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STATE OF WISCONSIN
DWD
Department of Workforce Development
Tony Evers, Governor
Amy Pechacek, Secretary-Designee
Michele Carter, Division Administrator

May 3, 2023

TO: State E&I Apprenticeship Advisory Committee Members and Consultants
FROM: Owen Smith, Bureau of Apprenticeship Standards

SUBJECT: **State Electrical & Instrumentation Apprenticeship Advisory Committee**
DATE: **Thursday, May 11, 2023**
TIME: **10:00 a.m. - Noon**

OPTIONS: **Attend virtually.**

Attend via phone.
Call 608-571-2209. Enter code, 690 659 854#

Attend in person.
Department of Workforce Development, Room F105
201 E Washington Ave, Madison, 53703

AGENDA

1. Call the meeting to order.
2. Introduce attendees.

3. **Old Business**
   a. Review the roster.
   b. **For action**: approve the minutes.
   c. Review revised Exhibit A for Maintenance Technician in fall.

4. **New Business**
   a. Review the revised template for state standards, approved by Policy & Standards Subcommittee:
      i. Policies established in the *Wisconsin Apprenticeship Manual*
      ii. Updated policies established by the Department of Labor
      iii. Policies established by the state committee.
   b. **For action:** verify policies established by the state committee are accurate.
   c. **For action:** identify policies established by the state committee to revise further in fall, if needed.
   d. Questions from the Director's Call.
   e. Communicating state committee meetings to the public
   f. Other

5. Review the program participants.
6. Adjourn.

Draft Minutes of the

Electrical & Instrumentation

State Apprenticeship Advisory Committee

October 5, 2022
Department of Workforce Development, Madison
With Virtual Option

Members Present	Employer / Organization
Butt, Nate (Co-Chair)	Quad Graphics
Cannestra, Anthony (Co-Chair)	GE Healthcare
Laehn, Steve	Sargento Foods, Inc.
Palzill, Craig	Madison Metropolitan Sewerage District
Randall, Bob	Brakebush Brothers
Woehlke, Scott	Mercury Marine
Members Absent	**Employer / Organization**
Cestkowksi, Jim	MPI
Dehnel, Charlie	Domtar
Hafeman, Brian	PCA
Winkler, Mike	John Deere Horicon Works
Zak, Tyler	Kimberly Clark
Consultants & Guests	**Employer / Organization**
Badger, Richard	Bureau of Apprenticeship Standards
Herber, Ryan	Bureau of Apprenticeship Standards
Jungwirth, Christina	Northeast Wisconsin Technical College
Metko, Katie	Northcentral Technical College
Nakkoul, Nancy	Wisconsin Technical College System
O'Shasky, Lynn	Bureau of Apprenticeship Standards
Polk, David	Bureau of Apprenticeship Standards
Popp, Corey	Bureau of Apprenticeship Standards
Pusch, Liz	Bureau of Apprenticeship Standards
Smith, Owen	Bureau of Apprenticeship Standards

1. The meeting was called to order at 1:00 p.m. by Nate Butt, Committee Co-Chair, in conformance with the Wisconsin Open Meeting Law.

2. Attendees introduced themselves. Mr. Smith recorded attendees. A quorum was present.

3. The committee reviewed the roster. No changes were needed. The committee advised the Bureau to recruit an additional Employer member that sponsors Mechatronics.

4. Action Items

a. Approve the minutes.

The state committee approved the minutes as revised: the meeting was chaired by Mr. Cannestra.

b. Review the Maintenance Technician Exhibit A.

Mr. Smith reported that, as requested by the committee, the Bureau convened a focus group to update the Maintenance Technician Exhibit A. The group prepared a draft for the committee's input on the direction of the revisions.

A general discussion followed. Members of the focus group reviewed that the registered apprenticeship is a hybrid of two other registered apprenticeship, which both were updated several years ago. The group's approach has been to integrate the respective revisions, review the work processes, and review the work process hours.

> ***Action:*** *the committee approved the direction of the revisions and asked the focus group to present a final draft at the 2023 spring meeting.*

5. Discussions

a. BAS Directors Call with State Committees

Mr. Smith reviewed that the Directors' Call provides a single, virtual forum for the Bureau to report apprenticeship updates to all state committees. Due to the large audience, attendees may participate via chat only. Therefore, the Bureau includes this topic in each committee's respective agenda to ensure an opportunity for further discussion, if needed.

Attendees did not have questions or comments.

b. How is industry preparing for infrastructure projects?

Director Polk reported that the Department is researching how apprenticeship occupations may be affected by potential infrastructure funding.

The state committee replied that it business, training, and recruitment are proceeding as usual. The manufacturing sector would likely be affected only by increased demand for producing parts.

c. Reimbursements for on-the-job learning and supportive services

Director Polk reviewed the flier in the meeting material and encouraged attendees to share it with apprentices. He noted that the reimbursements are first-come, first serve, and not wage-dependent.

Attendees did not have questions or comments.

d. How to register National Apprenticeship Week events

Director Polk encouraged sponsors and technical colleges to host events and reviewed the registration links in the meeting material.

Attendees did not have questions or comments.

e. Other

Mr. Smith reported that the Bureau will update the state standards for all state committees once the revised *Manual* is approved by the Advisory Council. The Bureau will incorporate the updated boilerplate language into the standards and present the final draft to the state committee in the 2023 spring meeting. The revisions will not affect the policies established by the committee itself.

Attendees did not have questions or comments.

6. The state committee reviewed the participant report and did not have questions or comments.

7. The meeting adjourned at 1:50 p.m.. The Bureau will schedule the next meeting via online survey.

_____

Submitted by Owen Smith, Bureau of Apprenticeship Standards

Orange = question for the committee

Adhere to safety requirements and hazard awareness procedures. **450**

A. Adhere to all applicable federal, state, local and employer safety requirements.
B. Follow lock-out and tag-out procedures.
C. Properly use personal protective equipment.
D. Safely use hand and power tools, meters, and testing equipment.
E. Work at heights, in tight quarters, in confined spaces, and other industrial settings.
F. Perform rigging.

* **Install electrical equipment, components, and devices.** **1500**

* A. Apply WI Administrative Electric Code and NFPA 70: National Electric Code.
* B. Document circuits using employer's preferred software or tools.
* C. Install conduit, wire ways and raceways.
* D. Install power distribution equipment.
* E. Install machine and equipment control systems.
* F. Install communication systems.
* G. Install branch circuits.
* H. Install lighting systems, controls, and emergency lighting systems.
* I. Construct control cabinets.
* J. Install grounding and bonding.
* K. Install transformers.
* L. Install electrical field devices.

Perform reliability-centered maintenance. **1000**

A. Electrical systems
B. Industrial manufacturing equipment
C. PLCs and control networks
D. Substations
E. Power distribution transformers
F. Back-up power systems
G. Lighting systems
H. Document equipment conditions and work performed.
I. Lubrication systems

Perform facilities maintenance. **700**

A. HVAC
B. Boilers and controls
C. Generators
D. Compactors
E. Automatic doors
F. Air compressors
G. Cranes
H. Loading dock equipment
I. Conveyors

Troubleshoot hydraulics and pneumatics systems. **500**

A. Pumps
B. Valves
C. Cylinders
D. Actuators
E. Compressors
F. Piping, tubing and hoses

Troubleshoot mechanical systems. **2000**
A. Bearings
B. Belts
C. Roller chains
D. Gear boxes
E. Pumps

Troubleshoot electrical systems. **2000**
A. General electrical systems
B. PLCs and controllers
C. Control networks and automation systems
D. Power distribution
E. Motors, drives, and starters
F. Document equipment conditions and work performed.

Perform metal fabrication. **500**
A. Perform metal cutting, e.g. plasma, flame, water jet.
B. Perform welding, e.g. TIG welding, MIG welding, stick welding.
C. Perform metal manipulation, e.g. heat-treating, aging, forging.
D. Repair fixtures.

Operate machine tools. **500**
A. Grinders
B. Drill press
C. Saws
D. Lathes
E. Milling machines
F. Sharpen tooling.

Utilize schematics and blueprints, e.g. hydraulics, pneumatics, electrical, mechanical drawings. **XXX**
A. Interpret schematics and **blueprints.**
B. Modify schematics and **blueprints.**

Local Options **830**

Approved: 11/10/2011

TERM OF APPRENTICESHIP: The term of apprenticeship shall be Time-based, which has been established to be 10,144 hours. Hours of labor shall be the same as established for other skilled employees in the occupation.

PROBATIONARY PERIOD: The probationary period shall be the first 2000 hours of the apprenticeship. During the probationary period, this contract may be cancelled by the apprentice or the sponsor upon written notice to the Department.

PAID RELATED INSTRUCTION ATTENDANCE: The apprentice shall attend the Wisconsin Technical College System or other approved training provider, as assigned, for paid related instruction four hours per week or the equivalent and satisfactorily complete the prescribed course material for a minimum of 864 hours, unless otherwise approved by the Department. The employer must pay the apprentice for attended related instruction hours at the same rate per hour as for services performed.

WORK PROCESS SCHEDULE: In order to obtain well-rounded training and thereby qualify as a skilled worker in the occupation, the apprentice shall have experience and training in the following areas. This instruction and experience shall include the following operations but not necessarily in the sequence given. Time spent on specific operations need not be continuous.

Work Process Description	**Approximate Hours (Min - Max)**
Electrical Construction: Installation/modification of conduit and wiring for power distribution and lighting; Panel building; Installation of conduit and wiring for machine and equipment controls; Layout, planning and installation of control systems including programmable controllers, drives, servo systems, etc.; Installation of communication and data systems.	1400
Electrical Maintenance: Maintain, trouble shoot, repair and/or replace the following items: * Power Distribution and lighting systems; * Industrial machinery and equipment, such as: motors and transformers, electronic controls (CNC Power Distribution and lighting systems, PLC logic systems), material handling equipment (cranes, conveyors, fork trucks), welding equipment, machine tools and robotics; * General plant equipment such as HVAC, compactors, automatic doors, air compressors, generators, cranes, conveyors, loading dock equipment, boilers and controls. * Must also effectively use electrician's tools (hand, power, electrical and electronic test equipment). * Circuit design and drafting; schematic and/or blueprint reading. * Interpret and manage documents/prints.	3200
Machine and Equipment Repair, All Types: * Bearings, friction/anti-friction; belts and chains; * Coupling alignment; * Gear boxes; * Pumps, rebuilding and overhauling, including scrape and alignment; * Conveyor maintenance; exhaust fans and blowers; roll changes; * Electric motor replacement; * Overhead crane repair; * Preventative Maintenance Inspection (visual and diagnostic; optical alignment/laser	2800

transit, fabrications (fiberglassing, sheet metal, guards/rails).
* Interpret and manage documents/prints.

Hydraulics/Pneumatics: * Pumps, valves, cylinders and actuators, lubricants and coolants; * Trouble shoot, repair and rebuild; compressor repair, piping, tubing and hoses; * Hydraulics/pneumatics design and drafting; * Schematics and/or blue print reading;	500
Safety: * Proper use of personal protective equipment; * Safe use of hand tools, power tools, electrical and electronic test equipment; * Lockout-tagout procedures and other employer safety requirements to be in compliance with NFPA 70E, OSHA standards and the NEC.	300
Metallurgy: Flame cutting and heating; welding; heat treating; blacksmithing; fabrication (sheet metal, guards/rails).	100
Machine Operation: Grinders; drill press; saws; lathes; milling machines; misc. machines; alter and repair fixtures and tools; sharpening tools.	150
Local Options: * Circuit board troubleshooting and repair * Machine & Equipment Installation * Rigging and hoisting; start-up and debugging new equipment; grouting and masonry; form building/carpentry; demolition; robot installation; painting; structural layout/fabrication (structural steel, etc.); fabrication (fiberglassing, sheet metal, guards/rails).	830
Paid Related Instruction	864
TOTAL	10144

The above schedule is to include all operations and such other work as is customary in the occupation.

MINIMUM COMPENSATION TO BE PAID:

Compensation must average at least 60% of the skilled wage rate over the period of the Apprentice Contract. (DWD 295.04(1))

The base skilled wage rate is N/A per hour.

If the apprentice is covered under a collective bargaining agreement, the wage rate specified by that collective bargaining agreement applies.

If the apprentice is not covered under a collective bargaining agreement, the employer may exceed the base skilled wage rate at their discretion.

An apprentice's rate of pay for overtime shall be increased by the same percentage as the journey worker's rate of pay for overtime is increased in the same industry or establishment.

CREDIT PROVISIONS: The apprentice, granted credit at the start or during the term of the apprenticeship, shall

be paid the wage rate of the pay period to which such credit advanced the apprentice.

Work credit hours approved: N/A

School credit hours approved:
Paid related instruction: N/A

Unpaid related instruction: N/A

Total credit hours to be applied to the term of the apprenticeship: N/A

SPECIAL PROVISIONS:

The apprentice in his/her final year must take the Transition to Trainer Course.

The Probationary Period can be less than one year at the determination of the individual employer.

In addition to the 864 hours of paid related instruction the apprentice shall complete standard First Aid and CPR courses during the first year of the apprenticeship. Certification will be maintained throughout the apprenticeship.

Report Name COM-01 State Committee Report

Refresh Date 5/3/23 3:15 PM

Wisconsin Bureau of Apprenticeship Standards

State Committee Report

This summary counts employers and apprentices, between 5/1/2023 and 5/1/2023 with contract status as Active & Unassigned in occupation(s) associated with this committee.

Report is based on apprentice contracts where:

-Contract sector is 'Industrial'.

-Contract occupation code matches a occupation code assigned to committee.

-Contract sponsor is the employer.

Note: Employers active in more than one occupation or committee can cause Column #3 totals at the Committee or State level to deviate from the summed total of the individual occupation or committee rows.

Occupation	Apprentices									Employers				
	Total	Minority		Females		Union		Non-Union		Total	Union		Non-Union	
		#	%	#	%	#	%	#	%		#	%	#	%
1	2	3	3a	4	4a	5	5a	6	6a	7	8	8a	9	9a
Report Total	**781**	**97**	**12.4**	**17**	**2.2**	**352**	**45.1**	**429**	**54.9**	**261**	**94**	**36.0**	**169**	**64.8**
Electrical and Instrumentation (E & I) Technician (00-0000.00)	174	9	5.2	4	2.3	118	67.8	56	32.2	56	28	50.0	29	51.8
Industrial Electrician (00-0000.00)	345	51	14.8	10	2.9	150	43.5	195	56.5	134	50	37.3	84	62.7
Instrument Mechanic (00-0000.00)	1	0	0	0	0	1	100.0	0	0	1	1	100.0	0	0
Maintenance Electrician (00-0000.00)	11	3	27.3	0	0	6	54.5	5	45.5	4	2	50.0	2	50.0
Maintenance Technician (00-0000.00)	250	34	13.6	3	1.2	77	30.8	173	69.2	104	26	25.0	79	76.0

Historical Report by Year

Report Period: 2023* and Previous -10 Years

*Current year is YTD data as of Run Date: 05/03/2023
Run Date: 05/03/2023
State Electrical & Instrumentation Comm
Sponsored Trade Group(s): Industrial

Year	Active Apprentices	Active Sponsors
2013	355	141
2014	397	155
2015	459	174
2016	506	184
2017	529	186
2018	619	218
2019	700	247
2020	749	259
2021	736	268
2022	775	266
2023	796	267