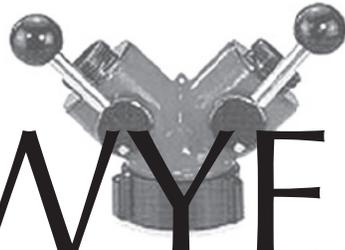


GATED WYE



August 2016 · Oregon Office of State Fire Marshal · 3565 Trelstad Avenue SE · Salem, Oregon 97317 · No. 392

Wildfire safety awareness window clings available

The OSFM has created the first in a series of window clings for Oregon fire agencies to distribute at events this summer.

“Protect Your Home From Wildfire” is the theme of these window clings, and they have been developed in association with the University of Oregon and Oregon State University. The OSFM will give priority to orders submitted by fire agencies that have populations situated along the wildland urban interface.

Additional window clings with other messages (including smoke alarms) will be released seasonally. The clings are available with both Oregon Ducks and OSU Beavers logos.

Quantities are limited. Order soon by visiting the [OSFM prevention and safety material request page](#) and scroll down to the Home Safety section.



From the desk of the state fire marshal



“... the essence of T.E.A.M is that together everyone achieves more...”

- Jim Walker

A team-focused approach

Whether it's a wildland fire or a hazmat incident, collaboration and coordination are critical to force multiply resources and maximize outcomes.

Through the state mobilization plan, local incident commanders are able to request resources through OSFM's Agency Operations Center.

The AOC is staffed by our dedicated employees to mobilize and safely track resources from initial mobilization to demobilization of resources back to their home agencies.

OSFM works closely with our fire service partners to coordinate and build specialized statewide capabilities in the form of wildland firefighting teams, hazmat teams, and all-hazard incident management teams that support local incident needs.

Our three incident management teams are made up of dedicated, highly qualified individuals from around the state to help support local districts in turning a chaotic situation into calm. Thank you Blue, Green, and Red IMT members for what you do.

While it may be a cliché, the essence of T.E.A.M is that together everyone achieves more, something we all must continue to be dedicated to in order to most effectively meet the needs and expectations of the public we serve.

Collectively, all of you form the best fire service in the nation. I am proud to work with you, and for you.



**State Fire Marshal
Jim Walker**

**Office of
State Fire Marshal**

**Oregon State Police
3565 Trelstad Ave. SE
Salem Oregon
97317**

**www.oregon.gov/OSP/SFM
503-934-8200**

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503-934-8214

Youth Fire Prevention
& Intervention
503-934-8240



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 email richard.hoover@state.or.us. In compliance with the Americans with Disabilities Act, alternative formats of this publication are available.

OSFM seeking instructors from Oregon fire agencies

The Office of State Fire Marshal is an approved continuing education provider for smoke and carbon monoxide alarm law courses for real estate agents, and is seeking fire agency representatives who would also like to be qualified and trained to teach this course.

Potential candidates must have one of the following qualifications (most likely 1, 2, or 3 for fire service members) and submit an [Oregon Real Estate Agency Continuing Education Instructor Qualification Form](#):

1. Bachelor's degree and two years' experience working in a field related to the course topic
2. Six years' experience working in a field related to the course topic
3. A total of six years or any combination of college-level coursework and experience working in a field related to the topic of the course
4. A designation by a professional real estate organization, as defined in Oregon Administrative Rule 863.020.0060, and two years of college-level coursework
5. A designation as a Distinguished Real Estate Instructor by the Real Estate Educators Association
6. Certification or approval in good standing as a real estate instructor for the same or a similar course topic in any other state or jurisdiction

If you are approved as a trainer, you will be able to train real estate agents in your fire agency's jurisdiction; however, there is no compensation for the training you provide.

[Register online for the OSFM hosted train-the-trainer session August 10, 2016 in Salem, Oregon.](#) The training covers information on laws, the OSFM's role as a CEU provider, and the instructor's role. More trainings will be available later this year.

If interested, send your [qualification form](#) to osfm.ce@state.or.us or mail it to Oregon State Police, Office of State Fire Marshal, 3565 Trelstad Ave. SE, Salem, OR 97317.

For questions, email Stephanie Stafford at stephanie.stafford@state.or.us.

NFPA 1035 Juvenile Firesetter Intervention Specialist I Training in September

Sandy Fire District #72, the Clackamas County Fire Prevention & Intervention Network, and the Oregon Office of State Fire Marshal Youth Fire Prevention & Intervention Program are sponsoring two days of NFPA 1035 Juvenile Firesetter Intervention Specialist I training at the Sandy Fire Annex Building, 17459 SE Bruns Avenue, Sandy, Oregon, from 8:00 a.m. to 5:00 p.m., September 8th and 9th, 2016.

Training is provided at no cost. All travel, meals, lodging, or other expenses are the sole responsibility of the attendee.

Registration is required for all attendees.

Class size is limited. Registration is on a first come, first serve basis.

The 16-hour training provides an overview of Oregon's Juvenile Firesetter Intervention Program. Topics include: policies, procedures, laws, child development and communication, practice using the Oregon Juvenile with Fire Screening Tool, educational fire safety resources, data collection and reporting, and networking steps.

The class helps prepare fire service personnel for completion of the knowledge portion of the task book as required by the Department of Public Safety Standards and Training for the National Fire Protection Association 1035 certification as a Juvenile Firesetter Intervention Specialist I in Oregon.

The online registration form is available on the OSFM website.

[The 2015 OSFM Annual Report Supplement is now available online.](#)

OSFM seeking members for the Oregon Life Safety Team

The Office of State Fire Marshal is inviting members of the Oregon fire service and any other safety organization to become a member of the OSFM Oregon Life Safety Team (OLST). The main purpose of the OLST is to coordinate and implement consistent statewide fire prevention and life safety education. Current members of the OLST include representatives from fire service agencies and associations, government and private agencies, and citizens.



The OLST generally meets monthly in Salem. However, teleconferencing is available for members unable to attend in person.

If interested in attending via conference call or in person, please contact Stephanie Stafford at 503-934-8219 or Stephanie.stafford@state.or.us.

OSFM 2016 Fire Prevention Month USB Drive

The 2016 FPM theme focuses on the importance of having working smoke alarms, checking their manufacture date and replacing them if they are more than 10 years old. This year, every fire agency will receive a USB drive that includes printable and digital educational resources.

Stay tuned for more information about OSFM's Fire Prevention Month campaign. The September Gated Wye will have information on available educational materials and resources.

As always, you can [visit the OSFM resources webpage to view and order materials](#) available to any Oregon fire agency to enhance fire prevention and safety education efforts year round. For questions, contact the OSFM Fire & Life Safety Education at 503-934-8228.

OSFM staff member chosen for NFPA board

The National Fire Protection Association's Education Section Executive Board has chosen OSFM's Fire Prevention Coordinator Stephanie Stafford to serve as a director on the board.

In her role at the OSFM, Stephanie identifies, plans, establishes, and evaluates the coordination, development, and monitoring of statewide structural and wildland fire prevention education programs and campaigns designed to reduce fire casualties and property loss. She also designs and develops statewide programs to deliver prevention education curriculum, media campaigns, and public awareness programs for fire prevention education.



The vision of the NFPA Education Section is to provide a forum to bring fire and life safety educators together with a diverse coalition of individuals and organizations to exchange information and provide opportunities for the development of all members.

Membership in the NFPA Education Section is open to any NFPA member who holds responsibility for education in an organization or community, or who shares a sincere interest in fire safety education. [Visit the NFPA Education Section webpage](#) for more information.

OSFM job openings

The Office of State Fire Marshal has four full-time Compliance Specialist 3 positions available.

One position is permanent, three are of limited duration with a high probability they will become permanent by June 30, 2017.

Recruitment is open until August 31, 2016. However, the OSFM will be pulling the first list of applicants on August 8, 2016.

[View complete job description, duties, and responsibilities online.](#)

DATA Connection

*News from the Analytics & Intelligence Unit
by Program Coordinator Dave Gullede*

2015 Fire Statistics

The Supplement to the Office of State Fire Marshal (OSFM) Annual Report is a compilation of Oregon fire statistics for 2015, and is now available online. The following are some of the highlights from that report.

In 2015, there were 316 structural fire protection agencies in Oregon, 298 (94%) of which reported their incidents to the OSFM. Based on state population estimates from Portland State University and estimated populations provided by local fire jurisdictions, these 298 reporting agencies represent 99% of the state's total population.

Oregon fire service agencies reported 342,425 total incidents to the OSFM in 2015, an 8% increase from 2014. Emergency medical incidents accounted for 70% of all incident responses, while only 4% of all responses were to fires.

The 15,103 fires that were reported in 2015 resulted in \$157.3 million of estimated loss, 31 confirmed deaths, 227 civilian injuries, and 156 firefighter injuries. Structure fires alone accounted for 25% of all fires and resulted in 23 confirmed deaths, 165 civilian injuries, 51 firefighter injuries, and \$128 million in estimated damage.

There were 2,510 smoking-related fires reported in 2015, accounting for 17% of all fires. Using the methodology developed by the U.S. Fire Administration for causal determination, this was Oregon's leading fire cause in 2015. The second leading cause was intentionally set fires, which was the reported cause in 1,667 fires.

There were 2,800 residential structure fires in 2015. The leading cause was cooking fires, which accounted for 20.4% of all residential structure fires. This was followed very closely by heating fires, which accounted for 18.6% of all residential structure fires. More than \$72 million in estimated damage was caused as a result of residential structure fires.

One in four residential structure fires started in the kitchen or cooking area, and stoves were the most commonly identified equipment involved in

those fires. Failure to clean, abandoned or unattended materials, and heat sources too close to combustibles were the top three contributing factors which accounted for a third of all residential structure fires.

In 2015, 16.6% of residential structure fires were in homes with no operating smoke alarm. Of the 1,643 residential structure fires with a smoke alarm present, one out of every three failed to operate. In situations where the fire was large enough to activate the alarm, the leading reason for the alarm failure was a missing or disconnected battery. Only four alarms were determined to be defective.

Fires caused by cigarettes proved to be the most deadly in 2015, as 8 of the 31 confirmed fire related deaths resulted from these types of fires. More than half (52.4%) of all fire related deaths involved people over the age of 60.

There were 156 firefighter injuries reported in 2015. The most reported injuries (20.5%) were overexertion and strains. One out of every five injuries was reported to have resulted in loss time. Back and spine injuries were the most reported body part injured (21.1%).

To view these statistics and more Oregon fire statistics, go to the [2015 Annual Report Supplement on the OSFM website](#).

Providing this report in an electronic format is part of the OSFM's strategic plan to provide optimal accessibility, enhance efficiency, and reduce costs through the use of technology.

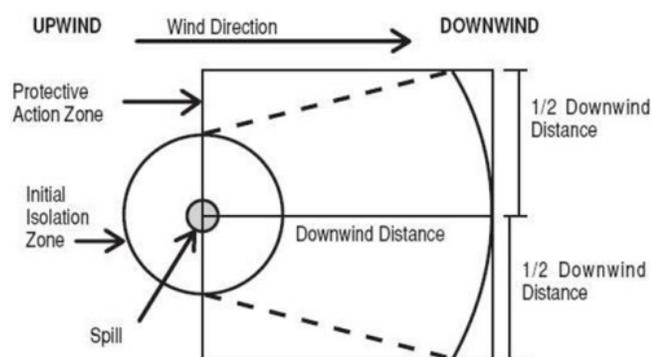
Electronic copies of the various charts and graphs found in the report can be made available upon request. Feedback on the format and presentation of this report is welcome and appreciated.

Questions? Please contact the Analytics & Intelligence Unit at 503-934-8250, toll free at 877-588-8787, or email osfm.data@state.or.us.

HAZMatters: Evacuation guidelines - Part 1

by OSFM Emergency Response Branch Manager Michael Heffner

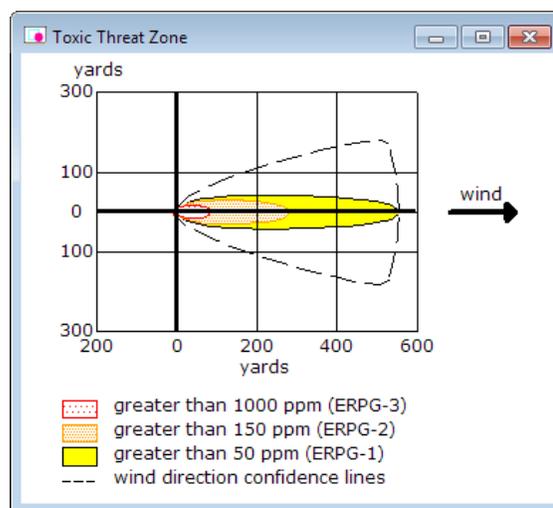
On Friday, June 3rd, 2016, an evacuation distance of 1/2 mile was declared when a train hauling crude oil derailed and caught fire in Mosier, Oregon. This evacuation measurement is found in the U.S. Department of Transportation's Emergency Response Guidebook (ERG). For crude oil – placarded 1267 – users of the guidebook would locate this recommendation on Guide page 128 under the **Evacuation** heading for a rail car involved in fire.



The ERG permits readers to quickly identify a hazardous material placard and to determine an initial area of isolation, evacuation guidelines, and recommendations for downwind protective distances (U.S. DOT, 2012). These protective action distances were calculated as the 90th-percentile value for safe evacuation distances based on a number of computational analyses (Brown, Freeman, & Haney, 2013). Even more conservative estimations were calculated for the 95th and 99th-percentiles, although ultimately the resulting distances were excluded as they were considered to be so expansive that emergency response officials would not find it practical to execute these evacuations. Another evacuation decision-making tool that offers more chemical-specific guidance is the use of **acute exposure guidelines**, or AEGLs.

According to Sage (2014), AEGLs were developed as, "...exposure limits intended for use with rare short-duration acute toxic chemical exposures, occurring not more than once in a lifetime." Three separate thresholds have been established for use in planning and response to chemical releases in a community (National Research Council, 2001). **Level one**, the lowest concern, is a detect-

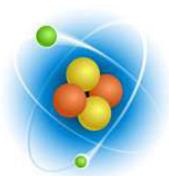
able amount of chemical release that could cause transient discomfort or irritation in susceptible individuals. **Level two**, a higher level of concern, is a more disabling amount of chemical exposure that results in severe and potentially irreversible symptoms. **Level three**, the highest level of concern, is estimated to be a lethal dose of chemical exposure. AEGLs have only been calculated for 324 different chemicals and are determined using computer-based plume modeling. In Oregon, this tool is available with each of OSFM's regional hazmat teams.



Oregon's 13 regional hazmat teams are equipped with a mobile computer suite which employ plume modeling software titled Areal Location of Hazardous Atmospheres, or ALOHA, and mapping software titled MARPLOT to predict the dispersion of toxic gases. Once plotted on a map, the three different AEGL threat zones can be displayed for the incident commander to assess whether specific locations downwind should evacuate, shelter-in-place, or simply be prepared to take action. Part 2 of this article next month will discuss the merits and challenges of evacuation versus shelter-in-place.

References

- Brown, D., Freeman, W., & Haney, W. (2013). Development of the table of initial isolation and protective action distances for the 2012 emergency response guidebook (ANL/DIS-13/22). Retrieved from <http://www.osti.gov/scitech/>
- National Research Council. (2001). Standing Operating Procedures for Developing Acute Exposure Guidelines Levels for Hazardous Chemicals. Washington, D.C.: National Academy Press.
- Sage, S. (2004). Determination of acute exposure guideline levels in a dispersion model. *Journal of Air and Waste Management*, 54, 49-59. doi: 10.1080/10473289.2004.10470885
- U.S. Department of Transportation. (2012). 2012 Emergency Response Guidebook. Washington, D.C.: Government Printing Office.



Chemical of the month

Oxygen Liquid (O₂)

(liquid oxygen, LOX, molecular oxygen, cryogenic oxygen)

Description:

- Pale blue, odorless, extremely cold liquid
- Hazard classes: 5.1 oxidizer, 6.3 acute health hazard
- Oxygen makes up 20.95% of atmospheric air
- CAS No.: 7782-44-7
- UN-NA No.: 1073

NFPA 704 Placard Information:

- Health – 3
- Flammability – 0
- Reactivity – 0
- Special Notice – OX

Uses:

- Major use is in steel industry furnaces
- Used with acetylene, propane, or hydrogen in metallurgy for cutting, welding, hardening, scarfing, cleaning, and dehydrating
- Used in the pulp and paper industries to treat municipal and industrial wastes; in fish farming pools and ponds; and as a life support gas

Reactivity and Fire Risk:

- Normally stable
- Hazardous polymerization does not occur
- Liquid oxygen reacts violently or explosively with many common organic and inorganic materials including oil, grease, fuels, clothing materials, wood, tar, asphalt, and sawdust
- Oxygen is not combustible, but pure oxygen liquid or gas poses a serious fire or explosion risk because it greatly promotes combustion
- In oxygen-rich atmospheres, flammable range is widened, ignition temperatures decrease as well as temperatures at which materials will burn
- Materials normally considered non-combustible will burn in the presence of liquid oxygen
- Clothing or combustible materials saturated with liquid oxygen or in an oxygen enriched area are a fire or explosion hazard

Health Hazards:

- Normally non-toxic by inhalation even at 100% concentration for short periods of time, breathing super cooled vapors can cause frostbite of upper airways

- Direct contact with liquid on skin or eyes can produce frostbite

Personal Protective Equipment:

- Normal Conditions: Wear chemical safety goggles and insulated protective clothing to prevent all skin contact; a face shield may also be necessary
- Fire Conditions: Wear full protective clothing with positive pressure SCBA

Inspection and Storage Tips:

- Store cylinders in a cool, dry, well-ventilated area away from flammable, combustible, and corrosive materials and atmospheres
- Store away from processing or handling areas
- Store away from heat, ignition sources, and out of direct sunlight
- Store away from other gas cylinders depending on their chemical hazards
- Cylinders must be chained to wall in upright position with valves tightly closed

Article 80 (UFC) Storage Information:

- Class 2 Oxidizer
- S occupancy exempt amounts allowed per control area:
 - Unprotected by sprinklers or approved storage cabinets: 250 gallons
 - In sprinkled building, not within approved storage cabinets: 500 gallons
 - In un-sprinkled building, within approved storage cabinets: 500 gallons
 - In sprinkled building, within approved storage cabinets: 1,000 gallons
- Storage of quantities exceeding allowed exempt amounts for an S occupancy must conform to H-7 occupancy requirements (UBC)

Incident and Reporting Information:

- There have been 14 hazardous materials related incidents involving oxygen liquid in Oregon since 1986.
- The Annual Hazardous Substance Information Survey shows 1,794 companies in Oregon that have reportable quantities of oxygen liquid on site (500 gallons).

OSFM and Oregon state universities branding partnership enters second year

In the fall of 2015, the OSFM entered into a branding and marketing agreement with Oregon State University Beavers and the University of Oregon Ducks designed to:

- Establish a connection between the OSFM and the Beaver and Duck fan bases.
- Build brand awareness and educate Oregonians about structural fire prevention and smoke alarms.
- Use the school mascots and logos as a focal point for the OSFM marketing campaigns.
- Last year, the OSFM worked with both schools using network radio and social media during the OSU football season and the UO basketball season.

In the spring of 2016, the OSFM used the school mascots for social media banners and images promoting wildfire awareness, prevention, and safety.

This fall, the OSFM is once again partnering with the universities using traditional media, event education booths, prize packages, and more during both schools' football and basketball seasons and the UO baseball season.

As part of our education and awareness campaign this year, the OSFM has developed two new smoke alarm fliers, with each version using one of the school mascots.

The fliers are available free to any Oregon fire agency to help with your prevention and education efforts. Visit the [OSFM prevention and safety education material request page](#) to place your order.

