WOMEN IN TRADES
OPEN HOUSE
Welcome!

Jackie Flowers
Director of Utilities
Safety Moment
# 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

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

APPRENTICESHIP PERKS

• 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

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

CANDIDATE PERKS

- 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.
<table>
<thead>
<tr>
<th>Program</th>
<th>Hourly Range</th>
<th>Annually</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line Electrician Apprentice</td>
<td>$35.32 - 41.83</td>
<td>$73,465.60</td>
</tr>
<tr>
<td>Wire Electrician Apprentice</td>
<td>$35.01 - $41.13</td>
<td>$72,820.80</td>
</tr>
<tr>
<td>Electrical Meter &amp; Relay Tech Apprentice</td>
<td>$35.79 – 42.43</td>
<td>$74,443.20</td>
</tr>
<tr>
<td>Systems Power Dispatcher Candidate</td>
<td>$42.56 – $44.69</td>
<td>$88,524.80</td>
</tr>
</tbody>
</table>
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.

**Example:** Tacoma’s Tool Center

Prepare 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.

**Example:** Parkland Career Center

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

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

**Example:** Local trade companies & unions
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

<table>
<thead>
<tr>
<th>Basic Electricity Courses</th>
<th>Text Books</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="https://www.udemy.com/course/the-complete-basic-electronics-course/">https://www.udemy.com/course/the-complete-basic-electronics-course/</a></td>
<td>Electricity (Alexander Publications)</td>
</tr>
<tr>
<td><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></td>
<td>Delmar’s Standard Textbook on Electricity (Delmar Learning)</td>
</tr>
<tr>
<td><a href="http://www.electricityforum.com/basic-electricity.html">http://www.electricityforum.com/basic-electricity.html</a></td>
<td>Basic Electricity (Schaum’s, published by McGraw Hill)</td>
</tr>
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</table>
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

Physical Ability Testing

Oral Interview and Practical Stations

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 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*

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?

<table>
<thead>
<tr>
<th>Position</th>
<th>Start Hour Rate</th>
<th>End Hour Rate</th>
<th>Annual Rate</th>
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<td>$51.73</td>
<td>$88,524.80</td>
</tr>
<tr>
<td>Line Electrician</td>
<td>$49.46</td>
<td>$58.15</td>
<td>$102,876.80</td>
</tr>
<tr>
<td>Wire Electrician</td>
<td>$48.67</td>
<td>$57.10</td>
<td>$101,233.60</td>
</tr>
<tr>
<td>Electrical Meter &amp; Relay Technician</td>
<td>$47.83</td>
<td>$51.18</td>
<td>$99,486.40</td>
</tr>
<tr>
<td>System Power Dispatcher</td>
<td>$54.67</td>
<td>$64.97</td>
<td>$125,049.60</td>
</tr>
</tbody>
</table>

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
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

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

APPRENTICESHIP PERKS

• 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
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.

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.

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

❖ 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
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
For questions regarding Water’s apprenticeship program, please contact Shantel Shepard at:
Sshepard@cityoftacoma.org
OUR HIERARCHY

City Council

Tacoma Public Utilities Board

Federal Railroad Administration Requirements

Tacoma Rail

General Government TRMW

Washington Utilities Transportation Commission
• 2 Railroads
• 119 Employees
• Train Operations 24/7
• Crew Assignments
• Locomotive Power (16)
• Mechanics
• Track/Maintenance
• Administration
  ▪ Safety
  ▪ Regulatory Compliance
  ▪ Customer Interactions
• 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
• Statistics
  ▪ Started Service in September 2006
  ▪ Over 130,000 Locomotives
  ▪ Ultra Low Sulfur Fuel
    o Air pollutant emissions decreased by up to 97% between 2005-2016* (Puget Sound Maritime Air Emissions Inventory (PSEI))
  ▪ Saving 6-12 hours per train
<table>
<thead>
<tr>
<th>Job</th>
<th>Hourly Rate</th>
<th>Annual Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locomotive Engineer</td>
<td>$40.47</td>
<td>$84,177.60</td>
</tr>
<tr>
<td>Railway Conductor</td>
<td>$28.61 - $38.14</td>
<td>$59,508.80 - $79,331.20</td>
</tr>
<tr>
<td>Railway Track Maintenance Worker</td>
<td>$30.35 - $33.72</td>
<td>$63,128.00 - $70,137.60</td>
</tr>
<tr>
<td>Locomotive Mechanic</td>
<td>$31.53 - $38.32</td>
<td>$65,582.40 - $79,705.60</td>
</tr>
</tbody>
</table>
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
  ▪ Conductor training
    o 6 month program

• National Academy of Railroad Sciences (NARS) – Overland Park, KS
  ▪ www.narstraining.com
    o Conductor, signal, welding courses

• Bates Technical College
  • 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
hcaudill@cityoftacoma.org