Department of Labor & Industries
Apprenticeship Section
PO Box 44530
Olympia WA 98504-4530

Teri Gardner 3-14-22
Teri Gardner 2-17-22
Rc'd 3/14/22 CC
Rc'd 2/15/22 CC
L&I apprenticeship coordinator

TO: Washington State Apprenticeship & Training Council

From: **Grant County PUD No. 2 Apprenticeship Committee #192**
(NAME OF PROGRAM STANDARDS)

Please update our Standards of Apprenticeship to reflect the following changes.
Additions shall be underlined.
Deletions shall be ~~struck through~~.
See attached.

Authorized signatures

(chr.) Jacob Johnson	Approved by: Washington State Apprenticeship & Training Council
(sec.)	Secretary of WSATC:
date: 2-14-22	date:

attach additional sheets if necessary

Occupational Objective(s):	SOC#	Term [WAC 296-05-015]
METER RELAY TECHNICIAN	**49-9012.01**	**~~7000~~ 6000 HOURS**
FIBER NETWORK TECHNICIAN	**~~49-9052.00~~**	**~~4000 HOURS~~**

IV. TERM OF APPRENTICESHIP:

The term of apprenticeship for Power System Electricians, Power Plant Operator, Electronic Technician, Hydro Electrician, Hydro Mechanic, ~~and Lineman~~ Lineman, and Meter Relay Technician apprenticeship positions shall be 6000 hours of reasonably continuous employment and experience in the principal operations of the trade, and at least 144 hours per year in courses of study in subjects related to the trade.

The term of apprenticeship for ~~Power System Electrician and Meter Technician~~ Fiber Network Technician apprenticeship positions shall be ~~7000~~ 4000 hours of reasonably continuous employment and experience in the principal operations of the trade, and at least 144 hours per years in courses of study in subjects related to the trade.

V. INITIAL PROBATIONARY PERIOD:

C. All apprentices employed in accordance with these Standards in all occupations except Fiber Network Technician shall be subject to a tryout or probationary period not exceeding the first 1000 hours of employment. The probationary period for Fiber Network Technician shall not exceed the first 800 hours of employment.

VII. APPRENTICE WAGES AND WAGE PROGRESSION:

c. Wage Progression Schedules

The current wage progression for Power System Electricians, Power Plant Operators, Hydro Mechanics, Electronic Technicians, Hydro Electricians, ~~and Lineman~~ Lineman, and Meter Relay Technician under this agreement is:

B. The current wage progression for ~~Meter Technicians~~ Fiber Network Technician under this agreement is:

Step	Hour Range or competency step	Percentage of journey-level wage rate*
1	**0000 – 1000 hours**	**74.07%**
2	**1001 – 2000 hours**	**76.95%**
3	**2001 – 3000 hours**	**79.87%**
4	**3001 – 4000 hours**	**82.79%**
~~5~~	**~~4001 – 5000 hours~~**	**~~85.63%~~**
~~6~~	**~~5001 – 6000 hours~~**	**~~88.48%~~**
~~7~~	**~~6001 – 7000 hours~~**	**~~91.30%~~**

VIII. WORK PROCESSES:

A. Electronic Technician: **Approximate Hours**

~~**1. FCC regulations .....50**~~

~~**2. Safety meetings inspection and care of safety equipment .....100**~~

~~**3. Laying out construction work from blueprints.....150**~~
~~**4. Installation of station radios .....200**~~

~~**5. Installation of mobile radios .....500**~~

~~**6. Locating radio and TV interference.....1000**~~

~~**7. Work on telephone and related electronic circuits .....600**~~

~~**8. Work on metering and related electronic circuits .....600**~~

~~**9. Testing, altering, and repairing electronic equipment.....2500**~~

~~**10. Maintenance and repair of electronic test instruments.....300**~~

~~**Total Hours: 6000**~~

1. National, State Codes and District Policies….. 150
a. Compliance, CIP Procedures and guidelines
2. Safety….. 150
a. Meetings, Inspection and Care of Equipment
3. Documentation 100
a. Standards and Diagrams
4. Radio Systems.....250
a. Mobile/Portable
b. Telemetry
5. Communications Systems..... 1000
a. Fiber Transport Systems
b. Microwave Transport Systems
c. Network Architecture
d. Security Systems
e. Baseband Systems
6. IP Networking 600
a. Switching
b. Routing
7. Telephony Systems..... 500
a. Analog
b. VOIP
8. Fiber Optic Systems..... 1000
a. Wholesale Fiber / Wireless
b. District Networks

c. Inside/Outside Plant

9. SCADA..... 1000

a. EMS/GMS
b. IP
c. Analog
d. Protocols

10. Electronics Foundation..... 250

a. Electrical, Electronics, Radio Frequency Theory
b. Electronic and Radio Frequency Components
c. Basic and Advanced Circuit Theory

11. Electronic Test Equipment.....250

a. Calibrations
b. Storage, handling and usage
c. Testing Procedures

12. UPS/Battery Systems/DC plants and Rectifiers..... 250

a. Installation
b. Maintenance and Testing

13. General..... 500

a. Construction Practices, terminations,
b. Maintenance, Records, Drawings and Trouble Ticketing systems
c. Tower Climbing and Safety
d. Procedures and Documentation

Total Hours: 6000

E. Meter Relay Technician:

4. Programming, testing and repairing meters…….~~2000~~ 1000

12. On-the-job training under the supervision of a ~~Distribution Dispatcher~~ Station Operator

Total Hours:~~7000~~ 6000

F. Power Plant Operator: **Approximate Hours**

~~**1. Safety-Related: Safety meetings, morning meetings, job briefs .....250**~~

~~**2. Hydro Project Training & Competency .....500**~~
~~**a. Inspection of Dam Structure**~~
~~**b. Fish Ladders**~~
~~**c. Fish Bypass**~~
~~**d. Spillway Structure**~~
~~**e. Powerhouse Structure**~~
~~**f. Project Integrity**~~
~~**g. Security**~~

~~**3. Operations of Equipment Training and Competency:.....2500**~~
~~**a. Powerhouse Equipment including but not limited to Turbines, Governors, Generators, Exciters Generating Unit Auxiliary Equipment, and Emergency Engine Generator**~~
~~**b. Plant Systems including Fire, Water, Oil, Air, Sewage, Drainage, and HVAC**~~

~~c. High and Low Voltage Metal Clad Substations, 125 VDC Battery System, and 480V UPS System~~

~~4. Operations of Equipment Training and Competency .....750~~
~~a. Fish Ladders~~
~~b. Fish Bypass~~
~~c. Spillway~~
~~d. Spillway Emergency Operations~~
~~e. Reservoirs, Waterways~~
~~f. Gravity Supply and Related Systems~~
~~g. Emergency Engine Generator~~
~~h. Metal Clad Substation~~

~~5. Control Room Training and Competency .....650~~

~~6. a. Inspection of reservoirs, waterways, and related hydraulic systems.~~
~~b. Operation of spillway gates and fish passing facilities .....186~~

~~7. Routine work and yard switching in the transmission sub-station .....186~~

~~8. Supervised switchboard training in the control room.....310~~

~~9. Orientation to dispatching .....40~~

~~Total Hours: 6000~~

1. Safety Related: Safety meetings, morning meetings, job briefs….....250
2. Hydro Project Training and Competency 500
   a. Inspection of Dam Structure
   b. Fish Ladders
   c. Fish Bypass
   d. Spillway Structure
   e. Powerhouse Structure
   f. Project Integrity
   g. Security
3. Operations of Equipment Training and Competency……. 2500
   a. Powerhouse Equipment including but not limited to Turbines, Governors, Generators, Exciters, Generating Unit Auxiliary Equipment, and Emergency Engine Generator
   b. Plant Systems including Fire, Water, Oil, Air, Sewage, Drainage, and HVAC
   c. High and Low Voltage Metal Clad Substations, 125 VDC Battery System, and 480V UPS System
4. Operations of Equipment Training and Competency… 750
   a. Fish Ladders
   b. Fish Bypass
   c. Spillway
   d. Spillway Emergency Operations
   e. Reservoirs, Waterways
   f. Gravity Supply and Related Systems
   g. Emergency Engine Generator

h. Metal Clad Substation

5. Control Room Training and Competency 650
- **a. Computer Control Systems for Generating Units**
- **b. Spillway Control**
- **c. Plant Systems**
- **d. HVAC**
- **e. Security**
- **f. Fire System**
- **g. Station Service**
- **h. Electronic Log**
- **i. Emergency Communications**
- **j. Plant Annunciation System**

6. Switching and Clearance Procedure Training and Competency 650

7. Switchyard Training and Competency 620
- **a. Switchyard**
- **b. Operation of Switchyard as directed by System Operator**
- **c. Emergency Systems**
- **d. Emergency Engine Generator**
- **e. Fire System**
- **f. High and Low Voltage Station Service**
- **g. 125 VDC Battery System**
- **h. Inspections of Equipment**
- **i. Records and Logs**
- **j. Clearance Procedures**

8. Orientation to Dispatching and Substations… 80

Total Hours: 6000

G. Power System Electrician

13. On-the-job training under supervision of a ~~Distribution Dispatcher~~ Station Operator

H. Fiber Network Technician	**Approximate Hours**
1. National, State Codes and District Policies	**150**
a. Compliance, CIP Procedures and guidelines	
2. Safety	**100**
a. Meetings, Inspection and Care of Equipment	
b. Personal Protective Equipment	
c. Fiber Optic Safety Protocols	
3. Documentation	**150**
a. Standards and Diagrams	
b. Print Reading and Cut Sheets	
c. As-Builts	
d. Color Codes	
4. Fiber Optic Cable	**500**
a. Trunk and Distribution	
b. Prep and Splicing, Fusion Splicer	
c. Terminating, Mechanical Termination	
5. Fiber Optic Construction	**750**
a. Overhead	

b. Underground
c. Storage and Splice cans

6. ONT installations 500
a. Installation, replacement, repair, powering

7. Fiber Hut and Hub 250
a. Patch Panel Port
b. Switch and Blade

8. Fiber Optic Systems O&M 1000
a. Wholesale Fiber
b. District Networks
c. Inside/Outside Plant
d. System Restoration

9. On the Job Training with 200
a. Line Crew 120 hours
b. Electronic Technician 80 hours

10. Fiber Test Equipment 200
a. OTDR, Power(light) Meter, Visual Fault Indicator
b. Storage, handling and usage
c. Troubleshooting/Testing Procedures

11. General 200
a. Construction Practices
b. Maintenance, Records, Drawings and Trouble Ticketing systems

Total Hours: 4000

IX. RELATED/SUPPLEMENTAL INSTRUCTION:

A. The methods of related/supplemental training must be indicated below (check those that apply):

(X) Private Technical/Vocational college

(X) Sponsor Provided (lab/classroom)

X. ADMINISTRATIVE/DISCIPLINARY PROCEDURES:

4. Each apprentice shall maintain a shop record in which he/she shall list daily, the number of hours worked on each work process. Where there is not free time after the crew comes in to make out this record on the District's time, it will be done on his/her own time without compensation. This record shall be verified by the supervisor or foreman and shall be submitted to the supervisor of training monthly. Each apprentice shall submit this record to the supervisor of training by the last scheduled workday of the first full week in the new month. Failure to submit by this timeframe may result in an extension of hours added to the end of the term of the apprenticeship equal to the number of hours not submitted timely. The supervisor or foreman responsible for the apprentice shall submit a written progress report covering each six months' work and submit it within 30 days of the end of that period. The training coordinator shall maintain a cumulative record of each apprentice showing his/her progress in acquiring knowledge of the various

manipulative skills in the training, together with such other information as may be necessary to provide an adequate apprenticeship record. The Apprenticeship Committee may recommend the form of reports of apprentices to show progress in the trade and in related instruction.

7. First Aid Training:

All apprentices shall acquire during the first year of their apprenticeship and ~~maintenance~~ maintain during their term of apprenticeship, a basic first-aid card that meets the requirements of the Washington State Department of Labor and Industries.

9. Apprenticeship Committee Meetings:

~~Substitutes~~ Alternates: ~~Substitutes~~ Alternates may attend the Apprenticeship Committee meeting at the request of an absent member and shall retain all rights and privileges of the absent member. Normally a union member will substitute for a union member on the committee and a management person will substitute for a management member on the committee.

B.

3. Sponsor Disciplinary Procedures:

~~None~~ If the apprentice has not submitted the hours for the previous month by the first full week of the new month, he or she will be contacted by their supervisor and may face disciplinary action involving the extension of the term of apprenticeship equal to the number of hours which were not submitted timely or at all.

XI. SPONSOR – RESPONSIBILITIES AND GOVERNING STRUCTURE

[Please delete and replace committee in its entirety]

E. Committee governance (if applicable): (see WAC 296-05-009)

c. The employer representatives shall be:

(Grant County Public Utility District)

Jacob Johnson, Chair
PO Box 878
Ephrata, WA 98823

Chris Heimbigner
PO Box 878
Ephrata, WA 98823

Mindy Johnston
PO Box 878
Ephrata, WA 98823

Jack Mizner
PO Box 878
Ephrata, WA 98823

Jeremy Robertson, Alternate
PO Box 878
Ephrata, WA 98823

d.The employee representatives shall be:

(IBEW Local 77)

Andy Martin, Secretary
PO Box 878
Ephrata, WA 98823

John Bowkett
PO Box 878
Ephrata, WA 98823

Rebekah Lutz
PO Box 878
Ephrata, WA 98823

Eric Huber
PO Box 878
Ephrata, WA 98823

David Boggs, Alternate
PO Box 878
Ephrata, WA 98823

XIII. TRAINING DIRECTOR/COORDINATOR:

~~**Nes Hanson**~~ **Katie Boswell, Training Director/Coordinator**
PO Box 878
Ephrata, WA 98823

Department of Labor & Industries
Apprenticeship Section
PO Box 44530
Olympia WA 98504-4530

Journey Level Wage Rate

From which apprentices' wages rates are computed

TO: Washington State Apprenticeship & Training Council

From Grant County PUD No. 2 Apprenticeship Committee #192
(NAME OF STANDARDS)

Occupations	County(s)	Journey Level Wage Rate	Effective Date:
Fiber Optic Technician	Grant	40.71	1-1-2022

Rc'd 2/15/2022 CC

Teri Gardner 2-17-2022

Apprenticeship Related/Supplemental Instruction (RSI) Plan Review

Program Sponsor Grant County PUD Joint Apprenticeship Training Committee JATC	
Skilled Occupational Objective Fiber Optic Technician	
Term/OJT Hours 4000	Total RSI Hours 292
Training Provider Light Brigade / Big Bend Community College	

By the signature placed below, the **program sponsor** agrees to provide the prescribed RSI for each registered apprenticeship and assures that:

1. The RSI content and delivery method is and remains reasonably consistent with the latest occupational practices, improvements, and technical advances.
2. The RSI is coordinated with the on-the-job work experience.
3. The RSI is provided in safe and healthful work practices in compliance with WISHA and applicable federal and state regulations.

GCPUD JATC Chairman Jacob Johnson

Printed Name of Program Sponsor

Jacob Johnson

Signature of Program Sponsor

By the signature placed below, the **training provider** assures that:

1. The RSI will be conducted by instructors who meet the qualifications of "competent instructor" as described in WAC 296-05-003.
    a. Has demonstrated a satisfactory employment performance in his/her occupation for a minimum of three years beyond the customary learning period for that occupation; and
    b. Meets the State Board for Community and Technical Colleges requirements for a professional technical instructor (see WAC 131-16-080 through -094), or be a subject matter expert, which is an individual, such as a journey worker, who is recognized within the industry as having expertise in a specific occupation; and
    c. Has training in teaching techniques and adult learning styles, which may occur before or within one year after the apprenticeship instructor has started to provide the related technical instruction.
2. If using alternative forms of instruction, such as correspondence, electronic media, or other self-study, such instruction is clearly defined.

Pam Wooten

Print Name Training Provider

Pam Wooten

Signature of Training Provider

Business Development

Title of Training Provider

Light Brigade

Organization of Training Provider

If there are additional training providers, please provide information and signatures on the next page.

Additional Resources: *Apprenticeship Related Supplemental Instruction (RSI) Plan Review Glossary of Term (F100-519-000) and Apprenticeship Related Supplemental Instruction (RSI) Plan Review Criteria (F100-521-000).*

SBCTC Program Administrator has reviewed RSI plan and recommendations of the Trade Committee.

Click or tap here to enter text.

Print Name of SBCTC Program Administrator

Signature of SBCTC Program Administrator

Date

☐ SBCTC recommends approval ☐ SBCTC recommends return to sponsor

Additional Training Providers (if necessary)

Daneen Berry-Guerin Print Name Training Provider	[signature] Signature of Training Provider
Dean of Workforce Education Title of Training Provider	Big Bend Community College Organization of Training Provider
Click or tap here to enter text. Print Name Training Provider	Signature of Training Provider
Click or tap here to enter text. Title of Training Provider	Click or tap here to enter text. Organization of Training Provider
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Click or tap here to enter text. Title of Training Provider	Click or tap here to enter text. Organization of Training Provider

Program Sponsor:	Skilled Occupational Objective:
Grant County PUD JATC	Click or tap here to enter text.

Note: The description of each element must be in sufficient detail to provide adequate information for review by the SBCTC and Review Committee. To add more elements, click on the plus sign that appears below the "Description of element/course" field.

Describe minimum hours of study per year in terms of (check one):

☒ 12-month period from date of registration.

☐ Defined 12-month school year.

☐ 2,000 hours of on-the-job training.

Element/Course: IST 226	Planned Hours: 77
Mode of Instruction (check all that apply) ☒ Classroom ☒ Lab ☐ Online ☐ Self-Study Provided by: Big Bend Community College	
Description of element/course: Introduction to Fiber Optics: Theory, Systems, and Applications	

Element/Course: 100 Introduction to Industrial Safety and Health	Planned Hours: 33
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Big Bend Community College	
Description of element/course: Introduction to basic industrial safety and health incorporating OSHA/WISHA rules and regulations, personal protective equipment, chemical safety, tool safety, material handling safety, machine safety, electrical safety, fire protection, health protection, safe working practices and anti-harassment training.	

Element/Course: Fiber Optics 1-2-3	Planned Hours: 32
Mode of Instruction (check all that apply) ☒ Classroom ☒ Lab ☐ Online ☐ Self-Study Provided by: Light Brigade	
Description of element/course: The course is designed to provide an understanding of fiber optic technology, how fiber works, various link components as well as industry standards and best practices. Knowledge gained from the classroom session is then applied in two days of hands-on skills exercises.	

Element/Course: FIBER OPTICS FOR UTILITIES LEVEL 1 TECHNICIAN	Planned Hours: 24
Mode of Instruction (check all that apply) ☒ Classroom ☒ Lab ☐ Online ☐ Self-Study Provided by: Light Brigade	
Description of element/course: Hands-on skills training includes splicing, termination, testing, and troubleshooting to increase efficiency, reliability, and deployment speed in the field.	

Element/Course: FIBER OPTICS FOR UTILITIES LEVEL 2 DESIGNER	Planned Hours: 8
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Light Brigade	
Description of element/course: examines fiber optic design parameters, cable management alternatives, route planning, optical testing requirements, test results interpretation, and cable system design.	

Element/Course: ADVANCED OUTSIDE PLANT TECHNICIAN	Planned Hours: 32
Mode of Instruction (check all that apply) ☒ Classroom ☒ Lab ☐ Online ☐ Self-Study Provided by: Light Brigade	

Description of element/course:
fiber terminology and technology before diving into FTTx, emergency restoration, fiber characterization, and how the latest industry trends may impact field practices

Element/Course: Certified Fiber to the Home Pro + eManual	Planned Hours: 20
Mode of Instruction (check all that apply) ☐ Classroom ☐ Lab ☒ Online ☐ Self-Study Provided by: Light Brigade	
Description of element/course: This interactive online course was developed for network designers, network planners, supervisors, and project managers involved in deploying and maintaining FTTH and FTTB networks	

Element/Course: OTDR & TESTING DEEP DIVE	Planned Hours: 16
Mode of Instruction (check all that apply) ☒ Classroom ☒ Lab ☐ Online ☐ Self-Study Provided by: Light Brigade	
Description of element/course: field testing and troubleshooting fiber optic spans/links and explains the various types of equipment and tools needed for acceptance testing,	

Element/Course: EMERGENCY RESTORATION	Planned Hours: 16
Mode of Instruction (check all that apply) ☒ Classroom ☒ Lab ☐ Online ☐ Self-Study Provided by: Light Brigade	
Description of element/course: focuses on fault location, troubleshooting, and test equipment with a heavy emphasis on hands-on skills training that simulates actual field restorations for both retrievable and non-retrievable slack scenarios	

Element/Course: FTTX FOR INSTALLERS & TECHNICIANS	Planned Hours: 32
Mode of Instruction (check all that apply) ☒ Classroom ☒ Lab ☐ Online ☐ Self-Study Provided by: Light Brigade	
Description of element/course: technical knowledge of fiber optics relating to FTTx applications, as well as the skills needed to install and test the physical layer for active Ethernet and passive optical networks (PON).	

Element/Course: Fiber Optic Safety - Interactive Online Module	Planned Hours: 2
Mode of Instruction (check all that apply) ☐ Classroom ☐ Lab ☒ Online ☐ Self-Study Provided by: Light Brigade	
Description of element/course: safe practices in many different work scenarios.	