Standards of Coverage for Regional Hazardous Material Emergency Response Teams

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February 2006

ACKNOWLEGEMENTS

The Office of State Fire Marshal would like to thank everyone involved in the development of these Standards of Coverage for Regional Hazardous Material Emergency Response Teams. Our gratitude is extended administrators, hazardous material team members and support staff who contributed to the success of this project.

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Special appreciation goes to Chief Jeff Johnson and the staff at Tualatin Valley Fire and Rescue who were made available to assist the Regional Hazardous Material Emergency Response Teams in the compilation of data, formatting, and editing of these Standards of Coverage.

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SECTION ONE:
Introduction

REGIONAL HAZARDOUS MATERIAL EMERGENCY RESPONSE TEAMS

In 1989 the Oregon Legislature directed the Office of State Fire Marshal (OSFM) to establish a statewide hazardous materials emergency response system to respond to hazardous materials incidents that are beyond the capability and resources of local communities. At the time, there were few departments in the state that were capable of responding to hazardous materials incidents. The concept of a statewide system of adequately trained and equipped regional response teams was considered the most economical solution for the state, local communities, and industry. The program was designed to create a partnership among industry, which funds the system; local governments that provide response services and resources; and the State which provides administration and support for the system.

In order to establish the structure for this model system, the Office of State Fire Marshal reviewed available data about hazardous materials risks in the state of Oregon. Available data included:

- Reported hazardous materials incidents.
- Reported chemical inventories from a survey of 14,720 Oregon firms.
- Special study conducted by the Public Utility Commission that listed quantities of hazardous materials transported into and through the state.

Other factors considered were:

- Population density.
- Response distances.
- The presence of existing hazardous materials resources.
- Environmental risks.

Based on this data, ten response regions were identified statewide to assure timely response to hazardous materials incidents within a maximum of two hours.

A Request for Proposal (RFP) was developed by the Office of State Fire Marshal, providing a starting point to begin the developmental and contracting phase of establishing the system. Approximately 1300 RFP's were distributed to public agencies statewide, generating 19 proposals.

It was recognized that the fire service was the best fit group of responders in carrying out the role in providing the highest level of service for the hazardous materials response program. The rationale, which determined the finality of that decision, was based on the several of the following conditions:

1. Communications: Fire service agencies work together under a common Incident Management System. This structuring allows for common understanding in functioning under command and control situations. Furthermore, the Oregon fire service maintains the ability to integrate radio communication within one or more commonly found communication channels throughout the state. This interoperability allows for the rapid transmission and reception of verbal radio communication.

2. Incident Management System: A vast majority of fire departments throughout the State operate utilizing a nationally recognized communication and management plan. These incident management capabilities allow for common understanding of mission objectives thus creating a safer working condition throughout the incident. It was also recognized that many of the fire department leaders and crews interface periodically throughout the year at training events or State conflagration responses.

3. Fire departments are known to be a diverse group of first responders providing a variety of first response operations, and basic and technical services. These agencies are also equipped to deal with emergency medical related issues which are typically found at hazardous materials incidents.

The culmination of these and other reasons solidified the decision of the Office of Fire Marshal to select strategically located fire agencies to support the hazardous materials response mitigation programs within their regions.

Based on the two-hour response criteria, 15 teams were located strategically around the state. The rural southeastern portion of the state is the only area where response was not available within the two hour maximum. Due to low population in the area local agencies were unable to provide the personnel and resources to support a team. The physical location of the regional response teams was determined based on the information provided by interested agencies through the RFP, and negotiations between the Office of State Fire Marshal and those agencies. Because of geographic size, three of the regions ultimately required more than one team to provide the desired two-hour response. Location of the 15 teams assures that hazardous materials incidents occurring in most rural areas of the state, where the risk of incidents is lower, are responded to by at least one team within two hours. Incidents that occur in urban areas of the state, where the risk of incidents is higher, are responded to, in most cases, within one hour. This document provides further analysis and details the methodology used in determining the response team numbers, locations, and performance goals.

PROGRAM EXPANSION

Since 1992 the City of Salem funded and operated a hazardous material emergency response team which provided response within their local jurisdiction and the cities watershed area in the Santiam Canyon. The Office of State Fire Marshal was directed by the Governor's Office to request budgetary authority in the 2001-2003 biennium budget to add the Salem team to the State's regional response system. The team began responding as a regional team February 1, 2004.

The growth of this additional team was born out of a request by the Office of the Governor to enhance response capabilities for the capitol city.

STATUTORY AUTHORITY

In 1989, the Oregon Legislature authorized the Office of State Fire Marshal to establish a statewide hazardous materials emergency response system in ORS 453.374-453.390.

FUNDING MECHANISM

The State of Oregon's Regional Hazardous Material Emergency Response Team (RHMRT) program is funded through the Petroleum Load Fee authorized in ORS 465.101-465.127. The fee is collected each time a load of petroleum products is withdrawn from a bulk facility, or imported into the state. The fee is currently set at $2.50 per load.

PURPOSE

In general, the purpose of this Standards of Coverage document is to address the following:

- What are the types of risk factors within the State of Oregon related to hazardous materials incidents?
- What is the risk profile of the State of Oregon, and are the current level of resources adequate based on applicable laws, standards, and expertise of the OSFM?
- How does the State of Oregon RHMRT retrospective performance compare with previously established goals?
- If there are performance deficiencies, what are they, and how might they be addressed?

Specifically, this Standards of Coverage will help the State of Oregon Office of Homeland Security answer the following questions:

- Are changes necessary in the location, number, or size of Regional Hazardous Material Emergency Response Teams?

- Do the RHMRT's have the equipment, resources and support system they need to adequately meet the performance expectations set forth in this document?
- What does the demand for service in each area look like?
- What should the Response Team's staffing and response time goals be?

The format of this document is based on the State of Oregon's Standards of Response Coverage, a critical element of the accreditation process of the Commission on Fire Accreditation International (CFAI). "Standards of Response Coverage" are those written procedures that determine the distribution and concentration of the fixed and mobile resources of a fire and EMS organization. These standards have been adopted to address the State of Oregon Regional Hazardous Material Emergency Response System. These standards include several key points, include a section for each point, and additional sections for future goals.

The Standards of Coverage are developed through the evaluation of RHMRT present practices, regulatory requirements, historical response data, and a comprehensive risk analysis conducted biennially by the Oregon State Fire Marshal's Office. The results of these analyses are then used to make formal statements of the level of service that the RHMRT could be expected to deliver.

SECTION TWO:
Standards, Goals, and Objectives

MISSION STATEMENT

The mission statement of the State of Oregon's Office of State Fire Marshal is: *Protecting life, property and the environment from fire and hazardous materials.*

STANDARDS

For the purposes of measurement and quantification of data, anything listed in this document as an **"RHMRT Standard"** shall be considered achievable with current physical resources, staffing, and levels of funding. Anything that affects the Regional Hazardous Material Emergency Response Team funding, staffing, or resources in an adverse manner will have a negative effect on deployment standards, and will require an immediate analysis in order to make appropriate adjustments to the Standards of Coverage.

SERVICE DELIVERY GOALS

Goals are measurements or quantifications related to staffing and response times that are not currently achievable, but rather are desired levels of future performance. When included with an RHMRT standard, the goal (or desired status) will be referenced in Section Eight and the following information will be provided in a separate attachment for every goal after they have been developed, reviewed, and approved by the RHMRT Operations Manager and the Oregon State Fire Marshal's Office:

Rationale – May include national, regional, or local standards used to establish goal.

Conformity to Risk Analysis – A brief report or statement confirming that the desired goal is applicable to the RHMRT, considering the State's current resources, risk analysis, and perceived ability to add infrastructure, staffing, or equipment.

Estimated Cost – For implementation of goal (for example, if additional equipment is required, estimate costs of such equipment).

Time Frame – Desired timeline for implementation of goal.

SECTION THREE:
Risk Assessment

RISK ASSESSMENT METHODOLOGY

A comprehensive risk assessment traditionally consists of an analysis associated with demand, probability, and consequence. For some elements, such as demand (the number of calls received throughout the State), objective data is available. For others, such as probability analysis, judgment requires data, trend analysis, and expertise related to hazardous materials emergencies and response.

Risk itself is not a fixed attribute of any particular situation, but instead is constructed from past experience and present circumstance, and conferred upon current events. There are many theories related to risk, social policy, and the acceptance of consequences. For the purposes of this analysis, demand and probability will be framed by retrospective response data combined with a careful review of known extenuating factors.

It is important to mention that the elimination of all risk is impossible. Therefore, we are always faced with the situation of “residual risk”. Those who adjust the “sensitivity” of the system (e.g., determine priorities for funding and deployment) allocate risk and determine the acceptable level of residual risk. This is typically based on a risk-benefit-cost analysis, and is directly related to the resources that are readily available to help lessen risk.

In broad terms, then, the State of Oregon utilizes this document to construct an analysis of risk within the State, and to allocate resources based on their understanding of the consequences and level of residual risk.

Establishment of response performance standards must include consideration of many extenuating subjective factors, such as the topography and the transportation network over which emergency responders must travel in order to meet the demands for service, the nature of emergency response activity. Remember that quantification of risk requires both *subjective* and *objective* factor analysis. Objective factors, for this study, are identified by evidence-based research, data analysis, statistical information, and other verifiable and reproducible material. Subjective factors are typically assessed as interpretation of unclear data, non-expert perception, future projections, or anecdotal evidence.

The risk assessment makes it possible to develop rational resource deployment strategies, and to identify what types of residual risk would be most probable. Simply, the goal of the

risk assessment process is to determine the ***probability*** of an event occurring, as well as the ***potential consequences*** (hazard assessment) of that event. From this analysis, OSFM determines resource distribution and performance goals.

RISK ASSESSMENT OVERVIEW

Serving the entire state of Oregon presents unique challenges due to the diversity of geography, topography, demographics and hazards. Additionally, hazardous materials incidents do not occur with the same predictability of fires or medical calls. It is much more difficult to predict the scale, frequency or location of hazardous materials incidents.

Through commodity studies we know that hazardous substances are stored, used or transported in virtually every part of the state. Therefore a state-wide hazardous materials response system needs to be designed to respond to an incident anywhere in the state. However, since the concentration of substances, transportation and populations are located in urban areas; we also know that risk is generally highest in these areas. Therefore the system must take into consideration the importance of allocating resources to ensure a timely response in these urban areas, while still protecting the rural areas. A traditional city fire department places companies in close proximity within its urban core, and with lesser concentration of resources as the neighborhoods become more suburban or urban. The RHMRT system is designed in much the same manner.

TOPOGRAPHY

The State of Oregon consists of diverse topography. The state includes the Pacific Ocean coast line, major rivers, mountains, dense forests, deserts, major rivers and a variety of other topographical areas. RHMRT's must be flexible enough to respond to an emergency incident in virtually any type of topographical area found in the Western United States.

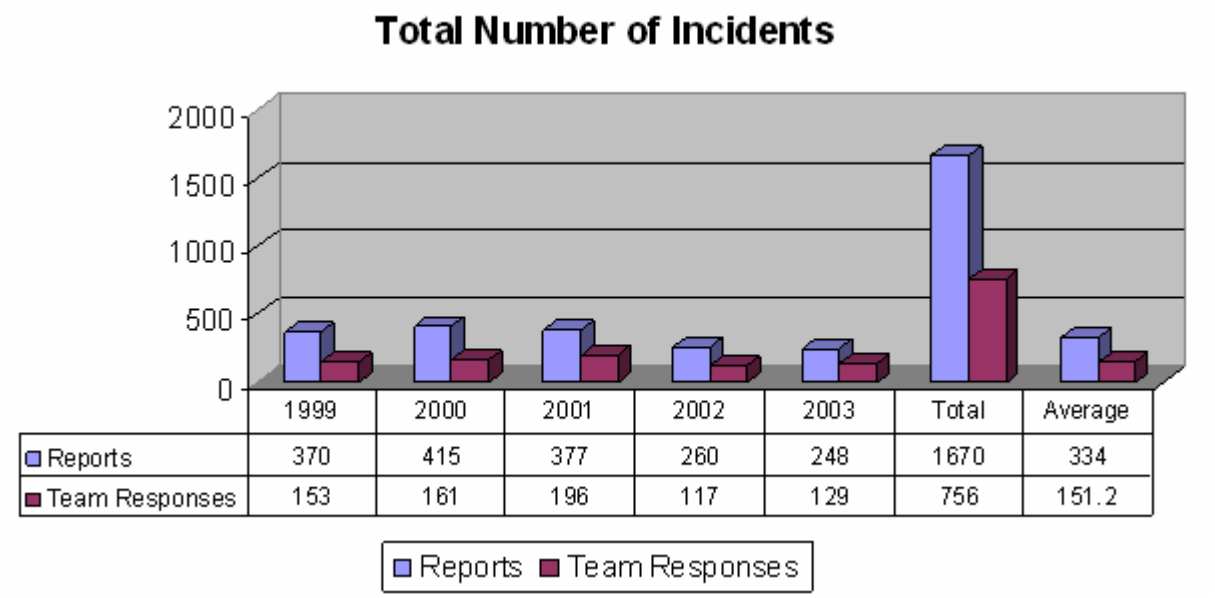
DEMOGRAPHICS

According to 2003 US Census estimates, there are more than 3.5 million people living in the state of Oregon. The RHMRT system is designed to provide protection to the entire population.

DEMAND – GENERAL ANALYSIS

The volume of hazardous materials incidents requiring activation of State Teams has remained fairly constant over the past five years, averaging more than 150 RHMRT activations each year. Figure 3.1 outlines the calls per year.

Figure 3.1



PROBABILITY – GENERAL ANALYSIS

During calendar years 1999 through 2003, OSFM RHMRT's responded to 756 incidents. This equates to one incident requiring activation of State RHMRT's every 2.4 days in Oregon.

The probability of any type emergency event is arrived at by looking at "Demand" first. Demand is the total volume of all incidents, and the probability in this analysis equates to what *type* of incident will likely occur, the *frequency*, and at what *time* of day the incident occurred. This is arrived at through a retrospective analysis of response data.

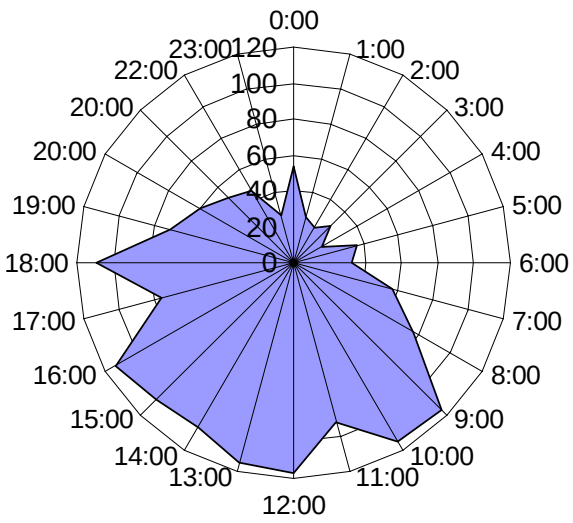
DEMAND AND PROBABILITY - TEMPORAL ANALYSIS

Temporal Analysis: The chart shown below (Figure 3.2) uses a visual aid known as the "radius graph" to display the temporal distribution of calls using the same classification scheme utilized for the frequency analysis. From a review of this graph, the times of day at which events are likely to occur can be ascertained.

The data clearly shows that the vast majority, but not all, hazardous materials incidents occur, between 0900 and 1800 hours. This is due to a variety of issues, such as business operating hours, drug lab raids occurring during the day, traffic congestion, accident peak hours, etc.

Figure 3.2

Incidents by Time of Day

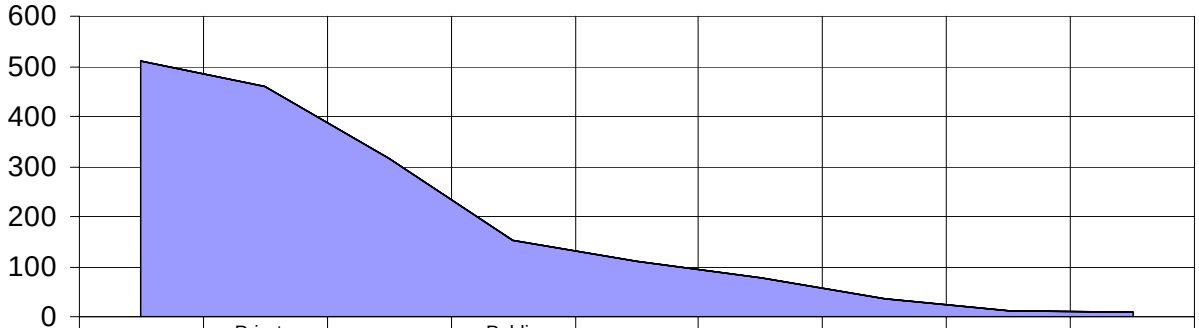


LOCATION TYPE

The chart below (Figure 3.3) identifies the type of location incidents have occurred over the five-year period analyzed. The most common location is public roads followed by private property.

Figure 3.3

Incident by Scene Type for 5 year period, 1999-2003



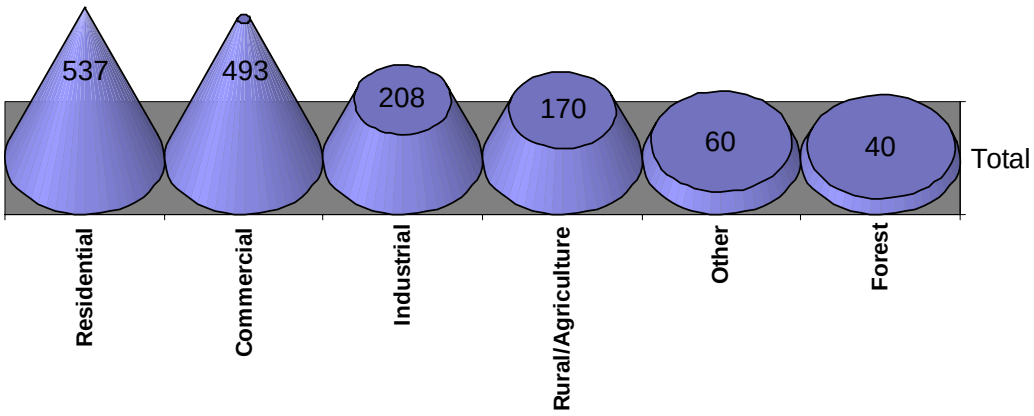
	Public Road	Private Structure	Private Land	Public Structure	Waterway	Public Land	Private Road	Other	Forrest
Percentage	0.30	0.27	0.19	0.09	0.07	0.05	0.02	0.01	0.00
Total Incidents	509	459	315	152	111	79	36	11	8

PROPERTY/STRUCTURE TYPE

Figure 3.4 shows the type of area or structure in which incidents occurred over the five-year period from 1999 to 2003. We can learn from this data that residential is the most common type of structure or property type where incidents are likely to occur. This is explained by the large number of houses discovered being used for illegal drug manufacture (mostly methamphetamines). Second is commercial property followed by industrial and rural.

Figure 3.4

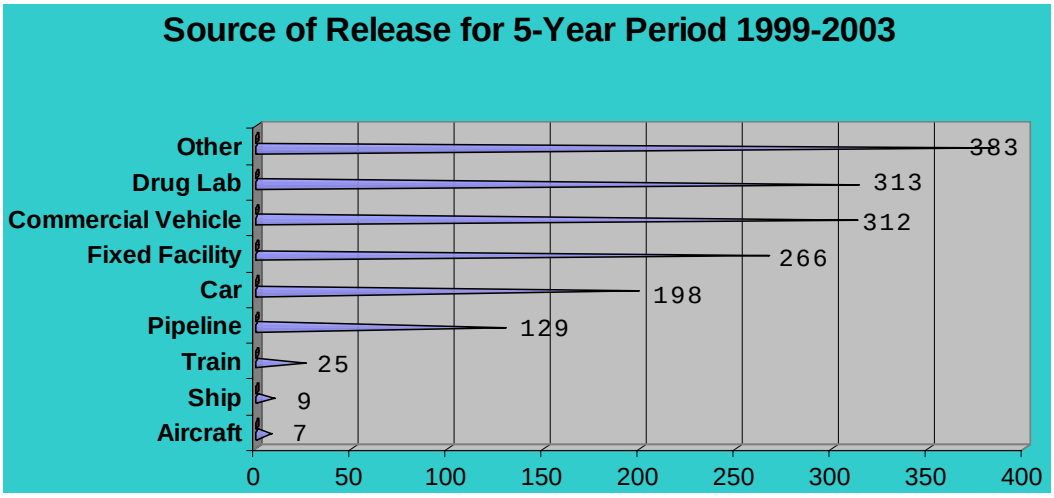
Incident by Area Type for 5-Year Period 1999-2003



RELEASE SOURCE

Figure 3.5 illustrates the source of release of the incidents. This data demonstrates that a variety of sources are the sources for chemical releases. The primary sources include drug labs, commercial vehicles, fixed facilities, pipelines, and other sources.

Figure 3.5

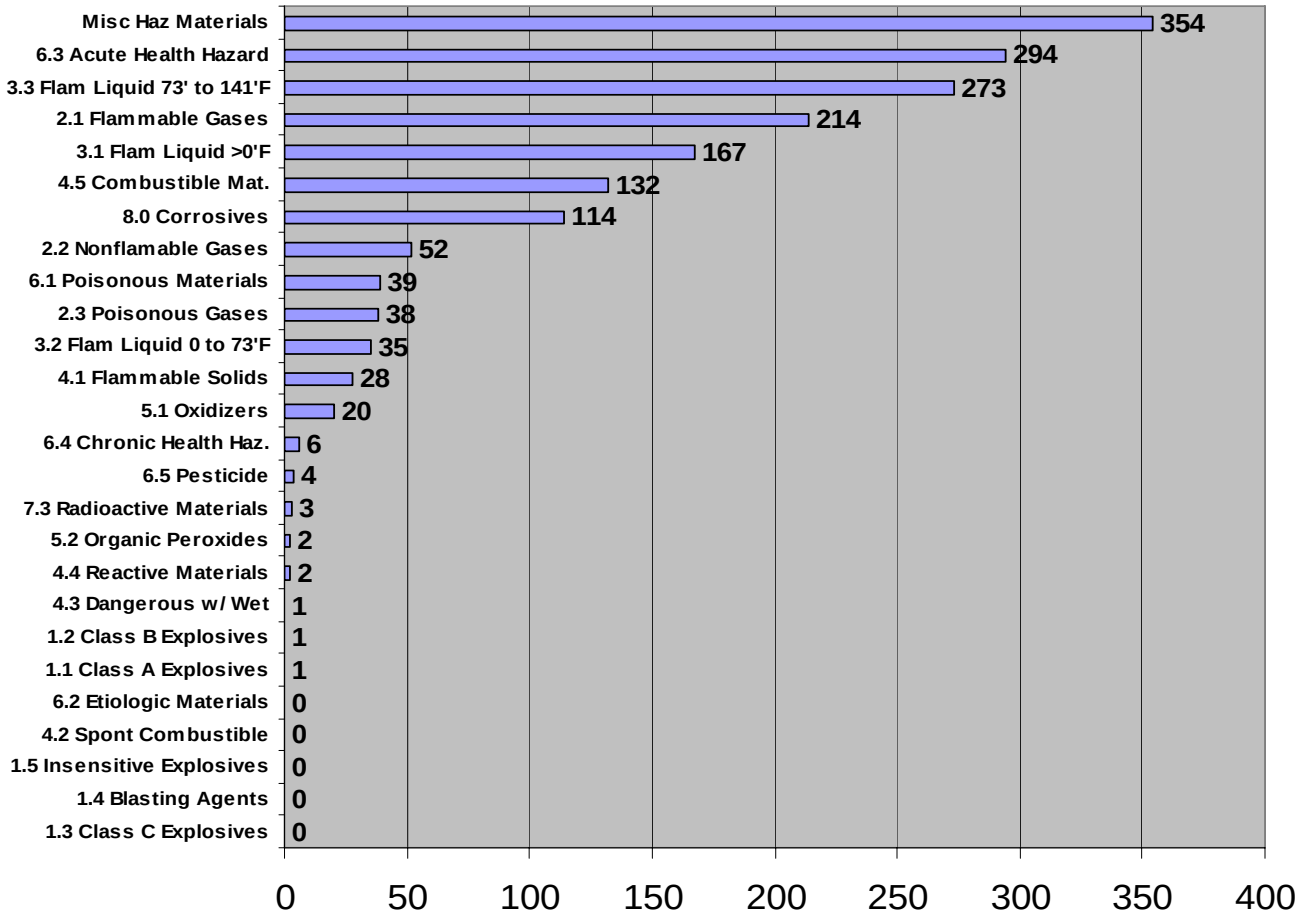


HAZARDOUS SUBSTANCES

The chart below (Figure 3.6) shows the type of hazardous substance incidents responded to over the prior five-year period. This data demonstrates that a variety of hazardous substance classes are likely to be involved.

Figure 3.6

Incidents by Hazard Class for 5-Year Period 1999-2003



COMPUTATION OF RISK – RISK VALUES

The risk from hazardous materials incidents varies incredibly over such a large and complex geographical area as the State of Oregon in which a variety of substances can be found in varying quantities in a variety of populated areas with a variety of environmental and economic risk factors.

Associated “Risk Values” in the urban and suburban areas have an increased concentration of such risk due to the increased population and denser infrastructure in those areas.

DEMAND ZONES

Due to the immense complexity of potential hazardous materials scenarios, Demand Zones for the RHMRT system have been simplified to coordinate with population zones defined in the State EMS system: Urban, Suburban (which is called “mixed”), Rural and Frontier. While it is virtually impossible to predict the exact nature and severity of hazardous substance incidents, particularly with the increased threat of terrorist attacks, we do know that population centers bring increased risk. This is due to the increased potential for injuries, as well the increased use of hazardous materials in populated areas. Therefore the OSFM chose to use population densities to determine Demand Zones.

The Oregon State Fire Marshal’s Office has evaluated its risk profile and classified its service areas into four distinct Demand Zones, which are based on similar regulations as the Emergency Medical Service (EMS) regulations. These regulations, found in *ORS 333-200-0080 Standards for Area Trauma System Plans*, classify areas by population density (See Figure 3.7), classify counties under this system (Figure 3.8), and summarize percentages of Oregon population residing in each area (Figure 3.9).

The Demand Zones utilized in this Standards of Coverage are based on the *Demand*, *Type of Risk*, *Probability* and *Consequences* within each Demand Zone.

Urban Area Demand Zone

All areas classified in the “Urban Area” are an incorporated community of 50,000 or more in population. These areas typically have a fairly high density of industrial, commercial, and residential structures. Urban Area Demand Zones have the following characteristics:

- High Demand: Over 90% of all demand originates within the Urban Area Demand Zone.
- An increased volume of special risk structures that deal with hazardous materials.
- Population Density: Because of the Urban Growth Boundary (UGB), population densities are highest within the areas of this zone.

Suburban Area Demand Zone

Areas classified as “Suburban Areas” by OSFM include mainly areas just outside densely populated Urban Areas. Though not urban by definition above, they are typically contiguous to an urban community. It includes the area within a ten-mile radius of that community's center. It also includes areas beyond the ten-mile radius which are

contiguous to the urban community and have a population density of 1,000 or more per square mile.

Suburban Area Demand Zones still contain substantial human, property and environmental risks. The OSFM has tried to provide a consistent service level to these communities, even if these levels of coverage may exceed actual risk and demand.

Rural Area Demand Zone

Areas classified as “Rural Areas” are truly the rural areas of the State of Oregon. These areas primarily contain agricultural land and associated structures and infrastructure with risk profiles lower than that of the Urban Areas. For the most part, these areas are served by RHMRT’s with 24/7 coverage from career firefighters, however may rely more heavily on volunteer personnel that would be on scene well before any RHMRT. Rural Area Demand Zones are a geographic area ten or more miles from a population center of 50,000 or more, with a population density of greater than six persons per square mile

Frontier Area Demand Zone

These are areas of the State with a population density of six or fewer persons per square mile and are accessible by paved roads. The risk profiles of this region are the lowest of all the above categories. Depending on the location of the incident, the RHMRT’s that service these areas experience a much longer response time than that of the more densely staffed Urban/Suburban teams of the metro areas of the State.

Figure 3.7

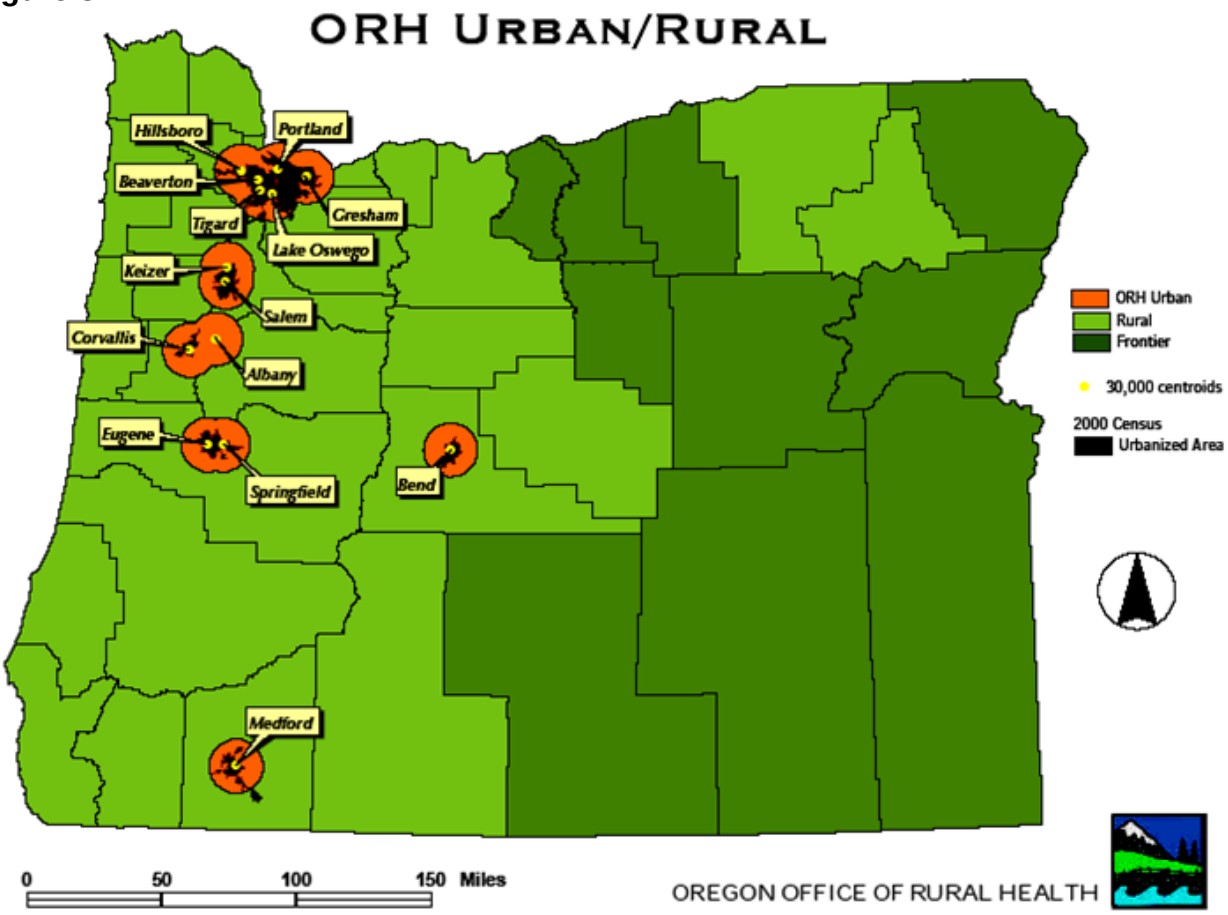

ORH URBAN/RURAL
Hillsboro
Portland
Beaverton
Gresham
Tigard
Lake Oswego
Keizer
Salem
Corvallis
Albany
Eugene
Springfield
Bend
Medford
ORH Urban
Rural
Frontier
30,000 centroids
2000 Census
Urbanized Area
0
50
100
150 Miles
OREGON OFFICE OF RURAL HEALTH

Figure 3.8

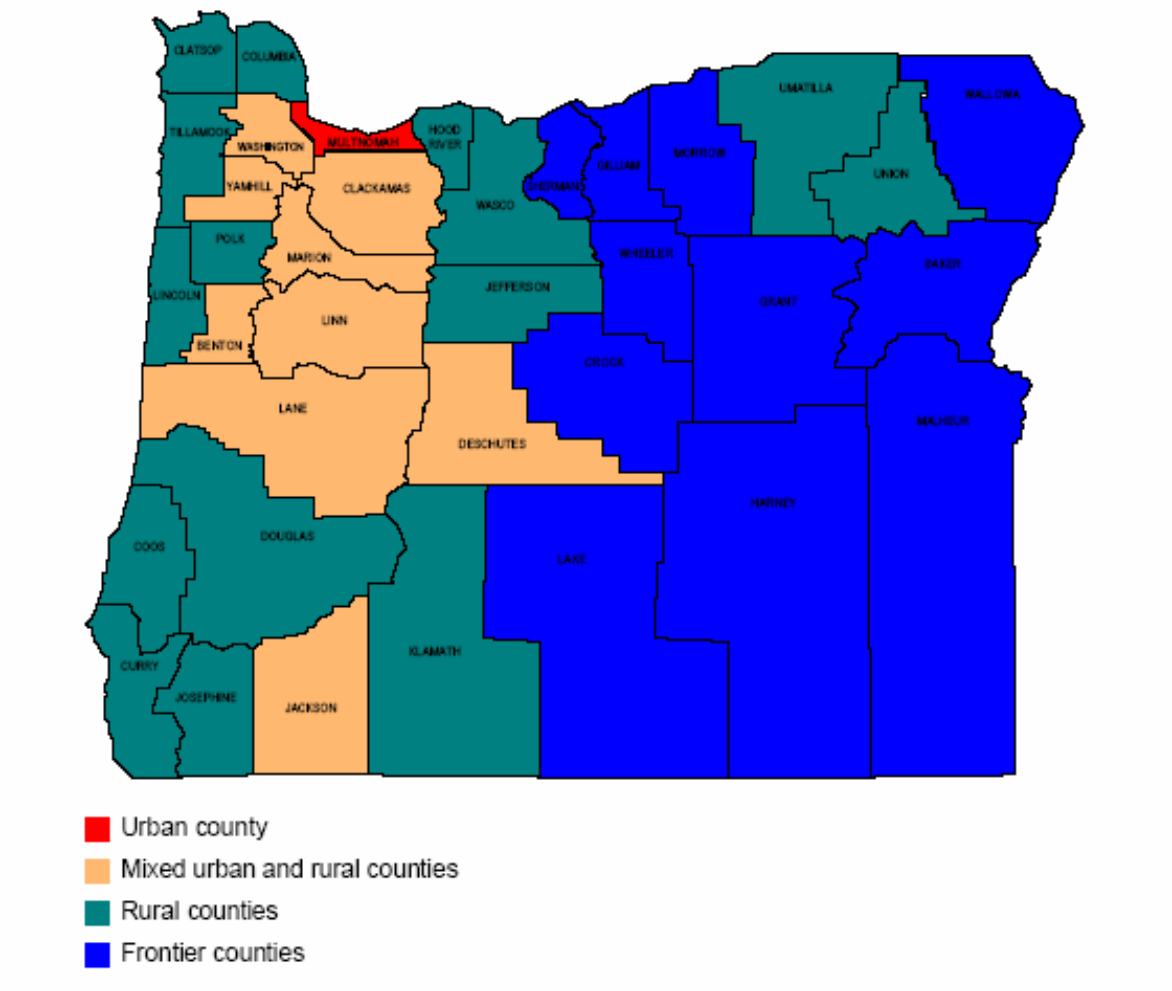
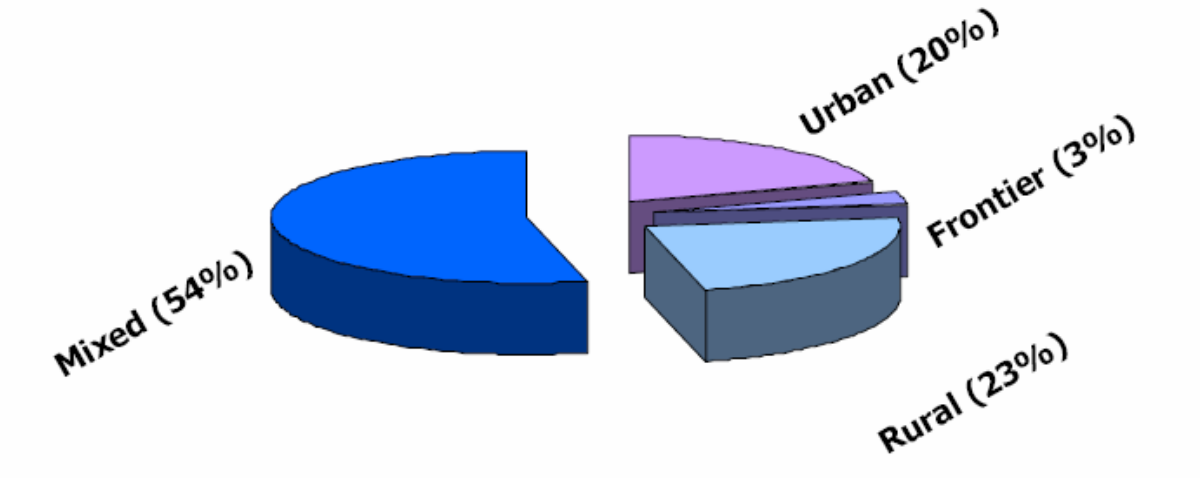


Figure 3.9



RISK ASSESSMENT SUMMARY

The risk assessment analysis identified a vast array of incidents that have occurred, and are likely to occur in the future. The wide variety of geography, hazardous substances, locations and property types that are found in incidents in Oregon necessitate a simple method of establishing risk. Therefore the RHMRT system assigns Demand Zones based on the most reliable constant factor, population density. This is identical to the methodology used in the State to establish Demand Zones for Emergency Medical Services.

Based on this risk analysis, the RHMRT system should expect a steady increase in the number of emergencies that units respond to. This will relate to longer “scene” times and therefore relate to decreased response reliability for teams within the zones that they cover. With an ever increasing population, increased urban and suburban densities, the demands of the RHMRT system will continue to increase.

SECTION FOUR:
Time and On-Scene Performance Expectations

HAZARDOUS MATERIALS RESPONSE PERFORMANCE OVERVIEW

Rapid and effective performance of assigned tasks is the hallmark of an effective response force. Given the risk profile established in Section Three, time and on-scene performance expectations are the target indicators established for operational elements that comprise the RHMRT system.

It should be noted that there are no nationally recognized performance standards for hazardous material response systems. This is likely a reflection of the complexity and vast variety in the types of hazardous materials risks and hazards. Therefore, the OSFM has had to develop response time performance standards specific to the geography, hazards, and response capabilities present in Oregon.

REGULATORY OVERVIEW

The Federal Occupational Health and Safety Act (Fed-OSHA) and State of Oregon OSHA rules dictate hazardous material responder safety and have established minimum standards associated with communications, safety officers, incident command, equipment, and most significantly, parameters that equate to minimum staffing for response to hazardous materials incidents requiring offensive actions be taken (as opposed to defensive actions only, such as damming or diking, where direct contact with hazardous materials is not necessary).

The RHMRT system provides for statewide hazardous materials emergency response (OSHA Technician level) coverage in hazardous materials events that overwhelm local responders and resources. These teams respond at a local emergency response provider's request when a situation exceeds their scope of training (usually OSHA Operations level) or resources. Generally speaking, the difference is that Operations level training allows only defensive actions. If an incident requires that offensive actions be taken (plugging, patching, etc), these actions must be performed by a Technician level responder which are what the State Teams provide.

Hazardous material emergency response standards are derived mainly from 29 CFR 1910.120(q) under the auspice of the Occupational Safety & Health Administration (OSHA). OSHAs ability to enforce their standards in a legal venue holds emergency responders accountable to their standard. There are many supporting standards researched and published by other non-enforcement organizations or agencies. These agencies/organizations conduct research with industry and interested parties. They then

come to a consensus and publish their accepted practices. The National Fire Protection Agency (NFPA) is an example of such an organization. These findings are usually in concurrence with other published findings and relevant laws or regulations.

Hazardous material emergency response legislation has become wide-ranging within the last 40 years. Laws have evolved so that most aspects of hazardous materials have a legislated mandate for users to follow. Subsequent is a listing and explanation of some of these important laws regarding hazardous material emergency response.

Oregon has adopted the national OSHA standards into OR-OSHA standards, which they must do at a minimum when operating a state OSHA division. OSHA promulgated regulations, titled *Hazardous Waste Operations and Emergency Response*, as 29 CFR 1910.120. These regulations are commonly referred to by the acronym "HAZWOPER".

SCOPE OF HAZWOPER

The scope of HAZWOPER addresses five different operations:

- Clean-up operations required by a governmental body conducted at uncontrolled hazardous waste sites.
- Corrective actions involving clean up operations at Resource Conservation and Recovery Act (RCRA) sites.
- Voluntary clean up operations at uncontrolled hazardous waste sites.
- Operations involving hazardous wastes conducted at treatment, storage, and disposal facilities (TSDFs).
- Emergency response operations for releases of, or substantial threats of releases of, hazardous substances without regard to the location of the hazard.

29 CFR 1910.120 (q) and its "Appendix A": This portion of 29 CFR 1910.120 covers employers whose employees are engaged in emergency response no matter where it occurs. It is one of the ***primary*** standards used in hazardous materials emergency response.

29 CFR 1910.134 (g) (4): This portion of 29 CFR 1910.134 relates to the "two-in, two-out" provision instituting the need for backup personnel whenever operating in an Immediately Dangerous to Life or Health (IDLH) atmosphere. Primarily quoted in fire suppression activities, this standard crosses into emergency hazardous materials response.

(EPA)Title 40 Protection of Environment CFR 311.1: This standard states that substantive provisions found at 29 CFR 1910.10 on and after March 6, 1990, and before March 6, 1990, found at 54 FR 9317 (March 6, 1989), apply to state and local government employees engaged in hazardous waste operations, as defined in 29 CFR 1910.120(a), in states that do not have a state plan approved under section 18 of the Occupational Safety and Health Act of 1950.

Many of the OSHA laws also adopt or reference nationally recognized standards. These standards essentially establish another layer of compliance with which RHMRT's must comply. To help regional teams maintain compliance with the array of regulatory requirements, task performance standards are established by the Oregon State Fire Marshal HazMat Teams Training Advisory Committee (TTAC), and are evaluated annually through team competency self-evaluations. These performance standards reflect a number of essential competencies established by the National Fire Protection Association (NFPA), the Oregon Department of Occupational Safety and Health Administration (OR-OSHA), and others. The following is a list of some of these consensus standards.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS

NFPA 471 – Recommended Practice for Responding to Hazardous Materials Incidents

This standard applies to all organizations that have responsibilities when responding to hazardous materials incidents and recommends standard operating guidelines for responding to such incidents. It specifically covers planning procedures, policies, application of procedures for incident levels, personal protective equipment (PPE), decontamination, safety, and communication. Many of the recommendations in this standard are based on federal laws and regulations in effect at the time of adoption. Therefore, users should review the current laws and regulations that may have been changed. The purpose of this standard is to outline the minimum requirements that should be considered when dealing with responses to hazardous materials incidents and to specify operating guidelines for responding to these incidents These standards were developed at the same time as 29 CFR 1910.120. Both the federal and NFPA standards were revised and amended several times. These amended standards were adopted and issued to each state for implementation.

NFPA 472 – Standard for Professional Competence of Responders to Hazardous Materials Incidents

This standard identifies the competencies required of responders at various levels to hazardous materials incidents. It specifically covers the requirements for first responders at the awareness and operations levels, materials technician, and hazardous materials specialist. The key to achieving a given level of competency is initial training and continuous training thereafter. There are many variables involved with training, such as

abilities of the trainer and trainee, and the quality, intensity, and frequency of the instruction; therefore, no set number of specified hours is indicated. Instead, the standard specifies the minimum level of competence for those who will respond to hazardous materials incidents.

NFPA 473 – Standard for Competencies for EMS Personnel Responding to Hazardous Materials Incidents

This standard identifies the competencies required of Emergency Medical Responders at hazardous materials incidents. It specifically covers the requirements for EMS/HM Responders at the Level I and Level II designation. Level I responders execute their duties within the "cold zone" of a hazardous materials incident where individuals/victims no longer pose a significant risk of secondary contamination. Level II responders execute their duties within the "warm zone" of a hazardous materials incident where individuals/victims may pose a significant risk of secondary contamination. In addition, they are able to coordinate EMS activities at a hazardous materials incident and medically support hazardous materials team response personnel.

NFPA 1500 – Standard for Fire Department Occupational Safety & Health Program

This standard outlines the competencies for departments to follow when implementing an internal safety and health program. It has provisions dealing with hazardous materials response personnel in regards to training, procedures, and equipment used at hazardous materials (HazMat) emergency incidents.

MEASURES

Careful definition of terminology is essential to any conversation about response performance standards. It becomes even more critical when an organization attempts to benchmark its performance against other providers. The following definitions are standardized for discussion of response performance parameters within the document:

TIME POINTS AND TIME INTERVALS

The response performance continuum is composed of the following time points and time intervals:

> RHMRT Notification: The point at which a regional team is notified, either by a local dispatch center or through the Oregon Emergency Response System (OERS).
>
> Arrival (or On-Scene) Time: The point at which the responding unit arrives on scene. Arrival is determined by actual physical arrival in front of the address or at the address of the emergency as displayed by computer aided dispatch (CAD).

The Oregon RHMRT system uses response data and dispatch procedures from a variety of paid and volunteer fire departments. Each of these departments may use slightly different software or methods for capturing and transferring data. Therefore, performance standards adopted in this document are kept very simple – only recognizing RHMRT notification and arrival times. This varies from individual fire department performance standards that capture dispatch notification, call processing time, readiness and travel times, etc.

TIME AND INTERVAL DESCRIPTION METHODOLOGY

While average times and statistical means have some utility, they are not useful measures of performance unless coupled with some measure of central tendency such as the variance or the standard deviation which describe the "shape" of the performance curve.

Because each team will have variable terrains, atypical call types and variable distances, the time and intervals will not be consistent across the state. However, the response standards and goals should be used as a measurement to these times as the statistical analysis of each RHMRT are not the same.

RESPONSE PERFORMANCE STANDARDS AND GOALS

The RHMRT system bases its performance ***standards*** on several combined factors (See Section Three). OSFM's primary mission is to save lives and property. The State's risk profile, geographic limitations, and response capabilities are the primary determinants in setting these performance standards.

DISTRIBUTION STATEMENT

Initial Unit Response Time Standards, All Hazardous Materials Incidents

Based on the risk analysis in Section Three, and the response performance parameters discussed in this section, the OSFM will distribute resources to achieve the following response time performance (RHMRT Notification to Arrival) per Demand Zone in 90% of incidents:

Demand Zone	Performance Standard
Urban/Suburban	60 minutes
Rural	90 minutes
Frontier	120 minutes

HAZARDOUS MATERIALS RESPONSE CRITICAL TASKS

When an incident presents a HazMat situation requiring skills and equipment beyond the scope of those trained to the HazMat operations level, the HazMat team is dispatched.

While en route, the team communicates via radio and cell phone with the scene incident commander (IC) and various state agencies to begin designing specific operational priorities specific to the incident. Upon arrival, the HazMat team is designated the HazMat Group under the ICS organizational structure. The team leader confers with the IC to further assess:

- Relevant safety issues and additional resource needs.
- Hot/warm/cold zone designation.
- Product ID determination.
- Life safety/environmental damage concerns.
- Release/spill mechanism and current status.
- Risk/benefit analysis.

Following this briefing, the HazMat team initiates interventions:

- Recon.
- Determine mitigation plan.
- Defensive and/or offensive operations.
- Field decon.
- Debriefing/demobilization.

HazMat team assignments are as follows:

- Team Leader
- Resource
- Entry Team (2)
- Back Up Entry Team (2)
- Safety/Medical

A minimum of one company is necessary to handle Decon responsibilities. Additional crews are used in support roles (as needed): IC/command staff, decon support, fire suppression standby, ventilation, scene/perimeter control, medical support, etc.

ESTABLISHMENT OF AN EFFECTIVE RESPONSE FORCE

Once critical tasks have been identified and defined, an effective response force can be established. This force is defined as the amount of equipment and personnel that must reach an incident in a specific response zone (location) within the maximum response time. An effective response force should be able to handle incidents within the desired time frames specified in this Standard of Coverage. In order to accomplish this, units must be located close enough to the incident to arrive within the maximum prescribed response time for the full assignment of fire companies according to the risk level of the structure.

The risk of fire, medical emergency, hazardous material incident, or other emergency event cannot be held to zero. Thus, the objective of this Standards of Coverage study is to identify a balance among distribution, concentration, and reliability that will keep the risk of hazardous materials incidents at a reasonable level while yielding the maximum savings of life and property.

INCIDENT STAFFING LEVELS

Because hazardous materials incidents vary tremendously, the OSFM has established minimum staffing levels based upon type and severity of incident. The following are OSFM incident level classifications:

Level One Incident

LEVEL I – A

Telephone Advisory – Team personnel provide telephone assistance to local responders.

LEVEL I – B

On-Site Advisory – Team member responds to provide on-site assistance to local responders.

LEVEL I – C

On-Site Analysis – One to two team personnel respond for on-site reconnaissance at the scene.

A. Definition – Level One incidents are those incidents that can be readily controlled and/or stabilized by trained and equipped first responders. HazMat team members could be contacted for technical assistance; however, a team response would not be required.

B. Product Identification – At this level, a placard is not required, the material is 0 or 1 in all NFPA categories, and all class 9 and ORM D.

C. Container Size – The containers are small (e.g., pail, drums, cylinders except one-ton, packages, or bags).

D. Fire/Explosion Potential – This potential is low.

E. Leak Severity – There is no release or a small release (less than five gallons liquid, or less than 20 pounds solid of a known hazardous material) that can be contained or confined with readily available resources.

F. Life Safety – A life threatening situation is not expected from the materials involved, and these incidents do not require evacuations.

G. Environmental Impact Potential – Minimal.

H. Container Integrity – The container is not damaged.

Level Two Incidents

LEVEL II – A

Hazcatting/Product Identification – Two to four team personnel to sample and provide product identification.

LEVEL II – B

Small Team Response – Seven or more team personnel respond to mitigate medium/moderate incidents. This can be Level A and/or Level B trained and equipped personnel.

A. Definition – Level Two incidents are those incidents that required special resources (HazMat team) for control/stabilization.

B. Product Identification – At this level, the material is Department of Transportation (DOT) placarded, the material is NFPA 2 for any categories, PCBs without fire, and EPA regulated waste.

C. Container Size – The containers are of medium size (i.e., one-ton cylinder, portable containers, nurse tanks, or multiple small packages).

D. Fire/Explosion Potential – This potential is medium.

E. Leak Severity – There is a release of more than five gallons of liquid or 20 pounds of solid, known hazardous material. There may be a release of any quantity of toxic or unknown material in a critical public area. The release may not be controllable without special resources (i.e., RHMRT).

F. Life Safety – Is limited to a localized area and the evacuation area is limited.

G. Environmental Impact Potential – Moderate.

H. Container Integrity – The container is damaged but able to contain the contents to allow handling or transfer of product.

Level Three Incidents

LEVEL III – A

Expanded Response – Seven or more team personnel plus any additional personnel or resources required to mitigate large/severe incidents.

LEVEL III – B

Multiple Team Response - Multiple regional teams plus any additional personnel or resources required to mitigate large/severe incidents.

A. Definition – Level Three incidents are those incidents that require special resources (one or more RHMRT) and other outside agencies for support.

B. Product Identification – These are identified as class 2, division 2.3 - poisonous gases, class 1, division 1.1 and 1.2 - explosives, organic peroxide, flammable solid, materials dangerous when wet, chlorine, fluorine, anhydrous ammonia, radioactive materials, NFPA 3 or 4 for any categories including special hazards, PCBs with fire, DOT inhalation hazard, EPA extremely hazardous substances and cryogenics.

C. Container Size – The containers are large (e.g., tanks, hopper cars/trucks, multiple medium containers).

D. Fire/Explosion Potential – This potential is high.

E. Leak Severity – There is a release which may not be controllable even with special resources, or there is a release which has escalated beyond capabilities of local resources.

F. Life Safety – A large area is affected, mass evacuation may be required, and support from FEMA, Red Cross, and/or National Guard may be needed.

G. Environmental Impact Potential – Severe.

H. Container Integrity – The container is damaged to such an extent that product containment is not possible or catastrophic rupture is possible.

Secondary Support

Depending on the severity of the call and/or complexity of the incident, the Team Leader in conjunction with the On Scene Incident Commander may request additional resources from other teams.

MINIMUM TEAM SIZE

Minimum *desired* staffing level for a Regional Team is **eighteen** members trained to the 160 hour Technician Level.

> *Note: Teams may be approved on a case by case basis with fewer members in those areas that need coverage in order to meet response time goals, but population and risk do not warrant a standard eighteen member team.*

COMMUNITY STANDARDS AND VALUES

In the end, it is the State, through its elected and appointed officials, that dictates its own Standards of Coverage. By way of its economic decisions with respect to budgeting, the State purchases a level of "Hazardous Materials Emergency Safety Insurance" that is consistent with its perceived needs and available resources. While many factors influence these decisions, the level of protection available in the State is a decision that should be made only after rigorous study of the State's needs and resources.

The State Fire Marshal and staff have used its experience, knowledge, and historical information to determine what constitutes an effective Hazardous Materials Teams Response Program. Staffing projections are accurate for the majority of HazMat incidents within the State's response area. The need for more personnel may arise on any incident at any time. Incident conditions dictate the response needed for any given emergency, even if that response exceeds the requirements listed in this document.

The State Fire Marshal relies on the experience and professional judgment of its contracted teams to request additional resources early in an incident whenever their expertise suggests that those resources might be required. These resources can be obtained through on-duty staffing and automatic or mutual aid agreements.

SECTION FIVE:
Distribution of Resources

Concentration is the spacing of multiple resources within sufficient proximity so that an effective response force can be assembled and on the scene within prescribed time frames. Distribution is the strategic placement of available resources so that any hazards or risks, regarding life property and environment are covered appropriately.

In 1989, the Oregon Legislature authorized the Office of State Fire Marshal to establish a statewide hazardous materials emergency response system. At the time, few communities had the resources to train and equip their firefighters to meet strict federal standards. The alternative was not to respond at all, or wait for federal, private or out-of-state responders.

A 1993 task force found that the fourteen existing teams fell roughly into the established two-hour response perimeter. This perimeter was justified after evaluating the mapped risks and comparing them to the two-hour travel time standard. Today the two-hour response time is still used.

Based on a two-hour maximum response time the teams were strategically located throughout the state. The physical location of the regional response teams was determined based on the information provided by interested parties through the RFP as well as negotiations between OSFM and those parties. The location of these teams has assured hazardous materials incidents that occur in most rural areas of the state, where risk of incident is lower, will be responded to by at least one team within two hours. Incidents that occur in urban areas can be responded to, in most cases, within one hour.

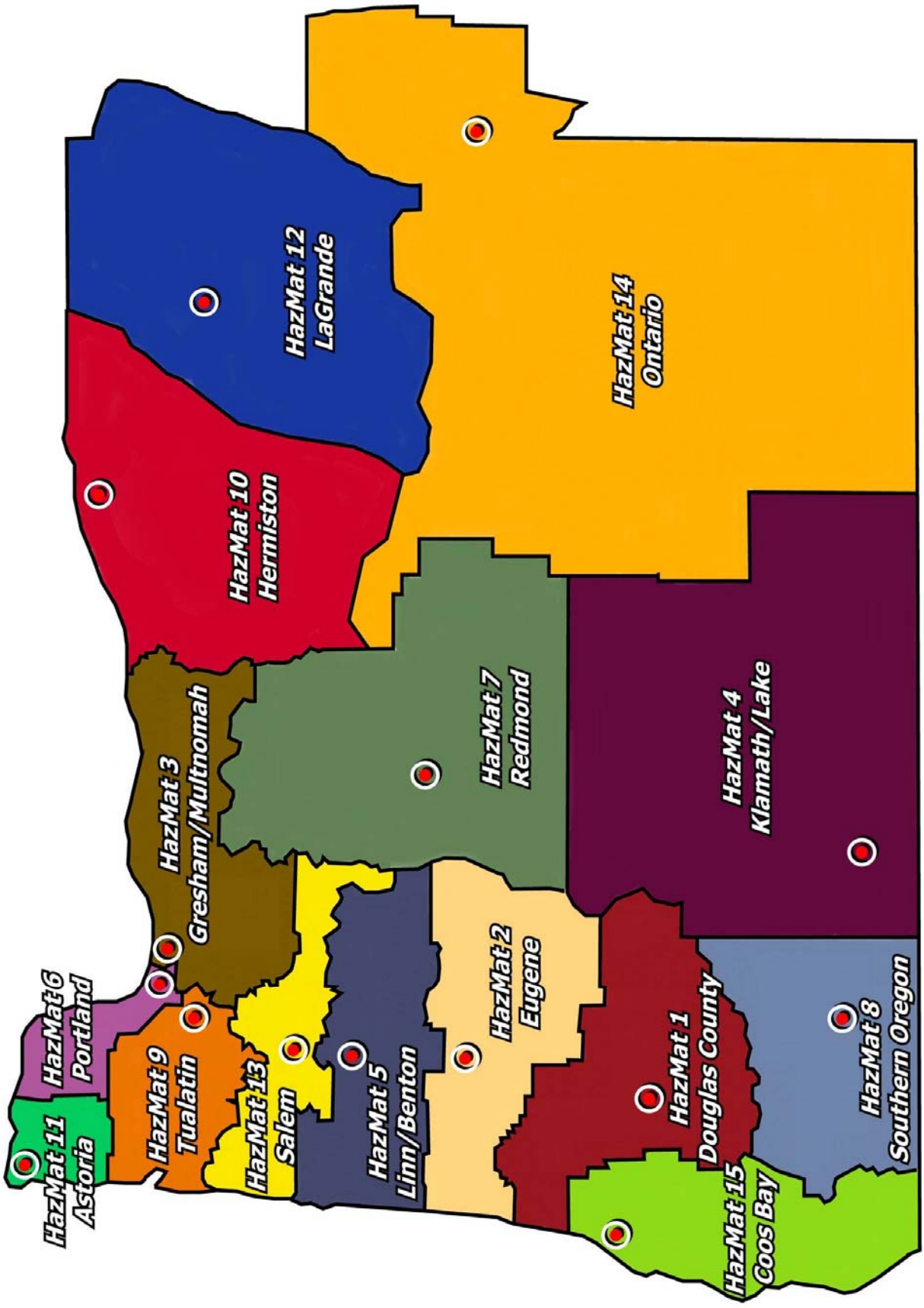
In order to determine desired levels of resource concentration and appropriate distribution, the 1993 task force reevaluated the need for a statewide hazardous materials response system. The group established three general criteria: hazard criteria, risk criteria, and resource criteria for assessing and determining structure for the response system.

Essentially this research justified the number and location of existing teams. The hazard analysis supports the present number of teams and their approximate locations as well as team concentration in certain areas due to population density. Since this analysis, an additional team has been added to the roster. This increased the total number of regional teams to 15.

15 Regional Hazardous Material Emergency Response Teams provide hazardous materials emergency response throughout the state. The teams operate within the following regions:

- HazMat 1 – Douglas County
- HazMat 2 – Eugene
- HazMat 3 – Gresham/Multnomah County
- HazMat 4 – Klamath/Lake
- HazMat 5 – Linn/Benton
- HazMat 6 – Portland
- HazMat 7 – Redmond
- HazMat 8 – Southern Oregon
- HazMat 9 – Tualatin
- HazMat 10 – Hermiston
- HazMat 11 – Astoria
- HazMat 12 – LaGrande
- HazMat 13 – Salem
- HazMat 14 – Ontario
- HazMat 15 – Coos Bay

Figure 5


HazMat 12
LaGrande
HazMat 14
Ontario
HazMat 10
Hermiston
HazMat 3
Gresham/Multnomah
HazMat 7
Redmond
HazMat 4
Klamath/Lake
HazMat 6
Portland
HazMat 9
Tualatin
HazMat 13
Salem
HazMat 5
Linn/Benton
HazMat 2
Eugene
HazMat 1
Douglas County
HazMat 8
Southern Oregon
HazMat 11
Astoria
HazMat 15
Coos Bay

LEVELS OF RESPONSE/TIERED RESPONSE/AUTOMATIC AID

A tiered response system is in place to provide for response to hazardous materials incidents based on the needs of local responders. The tiered response system is outlined in the Standard Operating Guidelines and in the regional response teams' contracts.

As part of the decision-making process of whether or not to respond to a hazardous materials incident, the hazardous materials emergency response team needs to consider the level of the incident.

The term "distribution" describes the resource locations needed to minimize and terminate emergencies by assuring a sufficiently rapid first due response deployment.

REGION DESCRIPTIONS

HazMat 1 – Douglas County

Beginning at the Southern Lane County Border intersection with what is known as the dividing line between Township 19-South, Township 20-South, Range 8-West and Range 9-West of the Willamette Meridian Survey, east along the Southern Lane County Border to the intersection of the West Klamath County Border, south along the West Klamath County Border to the intersection of the North Jackson County Border, west along the North Jackson County Border to the intersection of the North Josephine County Border, west along the North Josephine County Border to the intersection of the East Curry County Border. Thence Northward along the line between Range 8-West and Range 9-West of the Willamette Meridian Survey to the point of beginning.

HazMat 2 – Eugene

The Region 2 boundaries are identical to Lane County boundaries.

HazMat 3 – Gresham/Multnomah County

Beginning at the Columbia River at the City of Gresham's western boundary, south along the Gresham service boundary to the Clackamas County line, then west of the Clackamas county line to the Willamette River. South along the Willamette to the northern boundary of Canby Fire District. Continue east, south and west along the Canby RFD boundary to Highway 99E. South along Highway 99E to the Clackamas/Marion County line. South and east on Clackamas County border to the western boundary of the Warm Springs Indian Reservation. North and East on Warm Springs border to Highway 26 at its junction with Highway 216. East on Highway 216 to the Wasco Sherman County line then south and east along the Wasco County line to the John Day River. North along John Day River to the Columbia River. West on Columbia River to the point of beginning.

HazMat 4 – Klamath/Lake

The Region 4 boundaries are identical to the Klamath County/Lake County boundaries.

HazMat 5 – Linn/Benton

The Northwest corner of HazMat Team 5's area begins at the southern boundary of North Lincoln County Fire District at the coastline. The northern boundary continues east through Lincoln County across the Polk County line to the western boundary of Southwest Polk Fire District. HM 5 Response area in Polk County includes Falls City FD and Polk County FD #1 and unprotected Forest Service land below the northern response boundary. The response area continues on the east side of the Willamette River and includes Jefferson RFPD in Marion Co., all of Linn County with the exception of Hwy 22 from the Hwy 20/22 Jct. to the Marion County line. The southern boundary of the response area is the southern borders of Linn, Benton and Lincoln counties. The western boundary is the Pacific Ocean.

HazMat 6 – Portland

The Northern boundary begins at the Eastern most point of McGuire Island on the Columbia River and follows the Oregon-Washing State Line West and Northwest along the Columbia River to the intersection of the Western boundary of the Columbia County. The Western boundary follows the Columbia/Clatsop County Line South from the intersection of that line with the Oregon-Washington State Line to the intersection with the Southern Columbia County Line. The Southern boundary is the entire Southern Columbia County Line extending from the Columbia/Clatsop line eastward to the intersection with the Multnomah County Line. From that point, South and east, the boundary includes all current protected areas served by the Portland Fire Bureau.

HazMat 7 – Redmond

Beginning at the Southwest corner of Deschutes County East to the Harney County line northward following the Deschutes, Crook and Jefferson County lines to the John Day River, North along the John Day River to the Sherman/Wasco County line. West and Northwest on the Sherman/Wasco County line to Highway 216. West on Highway 26 South along the West sides of Warm Spring Indian Reservation, Jefferson County and Deschutes County lines to starting point.

HazMat 8 – Southern Oregon

HM8 boundaries are identical to the Jackson/Josephine County boundaries.

HazMat 9 – Tualatin

Region 9 includes Washington Co. in its entirety, Tillamook Co. with the exception of Nestucca RFPD, and Yamhill County with the exceptions of Amity, Sheridan and Willamina Fire Districts. Response area in Marion Co. moves south from the northern county borderline to the northern boundary of Woodburn Fire and includes Aurora RFPD, St. Paul RFPD, and Hubbard RFPD. The region also includes all current protected areas in Multnomah and Clackamas Counties served by Tualatin Valley Fire and Rescue and Canby RFPD.

HazMat 10 – Hermiston

Beginning at the Columbia River at the mouth of the John Day River continue south following the John Day River to the point where the river heads east at the Wheeler-Jefferson County line. Continue south on the Wheeler County line to Highway 26. East on Highway 26 to Mt. Vernon. North on Highway 395 to the junction of Highway 244. East on Highway 244 to the town of Ukiah. North on the Ukiah-Albee Road to the intersection of road #1419. North on the road #1419 to the boundary of the Umatilla National Forest. North and East on the Umatilla National Forest boundary to the intersection of the Wallowa Whitman National Forest. North on the R33E/R34E section line to the boundary of the Umatilla Indian Reservation. North and east on the reservation boundary to the point near Gibon where the reservation boundary line and forest boundary lines separate. North on the Umatilla National Forestry boundary to the Oregon-Washington state line. West on the state line to the starting point.

HazMat 11 – Astoria

The Region 11 boundaries are identical to the Clatsop County boundaries, and within the boundaries of Clatskanie Rural Fire Protection District.

HazMat 12 – LaGrande

Beginning at the northwest portion of the Umatilla National Forest boundary and the Oregon-Washington state line, travel east on the state line to the Snake River where Oregon, Washington, and Idaho State lines meet. Continue south on the Snake River, to Highway 86. Travel west on Highway 86 to Baker City. From Baker City travel west on Highway 7 to John Day. From John Day, travel west on State Highway 26 to Mount Vernon. From Mount Vernon, head north on State Highway 395 to Ukiah. From Ukiah, travel north on the Ukiah-Albee road to the intersection of road #1419. Continue on road #1419 to the boundary of the Umatilla National Forest. Travel northeast on the Umatilla National Forest boundary to the intersection of the Wallowa Whitman National Forest.

Continue north on the R33E/R34E section line to the boundary of the Umatilla Indian Reservation. Continue northeast on the Reservation boundary line to the point near Gibbon, where the Reservation boundary line, and the Forest Service boundary line separate. From here, travel north on the Umatilla National Forest boundary line to the Oregon-Washington state line to the starting point.

HazMat 13 – Salem

The northern boundary of the response area begins at the northern boundary of the Nestucca RFPD in Tillamook Co and includes the fire district in its entirety. The western boundary moves south along the Lincoln County coastline to the southern boundary of North Lincoln Co. FD at the Kernville Bridge. The southern boundary continues east through Lincoln County across the Polk County line to the Southwest Polk Fire District. Continue southeast following the boundary of SW Polk County FD to the northwest boundary of Polk County Fire District #1, west to the Willamette River. On the east side of the Willamette River continue south along the Salem Suburban Fire Protection boundary to the northwest corner of the Jefferson RFPD. Continue east along the northern boundary of Jefferson RFPD to its intersection with the Stayton Fire District western boundary. Follow the Stayton FD boundary south than east. Continue along the southern boundaries of Mill City RFPD and Gates RFPD to it intersection with Highway 22. Continue south on Highway 22 to the Hwy 20 junction. From that point, follow north along the eastern border of Linn County and Marion County. Follow the northern border of Marion Co. to Hwy 211, to the northern border of Woodburn City limits. Continue west on Hwy 272 to the eastern boundary of St. Paul RFPD. Continue south along the eastern boundaries of St. Paul RFPD, Woodburn Fire District and Dayton Fire District. Boundary continues west and north following the boundaries of Dayton FD, west across the northern boundaries of Amity Fire District, Sheridan Fire District and Willamina Fire District to the eastern boundary of Nestucca RFPD.

HazMat 14 – Ontario

Starting at the southeast corner of Malheur county-Idaho-Nevada State line follow the Idaho-Oregon state line north to Highway 86. Proceed west on Highway 86 to Baker City. From Baker City continue west on Highway 7 to John Day. From John Day, travel west on state Highway 26 to the Crook-Wheeler County line approximately 18 miles west of Mitchell. From Highway 26 follow the Crook-Wheeler County line southeast to the Grant County line, south along the Crook-Grant county line to the Harney County line. Following the Harney County line continue south to the Nevada State line. Follow the Nevada State

line east to the starting point. This includes all land in Harney and Malheur Counties. HazMat 14 also includes the portions of the Idaho counties of Adams, Canyon, Gem, Payette, Washington, and Owyhee within the following fire district boundaries: Council, Cambridge, Midvale, Weiser City, Weiser Rural, Payette, Payette Rural, Indian Valley, Fruitland, Emmett, Gem Co. Rural, New Plymouth, Homedale, and Parma Rural.

HazMat 15 – Coos Bay

Beginning at the Pacific Ocean and the Southern Lane County Border intersection, east along the Southern Lane County Border and Northern Douglas County Border to the intersection known as the dividing line between Township 19-South, Township 20-South, Range 8-West and Range 9-West of the Willamette Meridian Survey. Thence Southward along the line between Range 8-West and Range 9-West of the Willamette Meridian Survey to the North Eastern Curry County Border, South along the Eastern County Border to the intersection of the Northern California State Border, West along the Northern California State Border intersecting the Pacific Ocean, North along the Pacific Ocean to the point of beginning.

SECTION SIX:
Concentration of Resources

Concentration is the spacing of multiple teams within sufficient proximity so that an initial effective response force can be assembled on scene within prescribed timeframes. In addition, concentration is associated with the ability to maintain reliability in a particular region of the state. Current distribution measurements show that incidents in established Urban, Suburban, Rural and Frontier Demand Zones have not exceeded current resources in their given area.

In determining desired levels of resource concentration, the Oregon State Fire Marshal's Office looked at risk assessment, potential call volume, and population. In addition, modeling after current State EMS measured Demand Zones, certain risk centers were chosen as distribution points for State assets.

In the past 16 years of the State Hazardous Materials Response Team System, only one team has been added. Because of the increased population, the location of governmental structures, and other variables, the Office of the Governor requested additional resources be placed in the Marion County area to enhance response capabilities for the region.

Current distribution measurements show that incidents in established response areas meet the prescribed standards of coverage.

SECTION SEVEN:
Performance Measurement, Performance Abnormalities, Quality Improvement, and Policy and Practice Guidelines

PERFORMANCE MEASUREMENT AND ABNORMALITIES

Similar to risk analyses, performance measurement has both subjective and objective components. In the most optimum of cases, the data would be objective and clearly articulate the outcome. However, because of the various methods of collection from various agencies, and the human interaction necessary to both populate and disseminate data from a resource, decisions must be made on how to refine, represent, and interpret the information.

For example, in processing a typical call within the RHMRT system, there are several different 9-1-1 call centers, fire departments within the system use different means of capturing information for response data, and not all analyze each system to ensure that the data is as accurate as possible. This in turn creates a large variation for each report through the system that each team creates.

In addition, the true response of a team varies as calls may start as a “consult” and change to a response and the variables of definition change from team to team.

QUALITY IMPROVEMENT PROCESS

Because there are so many variables, the OSFM has developed several committees to review different aspects of the team and to make suggestions to improve operations. Though not formally called a Quality Improvement (QI) Committee, each has a defined role and mission, takes a team-driven approach, and has parameters which assist and improve the overall system. Examples of this are the Teams Training Advisory Committee (TTAC) and the Teams Advisory Group (TAG) that meet regularly to provide input.

POLICY AND PRACTICE GUIDELINES RELATED TO DEPLOYMENT AND OPERATIONS

Policy and practice guidelines relating to response and operations are found in the Oregon State Fire Marshal’s Hazardous Materials Emergency Response Teams Standard Operating Guidelines (Exhibit A). These policy guidelines typically give direction for those events that are relatively predictable, and that the State RHMRT’s want done consistently across all teams.

SECTION EIGHT:
Future Needs and Goals

As a multi-agency state-run Hazardous Material Response Program whose clients are the public, property and environment within its borders, it is our mission to provide the best possible hazardous materials response services possible with the tools provided. While there may be limits to our capabilities from team to team, the benefit of a system that utilizes a team approach is the ability of the system to burden the variable loads that may be placed upon it by relying on each other depending on the circumstances given.

If at all possible, all Goal Statements should be fully advanced. This section is constructed to provide specific information related to the goals as part of the evaluation of the Standards of Coverage. The following information will be provided for each goal:

Rationale – May include national, regional, or state standards used to establish a goal.

Conformity to Risk Analysis – A brief report or statement conforming that the desired goal is applicable, considering the State's current resources, risk analysis and perceived ability to add infrastructure, staffing or equipment.

Estimated Cost – For implementation of goal.

Time Frame – Desired timeline for execution of goal.

Once the goals and their supporting documentation have been completed and approved by the State Fire Marshal's Office, they will be formally included as attachments to this section of the Standards of Coverage.

OPERATIONAL PRIORITIES

1) Improve data collection capabilities.

a) Rationale: Deployment decisions are based on data. Current constraints that are within each system make it difficult to identify factors associated with incongruent data (e.g., HazMat 9 data collection differs from HazMat 6 and Fire Department "X" differs from Fire Department "Y".)

b) Conformity to Risk Analysis: Conforms to the desire to establish ideal response intervals for specific types of emergencies, and to provide the community, staff, and

policy makers with accurate data in order to evaluate performance and potential needs that the system may have.

c) Estimated Cost: Unknown

d) Time Frame: Unknown

2) Improve the Team Hazardous Materials Incident/Expenditure Reporting System.

a) Rationale: Deployment decisions are based on data. With improved technology, a system that would provide the OSFM with accurate data in a more timely manner than the current paper system in place.

b) Conformity to Risk Analysis: Conforms to the desire to establish better data to provide the community, staff, and policy makers with accurate data in order to evaluate performance.

c) Estimated Cost: Unknown

d) Time Frame: Unknown

3) Expand Training to First Responders and other jurisdictions with the State.

a) Rationale: Increase awareness to various emergencies and ensure that the State's First Responders are better trained and have the knowledge to safely handle hazardous material incidents. In addition, make Incident Commanders aware of State and Federal Laws that each jurisdiction are to comply with during an incident and what a State Team is able to provide during an incident.

b) Conformity to Risk Analysis: Conforms and is consistent with the State's goals in to increase "outreach" training to provide jurisdictions with better training and exposure to the State's RHMRT system.

c) Estimated Cost: Unknown

d) Time Frame: Unknown

4) Raise maximum staffing requirements in the Urban/Suburban staffed teams.

a) Rationale: With the changes in OSHA requirements for Level A entries, it takes a minimum number of seven persons to make an entry. Most teams in the Urban/Suburban areas already provide the increased personnel to achieve OSHA compliance.

b) Conformity to Risk Analysis: Conforms to the desire to maintain Federal and National Safety standards set forth in guidelines provided to the State. Recognizing the change in OSHA requirements for staffing of positions and the increased burden on State Teams to maintain cache of personnel to achieve a safe entry.

c) Estimated Cost: Unknown

d) Time Frame: Unknown