



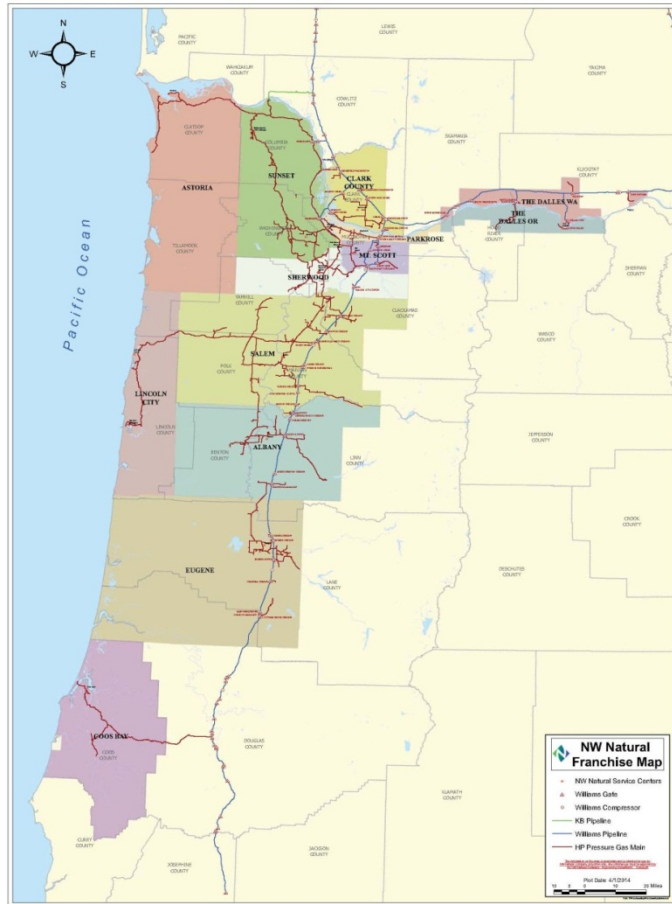
NW Natural's Field Operations Training Approach: Our Sherwood Training Facility

Citizens Committee On Pipeline Safety
December 7, 2017

Bill Rehse

Manager, Field Operations Training

NW Natural- Company Overview



- 2nd Oldest Company in Oregon
- Headquarters in Portland, OR
- 730,000 Customers
- 14,000 miles of main
- 19 counties in western Oregon and southwestern Washington
- 13 Resource Centers
- ~1100 employees



Presentation Overview

- Summary of our training plan
- Overview of our training center – facilities and capabilities
- How we are using our training center
- Emergency response scenario-based training
- Benefits and learnings
- Q&A

Field Operations Training Plan

- Journey down a new path in Field Ops Training began in 2009
 - Long-term vision and plan proposed to our executive team
- Field Operations
 - ~ 350 employees, across 14 different workgroups
- Integrated Field Operations Training
 - Focus on ensuring standardization and consistency across Field Operations
 - In procedures, policies, standards
 - In way training is conducted and employees evaluated
 - In way standards are enforced in the field

Training Plan- Then vs. Now

- 2009
 - 3 Trainers, covering Construction and Customer Field Services (CFS)
- 2017
 - 1 Training Manager, 2 Training Supervisors, 11 Trainers, 2 Developers (plus a third developer through 2020)
 - Sherwood Training Center
 - Centralized Training Model
 - Professional Training Developers
 - Scenario-Based Emergency Response Training Program
 - Formalized Training for
 - Construction, CFS, System Operations, Locating, Leakage (~ 80% of Field Ops)
 - Trainer Development Program underway

Training Plan- Where we are headed

- Highlights of Vision for 2020
 - All areas of Field Operations have formalized training
 - Structured on-the-job training to supplement formal training
 - Evaluation of skills once back on the job
 - Improved post training job supports (e.g., short topical videos)
 - Technology is fully and effectively leveraged
 - Improved training and development program for Trainers
 - Effectiveness of training program fully evaluated
 - Training for contractors on NW Natural requirements

Sherwood Training Center- Utilization

- What we do at our center
 - Initial training
 - New to position or advancing in field
 - Quarterly training for all Field Ops employees
 - 4-8 hours/quarter
 - Emergency response training

Sherwood Training Center- Utilization

- Shift to centralized training model
 - NW Natural employees
 - Contractors
 - Fire Departments

Sherwood Training Center

- 4 classrooms
- 4 labs
- Training Town
- Training Field

Sherwood Training Center- Classrooms

- Smartboard technology
- Laptops connected to server
- One classroom - gas and air for demonstrations
- Storage

Sherwood Training Center- Classrooms



Sherwood Training Center- Classrooms



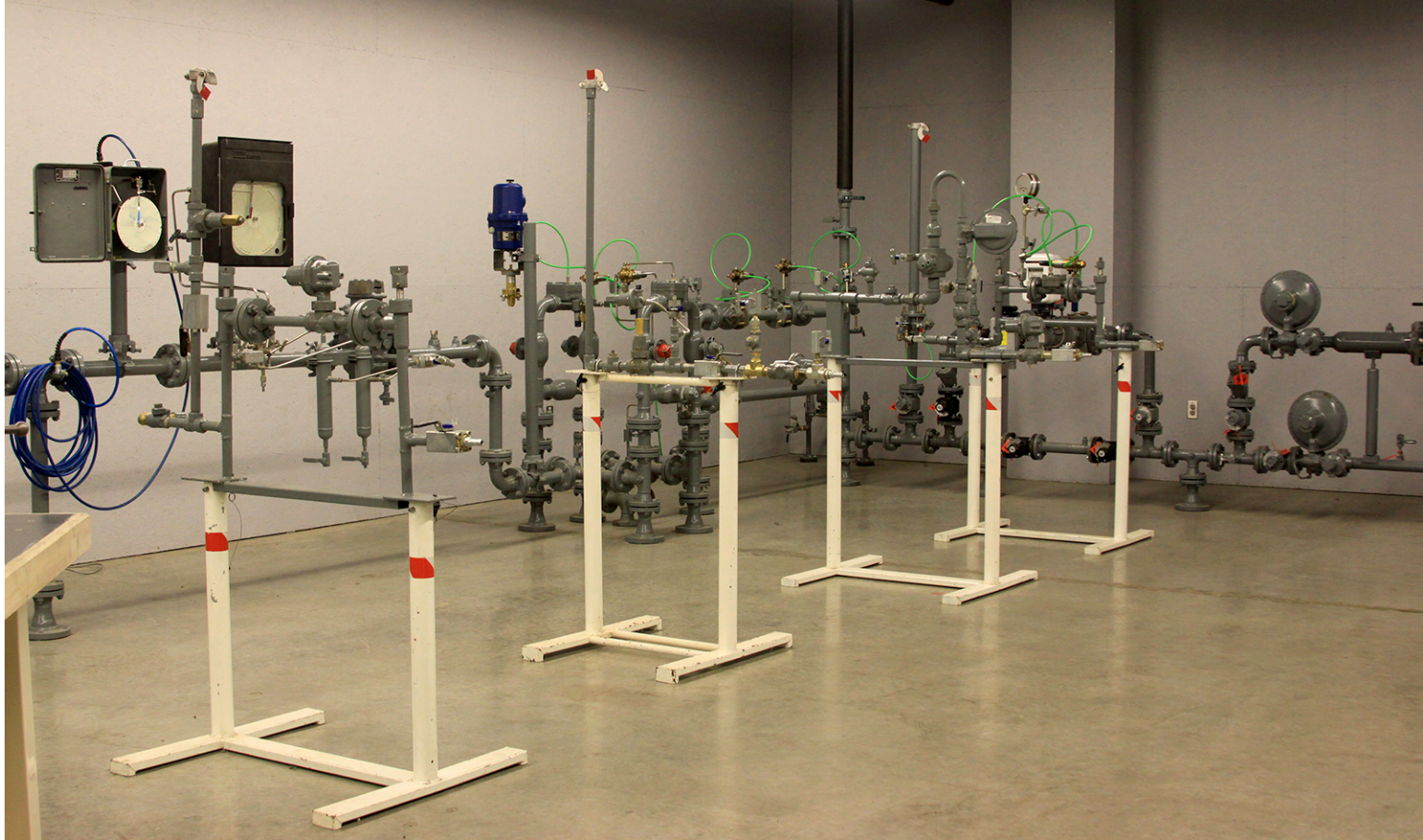
Sherwood Training Center- Flow Lab

- Regulation and metering
 - Residential
 - Commercial
 - High pressure

Sherwood Training Center- Flow Lab



Sherwood Training Center- Flow Lab



Sherwood Training Center- Light Up Lab

- 10 separate work stations, each including various appliances/equipment
- Ranging from 1940's to current day equipment
 - Residential and Commercial
- Training on
 - Troubleshooting
 - Diagnostics
 - Activation
- Each station has independent houseline and meter

Sherwood Training Center- Light Up Lab



Sherwood Training Center- Light Up Lab



Sherwood Training Center- Light Up Lab



Sherwood Training Center- Welding Lab

- For training on oxy-acetylene welding
- 12 stations
- Initial Training
- Semi-Annual Testing

Sherwood Training Center- Welding Lab



Sherwood Training Center- Construction Lab

- Set up for training on variety of construction tasks (e.g., fusion, thermite welding, mechanical connections)
- Some permanent OQ testing stations
- Weekly Contractor OQ testing conducted

Sherwood Training Center- Construction Lab



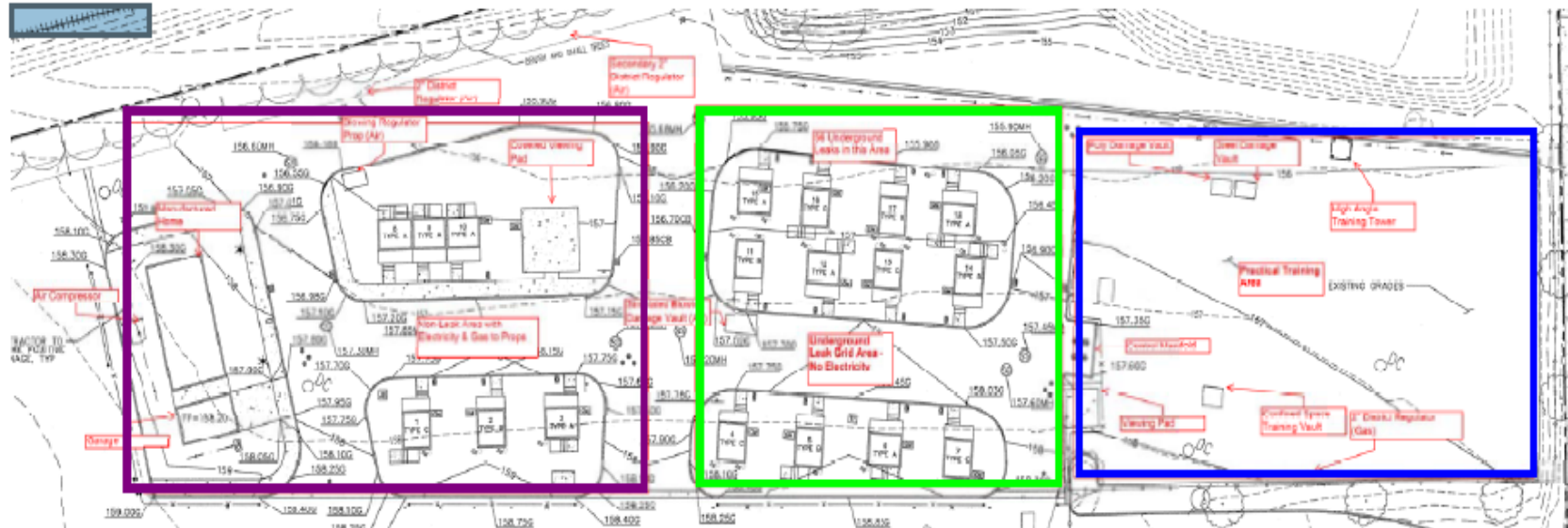
Sherwood Training Center- Construction Lab



Sherwood Training Center- Training Town

- 1.2 acres
- 18 structures, including one triplex
- Modular home- 3 bedroom structure with unattached garage
- Fed with B pressure system
- Wireless sound system
- Covered viewing/shelter areas
- Electric air compressor
 - Damage simulation and purging

Sherwood Training Center- Training Town



Non-Leak Area

- Gas & electricity to props
- Light-up training
- Emergency response scenario based training

Underground Leak Area

- 56 leaks
- No electricity
- Emergency response scenario based training

Practical Training Area

- Excavation
- Squeezing pits - steel & poly
- Safety training:
 - High angle work
 - Fire suppression
 - Confined space

Sherwood Training Center- Training Town



Sherwood Training Center- Training Town



Sherwood Training Center- Training Town



Sherwood Training Center- Training Town



Sherwood Training Center- Training Town



Sherwood Training Center- Training Field

- 2 vaults
 - 1 poly, 1 steel
 - Underground damages using compressed air
- 2 vaults
 - Confined space training
- Locating
- Hand digging
- Mechanized equipment training, including excavation and backfilling
- Pneumatic boring, reliner training
- Tower for high angle training

Sherwood Training Center- Training Field



Sherwood Training Center- Video

- Sherwood Training Center Video

<https://www.youtube.com/watch?v=oLTjtu9ZpJo>

Emergency Response Training

- Initial and ongoing refresher training
 - Initial – 3 day training, after approximately 9 months-1 year
 - Refresher- 2 day training on 3-year cycle
- Refresher model - mixed workgroups
- Classroom- (1/2 day)
 - Key objectives/priorities
 - Incident command, communication
 - Case studies
 - Procedures

Emergency Response Training

- Core - Scenario-based training methodology
 - Demonstrated scenarios
 - Practice/coached scenarios
 - Evaluated scenarios
 - Debriefs
- Employees are required to pass
 - Policy for retraining/retesting
 - Up to 3 attempts allowed

Sherwood Training Center- Fire Department Training

- Training makes direct contact annually with all 144 Fire Departments in our service territory
- Conducted training for over 2300 firefighters over the last 3 years
- Most trainings are conducted at FD Stations
- Promoting centralized training on natural gas emergencies for fire personnel

Centralized Fire Department Training



Sherwood Training Facility- Benefits

- Enhanced learning environment
- Quickly and easily shift from classrooms to labs to training town
- Provide realistic hands-on training
 - More effective
 - Better transfer to the job

Sherwood Training Facility- Benefits (cont.)

- Increased confidence
 - Employees
 - Trainers
- Better ability to integrate safety training
- Cultural change → training is now viewed favorably
 - Feedback from employees → Very positive

NW Natural Sherwood Training Facility

Questions?