Portland Water Bureau

Columbia South Shore Well Field
Wellhead Protection Business Training

March 2017
Portland Water System Overview

- The **green areas** are our drinking water sources
- Special water quality protections apply in these areas
Groundwater Vulnerability

- Spills of hazardous materials
- Poor containment of chemicals

- Improper application or disposal of chemicals
Groundwater Protection Program

**Where**
1. Protection area

**What**
2. Regulation of specific chemicals
   - Threshold quantities determine if regulations apply

**How**
3. Functional area requirements
   - Both structural & operational
   - Employee Training

4. Inspections & enforcement

**Why**
5. Education & technical assistance
COLUMBIA SOUTH SHORE
WELL FIELD - WELLHEAD
PROTECTION AREA
Regulated Chemical Thresholds

Wellhead protection regulations apply if a facility handles more than these amounts:

- Halogenated Solvents – 10 gal
- DEQ Hazardous Wastes – 30 gal
- EPA’s ‘List-of-Lists’ Substances – 50 gal
  *(There is a searchable version on our website)*
- Petroleum-Based Liquid Fuels – 50 gal
  *(reporting only for non-fuel petroleum)*
Perspective

How many gallons of water can be contaminated by ONE gallon of trichloroethylene (TCE)?

*(TCE is a solvent typically used to clean metal parts)*

292 million gallons
Structural Requirements

- Impervious Surfaces
- Secondary Containment
- Spill Control
Area 1 – Indoor Storage

• Meet Oregon Fire Code spill control and containment requirements
• Impermeable surfaces required
• Floor drains connected to sewer or plugged
Area 2 – Outdoor Storage

- Impervious area
- Covered
- Secondary containment
Area 3 – Loading Area

- Impervious area with spill containment & response
- Covered or contained to prevent stormwater run-off
  - Uncovered may be permitted with City inspection & approval
Area 4 - Site Transportation Routes

- Routes must be paved (except rail)
- Must provide spill containment
- Facilities may satisfy requirement by transporting hazardous materials in secondary containment
Operational Requirements

• Pollution Prevention Team
• Good Housekeeping Practices
• Spill Prevention and Clean-up
• Inspections and Record Keeping
• Process and Product Changes
• Training
• Annual Reporting and Site Plan
Facility Information Report – Site Plan

• Areas where hazardous materials are stored or used
• Transportation routes
• Storm drains and drainage area
• Dry wells or sumps
• Spill containment devices (e.g. shut off valve)
• Emergency spill containment and clean-up kits
Site Plan Examples
SDS – Safety Data Sheets

- Provide workers and emergency personnel with procedures for handling or working with that substance in a safe manner
- Includes physical data, toxicity, health effects, first aid and reactivity
- Includes storage, disposal, protective equipment, and spill-handling procedures
SDS – Safety Data Sheets

• Keep in central location – designated computer, file cabinet, etc

• Make sure new staff and contractors know where they are and how to read them

• OSHA - Keep for 30 years
Spill Response

- Identify Responsible Staff
- Free signs available
- Safety first, 911 if emergency
- Consult SDS
- Use spill kit, drain covers, etc.
- Use Common Sense
A Spill has Occurred

Assure the Safety of All Personnel – Evacuate and Call 911 if Necessary

Notify Onsite Coordinator

If Possible, Determine What Was Released – Check MSDS for Hazards and Response Procedures

If Spill Response is Necessary:

Qualified to Respond to Spill?

Y

Attempt to Actively Contain the Spill within Area it Occurred

Attempt to Keep the Spill from Reaching any Water or Catch Basin Inlet

N

Qualified to Complete Cleanup?

Y

Complete Cleanup Activities

N

Notify Offsite Responder for Emergency Assistance

File Reports with City/DEQ if Necessary
Resources and Contact Info

• Columbia Corridor Association
  • Corky Collier and Jeff Dresser – 503-287-8686
  • Corky@columbiacorridor.org
  • www.columbiacorridor.org/wellfield/

• City of Portland
  • Doug Wise – 503-823-7473 douglas.wise@portlandoregon.gov
  • www.portlandoregon.gov/water/groundwater

• City of Gresham
  • Clay Walker – 503-665-6825
  • clay.walker@greshamoregon.gov

• City of Fairview
  • Paul Pongracz– 503-674-6234 pongraczp@ci.fairview.or.us