

# SMART ENERGY

PACIFIC NORTHWEST CENTER OF EXCELLENCE  
FOR CLEAN ENERGY

*A Centralia College Partnership*

## Developing a Pacific Northwest *Smarter* Grid Workforce

**Barbara Hins-Turner, Executive Director  
Center of Excellence for Clean Energy  
Hydro Operators Conference**

**May 16, 2017**



# CENTERS OF EXCELLENCE

Celebrating 12 Years

## Vision

Become national model to develop partnerships between:

- ❖ Business
- ❖ Industry
- ❖ Education
- ❖ Organized labor
- ❖ Workforce system
- ❖ Economic development



## Mission

RTC RENTON TECHNICAL COLLEGE

Liaison between partners and the state's education system to:

- ❖ Drive the energy economy
- ❖ Create highly skilled workforce
- ❖ Provide consistent curriculum
- ❖ Meet industry needs
- ❖ Provide state-wide coordination

**“Air traffic control”**



# Washington CTC's in Energy

[http://cleanenergyexcellence.org/CollegePrograms/Aligning with the "Industry Evolution"](http://cleanenergyexcellence.org/CollegePrograms/Aligning%20with%20the%20Industry%20Evolution)

2005



Big Bend, Centralia, Clark, Spokane, Walla Walla Community Colleges

2017



"Niched Up" Energy Programs  
Expanded Scope Across the State  
2 BAS Programs – Cascadia & South  
Seattle (Sustainability)

# The Foundation

## Gathering Labor Market Data

### National

- \* 2009 National Commission on Energy Policy's Task Force on America's Energy Jobs
- \* 2009 IEEE Power and Energy Society (PES)
- \* 2011, '13, '15 - Center for Energy Workforce Development Workforce Survey

### Pacific NW Region

- \* 2008 Workforce Challenges of the Electric Sector
- \* 2009 Northwest Energy Efficiency Study
- \* 2013 Workforce Challenges of Electric Power Employers in the Pacific Northwest

# 2013 Labor Market Study

## Participants - 5 State Approach

- Avista
- Bonneville Power Admin
- Chelan County PUD
- Energy Northwest
- Grant County PUD
- Grays Harbor PUD
- IBEW Local 77
- Idaho Power
- NorthWestern Energy
- PacifiCorp
- Portland General Electric
- Puget Sound Energy
- Seattle City Light
- Snohomish County PUD
- Tacoma Power
- TransAlta (Centralia)
- U.S. Bureau of Reclamation
- Washington State Labor Council

Funded through U.S. Dept of Energy Smart Grid Workforce Training Grant, 2010-13



# Three Major Factors

- \* Impending Retirements
- \* Shrinking Labor Pool
- \* Knowledge and Skill Gaps



*Maintenance employees walk through the juvenile fish bypass  
Photo courtesy of Chelan County PUD*

# New and Emerging Skill Requirements

## Skill Panels

- Connecting industry and education
- Skill Standards: defining industry requirements
- Industry investment of direct dollars
- Seasoned workers define standards
- 18 Standards Completed
  - Generation, Transmission, Distribution Occupations



<http://cleanenergyexcellence.org/skill-panel/>

# Hydro Course Development

- \* Center of Excellence 2016 Advisory Board Project
- \* Facilitated DACUM
- \* Determine Entry Level Position Requirements - Hydro Power Generation plant in the Pacific Northwest
  - \* Core Knowledge
  - \* Core Skills
  - \* Work Profile

<http://cleanenergyexcellence.org/wp-content/uploads/2016/07/Centralia-Hydro-DACUM-Report.pdf>

# Grid Energy Occupations



# CAREER LATTICE



**Power Plant Operator**



## POWER PLANT OPERATOR

[Pacific Northwest Center of Excellence for Clean Energy](#) » [Smart Grid Career Lattice](#) » Power Plant Operator

### What do they do?

Power plant operators control and monitor boilers, turbines, generators, and auxiliary equipment in power-generating plants. They distribute power among generators, regulate the output from several generators, and monitor instruments to maintain voltage and regulate electricity flows from the plant. They use computers to report unusual incidents, malfunctioning equipment, or maintenance performed during their shifts.

### Career Lattice: Power Plant Operator

#### Career Path ...

With sufficient training and experience, workers can become shift supervisors, trainers, or consultants. Because power plants have different systems and safety mechanisms, it can sometimes be difficult to advance by moving to a different company, although this is not always the case. Most power companies promote from within and most workers advance within a particular plant or by moving to another plant owned by the same utility.

### Read more ...

[Occupation Overview](#)

[Job Description](#)

[Related Skill Standards](#)

[Wage Data](#)

#### Employers ...

The types of employers for this position are utility companies.

#### Training ...

This position requires journey level experience. Utility companies provide on-going training for journey level workers to keep employees current on new equipment, procedures and safety.

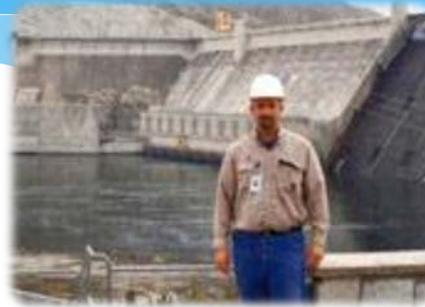
#### Educational Programs ...

See our [College Programs](#) resource guide for energy industry educational programs.

# Developing a Pacific NW Smarter Grid Workforce



**Energy Northwest**  
Amanda, Nuclear Technician  
Columbia Basin CC



**Grand Coulee**  
Brian, Hydro Operator  
Centralia College



**Seattle City Light**  
Nick, Hydro Operator, Diablo  
Canyon, Centralia College



**Lewis County PUD**  
Travis, Engineer  
Centralia College  
WSU Electrical Engineering

**BPA**  
Wayne, Substation Operator  
Apprentice, Centralia College

**Tacoma Power**  
Sara, Energy Efficiency  
Grays Harbor College  
Evergreen State College

**Wilson Construction**  
Kris, Apprentice Lineman  
Avista/Spokane CC



**Tacoma Power**  
Jake, Hydro Utility Worker  
Centralia College



# Questions?

*“If you don’t have the workforce  
nothing else matters”*

*Cal Shirley, Retired, VP, EE Services*

*PSE*