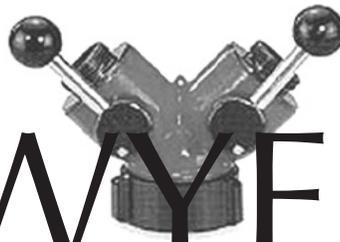


GATED WYE



June 2010 · Oregon Office of State Fire Marshal · 4760 Portland Road NE · Salem Oregon 97305-1760 · No. 317

Does your department need a standards of cover?

by Tualatin Valley Fire & Rescue Assistant Chief (retired) Paul LeSage

As Kirkland County Fire Department (KCFD) Engine 341 rolled out of the station at 3:07 p.m., August 12th, 2009, they could see a black column of smoke rising from where they were headed. There were just 14 blocks to decide what to do on arrival, a half-mile from an outcome that would alter the regional perception on fire service.

KCFD Engine 341 was staffed with a career captain and a career driver-firefighter. The next closest unit, another two-person engine company, was responding from seven miles away.

Upon E-341's arrival, heavy fire was showing from the roll-up doors in the shipping area of Halvorson Fabric Mills, the predominant employer in Kirkland County. The captain ordered his driver to stop one block away, where they secured a line to a hydrant. They proceeded to the bay doors and set up an exterior master stream attack on the fire.

In the meantime, fire started extending to the office area. Employees who had evacuated started yelling to the firefighters they needed to enter the office in order to save company records. A few minutes later

the next-in unit, KCFD Engine 345 arrived. The captain of E-341 ordered the E-345 crew to enter the office and attempt to salvage computers and files. At that same time, the pump on E-341 started shrieking loudly as the hydrant pressure dropped. The master stream immediately ceased functioning, and the E-345 crew had just entered the office area.

Four minutes later, as the captain from E-341 tried to restore the water supply, the office area flashed over, and seriously burned the two firefighters from E-345.

By the time the fire was declared under control, two firefighters were critically injured in a local burn center, Halvorson Fabric Mills was destroyed, local leaders were calling for an investigation, and the fire chief was in the cross-hairs.

In retrospect, there was likely no way to save the mill complex. The fire had too much fuel, and there wasn't enough firefighting capacity to put it out. However, it wasn't loss of the mill that had local leaders upset. Instead, they claimed to have never been given an objective overview of the county's firefighting capabilities. Everyone

believed the fire department had what it needed to handle a fire at the mill, or anywhere else for that matter.

The KCFD chief made a common mistake. He assumed local elected and business leaders knew his department was understaffed, underfunded, and lacked a reliable water source. As a matter of fact, his department had recently been downgraded to an ISO 6 rating due to staffing and water supply issues. However, ISO ratings are for insurers; they say little about the regional risks or fire department's effectiveness.

Regardless of their ISO rating, every fire department should have a Standards of Cover (SOC, or Deployment Standard). The most important thing a SOC does for a fire chief is communicate, the risks in his community, how well the department is prepared to respond to those risks, what they need to do to improve performance, what is likely to happen if funding is cut, and alternative methods to mitigate risks, other than just buying more big red trucks.

see *Standards of Cover* page 8

From the desk of the State Fire Marshal



“... the OSFM has several toolkits available for fire and law enforcement agencies to enhance fireworks education and enforcement efforts.”

Fireworks – it’s about education and enforcement

Well, we’re just a few weeks away from what we refer to as Fireworks Season. Tents will start popping up in nearly every empty parking lot and busy retail location.

Kids all around will ramp up their pleas to mom and dad to buy fireworks, and those of us in the fire service, and our law enforcement partners will begin the annual rite of safety education and enforcement.

Of course, the best way families can protect themselves is not to use fireworks at all and attend one of the many great public displays in the state. However, most of us know that’s not the reality.

As in years past, we will be participating with our partner agencies in hosting a fireworks media event June 23rd in hopes of raising awareness on using legal fireworks safely and about the dangers of illegal fireworks.

I’m proud of this partnership because every year we collaborate with the Oregon Department of Forestry, Oregon State Parks, Bureau of Land Management, the Oregon Burn Center, Eye Health Northwest, Oregon fireworks wholesalers and many others to send a consistent message on fireworks safety and enforcement.

In addition to this effort, the OSFM has several toolkits available for fire and law enforcement agencies to enhance fireworks education and enforcement efforts.

The four toolkits provide information on public education, illegal fireworks, retail sales of fireworks, and public displays of fireworks. You can also download our handy Pocket Guide to Fireworks Enforcement.

Please visit the [OSFM fireworks webpage](#) to view or download any of the toolkits or the pocket enforcement guide.



**State Fire Marshal
Randy Simpson**

**Office of
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Codes & Technical
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ext. 214

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ext. 238

Fire & Life Safety
ext. 204

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ext. 230

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The Gated Wye is published monthly by the Oregon Office of State Fire Marshal. For submissions or suggestions contact Rich Hoover at 503-934-8217 or e-mail richard.hoover@state.or.us. In compliance with the Americans with Disabilities Act, alternative formats of this publication are available.

Simpson photo courtesy of ODOT Photo and Video Services.

2010 Oregon Fire Code effective July 1

The Oregon Fire Code originally scheduled for April 1, 2010 is moving to July 1, 2010.

The 2010 Oregon Fire Code (OFC) along with the Oregon Structural Specialty Code (OSSC), the Oregon Mechanical Specialty Code (OMSC), and the new 2010 Oregon Energy Efficiency Specialty Code (OEESC) were intended to become effective April 1, 2010.

Although the OFC, OSSC, and OMSC were on target to meet the April 1 date, the OEESC will not be ready. The building codes division determined the OSSC, OMSC and OEESC should be effective on the same date and have postponed code updates until July.

Because the OSSC and OMSC are interrelated with the OFC, the Office of State Fire Marshal is postponing the regular April 1 effective date of the 2010 Oregon Fire Code to match the July 1, 2010 effective date of all other building-related codes.

In addition, there is a three-month phase-in period for the 2010 codes from July 1, to September 30, 2010. This means for new construction plan review only, the permit applicant may request plan review to follow the 2007 or 2010 code. For fire departments with new construction plan review input, your building official will advise on which code edition to use.

For all other subjects covered by the Oregon Fire Code, the 2010 edition is effective July 1, 2010.

If you have any questions contact Deputy State Fire Marshal John Caul at 503-934-8269 or john.caul@state.or.us.

Agency Operations Center has new email address

The Office of State Fire Marshal Agency Operations Center's (AOC) new email address is osfm.aoc@state.or.us. A new email address was necessary after the OSFM changed the terminology to AOC from the previous name ERC (Emergency Operations Center) to align with National Incident Management System standards.

Golden and Silver Sparky awards

Oregon State Fire Marshal Randy Simpson presented Joanne Hatch and Kate Stoller from Tualatin Valley Fire and Rescue and Tyler Saunders from Roseburg's Home Depot with the Golden and Silver Sparky awards respectively during the Oregon Fire Service Meritorious Awards banquet, May 22 at the Salem Conference Center.

Tualatin Valley Fire & Rescue Public Education Chief Officer Joanne Hatch and Assistant Fire Marshal Kate Stoller were presented the Golden Sparky for their work in the Multi-Family Housing Fire Reduction Program. They not only implemented the program in their district but also provided free training around Oregon to assist fire departments in developing fire and life safety relationships with apartment managers and landlords.



Golden Sparky presentation (left to right), Chief Deputy State Fire Marshal Jim Walker, Tualatin Valley Fire & Rescue's Public Education Chief Officer Joanne Hatch and Assistant Fire Marshal Kate Stoller, and State Fire Marshal Randy Simpson.

Home Depot Safety Lead Tyler Saunders was presented the Silver Sparky for his support of the Douglas County Fire Prevention Cooperative and their fire safety fair held during Fire Prevention Week 2009. The event was recognized as the largest Fire Prevention Week event on the west coast reaching more than 8,000 citizens. His efforts so impressed Home Depot corporate leaders that they are now considering using the event as a national model.



Silver Sparky presentation (left to right), Chief Deputy State Fire Marshal Jim Walker, Home Depot Safety Lead Tyler Saunders, State Fire Marshal Randy Simpson, and Deputy State Fire Marshal Chris Lyman.

Oregon Fire and Life Safety Competency Recognition Program

In 2003, the Governor's Fire Service Policy Council investigated complaints brought by the building industries related to inconsistent application of the fire code. After an investigation, the council agreed that inconsistent application of the fire code is a statewide problem. The findings emphasized a need to develop training programs and scope of practice competencies for fire service personnel responsible for enforcing state or locally adopted fire code. The Oregon Office of State Fire Marshal (OSFM) and the Oregon Fire Marshals Association (OFMA) established a committee to develop Fire and Life Safety Competency Recognition standards.

In July 2008, the OSFM completed a revision to [Oregon Administrative Rule \(OAR\) Chapter 837, Division 039 Administration of Fire Prevention Programs](#). This revision establishes a standardization of certification and training requirements for fire officials responsible for fire code administration and enforcement and identifies four levels of competency recognition standards and uses a phase-in approach to meet compliance: Company Inspector, January 1, 2009; Fire and Life Safety (FLS) Specialist 1, July 2010; FLS Specialist 2, January 1, 2011; and Fire Marshal, July 1, 2011. Without compliance, fire departments have potential liability issues.

The Fire and Life Safety Competency Recognition standards identify the scope of practice, training, technical certification, and experience required to administer and enforce the fire code in Oregon. The competency recognition program focuses on fire and life safety training and technical certifications. The certifications include OSFM core curriculum, Department of Public Safety Standards and Training (DPSST) Fire Inspector Task Books, and International Code Council (ICC) certifications. [More information is available here.](#)

Oregon fire departments determine the level of code enforcement services they provide. Based on this, a follow-up step is to ensure code enforcement personnel meet the training and technical certifications for their scope of practice.

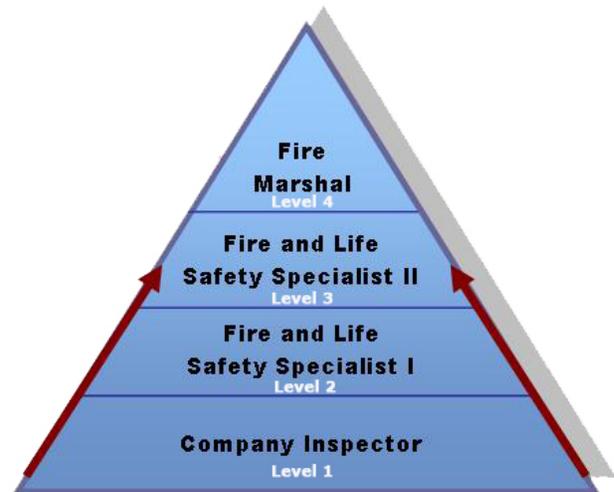
Competency levels include:

Level 1: Company Inspector performs basic fire safety inspections in Business Group B and Mercantile Group M occupancies with no high rack or piled storage.

Level 2: Specialist I performs basic fire safety inspections in all occupancies.

Level 3: Specialist II performs fire safety inspections with moderate technical challenges.

Level 4: Fire Marshal performs fire safety inspections with advanced technical challenges.



All fire chiefs and every assistant to the State Fire Marshal must complete the OSFM course, Fire & Life Safety Awareness I. [Here is a brief description of the OSFM course.](#) This requirement is listed in [OAR 837-039-0110\(4\)](#) and [Oregon Revised Statute 476.060](#).

With this knowledge, fire inspectors can be certain that buildings in their jurisdiction meet the fire safety codes and standards developed to ensure the life safety of the occupants.

Here is the quickstart guide to log into iLearn Oregon where you may view a [schedule of OSFM courses](#), or enroll in classroom or online classes.

For more information, contact OSFM Training and Development Specialist Anita Horsley at anita.horsley@state.or.us or 503-934-8249.

DATA Connection

News & technical tips from the Data Unit

Does your agency have a standards of cover document?

Standards of cover, also referred to as 'standards of response coverage' or 'deployment analysis,' is a system for analyzing deployment, to determine if an agency is properly deployed to meet its community's risks and expectations. Standards of cover (SOC) is applicable to all fire departments and districts, career and volunteer, large and small. However, there is no 'one size fits all' SOC. The SOC must take into account factors unique to the community the department serves.

The SOC states agency-specific performance goals to which fire service leaders compare actual performance to measure the effectiveness of their department or district. The SOC supports community and firefighter safety by identifying the number of personnel that should arrive at each risk type to safely and effectively accomplish the community's objectives.

A well-written SOC should provide the fire chief:

- **Defensible position related to strategic planning and future funding requests.**
 - **Defensible position related to adverse events and the criteria used to make your decisions.**
 - **A clear method to assess past, present, and future service delivery decisions.**
-

Key elements of a SOC plan

1. Overview. The study starts with a description of: (a) the community served, including demographics, geography, and specific unique community features; and (b) the agency, including statutory authority, funding mechanisms, department history, and types of services provided.

2. Community outcome expectations. What does the community expect of the agency? Has there been a discussion with elected officials on what service goals the department ought to deliver and measure itself against?

3. Community risk assessment. Response standards should be identified based on risk classification. The goal is to determine the probability of an event

and the potential consequences. The SOC process analyzes deployment based on the risk assessment. How many people must arrive in what time frame, properly trained and equipped, to achieve the desired outcome?

4. Distribution study. This is the location of first-due resources, typically engines. Distribution is measured by the percentage of the jurisdiction covered by first-due units within the adopted response time benchmarks. Example of a distribution statement:

For 90% of all incidents, the first-due unit shall arrive within six minutes total response time. The first-due unit shall be capable of advancing the first line for fire control or starting rescue or providing basic life support for medical incidents.

5. Concentration study. This is the spacing of multiple resources, arranged close enough together that an initial effective response force can be assembled on scene in enough time to most likely stop the escalation of the emergency for a given risk type. Concentration is also measured by what percentage of the jurisdiction is covered by the effective response force (first-alarm assignment). Example of a concentration statement:

In a moderate risk area, an initial effective response force shall arrive within 8 minutes travel or 10 minutes total response time, 90% of the time, and be able to provide 1,500 gpm for firefighting, or able to handle a five-patient emergency medical incident.

6. Historical response reliability. Response reliability is the probability, expressed as a percentage, that the required amount of staff and apparatus will be available when a fire or emergency call is received. There are times when a call is received when the first-due company is unavailable. Some factors influencing response reliability include traffic patterns, simultaneous other emergencies, and time of day.

7. Historical response effectiveness. Response effectiveness is the percentage of compliance the existing system delivers. How well is the agency meeting the existing service objectives? If, for example, the current deployment is supposed to answer all calls within x minutes, y percent of the time, does it? If not, why not?

see **Data Connection** page 6

Data Connection

continued from page 5

8. Overall evaluation. In this section, all parts of the study are evaluated as a whole to determine if changes in deployment should be proposed. Proposed SOC statements by risk type are formed.

9. Goals and Objectives. These are the specific statements related to staffing, response times, and infrastructure developments resulting from the deployment analysis.

Determining your SOC benchmarks

These agencies offer information important to the creation of your department or district's SOC:

- National Fire Protection Association (standards 1710 and 1720)
- Insurance Services Office
- Commission on Fire Accreditation International
- Occupational Safety and Health Administration

[More information about how these agencies contribute to developing an SOC is available on the OSFM website.](#)

Capturing SOC data

National Fire Incident Reporting System forms capture your incident response data, which can be analyzed using your reporting program, a spreadsheet program such as Microsoft Excel, and a GIS program. Fire Bridge™, Oregon's incident reporting system, captures the pertinent incident response information and has built-in reports which greatly facilitate analysis for your SOC plan.

The Office of State Fire Marshal (OSFM) offers numerous resources to help Oregon fire departments and district prepare an effective SOC document. [Templates, examples, and more information are available on the OSFM website.](#)

SPECIAL THANKS

*We want to recognize two individuals who shared their expertise about Standards of Cover for this article and contributed to the preparation of the Standards of Cover resources on OSFM's website: **Paul LeSage**, Interim Director of Washington County 911 and retired Assistant Chief at Tualatin Valley Fire & Rescue, and **Joe Parrott**, Deputy Chief of Fire and Life Safety at Salem Fire Department.*

Thank you very much for your assistance

Fire grant update

by Hines Lieutenant/Grant Writer
Jonathan Manski



The Assistance to Firefighters Grant application period for the 2010 program has closed and a collective sigh of relief has hit the Pacific Northwest. Probably by the time you read this, the computer scoring review has occurred and the fate of your department's application has been sealed; either on to peer review or on the back burner in wait for the first round of denial letters. The upcoming indefinite wait for information may be reason to restock the Tums.

For those keeping score, a few departments received two awards this year. Congratulations to Molalla RFPD #73, Oakridge FD, and Scottsburg RFD who proved that a bit of hard work can pay big dividends. So far this year, Oregon has nearly a 27% AFG success rate and a 12% success rate in vehicle awards. Those numbers are pretty close to our average over the last few years.

For rural departments, this month the Oregon Department of Forestry should begin announcing awards for the Rural Fire Assistance/Volunteer Fire Assistance grants. This is a great grant for wildland tools & equipment, and small structural needs.

[Link to the latest information on FEMA grants.](#)

Input requested for station tour guide

The Office of State Fire Marshal (OSFM) seeking input on developing a 'Guide to Station Tours.' The guide is intended to provide best practice guidelines for educational tours of fire departments, suggestions of developmentally appropriate activities for youth of all ages, and tips to ensure the safety of department staff and visitors.

The OSFM is seeking your input for this project. If you have a program for department tours and/or you would like to serve on the project committee, contact the OSFM Youth Fire Prevention and Intervention Program Coordinator Judy Okulitch at judy.okulitch@state.or.us or 503-934-8240, or Training and Development Specialist Helen Feroli at helen.feroli@state.or.us or 503-934-8240.



Diborane B_2H_6

Description:

- Synonyms: Boroethane, boron hydride
- Colorless gas with a sweet, repulsive odor
- CAS No.: 19287-45-7
- EPA Section 302 EHS TPQ 1,335 ft³ /100 lbs
- EPA Section 112_R 35,125 ft³ /2,500 lbs
- OSHA Process Safety Management (PSM) 1,295 ft³ /100 lbs
- Usually shipped in pressurized cylinders diluted with hydrogen, argon, nitrogen, or helium

NFPA 704 Information:

- Health: 4
- Flammability: 4
- Reactivity: 3
- Special: Water reactive

Uses:

- Reagent in organic synthesis
- Used in rocket propellants

Reactivity and Fire Risk:

- Flammable range: LEL: 0.9%; UEL 98%
- Autoignition temperature: 100° F
- Boiling point: -134.5° F; Vapor density: 0.95
- Explodes on contact with chlorine or oxygen
- Pyrophoric - May ignite spontaneously in air at, or slightly above room temperature
- May form explosive mixtures with air and oxidizing agents
- Ignites spontaneously in moist air at room temperature
- Reacts violently with: ammonia, alcohols, halogenated compounds, aluminum, lithium, and metal oxides
- Reacts with water to form hydrogen and boric acid

Health Hazards:

- OSHA PEL: 0.1 ppm, TWA
- Inhalation LC₅₀ (rat): 80 ppm/1 hour
- IDLH: 15 ppm (From: NIOSH pocket guide)
- May be fatal if inhaled
- May cause pulmonary edema, liver and kidney damage
- Eye and skin irritant
- Symptoms may be immediate or up to 24 hrs

Fire Fighting Measures

- Use Self-Contained Breathing Apparatus and full chemical protective equipment
- Extinguishing media: Protein-based foams with a nitrogen carrier
- Violently reacts with most extinguishing media
- Stop the flow of gas if without risk; allow the fire to burn itself out
- If flames are accidentally extinguished, explosive reignition may occur
- Cylinders containing diborane mixtures may be equipped with a pressure relief device.
- Cylinders of pure diborane are not equipped with a pressure relief device
- Vapors are initially heavier than air and spread along the ground

2008 Emergency Response Guidebook:

- DOT toxic, flammable gas, Hazard Class 2.3
- UN/NA: 1911; Guide # 119
- Spill: Initially isolate 330 feet in all directions
- Large spill: First isolate 1000 feet in all directions (Table 1)
- Small spill: First isolate 200 feet in all directions (Table 1)

2007 Oregon Fire Code: Table 2703.1.1(2)

- Highly toxic gas
- Maximum Allowable Quantities (MAQ) per control area:
 - 20 Cubic feet at NTP
 - (h) Allowed only when stored in approved gas cabinets or exhausted enclosures

Incident Reporting and Information:

- Nine facilities in Oregon currently report diborane or diborane mixtures on the Hazardous Substance Information Survey
- There have been no hazardous materials incidents reported in Oregon since 1986

Other references

1. BOC Gases, MSDS for Diborane
2. Praxair, Inc., MSDS for Diborane
3. CDC NIOSH Pocket Guide – CDC website
4. EPA List of Lists, October 2006

For questions or suggestions contact Alec Carte at 503-934-8262 or e-mail aleta.carte@state.or.us

Fire & life safety recognition



Photo by Gert Zoutendijk

Lake Oswego Fire Department Lieutenant Steven DeHart receives his Fire and Life Safety Specialist II recognition certificate from Supervising Deputy State Fire Marshal Dave Jones in May.



Photo by Gert Zoutendijk

Albany Fire Department Lieutenant Donnie Schlies receives his Oregon Fire Marshal with Fire Plans Examiner recognition certificate from Supervising Deputy State Fire Marshal Dave Jones at the Oregon Fire Marshals Association annual business meeting in May.

Standards of Cover

continued from front page

In the case of KCFD, an SOC would have pointed out:

- The largest economic risk in the county had no fire suppression system.
- The water system could not provide more than 1,000 GPM for firefighting.
- The fire units were understaffed during the daytime due to a lack of volunteers.
- The department was essentially an 'exterior attack only' department until enough manpower arrived, which could take up to 20 minutes.
- The department's staffing regularly dropped to zero when ambulance calls had to be run (the fire department also ran the local ambulance).
- The department had no prevention or inspection services due to their budget.
- There were no business continuity plans to help larger businesses understand their own responsibilities in the event of a fire (like saving records first).

- There were no analyses of staffing or tasks that demonstrated what a minimum effective firefighting force was for Kirkland County.
- There was no plan of engagement for firefighters that considered NFPA, OSHA, IAFC, IAFF, and other relevant standards.

Do any of these sound familiar? Could a similar story be written about your community?

A standards of cover need not be a book. Many smaller departments have successfully addressed their community risk, ability to respond, rules of engagement, and limits of service in 20 pages or less. When it's complete, policy-makers, the community, firefighters, and the fire chief have an objective document clearly stating what can be expected from the local fire department.

To see some examples, visit the websites for the Oregon Office of State Fire Marshal or the Oregon Fire Chiefs Association. If you have any questions related to developing standards of cover that aren't answered by those documents, please feel free to e-mail me at Paul@cdm-hro.com.

See the DATA Connection column on page six for more information on key elements of standards of cover.