

# Shelter-in-Place for Employers and Facilities

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Emergency Management

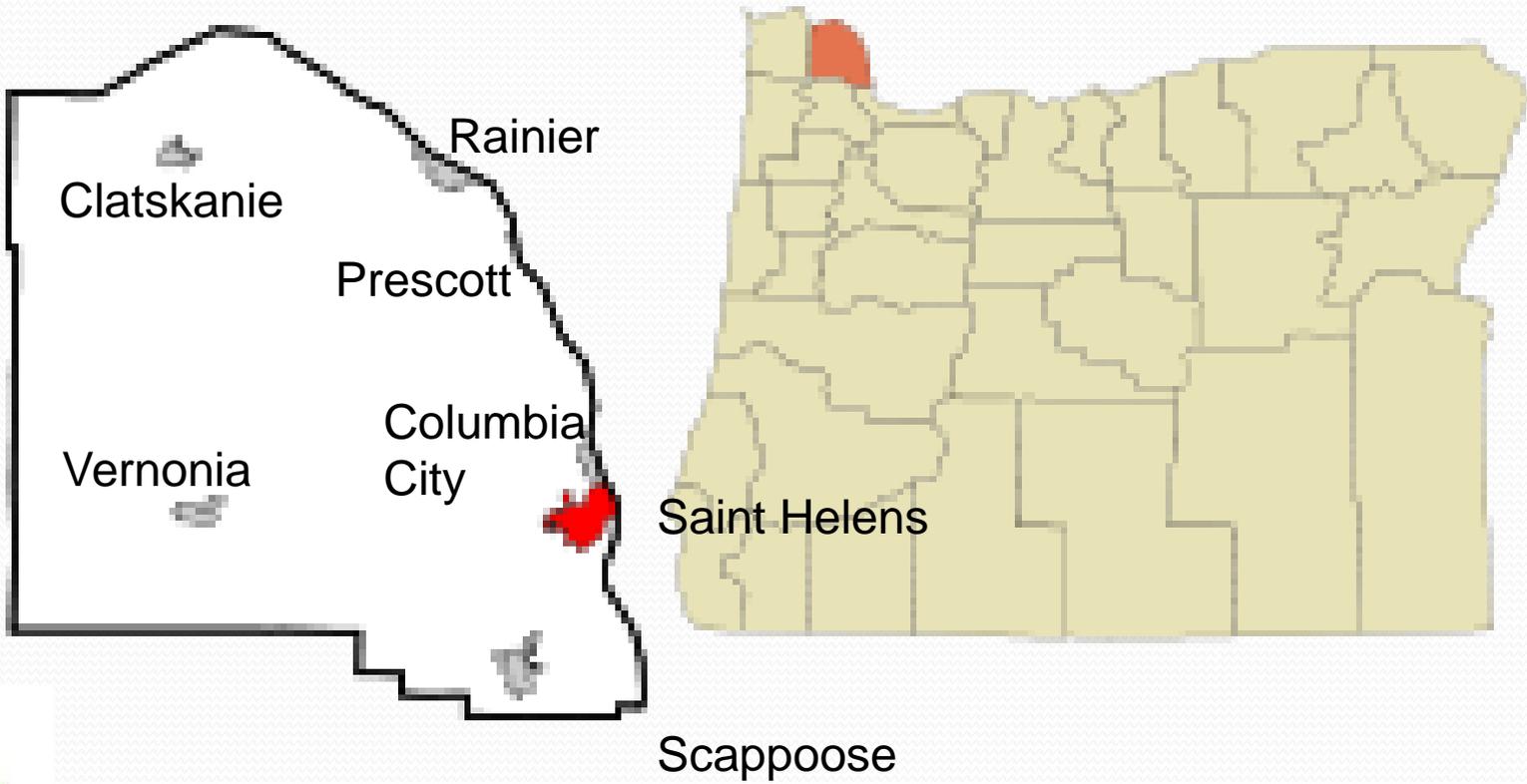
*Sponsored in part by the Oregon State Fire Marshal*

# Agenda:

- 1) Prologue
- 2) Definition/Purpose of Shelter-in-Place
- 3) Examples of SIP Use: There and Here
- 4) Why It Is Important To Plan for SIP
- 5) Procedures for SIP Response
- 6) Conclusion/Questions



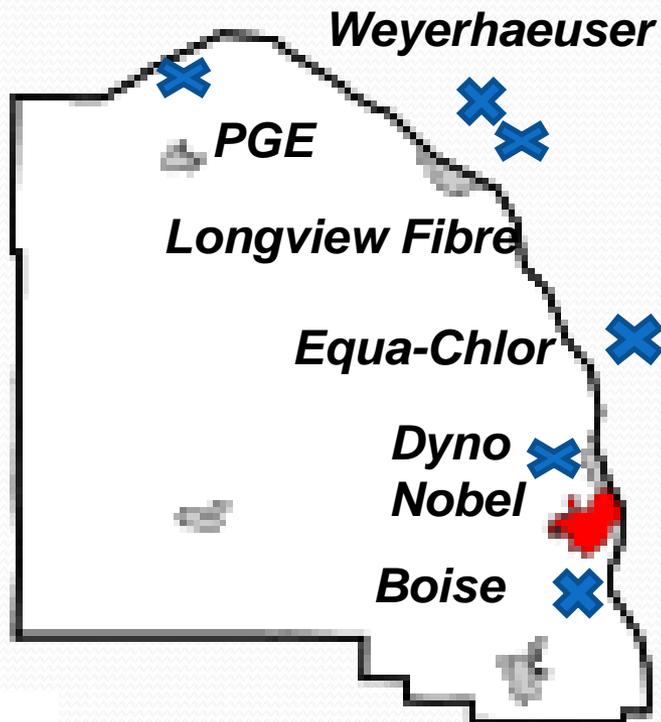
# Prologue



**Columbia County—50,000 Residents**



# Hazmat Concerns (EHS)



## Transportation Routes:

- Columbia River
- US 30 (follows similar path to river)
- Other Highways
- Railroad (along US 30)
- Proximity to Airports



Columbia County—50,000 Residents

# Why Worry About Shelter-in-Place?



# Bhopal Incident, 1984



# Bhopal Incident=Need to Prepare for Hazardous Chemical Incidents!

Emergency Planning and Community Right-to-know Act (EPCRA)—

- ❖ Reporting of hazardous materials
- ❖ Local, state planning for incidents



# What Hazardous Materials Are Around in Oregon?

- Anhydrous Ammonia
- Natural Gas
- Propane
- Chlorine Gas



# Two Forms of General Hazmat Response

- **Evacuation**
- **Shelter-in-Place (SIP)**

# What is Shelter-in-Place?

**Shelter-in-Place (SIP) orders are given during certain hazardous materials leaks. It basically means to remain inside your building and keep doors and windows shut and heating/ventilation/air conditioning (HVAC) units turned off.**



# Responder Considerations on Evacuation or SIP

- Type of Chemical Released
  - Amount of Release
  - Available Resources
- More of a Threat to Evacuate



# Types of SIP:

- Normal—shut windows/doors, shut off HVAC (*quickest, most likely*)
- Expedient—use of plastic and tape
- Enhanced--mitigating leaks in structure before SIP occurs (weatherization)
- Pressurized—use of special equipment to prevent hazmat from entering structure (*expensive, rare*)



# Examples of SIP Use Nationwide:

- Phosphorus Trichloride—Nitro, West Virginia (1995)
- Bromine Gas—Ludington, Michigan (1993)
- Hydrogen Fluoride—Texas City, Texas (1987)
- Anhydrous Ammonia Leak—Houston, Texas (1976)



# Examples of Our SIP Use:

Here:

- Natural Gas, Warren Area—June 2010
- Natural Gas, Scappoose—April 2010
- Weyerhaeuser Turpentine, Rainier—1980s
- Trojan Nuclear Plant Days—Test Only



# Why Is It Important to Pre-Plan for SIP?

The better prepared you are, the easier implementation of this will go!



# Planning for SIP Events



# Keys to a Good SIP Response:

- 1) Alert Reception
- 2) Alert Dissemination
- 3) Securing Building and Sheltering\*
- 4) Completion/Recovery/Review Phase

\* Special Considerations (HVAC, visitors, non-compliance)



# Alert Reception



# Alert Reception

**Phone**

**Third-Party  
Report**

**Emergency  
Alert  
System**

**Responder In-  
Person Notification**



# Alert Dissemination



# Securing Building and Sheltering

Lock Doors

Close Windows

Shut Down HVAC Units

Gather Personnel in Sheltered Areas  
(if factory or other larger facility)

Use of Tape, Plastic *Optional*

Stay Informed



# Special Considerations



# Heating, Ventilation and Air Conditioning (HVAC) Units



# Visitors



# Non-Compliance from Visitors, Employees



# Recovery/Review Phase

- Make sure you know when it ends
- Check for any noticeable damage
- Check HVAC system
- Check on health of everyone
- Be aware of mental/social health issues after event (PTSD, depression, etc.)
- Review incident after it ends



# Things To Remember:

- Get leaders to “buy-in” to planning
- Look at HVAC system issues
- Be ready to receive alerts
- Practice makes perfect



# Questions?

Post-Training Assistance:

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