

COMMUNITY VALUE FIRST

# WOMEN IN TRADES OPEN HOUSE



# Welcome!



Jackie Flowers  
Director of Utilities



# Safety Moment







# Tacoma Power Line – Wire - Meter Apprenticeship Programs



# ABOUT OUR PROGRAMS

## GENERAL DUTIES

### Line Electrician Apprentice



*Prepare and set line poles and guy wires; repair or replace damaged or decayed poles*

*Install transformers, transformer banks and related electrical connections on poles*

*Climb poles and steel structures and perform work on both energized and de-energized circuits*

### Wire Electrician Apprentice



*Assist journey-level employees in general wiring work in electrical transmission, distribution and generation facilities*

*Participates in installing and repairing underground and network electrical systems*

*Climbs towers and related equipment; installs primary and secondary conductors*

### Electrical Meter & Relay Tech Apprentice



*Assist in testing, calibrating, repairing and installing auxiliary devices to metering -such as pulse initiators, transformers, multi-function meters*

*Assist in testing, calibrating and repairing of electrical meter equipment using a variety of test equipment and software*

### Systems Power Dispatcher Candidate



*Oversee operation of the electrical system on a day-to-day basis*

*-monitor, regulate and control electrical generation, transmission, substation, and distribution equipment*

*Work with field crews to coordinate safe maintenance and repair of the electrical system*

# ABOUT OUR APPRENTICESHIP PROGRAMS

## APPRENTICESHIP COMMITMENT

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- 3 ½ years or 7,000 hours for Line, Wire & Meter
- 4-hr weekly apprentice class
- Step Exams every 6-months

## APPRENTICESHIP PERKS

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- Amazing Benefits
- On-the-Job Training
- Potential for Over Time
- Rewarding Career in the Electrical Field
- Positively impact the community

**If you have an interest in working with your hands, and enjoy building and creating projects, then an electrical apprenticeship may be for you!**





# ABOUT OUR ADVANCED TRAINING PROGRAMS

## System Power Dispatcher

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- Post-Journey/advanced career path
- 2 years or 4032 hours
- Federal Certification obtained via program
- Continuing education after graduation

## CANDIDATE PERKS

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- Amazing Benefits
- On-the-Job Training
- Computer Based Training
- Classroom instruction
- Direct involvement in region wide electric system operations.

**If you are a multi-tasker who enjoys fast-paced situations then the System Power Dispatcher program may be for you.**



# ABOUT OUR PROGRAMS

## SALARY TABLES

Line Electrician  
Apprentice

\$35.32 - 41.83 Hourly

\$73,465.60 Annually

Wire Electrician  
Apprentice

\$35.01 - \$41.13 Hourly

\$72,820.80 Annually

Electrical Meter &  
Relay Tech Apprentice

\$35.79 – 42.43 Hourly

\$74,443.20 Annually

Systems Power Dispatcher  
Candidate

\$42.56 – \$44.69 Hourly

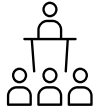
\$88,524.80 Annually





# APPRENTICESHIP ROADMAP

## OPPORTUNITIES TO HELP YOU SUCCEED



### Skill Center courses

*Example: Tacoma's  
Tool Center*

Tacoma's training and employment program focuses on career prep for residents of Tacoma by partnering with the Tool Center.

**Outcomes:** *Qualified and trained individuals who are confident in trades work.*

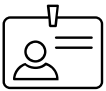


### Pre-Apprenticeships

*Example: Parkland  
Career Center*

Prepares Pierce County residents for apprenticeship programs or direct employment in the construction industry.

**Outcomes:** *Develop essential and technical skills needed to be successful in the construction industry.*



### Registered Apprenticeships

*Example: Local  
trade companies &  
unions*

Employees **have on-the-job experiences and aligned classroom learning** under the supervision of experienced Journeymen.

**Outcomes:** *Pathways to career advancement and higher wages*



# MINIMUM QUALIFICATIONS

## MINIMUM QUALIFICATIONS

- ✦ Valid Drivers License
- ✦ Minimum of 6 months in electrical or construction trades, or the completion of a formalized vocational training program in related field
- ✦ Completion of Basic Electricity



## EDUCATION

## REQUIREMENTS

- ✦ Graduation from high school or equivalent
- ✦ Completion of high school level algebra
- ✦ Completion of a Basic Electricity course

## BASIC ELECTRICITY

One course must be in process or completed prior to hiring selection in June of hiring year



Course curriculum must include Ohm's Law, AC/DC Theory, Parallel & Series circuits

NOTE: Taking a Basic Electricity class does NOT guarantee you will be accepted into an apprenticeship program. But participating fully and passing all portions of this class will give you experience and education to help you on applications, written and working tests, and interviews.

## Basic Electricity Courses

Basic Electricity Courses	Text Books
<a href="https://www.udemy.com/course/the-complete-basic-electronics-course/">https://www.udemy.com/course/the-complete-basic-electronics-course/</a>	Electricity (Alexander Publications)
<a href="https://www.tpctraining.com/products/basic-electricity-training?_pos=1&amp;_sid=2ab5ca659&amp;_ss=r">https://www.tpctraining.com/products/basic-electricity-training?_pos=1&amp;_sid=2ab5ca659&amp;_ss=r</a>	Delmar's Standard Textbook on Electricity (Delmar learning)
<a href="http://www.electricityforum.com/basic-electricity.html">http://www.electricityforum.com/basic-electricity.html</a>	Basic Electricity (Schaum's, published by McGraw Hill)



# MINIMUM QUALIFICATIONS FOR DISPATCH

**Graduation from high school or equivalent and ONE of the following:**

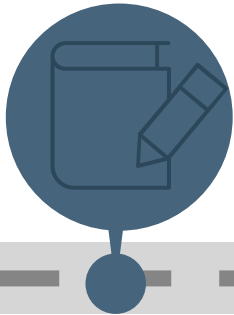
- Successful completion of an electrical utility apprenticeship program or be a journey-level electrician, working in an electrical utility operating at 4 kV or above – OR-
- Minimum three years' experience in the system operations section of an electric utility operating at 4 kV or above – OR-
- Minimum three years' experience in Power Systems Operations including but not limited to Power Systems Operator, Systems Power Dispatcher, Substation or Generation Operator –OR-
- Degree in Electrical Engineering





# PREPARING FOR TACOMA POWER APPRENTICESHIP

## Basic Electricity & Math

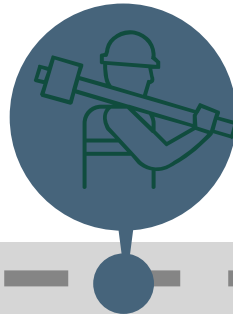


Upon passing minimum qualifications, applicants will be invited to participate in a Basic Electricity and mathematics test

Tools to prepare for the test:

*Delmar Basic Electricity*

## Physical Ability Testing



Physical Ability tests are held for the Line & Wire Apprenticeship. Tasks may include chin-ups, rows and other strenuous activity

Exercises to prepare for:

*Chin-ups, Rows, Squats, Aerobic Bicycling*

## Oral Interview and Practical Stations



The final stage of the recruitment process will be a 6-part practical station, following an oral interview.

Ways to Prepare:

*Interview practice*



# TACOMA POWER APPRENTICE CAREER PROGRESSION

*WHERE DO YOU GO FROM HERE?*

## **Line Electrician Apprentice**

\$35.32 - 41.83 Hourly

\$73,465.60 Annually

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## **Wire Electrician Apprentice**

\$35.01 - \$41.13 Hourly

\$72,820.80 Annually

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## **Electrical Meter & Relay Tech Apprentice**

\$35.79 – 42.43 Hourly

\$74,443.20 Annually

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## **Systems Power Dispatcher Candidate**

\$42.56 – 51.73 Hourly

\$88,524.80 Annually



## **Line Electrician**

\$49.46 - \$58.15 Hourly

\$102,876.80 Annually

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## **Wire Electrician**

\$48.67 – \$57.10 Hourly

\$101,233.60 Annually

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## **Electrical Meter & Relay Technician**

\$47.83 – \$51.18 Hourly

\$99,486.40 Annually

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## **System Power Dispatcher**

\$54.67 – \$64.97 Hourly

\$125,049.60 Annually

Note: The annual amounts do not include over-time

**If you have an interest in working with your hands, and enjoy building and creating projects, then an electrical apprenticeship may be for you!**





# Thank you

For questions regarding Power's apprenticeship programs,  
please contact Tacoma Power Training at:

[TpowerTraining@cityoftacoma.org](mailto:TpowerTraining@cityoftacoma.org)





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# Tacoma Water Potable Water Supply Apprenticeship Program



# ABOUT OUR PROGRAMS

## GENERAL DUTIES

### Water Utility Worker Apprentice



*Assisting in the installation, maintenance, and repair of water supply and distribution facilities and systems.*

*Duties include installing, maintaining, and repairing:*

- Pipes
- Meter yokes
- Meters
- Meter boxes
- Gate valves
- Fire hydrants
- Concrete vaults
- And other water system components

*As well as, operating a variety of equipment and machinery; and performing continuous and strenuous manual labor, to include frequent heavy lifting in all types of weather.*



# ABOUT OUR PROGRAMS

## APPRENTICESHIP COMMITMENT

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- 2 years- approx. 3,000 hours
- 11 after hours classes
- Step reviews every 6-months

## APPRENTICESHIP PERKS

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- Amazing Benefits
- On-the-Job Training
- Potential for Overtime
- Rewarding Career in the Water Industry
- Positively impact the community





# ABOUT OUR PROGRAMS

## SALARY TABLES

### Water Utility Worker Apprentice

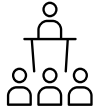
**\$27.05 - \$30.72 Hourly**

**\$56,264.00 - \$63,897.60 Annually**



# APPRENTICESHIP ROADMAP

## OPPORTUNITIES TO HELP YOU SUCCEED



### Skill Center courses

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**Outcomes:** *Qualified and trained individuals who are confident in trades work.*

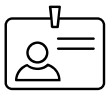


### Pre- Apprenticeships

*Example: Parkland  
Career Center*

Prepares Pierce County residents for apprenticeship programs or direct employment in the construction industry.

**Outcomes:** *Develop essential and technical skills needed to be successful in the construction industry.*



### Registered Apprenticeships

*Example: Local  
trade companies &  
unions*

Employees **have on-the-job experiences and aligned classroom learning** under the supervision of experienced Journeymen.

**Outcomes:** *Pathways to career advancement and higher wages*



# MINIMUM QUALIFICATIONS

## MINIMUM QUALIFICATIONS

- ✦ 18 years of age
- ✦ Valid Drivers License
- ✦ Pass the Civil Service Water Utility Worker entrance exam with 70% or greater score.



## EDUCATION REQUIREMENTS



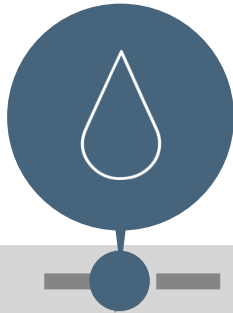
Graduation from high school or GED equivalent.





# PREPARING FOR TACOMA WATER APPRENTICESHIP

## Physical Ability Testing



Physical Ability tests are held for the Potable Water Supply Apprenticeship. Tasks may include rows, squats and other strenuous activity

### Exercises to prepare for:

*Rows, Squats, Shoulder Press, Aerobic Bicycling*

## Oral Interview



The final stage of the recruitment process is an oral panel interview.

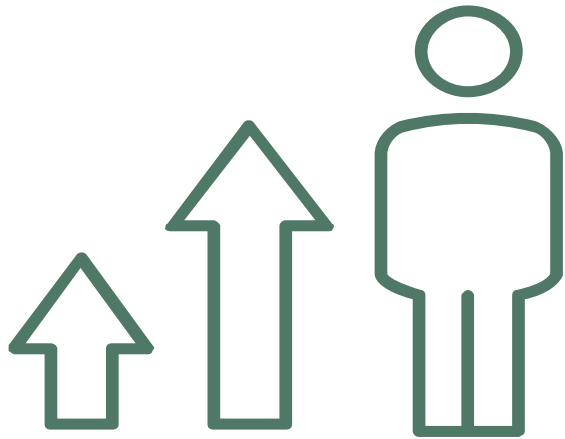
### Ways to Prepare:

*Interview practice*



# TACOMA WATER APPRENTICE CAREER PROGRESSION

*WHERE DO YOU GO FROM HERE?*



- Water Service Worker: Starting at \$71,323.20/Year
- Water Service Worker, Lead: Starting at \$85,696/Year
- Water Plant Maint. Worker: Starting at \$75,420.80/Year
- Water Service Mechanic: Starting at \$80,932.80/Year
- Water Quality Specialist: Starting at \$71,260.80/Year
- Water Service Supervisor: Starting at \$99,424/Year





# Thank you

For questions regarding Water's apprenticeship program,  
please contact Shantel Shepard at:

[Sshepard@cityoftacoma.org](mailto:Sshepard@cityoftacoma.org)





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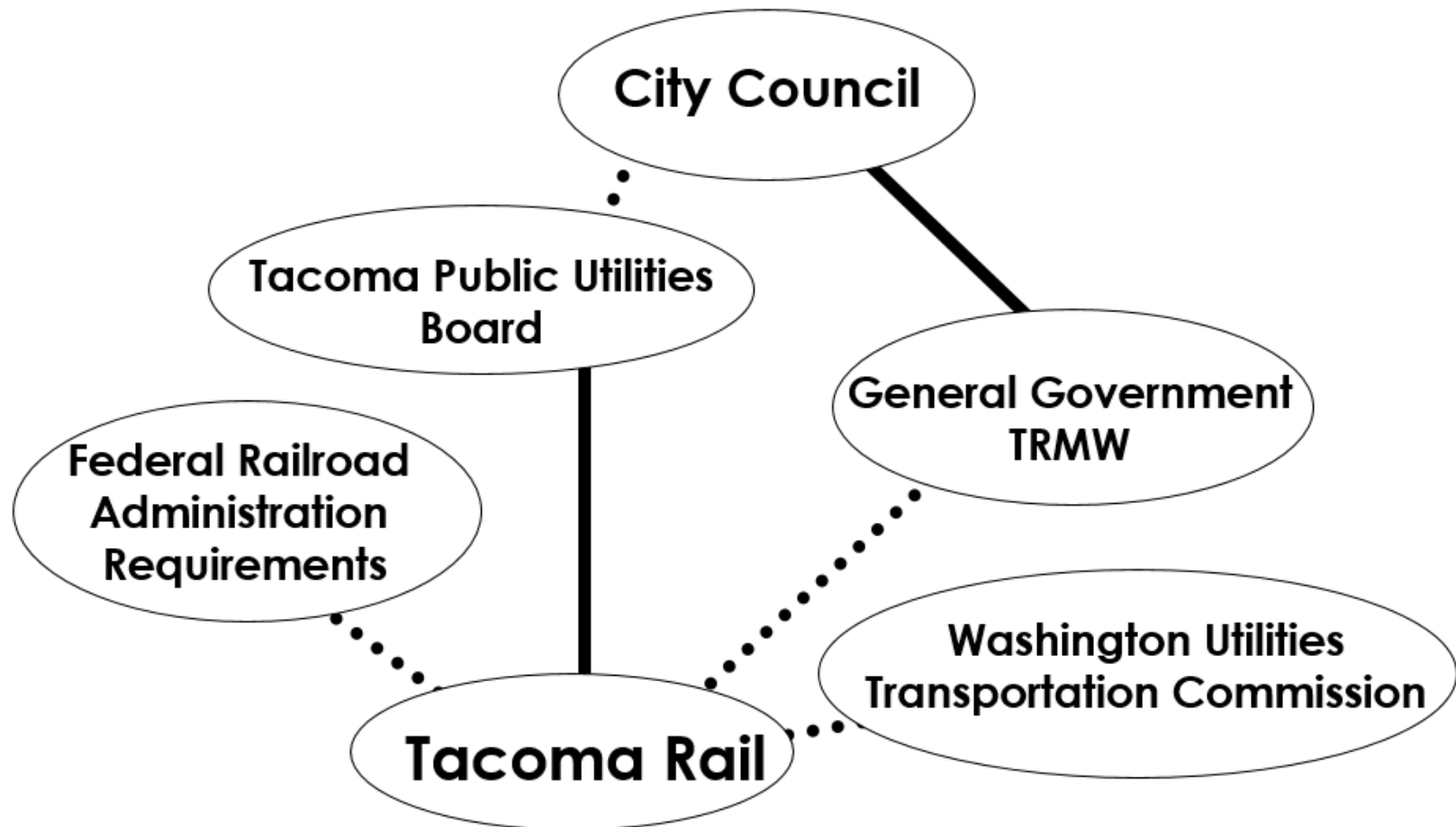


**Tacoma Rail**





# OUR HIERARCHY



# ORGANIZATION

- 2 Railroads
- 119 Employees
- Train Operations 24/7
- Crew Assignments
- Locomotive Power (16)
- Mechanics
- Track/Maintenance
- Administration
  - Safety
  - Regulatory Compliance
  - Customer Interactions



# RAILROAD TYPE & INTERCHANGE

- **Tacoma Rail:**

- Switching railroad
- Handle local freight



- **Mainline customers:**

- BNSF & UP
- Handle transcontinental freight





# TACOMA RAIL DIVISIONS

## TMBL

- Tidelands Division
- Lakewood Subdivision  
(Sound Transit)

## TRMW

- Mountain Division





# UNION PACIFIC & BNSF LOCOMOTIVE SERVICING

- **Statistics**

- Started Service in September 2006
- Over 130,000 Locomotives
- Ultra Low Sulfur Fuel
  - Air pollutant emissions decreased by up to 97% between 2005-2016\* (Puget Sound Maritime Air Emissions Inventory (PSEI))
- Saving 6-12 hours per train



# SALARY TABLES

Locomotive  
Engineer

**\$40.47**  
**Hourly**

**\$84,177.60**  
**Annually**

Railway  
Conductor

**\$28.61 - \$38.14**  
**Hourly**

**\$59,508.80 - \$79,331.20**  
**Annually**

Railway Track  
Maintenance Worker

**\$30.35 - \$33.72**  
**Hourly**

**\$63,128.00 - \$70,137.60**  
**Annually**

Locomotive  
Mechanic

**\$31.53 - \$38.32**  
**Hourly**

**\$65,582.40 - \$79,705.60**  
**Annually**



# Qualifications

- **Locomotive Engineer**: 2 years experience operating diesel-powered locomotives with railroad operating under Federal Railroad Administration (FRA) rules
- **Railway Conductor**: 1 year experience as a conductor with a railroad operating under FRA regulations, etc.
- **Railway Track Maintenance Worker**: 1 year experience in maintenance of standard gauge railroad tracks & roadbeds including experience operating specialized railroad on & off track maintenance equipment, etc.
- **Locomotive Mechanic**: 2 years experience in locomotive shop, including training in repair & servicing of diesel locomotives under FRA regulations, or completion of recognized diesel/heavy equipment mechanic apprenticeship or vocational program, etc.



# Training Opportunities

- Northwest Rail Institute – Vancouver, WA
  - [www.nw-ri.com](http://www.nw-ri.com)
  - Conductor training
    - 6 month program
- National Academy of Railroad Sciences (NARS) – Overland Park, KS
  - [www.narstraining.com](http://www.narstraining.com)
    - Conductor, signal, welding courses
- Bates Technical College
  - [www.batestech.edu](http://www.batestech.edu)
    - Diesel & heavy equipment technology
- Contractors for signal maintenance or railroad construction
- BNSF Railway - <https://jobs.bnsf.com>
- Union Pacific Railroad - <https://up.jobs/index.htm>







# Thank you

For questions regarding Rail,  
please contact Lori Daniels or Heidi Caudill at:

[ldaniels@cityoftacoma.org](mailto:ldaniels@cityoftacoma.org)

[hcaudill@cityoftacoma.org](mailto:hcaudill@cityoftacoma.org)

