Oregon Air Toxics—A situation to watch

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Oregon Air Toxics

- What's all the news about?
  - Oregon Air Toxics associated with art glass manufacturing plants in SE and N Portland have been in the news almost daily since February 3
  - This has led to a series of revelations about air toxics
  - Political turmoil and regulatory uncertainty are the result
  - Misinformation abounds

Portland Air, Making National News

Oregon senators: Portland's toxic air is 'public health emergency'

Federal lawmakers on Friday implored the U.S. Environmental Protection Agency to respond to growing alarm over what they said were dangerous amounts of toxic pollution in Portland's air.

As state regulators remained silent about plans to address the city's cancer-causing air pollution, Sens. Ron Wyden and Jeff Merkley and Rep. Earl Blumenauer asked for the EPA to intervene, calling the situation a public health emergency.

The three Oregon Democrats escalated the already high-profile chorus of political leaders suddenly prodding environmental officials to take decisive action.

Oregon's Department of Environmental Quality has moved slowly to respond to scientists' discovery of toxic pollution hot spots throughout Portland. The agency has known that some neighborhoods likely breathed dirtier air than others. But it kept that information secret for eight months. Since it became public, the agency has avoided answering questions about what it knows.

Without specifically criticizing the state response, the federal lawmakers sent a letter to the EPA's leader saying urgent action was needed.

PORTLAND'S TOXIC AIR

From the Headlines-toxic hysteria

State Finds Alarmingly High Arsenic, Cadmium Levels Near Two SE Portland Schools (Portland Mercury February 3, 2016)

Don't eat backyard vegetables near Portland glass factories, officials warn (The Oregonian February 18, 2016)

Oregon DEQ Director Dick Pedersen Resigns Amid Air Pollution Concerns (Portland Mercury March 1, 2016)

Vegetable warning lifted for SE Portland pollution hot spot, but questions linger (The Oregonian March 9, 2016)

How Portland learned its air was toxic – and failed to fix it (The Oregonian March 11, 2016)

Poisonous gas repeatedly found in Hayden Island air tests (The Oregonian April 28, 2016)

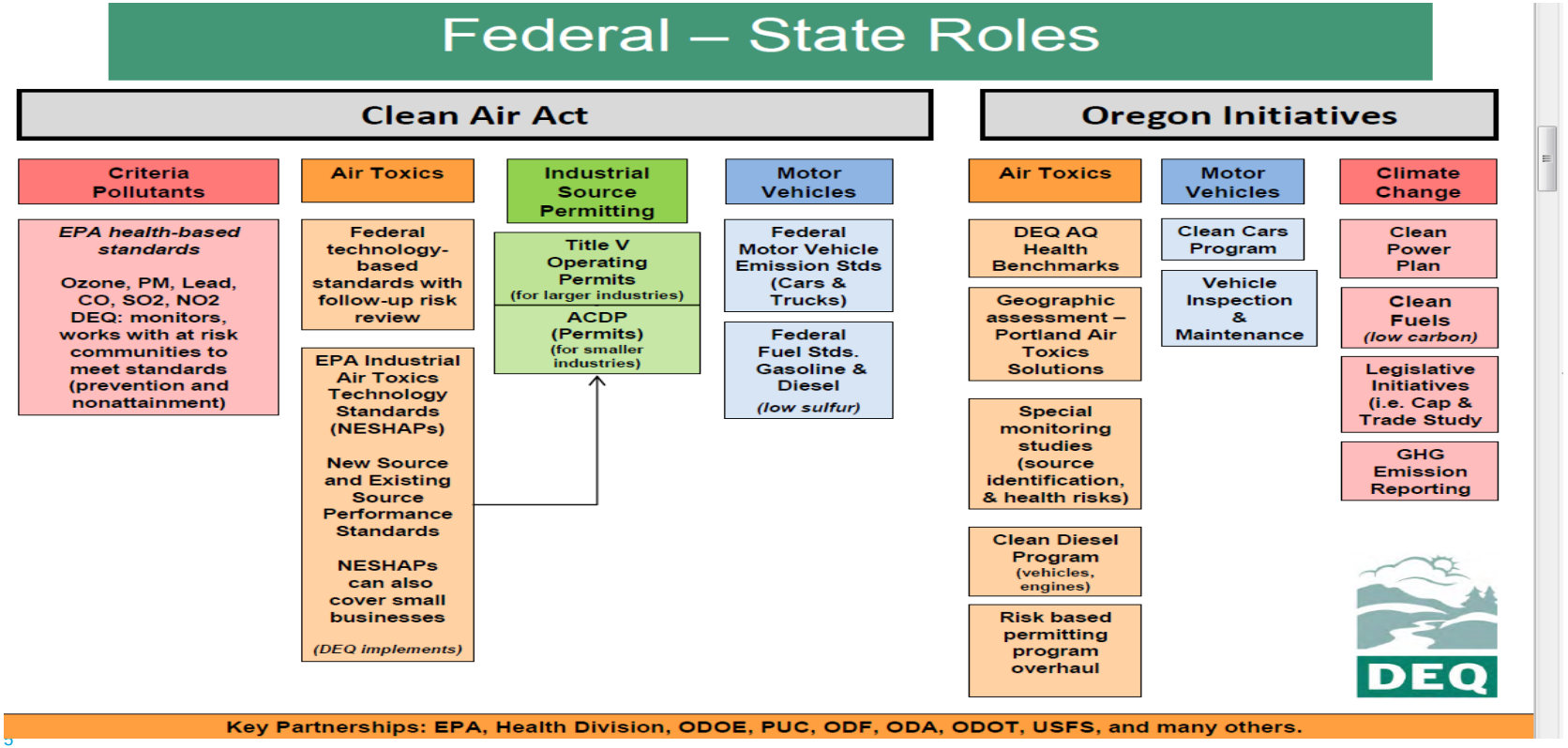
Oregon's Governor Issues Cease and Desist Order to Bullseye Glass over lead concentrations (Cleaner Air Oregon May 19, 2016)

What This Means

- Oregon DEQ is distracted by Air Toxics issues
- New Air Toxics regulations are coming to Oregon
- Citizen involvement will put pressure on DEQ and will feed on itself and allow for targeting
- Technical accuracy in communication and reaction will likely be lost
- Make sure your technical information around air emissions and air toxics is up to date
- Litigation potential increases
- Stay informed of the rule development process

Background

- Federal rules come out of the Clean Air Act and its amendments
- Permitting program has many elements
- Oregon program elements follow federal rules except for air toxics which are implemented at the state level



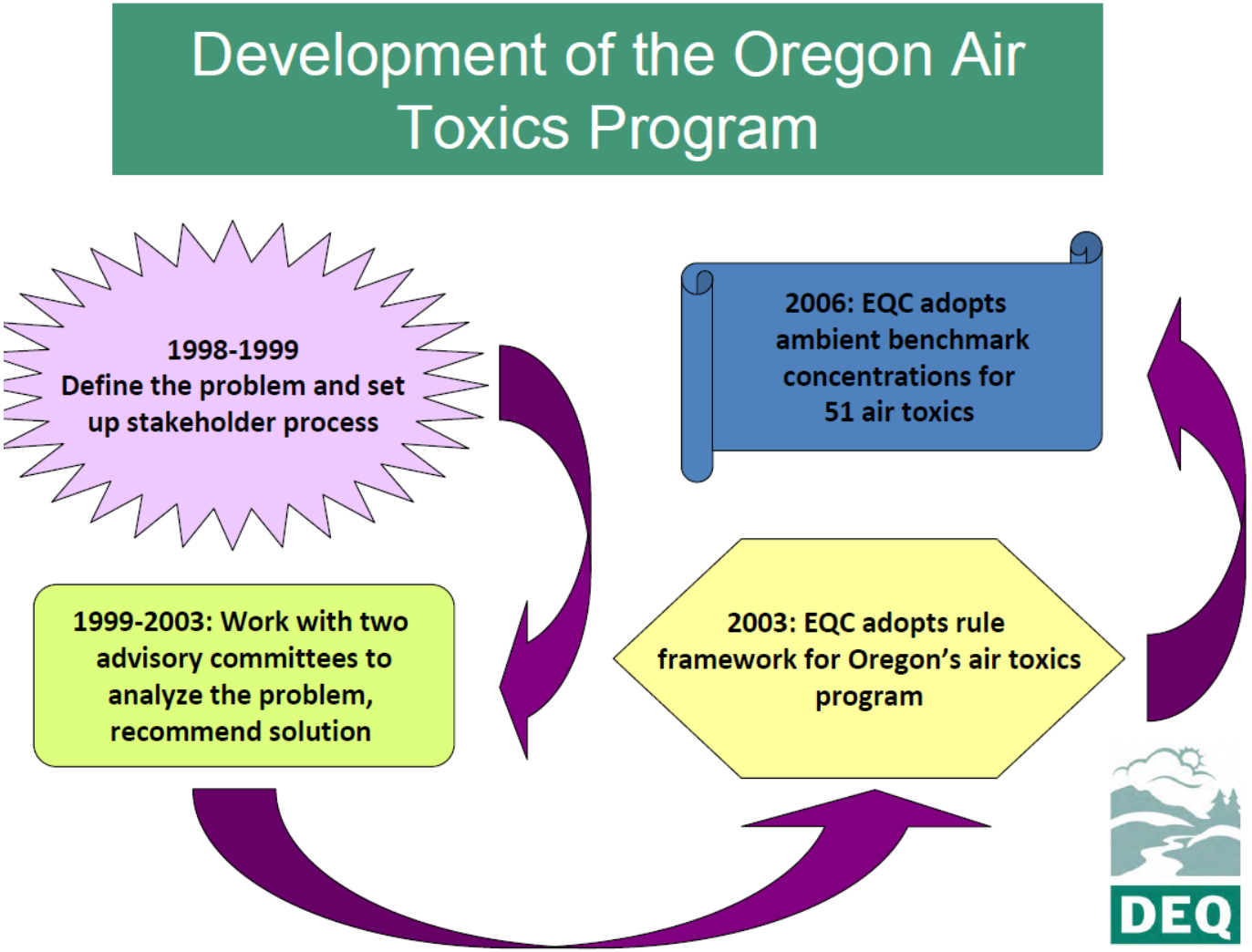
Federal Air Permitting Regulations—Criteria Pollutants

- The primary permitting programs under CAA regulate Criteria Pollutants—health based standards for ozone, PM, CO, SO2, NO2, and lead
- The CAA created an industrial source permitting program implemented as Air Contaminant Discharge Permits in Oregon
- Title V operating permits for major sources are incorporated into the ACDP program—regulated sources in Oregon have a minor source or major source ACDP
- Programs are mass based and technology based
- Air Toxics addressed under the CAA as technology and mass based standards
    - NESHAPS
    - New Source Performance Standards
    - Mass based approach based on Title V thresholds (10 and 25 tpy) regardless of toxicity

Federal Air Permitting Regulations—Air Toxics

- Technology based
- National Emission Standards for Hazardous Air Pollutants (NESHAP 40 CFR Part 61 and 63)
- Some NESHAPs apply to area sources such as boiler MACT and RICE MACT
- Major sources defined as ≥10 tons/yr of an individual HAP or 25 tons/yr of aggregate HAPs (as defined in CAA)
- Source specific MACT standards for new sources requires best control achieved in practice, existing sources, top 12% of similar sources

Current Oregon Air Toxics Program



Oregon Air Toxics Program

- Geographic approach—focused on assessing area wide sources of air toxics based on air monitoring and comparison to abcs
- Source category approach—focused on one source category at a time, requires rulemaking, resource intensive, currently being used for art glass manufacturing
- Safety Net—designed to address air toxics risk from sources not otherwise regulated through NESHAPs
- Program ineffective due to lack of funding for air monitoring

Oregon Ambient Benchmark Compounds

Oregon Ambient Benchmark Compounds		
ACETALDEHYDE	DIOXINS & FURANS, CHLORINATED	METHYLENE CHLORIDE
ACROLEIN	ETHYL BENZENE	NAPTHALENE
ACRYLONITRILE	ETHYLENE DIBROMIDE	NICKEL REFINERY DUST
AMMONIA	ETHYLENE DICHLORIDE	NICKEL SUBSULFIDE
ARSENIC	ETHYLENE OXIDE	NICKEL COMPOUNDS
BENZNE	FORMALDEHYDE	PHOSPHINE
BERYLIUM	n-HEXANE	PHOSPHORIC ACID
1,3-BUTADIENE	HYDROGEN CHLORIDE	POLYCHLORINATED BIPHENYLS
CADMIUM	HYDROGEN CYANIDE	POLYCYCLIC AROMATIC HYDROCARBONS
CARBON DISULFIDE	HYDROGEN FLUORIDE	TETRACHLOROETHYLENE
CARBON TETRACHLORIDE	HYDROGEN SULFIDE	TOLUENE
CHLORINE	LEAD COMPOUNDS	2,4,-/2,6-TOLUENE DIISOCYANATE
CHOROFORM	MANGANESE COMPOUNDS	TRICHLORETHYLENE
CHROMIUM, HEXAVALENT	MERCURY (ELEMENTAL)	VINYL CHLORIDE
COBALT COMPOUNDS	METHANOL	WHITE PHOSPHOROUS
1,4-DICHLORBENZENE	METHYL BROMIDE	ZYLENES
1,3-DICHLOROPROPENE	METHYL CHLORIDE	
DIESEL PARTICULATE MATTER	METHYL CHLOROFORM	

Current Situation

- USFS conducted moss study in fall 2015 identifying 2 hot spots around glass manufacturing plants
- DEQ conducted air monitoring around these hot spots October 2015
- Air monitoring showed high daily levels of arsenic and cadmium
- Abcs are annual concentrations with risk based on lifetime exposures
- DEQ response considered inadequate amid citizen response and citizen groups
- DEQ director resigns
- Talk of forming local air district

DEQs Response

- DEQ was cautious in releasing results in order to fully understand the situation and resulting implications to the public
- Responses from governmental officials at the city, county, state, and federal
- Legislative approval of $2.5 M emergency funding for rule development and air monitoring
- Emergency rulemaking—temporary source category rules for colored art glass manufacturers approved by EQC in April
- Permanent rulemaking around colored art glass manufacturing plants in process
- Announced 2017 Regulatory overhaul for risk-based permitting for industrial sources underway

Other DEQ Actions

- Initial focus on metals but air toxics include volatile compounds as well
- April 28 letter from DEQ to Governor
  - identifies 316 statewide facilities authorized to release chromium and other metals in permits
  - Promises to send letters May 16 requesting information about operations
  - Respond by June 1
  - Promises 100 “surprise” inspections within 6 weeks
  - But what happened

Information Request

- Types and volume of metals or metal containing fuels used at the facility
- MSDS for materials used in production
- Operating hours, days, and whether production is continuous or periodic
- Reports of most recent facility emissions testing
- Current air pollution control measures or equipment in use
- Existing results of any modeling

Other DEQ Actions

- Developed 24-hour Screening Levels without advisory committees and without rule making released March 24, 2016
- Developed by DEQ and OHA to provide context for air monitoring results from southeast and north Portland monitoring programs
- Oregon 24-hour Screening levels developed by other municipalities designed to compare against 24 hour samples and choose the lowest from New Hampshire, Ontario, Texas
- 24-hour screening level for lead equal to quarterly NAAQS

Oregon 24-hour Screening Levels

Metal	Oregon 24-Hour Screening Level (ng/m^3)	Texas (ng/m^3)	New Hampshire (ng/m^3)	Ontario (ng/m^3)	ATSDR (ng/m^3)
Arsenic	36	3000	36	300	NA
Beryllium	10	20	180	10	NA
Cadmium	30	100	36	25	30
Chromium (total)	---	---	---	---	---
Chromium 6	36	390	36	0.35	NA
Cobalt	100	200	71	100	NA
Lead	150	150	150	500	NA
Manganese	400	2000	1000	400	NA
Nickel	200	330	360	200	NA
Selenium	710	2000	710	10000	NA

DEQ Rulemaking

- April 6, 2016 Governor Kate Brown announced the launch of Cleaner Air Oregon a new initiative to reform industrial air toxics regulations and align them with public health http://cleanerairoregon.org/
- DEQ and OHA have begun a formal rulemaking process creating human health risk-based rules for industrial facilities
- The rulemaking began in March 2016 and will include public input and comment
- A Technical Workgroup has been created to contribute to the rulemaking process

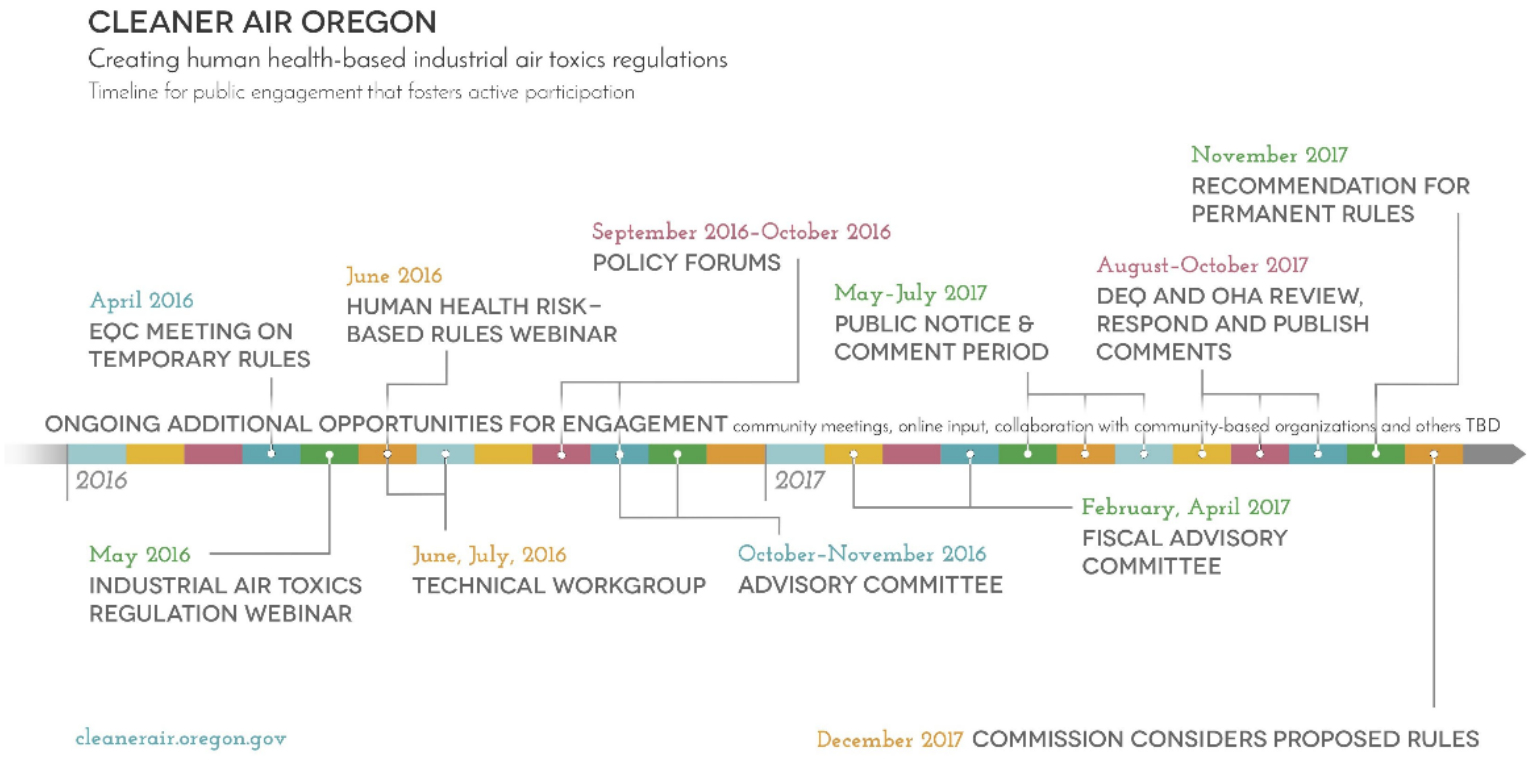
DEQ Rulemaking Public Policy Forums

- DEQ will hold public forums in September and October throughout the sate
- DEQ will appoint an advisory committee to make recommendations on the proposed rules based on public comment, the technical workgroup's deliverables, and public forums
- Advisory committee meetings will occur in October and November 2016 and open to the public
- A fiscal advisory committee will provide input on fiscal impact and fee structure in February and April of 2017

DEQ Rulemaking

- DEQ will seek public comment on proposed rule from May 15, 2017 through July 22, 2017
- DEQ will consider all comments and prepare final rule proposal for consideration by EQC in December 2017

Rule Development Timeline



Technical Workgroup

- Formed to evaluate other state's approaches to human health risk-based air toxics programs for industrial facilities
- Answer technical questions in support of rulemaking as requested by DEQ and OHA
- Help prepare policy issues for discussion at public policy forums and advisory meetings
- Not a decision-making body

Technical Workgroup Scope of Work

- Discuss and provide an evaluation of human health risk-based air toxics programs in other states
- Discuss and evaluate key technical issues
- Insights into different elements of other states' programs include strengths, limitations on key technical issues in areas where technical information and policy choices intersect
- Policy and rule concepts will not be discussed

Technical Workgroup Other

- DEQ and OHA will not seek consensus positions nor will workgroup be asked to vote on issues
- DEQ and OHA will seek input and recommendations from each individual member
- Workgroup discussions will be used by DEQ and OHA in developing draft rules which will then be proposed for broader public review and comment through rulemaking process

Technical Workgroup Meetings

- Meetings June 29 and 30, July 27 and 28
- Open to the public including the press
- 9 am to 5 pm, somewhere in Portland
- Details to be provided through the Cleaner Air Oregon website

Air Toxics Programs

- Many states have air toxics permitting programs including Washington, Idaho, and California
- DEQ appears particularly interested in the Washington and California programs
- These are two very different programs

Washington Program (WAC 173-460)

- Reviews new and modified sources, does not assess existing toxic emissions
- Three major requirements
  - Best Available control technology for toxics (tBact)
  - Toxic air pollutant emission quantification
  - Human health and safety protection demonstration
- An action that requires a construction approval is subject to the rule

Washington Program Requirements

- Must demonstrate tBACT controls
- Must quantify the increase in emissions of each TAP after application of tBACT
- Small Quantity Emission Rate Thresholds (SQERs) established to demonstrate acceptable ambient impacts instead of dispersion modeling
- Acceptable source impact levels established for each TAP, annual or short term as appropriate
- Air dispersion modeling required
- If not able to demonstrate compliance, Tier 2 risk analysis required
- Tier 2 analysis includes a health impact assessment conducted in accordance with an approved HIA protocol

Washington Program

- Includes a control technology component
- Applies to new sources only
- Does not address cumulative risk
- Would not have picked up existing art glass sources

California AB2588 Hot Spots Program

- Requires stationary sources to report the types and quantities of hazardous substances released into the air
- Prioritization score threshold to determine sources which must prepare a health risk assessment
- Facilities ranked as high priority required to submit a health risk assessment
- Once HRA approved by the air district, facility operators must notify all exposed individuals if the district determines a potentially significant risk
- Facilities with significant risk required to develop and implement a risk audit and reduction plan

California AB2588 Hot Spots Program continued

- Applies to existing sources through periodic updates to emission inventories and to new sources through new source review programs
- Applies to carcinogenic and non carcinogenic emissions
- HARP modeling program uses AERMOD inputs and incorporates exposure algorithms to calculate multipath way risk based on maximum exposed individual, sensitive receptors, etc.—complex program

Things to Remember

- Permitting in Oregon will never be the same
- There will be a risk based permitting program that will take effect in 2018
- ACDP renewals will have additional requirements
- ACDP fees likely to increase to cover the cost of the program
- Expect to have to conduct some kind of an impact analysis, screening to refined
- Have your emissions well documented
- Follow rule making process, comment if desired
- Understand that between now and then, DEQ will be slow to process anything
- Ambient monitoring may be required

One More Thing

- Remember that poisonous gas causing nose bleeds and respiratory problems?
- H2S

- http://cleanerairoregon.org/
- http://saferair.oregon.gov/Pages/index.aspx

Questions?

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