvement: Integration of social media into the emergency management organization brings up questions about planning, staffing and placement into ECC/EOC organization.

Analysis: The rapid introduction of social media into crisis communication management has introduced factors into every major part of the incident management

system. From gathering information and intelligence to sharing critical guidance and nurturing confidence, social media has a presence in several functions including, but not limited to; PIO, intelligence unit and planning section. It is important that these functions be explored and resources and plans be evaluated to ensure that the dynamics introduced by social media are appropriately and efficiently prepared for.

Recommendations: Planning, Personnel

1. Engage with partners to explore possible strategies to integrate social media into the incident management organization.
2. Explore enhancing the situation unit within the planning section to include tracking trends during a crisis.
3. Recruit additional staff to the PIO responsible for capturing and disseminating information via social media.

Activity 2.0: Activate Emergency Public Information, Alert/Warning, and Notification Plans

Observation 2.1: Strength: Decisions were made regarding who would be filling key public information roles at both the EOC and ECC.

Analysis: NA

Recommendations: NA

Observation 2.2: Strength: Press events were timed with commutes.

Analysis: NA

Recommendations: NA

Observation 2.3: Strength: Information was to be provided in multiple languages.

Analysis: NA

Recommendations: NA

Activity 3.0: Issue Emergency Warnings

Observation 3.1: Area for Improvement: Availability to translating resources was revealed to be limited to standard work hours and routine priority.

Analysis: As a county we practice equity for all citizens and must therefore be able to communicate critical information to all impacted communities. During this exercise it was revealed that arrangements for existing translation services did not include 24 hour 7 days a week and on call access. Some additional challenges relate to the existing service provider's capability to adjust priorities based on emergency response needs. Another

concern is that a variety of methods be available including written and vocal recordings.

Recommendations: Organization, personnel, training

1. Review translating resources list. Identify gaps in resource availability and pursue resolution of gaps in translating resources.
2. Create a Memorandum of Understanding (MOU) with agencies identified for translating resources that include 24/7 and on call access, a variety of mediums, and expertise in the critical languages within the county.

Activity 4.0: Conduct Media Relations

Observation 4.1: Strength: A joint media conference call was held within the first operational period.

Analysis: NA

Recommendations: NA

CAPABILITY 4: HAZMAT RESPONSE AND DECON

Capability Summary: Weapons of Mass Destruction (WMD)/Hazardous Materials Response and Decontamination is the capability to assess and manage the consequences of a hazardous materials release, either accidental or as part of a terrorist attack. It includes testing and identifying all likely hazardous substances onsite; ensuring that responders have protective clothing and equipment; conducting rescue operations to remove affected victims from the hazardous environment; conducting geographical survey searches of suspected sources or contamination spreads and establishing isolation perimeters; mitigating the effects of hazardous materials, decontaminating on-site victims, responders, and equipment; coordinating off-site decontamination with relevant agencies, and notifying environmental, health, and law enforcement agencies having jurisdiction for the incident to begin implementation of their standard evidence collection and investigation procedures.

During this exercise, Gresham's Hazmat 3 conducted a drill involving reviewing protocols, assessing the hazardous substance, reviewing equipment, discussing interface with EOC.

Activity 1.0:

Observation 1.1: Strength: Hazmat 3 demonstrated adherence to protocols.

Analysis: Hazmat 3 exercised sound judgment, followed standard protocols, relied on training and performed per department expectations.

Recommendations:

1. Hazmat team to continue to develop exercise program with Gresham EOC and other departments.

SECTION 4: CONCLUSION

This exercise was successful because it brought a broad group of stakeholders together that very likely would be working together during an incident and had not yet conducted an exercise. Furthermore, systemic strengths and gaps were identified that have resulted in a set of actionable improvement activities. The overall goal of any exercise process is to apply an objective lens to the procedures, resources and tools that make up our community's emergency response system. This exercise met this goal.

Based on the discoveries and confirmations that this exercise produced, future exercise should include short function- based drills as well as more complex multi-departmental, multi-jurisdictional exercises. Emergency operations center capabilities should be emphasized and the interface and interdependencies between vertical and horizontal emergency response entities should continue to be evaluated.

APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for Multnomah County Emergency Management and the City of Gresham Emergency Management as a result of Looming Plume conducted on September 16, 2011. These recommendations draw on both the After Action Report and the After Action Conference.

Table A.1 *Improvement Plan Matrix*

Capability	Observation Title	Recommendation	Corrective Action Description	Capability Element	Primary Responsible Agency	Agency	Start Date	Completion Date
						POC		
Emergency Operations Center Management	1. A common operating picture was never fully established.	1.1 Identify and evaluate the systemic factors contributing to this shortcoming.	1.1.1 Develop continuous improvement training, exercise and planning program that implements the corrective actions in this improvement plan.	Planning, Exercise, Training	MCEM	County Response Readiness Coordinator	1-Dec-11	1-Feb-12
	2. Both EOC and ECC independently demonstrated the ability to transcend organizational differences of staff that do not work routinely	2.1 Hold meets and greets, trainings and exercises.	2.1.1 Share event calendar with all ECC Staff.	Training, Exercise	MCEM	County Response Readiness Coordinator	1-Jan-12	Ongoing
			2.1.2 Share event calendar with all EOC Staff.	Training, Exercise	Gresham EM	Gresham Emergency Manager		
			2.1.3 Develop a	Training	MCEM	County		

	together in order to develop a cohesive team.		basic competencies standard that includes required training to provide professional development guidance and build administrator support for needed training.			Response Readiness Coordinator		
			2.1.4 Develop a basic competencies standard that includes required training to provide professional development guidance and build administrator support for needed training.	Training	Gresham EM	Gresham Emergency Manager		
		2.2 When recruiting, highlight the importance of being a team player.	2.2.1 Draft an ECC participation agreement that outlines expectations.	Organization	MCEM	Deputy for Prep and Plans		
		2.3 Promote organizational and leadership principles in all events.	2.3.1 same as 2.2.1					
		3. The County	3.1. Develop a	3.1.1 Draft ECC	Planning	MCEM	Deputy for	

ECC did not take adequate steps to address appropriate staffing needs. Some of the potential needs were liaison to Gresham EOC, PIO assistance and transportation planning expertise.	checklist that covers the critical decisions of activation.	activation checklist.			Prep and Plans		
		3.1.2 Draft Position Checklist template.	Planning	MCEM	Deputy for Prep and Plans		
		3.1.3 Complete Position Checklists.	Planning	ECC	All ECC Staff	1-Jan-12	1-Mar-12
	3.2 Command and General Staff should ensure that they have appropriate staff to meet the needs of the Incident.	3.2.1 Attend section Specific Training	Training	ECC	All ECC Section Chiefs	1-Jan-12	Ongoing
		3.2.2 Recruit more staff for the ECC.	Organization	MCEM	Deputy for Prep and Plans		
		3.2.3 Develop and implement EOC/ECC section specific training.	Organization	MCEM	Deputy for Prep and Plans		
	4. Good lateral communication in the ECC helped bridge the chaotic needs during the complexity of the initial periods of the incident.	4.1 Training should emphasize the value and interdependence of both formal and informal communication.					
5. Reaching out to Communities Organizations Active during Disasters (COAD) for non-governmental incident support.	5.1 Ensure that there is back up staff that can likewise connect rapidly with COAD						
	5.2 Ensure that						

		contact information for COAD is up to date and accessible.						
	6. The ECC Manager and the EOC Incident Commander did not communicate until nearly the end of the exercise. It is likely that this resulted in the confusion that was experienced in ECC, EOC and the SimCell.	6.1 Essential actions during activation should be outlined in a checklist.	6.1.1 Same as 3.1.1					
	7. A liaison/Agency Rep with Gresham EOC was not established.	7.1. When holding individual training and exercise events, it is advantageous to invite observers from likely partnering agencies.						
	8. Services Branch Director while not present in the ECC was nonetheless part of the organizational structure and could have been better integrated into the Logistics Section.	8.1 Do section specific training that includes managing a group of staff that may or may not be physically together.						

	9. Technology revealed itself as being useful when properly operated and likely valuable with more proficiency.	9.1 Define who is responsible for having high proficiency in operating Bridge.							
		9.2 Define operational use of Bridge between site, command and coordination entities.							
		9.3 Insure that administrative level technology support is available during activation.							
		9.4 Implement short experiential training and exercises for technology familiarization.							
		9.5 Develop and implement section/function based WebEOC training.							
		9.6 Integrate Bridge and WebEOC activities							

		into standard operating procedures and position checklists.						
		9.7 Consider “low tech” alternatives for gathering and displaying information during the initial activation phase.						
		9.8 Consider sharing technical expertise through mutual aid practices.						
	10. Regularly scheduled briefings.	10.1 Provide training that helps differentiate “planning p” briefings and other types of briefings.						
	11. ECC SITREP did not include contingency planning.	11.1 Define a process for contingency planning that supports tactical planning.						
		11.2 Build a template that facilitates the construction of contingency plans.						
		11.3 Ensure that						

		initial communication between coordination entities identifies strategic, operational and contingency planning scopes and parameters.						
12. Issues related to school evacuations and sheltering were not shared between the EOC and ECC.	12.1 Review Emergency Operations Plans.	12.1.1 Orient ECC staff to County EOP.	Exercise	MCEM				
		12.1.2 Orient EOC staff to the Gresham EOP including School Crisis Management Functional Annex.	Exercise	Gresham EM	Gresham Emergency Manager			
	12.2 Integrate cross-jurisdictional complexities into exercises to build experience determining interdependencies.							
13. The use of the planning section Sitstat was underutilized. Situation information was not gathered into one central location.	13.1 Provide training to all EOC/ECC staff on the process of sharing critical information with the Situation Unit Staff.							
	13.2 Encourage							

		informal and lateral communication between the EOC/ECC staff and the Situation Unit.							
		13.3 Provide visual communication training for Situation Unit staff including both manual and technological mediums.							
	14. EOC and ECC Finance Sections were well coordinated and forward leaning.	14.1 Ensure that finance section expertise is sustained and that there is adequate depth in personnel able to meet the challenge of dual emergency response and routine business roles.							
Citizen Evacuation and Shelter in Place	1. Followed protocols for shelter in place.								
	2. Transportation needs for homeless population and assisted living facilities were	2.1 Mental Health resources that may be deployed for an incident should have basic ICS training.							

	coordinated.	2.2 Social and Health Service capabilities that may be needed during an incident should be pre-identified, categorized and evaluated.						
		2.3 Consider the development of combined Social and Health Services Strike teams.						
		2.4 Consider including disaster response requirements in service provider contracts.						
	3. The ECC and EOC experienced challenges producing and sharing a traffic plan for the incident.	3.1 Develop a traffic plan template that meets basic requirements.						
		3.2 Establish an agreement on drawing tool conventions that would be used on Bridge.						
Emergency Public Information	1. Call center staff at Gresham EOC was given limited guidance on call	1.1 Develop a quick reference tool or flow chart that helps call						

center procedures and talking points.	center staff route calls appropriately.						
2. Integration of social media into the emergency management organization brings up questions about planning, staffing and placement into ECC/EOC organization.	2.1 Engage with partners to explore possible strategies to integrate social media into the incident management organization.						
	2.2 Explore enhancing the situation unit within the planning section to include tracking trends during a crisis.						
	2.3 Recruit additional staff to the PIO responsible for capturing and disseminating information via social media.						
3. Availability to translating resources was revealed to be limited to standard work hours and routine priority.	3.1 Review translating resources list. Identify gaps in resource availability and pursue resolution of gaps in translating resources.						

		<p>3.2 Create a Memorandum of Understanding (MOU) with agencies identified for translating resources that include 24/7 and on call access, a variety of mediums, and expertise in the critical languages within the county.</p>						

APPENDIX B: PARTICIPANT FEEDBACK SUMMARY

PARTICIPANT FEEDBACK FORM

Exercise Name: Looming Plume

Exercise Date: 09/19/11

Participant Name: _____

Title: _____

Agency: _____

Role: ___ Player ___ Observer ___ Facilitator ___ Evaluator

PART I: RECOMMENDATIONS AND CORRECTIVE ACTIONS

1. Based on the exercise today and the tasks identified, list the top 3 strengths and/or areas that need improvement.

2. Is there anything you saw in the exercise that the evaluator(s) might not have been able to experience, observe, and record?

3. Identify the corrective actions that should be taken to address the issues identified above. For each corrective action, indicate if it is a high, medium, or low priority.

4. Describe the corrective actions that relate to your area of responsibility. Who should be assigned responsibility for each corrective action?

5. List the applicable equipment, training, policies, plans, and procedures that should be reviewed, revised, or developed. Indicate the priority level for each.

PART II – EXERCISE DESIGN AND CONDUCT: ASSESSMENT

Please rate, on a scale of 1 to 5, your overall assessment of the exercise relative to the statements provided below, with **1** indicating **strong disagreement** with the statement and **5** indicating **strong agreement**.

Table C.1: Participant Assessment

Assessment Factor	Strongly Disagree		Strongly Agree		
a. The exercise was well structured and organized.	1	2	3	4	5
b. The exercise scenario was plausible and realistic.	1	2	3	4	5
c. The facilitator/controller(s) was knowledgeable about the area of play and kept the exercise on target.	1	2	3	4	5
d. The exercise documentation provided to assist in preparing for and participating in the exercise was useful.	1	2	3	4	5
e. Participation in the exercise was appropriate for someone in my position.	1	2	3	4	5
f. The participants included the right people in terms of level and mix of disciplines.	1	2	3	4	5
g. This exercise allowed my agency/jurisdiction to practice and improve priority capabilities.	1	2	3	4	5
h. After this exercise, I believe my agency/jurisdiction is better prepared to deal successfully with the scenario that was exercised.	1	2	3	4	5

PART III – PARTICIPANT FEEDBACK

Please provide any recommendations on how this exercise or future exercises could be improved or enhanced.

APPENDIX C: ACRONYMS

Table F.1: Acronyms

Acronym	Meaning
AAC	After Action Conference
AAR	After Action Report
COAD	Community Organizations Active During Disasters
ECC	Emergency Coordination Center
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
FSE	Full Scale Exercise
GL	General Ledger
GPM	Gallons Per Minute
HM3	Hazmat 3
ICP	Incident Command Post
ICS	Incident Command System
IP	Improvement Plan
IT	Information Technology
JIC	Joint Information Center
K12	Kindergarten through 12 grade
MAC	Multi-Agency Coordination
MCEM	Multnomah County Emergency Management
MOU	Memorandum of Understanding
NIMS	National Incident Management System
PIO	Public Information Officer
SIMCELL	Simulation Cell
SITREP	Situation Report
WMD	Weapons of Mass Destruction