

Seattle Jobs Initiative's Job Trends Report

January 2009



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Trend Tracker:

What's changing in the local job market?

2008 was a particularly challenging year for the national economy and labor market. The combined impacts of rising energy prices, a housing market downturn, and the continuing credit crisis have made an economic environment typified by decreased job growth and increased unemployment, the key indicators of a recession.

Nationally, some industries have fared worse than others, most notably construction and manufacturing. Other industries like health care continue to add jobs. In comparison to national trends, the Puget Sound Region has weathered the economic storm relatively well. Overall, job losses have only recently begun to hit Puget Sound counties and industries.

Employment By The Numbers:

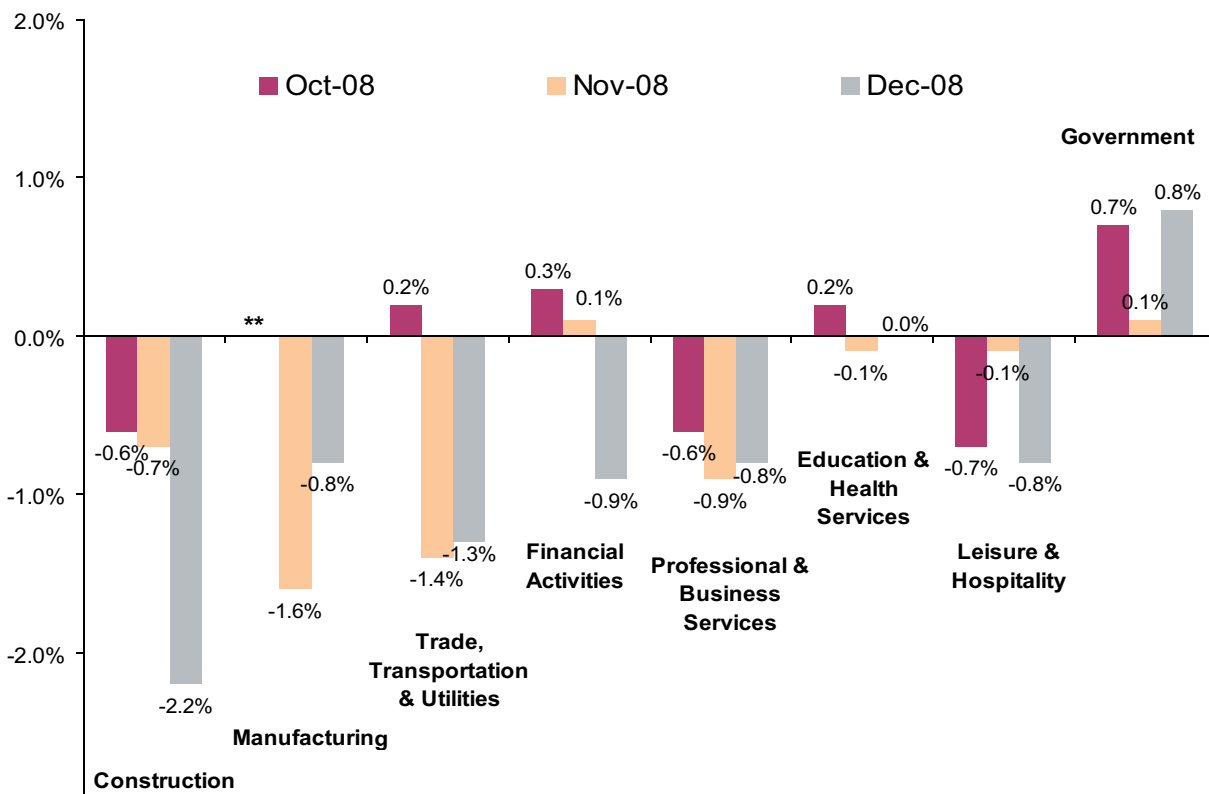
	Unemployment Rate December 2008	Job Losses Jan-Dec 2008 (in thousands)
U.S.	7.2%	2,589
Washington	7.1%	54.8
Seattle-Bellevue- Everett MD	6.1%	10.0

Source: Bureau of Labor Statistics; WA Employment Security Dept. US - seasonally adjusted, WA & SBE MD - not seasonally adjusted.

For the Seattle Metropolitan Division (which includes King & Snohomish counties), most industries were hit with job losses by December (see Chart 1). For many industries, these losses were on top of continued negative growth, in particular in Construction, Professional & Business Services, and Leisure & Hospitality. By contrast, Government showed positive job growth in the last quarter of 2008.

While the nation as a whole exhibited an unemployment rate of 7.2% for December 2008, Washington State came in slightly lower with 7.1%. Of the four Puget Sound counties, King County continues to show the lowest unemployment rate for the same time period (5.7%) followed by Kitsap (6.1%), Snohomish (7.1%), and Pierce (7.4%). ■

Chart 1. Seattle Metropolitan Division Growth by Select Industries



Calculated from nonseasonally adjusted numbers, Washington State Employment Security Department, Nonagricultural Wage and Salary Workers Employed in Washington State. Seattle Metropolitan Division includes King & Snohomish counties. ** Manufacturing numbers are skewed for October 2008 due to Boeing Strike - November 2008 change is calculated from September 2008 job totals.



Industry Focus: Public Utilities

The winter storms of 2006 pummeled the Puget Sound region with a combination of heavy rains and intense winds, resulting in significant damage. Utility crews were stretched thin, forced to work overtime and through many nights to clear and repair damaged power lines. Challenged by the combination of too much work and not enough available workers, the local utilities ultimately had to outsource work to help get things back up and running.²

The events of 2006 are just one illustration of the impact that a significant shortage of skilled workers is having on the local utilities industry—an industry vital to the economic health of the Puget Sound region. This shortage, however, presents an important opportunity for low-income, low-skill residents looking to find livable wage careers. Many of the jobs in the utilities industry are good paying family-wage jobs. They require training beyond a high school degree, but not necessarily a 4-year degree.

Public utilities include the set of services that are considered basic or essential in terms of consumption by the public. These may be electricity, natural gas, telephone, water and sewage services. Services include generation, transmission, distribution, treatment and disposal of various products and byproducts. Many of the occupations associated with the industry are characterized by the installation, operation, maintenance, and repair of materials and systems delivering these services.

In light of its vital role to the local economy, the public utilities industry currently faces a particularly difficult obstacle with the potentially huge attrition of its workforce due to retirement. According to the Bureau of Labor Statistics, almost half of the nation's utilities workforce will be nearing retirement age within the next 10 years. Local utilities like Seattle City Light and Seattle Public Utilities report this reality is nearer than that, with 50% of workers hitting retirement age within the next five years.

(Continued on pg. 3)

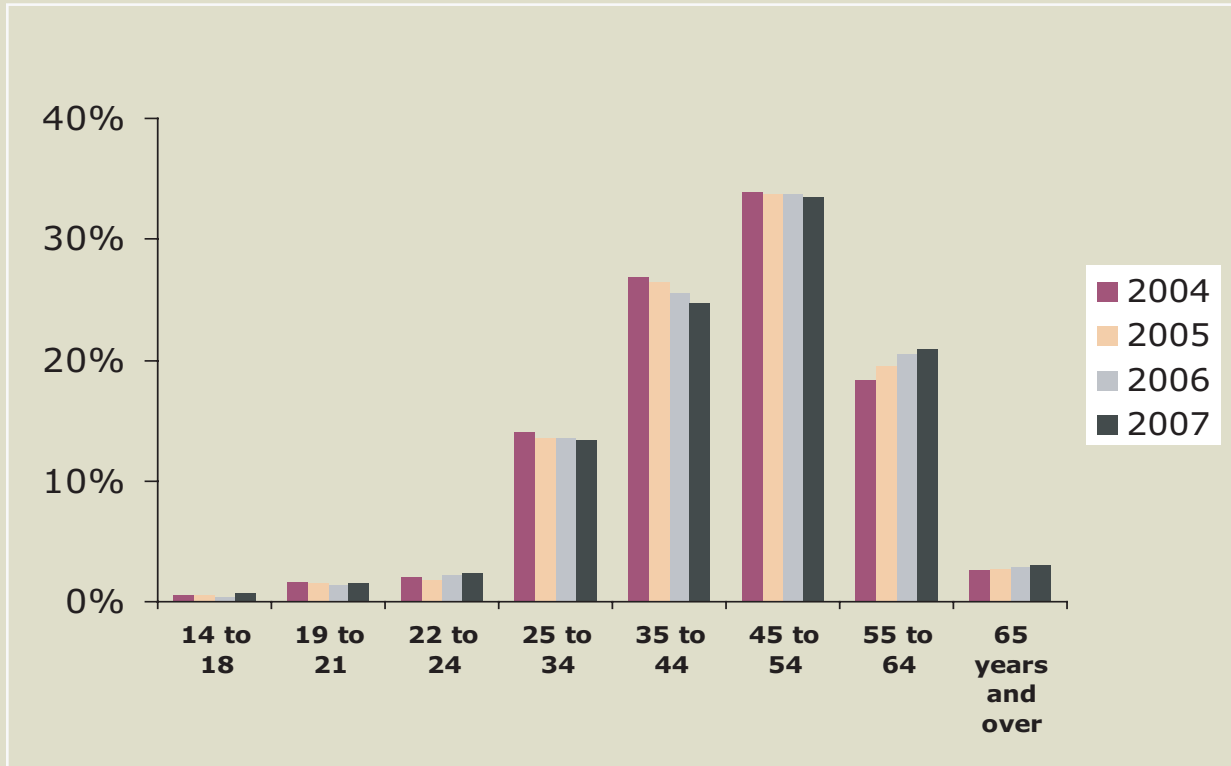
Key Points

- Public Utilities are experiencing a significant worker shortage, made potentially worse by the increasing loss of skilled labor to retirement.
- A stretched workforce means longer times for service, installation, new infrastructure projects, and general operational and business continuity.
- Many of the jobs available in the Utilities industry are middle-wage jobs, requiring some training beyond high school but not necessarily a 4-year degree.

² Jonathan Martin. December 21, 2006. "Lack of lineman slows job of restoring power." The Seattle Times.

Chart 2.

King County Utilities Workforce by Age - 2004-2007



(Industry focus: cont'd)

The chart above reveals that the King County utilities industry workforce is dominated by workers between 45 and 54 years old. Over the four years represented, 1 in 3 workers fell into this age group. During the same time period, while more individuals aged into the 55-64 group, workers age 35-44 steadily fell. While current economic trends may result in more older workers staying on the job longer, the lack of numbers filling in at the younger end of the age spectrum translates into an inevitable shortage in the number of available utilities workers.

Not only will manpower be diminished by the impending retirement of much of the public utilities workforce, but many of the key skills and knowledge within the industry will potentially be lost. This depletion can have major operational and business continuity complications for the industry.³ According to a survey performed by the American Public Power Association, when utility employers were asked which positions would be most difficult to find replacements for retirees, 52% identified skilled trades.⁴

As utility employers develop strategies to prepare a workforce ready to deal with this demographic shift, they face an added hurdle of depleted ranks within the broader skilled trades that feed the industry. Many trades continue to report difficulty recruiting interested and properly skilled individuals into apprenticeships. As noted by Alan Hardcastle in his January 2008 report on the workforce challenges facing northwest energy industry employers, "labor shortages in related industry sectors, such as manufacturing, limit the ability of

energy companies to recruit skilled employees outside their own labor pools. A shortage of qualified workers is likely to increase competition for employees within and between industries."⁵

An additional consequence of the labor shortfall will be an increase in the average time it takes to get various products installed and serviced. New infrastructure projects will also likely be strained by the depletion of this much needed workforce. And the rapid expansion of alternative and renewable energy sources can potentially place a significant strain on the industry's supply of workers.

These skills shortages combined with worker shortages make for a potentially difficult scenario for public utilities employers, and at the same create great opportunities for those with the applicable skills to find employment in this necessary industry. It is essential that employers continue to recruit, retain, and upskill new employees in order to have a vital workforce for the utility industry, both in the present and for the future. For low-income, low-skill Seattle residents, this shortage translates into a variety of opportunities—with appropriate training—to enter onto career pathways towards livable wage jobs in the industry. ■

³ Patty Bruffy & John Juliano. 2006. "Addressing the Aging Utility Workforce Challenge: ACT NOW." The Utilities Project Volume 6.

⁴ American Public Power Association. 2005. "Work Force Planning for Public Power Utilities: Ensuring Resources to Meet Projected Needs."

⁵ Alan Hardcastle. 2008. "Workforce Challenges of Electric Sector Employers in Washington & Oregon." Pg. 12.

Potential Barriers and Hazards to Utilities Employment

Hazards	Many utility industry occupations are hazardous – climbing poles and going down in holes, working with high voltage, etc. Though strict safety training and procedures are part of any job preparation, these hazards remain a reality.
Physical Demand	In many cases, the environments in which such work is performed can be demanding, confined spaces or at heights outdoors and potentially inclement weather, requiring a level of physical fitness, strength and endurance that is ultimately non-negotiable.
Transportation	In most cases, occupations in the utilities require the ability of all crew members to have a Washington State driver's license. In some cases, workers must be able drive commercial vehicles, requiring a State of Washington Commercial Class B driver's license (CDL).
HS Diploma/GED	Not all trainings require them, but many recommend a high school diploma or GED equivalency certificate.
Language	The ability to communicate with fellow utility crew members is essential, both in terms of getting the job done correctly and doing so safely. Further, more skilled occupations do require higher level some reading and comprehension.
Drug Testing	Most utility job opportunities and training programs include drug testing as part of their application procedures, as well as a zero-tolerance policy once accepted.
Math	Most trainings and occupations require some understanding of high school mathematics, including basic algebra.

Going Green: Clean Energy

Key Points

- The Utilities industry is and will continue to be a major contributor to a green energy economy – with alternative sources of power generation like solar, hydro and wind already being used across the state.
- New infrastructure will be required to support the increased demand for energy and related services.
- New jobs will be created and a skilled and ready workforce will be needed to meet the demands of this growing green economy.

The Clean Energy industry is fast becoming a key part of the conversation regarding public utilities. Additional opportunities for a skilled workforce are created as utilities turn to alternative sources of power generation. Newer methods like wind, solar, and geothermal are being added to the energy toolbox as ways of both dealing with conservation and climate issues and keeping the utilities industry at the forefront of innovation and economic development. Some methods of clean energy, such as hydro, have been used by local utilities companies for some time as a means of supplying energy both regionally and to other states. Ninety-percent of the state of Washington's energy comes from hydro through dams. In fact, we produce so much energy that we end up selling it to other states that need it. New infrastructure to support the increased demand for energy and to fill jobs created by the burgeoning green economy will require a workforce that is sizeable, flexible, and knowledgeable.

Clean energy technologies and industries have massive potential for job creation. Analyses done by the Renewable Energy Policy Project predict that appropriate investment nationally in these industries to stabilize emissions has the potential to result in over 8,500 new jobs statewide, with over 2,500 being created in King County.¹ It is essential as we think about these new methods for a green economy to consider measures to ensure that skills training of the current and future workforce is inclusive of all populations. The Apollo Alliance and Green For All advocate for the need for investment in new technologies that are good for the planet to also be good for families through livable wage jobs and opportunities for advancement through training. (For more information on Green Jobs and the Green Economy, see SJI's July 2008 Job Trends Report). ■

¹ Renewable Energy Policy Project, Blue Green Alliance. 2007. "Washington's Road to Energy Independence: Building on Job Growth in Renewable Energy Component Manufacturing."

Meeting the Demand for a Utilities Workforce

Key Points

To help the Public Utilities meet the pending worker shortages in the industry, efforts to identify and fill workforce gaps are underway.

- The Energy Technology Skills Panel brings together key stakeholders in the industry to develop strategies to grow enrollments for energy field training.
- One key local utilities employer — Seattle City Light—has created a Pre-apprentice Line worker program to help assist individuals interested in the SCL Lineworker apprenticeship program to acquire the required basic skills for success and advancement in this occupation.

Energy Technology Skills Panel

Funded by the Workforce Training and Education Coordinating Board, the Energy Technology Skills Panel is in its fourth year of establishing training standards for the energy industry. Coordinated by Barbara Hins-Turner, Executive Director for the Center of Excellence for Energy Technology at Centralia Community College, the Panel brings together key stakeholders in the energy industry to collaborate on identifying potential gaps in industry workforce and skills. Working with government, educators, labor, and workforce and economic development professionals, the Panel identifies and implements strategies to close those gaps, developing skills standards, new trainings and strategies to grow enrollments for current training programs in the energy field. This coordinated effort provides valuable information to the utilities industry on how it can most effectively meet its workforce challenges.

The Skills Panel has successfully articulated skills standards for various occupations in the utilities industry. Interactive group meetings bring together various energy and utility industry employees and experts in the field to define work functions, activities, knowledge and skills. Articulated skills standards have been created as a result of this process by Walla Walla Community College for Plant Operators, Plant Mechanics, Electricians, Instrument/ Control/Relay/Meter Technicians, Linemen, and Millwrights. The Skills Panel is currently undertaking the same process for Combustion Turbine Operators, and is in the planning stages of a panel focused on Wind Technicians.

These skills standards have been used to support the development of new curricula. Centralia Community College, for example, has formed a 2-year Energy Technology Associate in Applied Science (AAS) degree program, which has since been reproduced and customized based on need and expertise at various other community colleges statewide.

Hins-Turner reports that job placement out of these programs has been amazing: “The jobs are there, even in a down economy”. Still, these are jobs that are relatively high-skill, and those interested in pursuing occupations in this field must be willing to commit a couple of years to build the skills required through the training programs available. Graduates from the Centralia program are primarily placed into apprenticeship programs or assistant operator positions with utility and energy employers. The wages are equally good, with starting wages varying between \$22 and \$30/hr. There has been little turnover of graduates once they are placed.

In light of the shortages that they are feeling, reports Hins-Turner, employers are making shifts in how they recruit and retain employees to fit the skills they are looking for. In some cases, employers are shifting the times of year that they recruit in order to line up with culmination of training programs and apprenticeships. ■

What do you think?

We'd love to get your feedback on SJI's Job Trends Reports. What do you find most interesting? What information is most useful? What topics and/or industries would you like to see us cover in the future?

Contact Juliet Scarpa at 206.628.6985 or email jscarpa@seattlejobsinit.com with your comments and suggestions.

We look forward to hearing from you!

Employer Focus: Seattle City Light

Seattle City Light is the entity which currently provides electrical power to over 380,000 customers in Seattle and neighboring suburbs, employing a workforce of roughly 1,800.⁶ Like all utility companies, Seattle City Light is also faced with the looming labor and skill shortages described above.

To help with this workforce reality, Seattle City Light currently funds a Pre-Apprentice Lineworker program. This is a paid, temporary six-month training position where pre-apprentices experience a diverse 1040-hour training program. The pre-apprenticeship includes on-the-job training with a crew in the field, physical fitness training, and classroom instruction. The average hourly wage during the 6-month training is \$22/hr. Successful completion of the training equates to direct entry into the three-year Lineworker Apprenticeship. These apprentices are hired by Seattle City Light as regular employees with full benefits. New apprentices are probationary employees for one year. This pre-apprenticeship is required for all potential Seattle City Light Lineworker apprentices.

To be accepted into both the Pre-Apprentice Lineworker program and the other apprenticeships housed at Seattle City Light (see chart on page 7 on Training Opportunities in Utilities), applicants must take a variety of tests to gauge their physical capabilities, mechanical ability, and mathematical aptitude.

For those individuals who require additional work with math and mechanical skills, Seattle City Light has developed the BEAM program – Basic Electrical and Applied Mathematics – to serve as a front-end instruction opportunity. BEAM runs for 16 weeks, is credit-bearing, and provides both classroom and physical training to individuals who are interested in the pre-apprenticeship program.

The BEAM program has proven extremely popular, doubling the number of students enrolled in just 1 year. In order to accommodate increased capacity, the program has recently moved from Seattle City Light to the South Seattle Community College Georgetown Campus, where both the number and size of classes have been increased. Despite this, the classes, which are filled on a first-come first-served basis, continue to turn people away.

Edmond Hill, Manager of Seattle City Light Apprenticeship Programs, reports that Seattle City Light has been actively recruiting and marketing for all of its training programs, with a focus on increasing diversity in the trades. At the same time, Hill reports, support services are lacking in the apprenticeship programs. While strong attention has been paid to bridging academic and electrical skills gaps through training, additional resources are stretched thin in terms of addressing other potential barriers for individual success in training. Still, pre-apprenticeship and apprenticeship training is a great way to get a good job and a viable path to a great career. As Hill notes, "it's something you can take with you wherever you go." ■

⁶ Seattle City Light. 2008. "A Climate of Change: 2007 Annual Report."

Additional Resources:

Bureau of Labor Statistics (BLS), Department of Labor: <http://www.bls.gov>

Washington State Employment Security Department (ESD): <http://www.esd.wa.gov/>

Workforce Explorer (ESD's source for Labor Market Information): <http://www.workforceexplorer.com>

Washington State University Energy Program (Olympia): <http://www.energy.wsu.edu>

Centralia College Center of Excellence for Energy Technology: <http://www.centralia.edu/coe/>

Seattle Jobs Initiative Publications: <http://www.seattlejobsinitiative.com/policy/publications/>

King County Training Opportunities in Energy & Utilities

Many opportunities exist for those with mechanical, hands-on aptitude and a desire to obtain skills in the energy & utilities fields.

- Apprenticeships provide opportunities to earn while you learn, gaining key knowledge in a variety of areas while on the job.
- Some apprenticeship programs, such as Stationary Engineers, are only open to current employees in participating companies. Other programs accept applications from the broader community.

General Apprenticeships

Construction Equipment Operator, Construction Electrician, Construction Lineman, Engineer Technician, Maintenance Electrician, Residential Wireman, Technical Engineer, Telecommunications Technician, Tree Trimmer, Electrician Technician, Fitter, Welder, Pipefitter, Stationary Engineer, and others.

Employer-Sponsored Apprenticeships

Seattle Public Utilities (206) 733-9474	Water Pipe Worker Drainage and Waste Water
Seattle City Light (206) 733-9924	Hydro-Electric Maintenance Machinist Cable Splicer Generation Electrician Constructor Meter Electrician Utility Construction Worker Lineworker
Puget Sound Energy (Serving King County) (425) 462-3017	Substation Wire Hydro Electrician Hydro Mechanic Electric Meter Combustion Turbine Specialist Power Plant Operator
Bonneville Power Administration (Serving the Pacific Northwest) (877) 975-4272	Power System Electrician High Voltage Line Worker Substation Operator

Certificate and Degree Programs

South Seattle Community College	Building Management (in development)
Renton Technical College	Electrical Plant Maintenance Certificate
Shoreline Community College	Zero Energy Building Practices Certificate
Cascadia Community College	Environmental Technologies & Sustainable Practices AAS
Green River Community College	Water Distribution Technology Certificate Water Supply Technology AAS

Special thanks to our contributors:

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Seattle-King County Workforce Development Area Utility-Related Occupations

A variety of occupations exist in the utilities and energy services industry. The following table details a handful of possible jobs, related wages, and average education and training levels.

- Many of these occupations pay living wages, and do not require significant education or training beyond a high school diploma.
- Statewide, the average yearly wage for all utilities employment in 2005 was \$65,140, and there is evidence that wages are continuing to rise, due in part to the labor shortages outlined earlier.

(Source: Alan Hardcastle. 2008. "Workforce Challenges of Electric Sector Employers in Washington & Oregon.")

Occupation	Estimated Employment in 2006	Vacancies (April 2008) *	Wage Range (March 2008) **	Avg Annual Growth Rate (2006-2016) ***	Avg Total Annual Openings (2006-2016) ***	Avg. Education/ Training Nationally ****
Helpers -- Installation, Maintenance, and Repair Wks	1,054	4	\$20-28K	1.2%	39	Short-term OJT
Maintenance and Repair Workers, General	9,907	6	\$28-39K	1.1%	142	Long-term OJT
Meter Readers, Utilities	155	0	\$36-39K	0.3%	6	Short-term OJT
Refuse and Recyclable Material Collectors	583	21	\$29-40K	1.5%	27	Short-term OJT
Electrical and Electronics Installers and Repairers	321	0	\$39-43K	0.2%	8	Post-secondary Vocational Training
Industrial Machinery Mechanics	1,603	27	\$38-51K	0.6%	37	Long-term OJT
Stationary Engineers and Boiler Operators	270	0	\$42-54K	1.4%	9	Long-term OJT
Electrical and Electronic Engineering Technicians	1,085	36	\$38-56K	1.4%	40	Associate's Degree
Heating, AC, and Refr. Mechs and Installers	138	138	\$36-57K	1.2%	48	Long-term OJT
Electrical and Electronics Drafters	483	3	\$42-57K	1.1%	21	Post-secondary Vocational Training
Water and Liquid Waste Treatment Plant and System	247	10	\$45-58K	0.6%	6	Long-term OJT
Control and Valve Inst. and Rep., Ex. Mech Door	193	17	\$38-59K	0.6%	5	Moderate-term OJT
First-Line Supervisors/Managers of Prod. and Oper. Wks	4,010	135	\$42-60K	0.3%	79	Work Experience
Elect. and Elect. Repairers, Powerhouse	267	4	\$50-60K	0.1%	10	Post-secondary Vocational Training
Elect. and Elect. Repairers, Comm and Ind.	1,276	1	\$36-61K	0.7%	54	Post-secondary Vocational Training
Electrical Power-Line Installers and Repairers	319	22	\$56-64K	0.3%	11	Long-term OJT
First-Line Supervisors/Managers of Mechanics, Installers and Repairers	3,132	61	\$50-69K	0.9%	106	Work Experience

* Spring 2008 Job Vacancy Survey, Washington Employment Security Department. Data represents current openings as of April 2008.

** Occupational Employment Statistics Wage Survey, March 2008, Bureau of Labor Statistics. Range is between entry and median wage for King County March 2008.

*** Occupational Employment Projections, June 2008, Washington Employment Security Department.

****OJT: On-the-job training; Work experience includes apprenticeships of up to five years.

