University of Wisconsin - Parkside

B. Job Title: HVAC/Refrigeration Specialist Advanced

C. Is this Position Hourly or Salaried? Hourly

D. Shift & Hours of Position: 7:00am – 3:30pm

E. Number of Subordinates (if applicable): 0

F. List of Essential Job Functions, Knowledge, Abilities, and Skills:
Under general supervision, perform difficult and complex technical work related to environmental control and HVAC systems. This position has primary responsibility to install and maintain electronic and pneumatic control systems and will also install and maintain air conditioning and refrigeration systems as assigned. The position also works with the energy management system and must be able to effectively develop EMS programs to connect to and control equipment they have primary responsibility to maintain. This position also works directly with engineering firms and private contractors in the development and installation of these environmental control and HVAC systems. This position is also required to obtain and maintain required State certifications to work with refrigerants, have a valid drivers license and is required to be listed on the Department "On-Call List" and is subject to be called in to respond to facility emergencies on nights and weekends.

30% Objective A: Perform HVAC and Control work.

A1. Maintain, repair and install air conditioning and refrigeration equipment. This includes trouble shooting systems and making repairs that includes checking refrigerant levels; the evacuation of refrigerants; replacing seals; repairing associated pumps, motors, condensers, coils, etc.; cleaning coils, repairing controls, etc.. Monitor, adjust and record readings such as air velocity, humidity, temperature, etc., using a variety of test equipment.

A2. Repair, replace and install pneumatic and electronic controls, thermostats, sensors, valves, etc. in all campus buildings. This includes installing, modifying, adjusting, troubleshooting and calibrating specialized and technically advanced environmental controls.

A3. Trouble shoot, repair and/or replace copper and plastic air lines and wiring for pneumatic and electronic control devices.

A4. Respond to hot/cold complaints, diagnose and correct problems. Work with campus customers on HVAC complaints.

A5. Install wiring and control points to connect air handling units, pumps, motors, dampers, air conditioners and other devices to the Energy Management System to allow the system to monitor and control each device.

A6. Maintain, repair and replace outside air dampers and associated controls.

A7. Determine the need to replace or remodel old HV AC control systems to improve operating efficiency and design and install new systems to meet changes in the use of campus facilities and energy conservation goals and for all in-house remodel/renovation projects.

A8. Review plans, specifications and proposed modifications for campus projects as related to HVAC/Control/Refrigeration work.

A9. Interpret schematics, blue prints and utilize in the installation, modifications, trouble-shooting, and adjustment of controls, heating, ventilating, and air conditioning systems.

A10. Monitor, adjust and record readings such as air velocity, humidity, temperature, etc., using a variety of test equipment.

A11. Train maintenance mechanics on procedures and methods relating to the controls of HVAC equipment to ensure its efficient operation and maintenance. Work "hands on" with mechanics expediting and assuring proper repair of HVAC and control equipment.

A12. Meet with computer specialists to review computer (hardware) and program (software) problems and recommend solutions.

A13. Assist in seasonal shutdown and startup of HVAC equipment.

15% Objective B: Monitor and control heating, ventilating, and air conditioning systems using a Computerized Energy management system.

B1. Reads printouts, logs and operates computer terminal and calls up problem listings to identify possible control and/or equipment malfunctions.
Make programs changes to control the operation of fans, pumps, dampers, and controls.

B2. Develop, modify and install EMS computer programs to monitoring equipment and building environmental conditions, changing equipment start/stop times, obtaining data, etc.

B3. Inputs factors to change and maintain optimal environmental conditions to minimize energy consumption and to provide maximum human comfort considerations.

B4. Program the environmental software by inputting factors such as building usage, holiday and vacation periods and peak demand rates, to maximize efficient energy usage. Recalls, changes and inputs control commands as needed to accomplish these tasks.

B5. Maximize energy usage according to electrical peak demand periods: Monitor specific area usage, review occupancy printout to control system usage, output and operation. Check all systems equipped with instrumentation for proper control sequencing for energy conservation.

B6. Provide ongoing adjustments and modifications regarding building scheduled operations. Make these alterations to the computerized EMS programming, modifications, and all functions according to building usage as determined by the weekly campus Event Management System report.

B7. Troubleshoot, Add, repair and change control and monitoring points on the EMS system repair and calbrate EMS control points.

B8. Develop, modify and install computerized control systems for maintaining desired environmental conditions by controlling the operation of fans, chillers, dampers, pumps, valves, etc...

B9. Design, modify and maintain a campus-wide computerized load shed program to limit the use of electrical energy (KW's) during the high peak demand times.

B10. Add and change control and monitoring points on the EMS system. Analyze data to establish improprieties in the performance of climate control systems. Establish corrective measures and assign specific mechanic to accomplish the task.

B11. Perform HVAC systems analysis, reviewing computer input/output data, recognizing system inefficiencies and issue work orders to correct or improve these inefficiencies.

B12. Determine controls sequencing of HVAC and refrigeration systems for compatibility with EMS programmed operations of the system. Interpret data collected on the EMS.

B13. Troubleshoot EMS problems and work together with staff to repair system problems. Work along-side the contractor on the repairs of system problems that can't be handled in-house. .

B14. Work with EMS, HVAC, Balance/Control contractors on related issues including EMS, Project Requests, system repairs and balancing, etc.

B15. Acquire performance data on all major systems for use in evaluating energy and operating efficiency including projected costs.

B16. Prepare and submit Indoor Air Quality Information and Assessment Forms when called for because of air quality complaints or departmental requirements. Provide reports and information to UW-System and DSF as required.

B17. Maintain O&M manuals on the EMS and all major control equipment and upgrades.

10% Objective C: Provide inspection, maintenance, adjustments, repairs, installation, and related services to Control systems associated with campus-wide building heating, ventilating, air conditioning, refrigeration, chilled water equipment, mechanical equipment, and associated systems.

C1. Troubleshoot, repair, replace, modify, adjust, and calibrate components of control systems on heating, ventilation, air conditioning, refrigeration, and pressure vessel equipment, Provide the installation and modification of ducts and duct work systems.

C2. Set, calibrate, inspect, adjust, install and repair thermostats to maintain required temperatures.

C3. Complete inpections and maintenance on high and low pressure steam piping, equipment and controls.

C4. Research and make recommendations on system modifications; including alternatives, estimated costs, justifications and equipment life expectancy.

C5. Attend classes, lectures, seminars and demonstrations to keep abreast of advancements and changes in climate control systems.

C6. Inspect, Service and repair and/or replace non-working mechanical components such as electro-pneumatic controls, motors, fans, pumps, valves, steam lines, steam traps, strainers, convectors, radiators, unit heaters, multi-zone air handling units, blowers and ventilating system, coils, hot water lines, split and stationary systems, window air conditioners, refrigeration systems and related equipment.

C7. Service, maintain, and repair electronic, pneumatic, modulating, humidity, temperature, and pressure controls, Reclaim, recycle, and recharge refrigerants in campus refrigerated systems and equipment.

10% Objective D: Performance of miscellaneous mechanical system repairs and other duties as directed by supervisor.

D1. Maintain repairs and operation of air compressors and associated equipment.

D2. Fabricate, weld, and/or repair metal parts, guards, furnishings, rails and small metal structural projects as required.

D3. Inspect, maintain, adjust, and repair refrigerated food service equipment/kitchen equipment as required.

D4. Perform housekeeping requirements to keep mechanical rooms and equipment in clean, orderly condition.

D5. Maintain shop and hand tools, keeping work areas neat and orderly, putting tools away, and making repairs to tools as needed.

5% **Objective E: Perform inspection, cleaning, adjustment, and testing of HVAC related mechanical equipment and systems in conjunction with the preventative maintenance program.**

E1. Assist with setting up and maintaining a preventative maintenance schedule on servicing mechanical equipment and systems.

E2. Plan and provide necessary and thorough preventative and corrective maintenance of steam-related repairs in a timely manner as required during the annual campus steam shut-down.

E3. Make out inspection and data forms and report pertinent items to supervisor's attention.

E4. Use computer to log data and create new forms for record keeping.

5% **Objective F: Provide coordination, technical expertise, and project planning for HVAC system evaluation, proposed installations, maintenance, and projects in cooperation with Facilities Management.**

F1. Assist Buildings/Grounds Superintendent, Facilities Management Director, Assistant Director, Planner, Engineer, etc., in consulting with architects and engineers (State and private contractors), regarding preliminary plans which incorporate the usage of existing and proposed additional or replacement building mechanical and ventilation equipment and/or systems.

F2. Assist in the determination to incorporate existing systems with new equipment.

F3. Determine the amount of existing HVAC equipment to be retained and necessary to meet project plans and yet comply with governing codes.

F4. Plan proposed installations and modifications by using, modifying, or creating blueprints, sketches and/or specifications.

F5. Review and approve, for content, accuracy and conformance to current applicable codes, all blueprints, drawings, and sketches submitted for such approval.

F6. Determine energy management savings, energy conservation, and human comfort considerations.

F7. Inspect new and existing control installations or plans and report findings.

F8. Provide technical info and data for specific control units or parts to be purchased.

F9. Relate knowledge of contemporary changes or advancements in control techniques to maintenance personnel.

F10. Consult with vendors and make recommendations on systems modifications, alternatives, estimated costs, justifications of energy savings, and extending equipment life.

F11. Maintain original and up-to-date records and "as built" drawings of all mechanical, HVAC, and control installations and modifications.

5% **Objective G: Coordinate, train, assign, direct, and issue work assignments to these building maintenance workers in proper maintenance methods utilized in repairs and project work. Assist in the evaluation of these building maintenance workers.**

G1. Oversee the work being completed by and provide training to these workers performing maintenance of campus heating and air handling equipment, refrigeration, and related support equipment.

G2. Assist other Maintenance staff with necessary worker related tasks and issues as required.

G3. Provide direction and training in the safe and proper use of tools and support equipment, and give direction in maintaining a clean work environment.

G4. Inspect work in progress and correct work methods when necessary or when deficiencies exist.

G5. Requisition, distribute, and maintain control of the use of supplies and materials.

G6. Maintain training records, paperwork, and make reports on the activities as needed.

5% **Objective H: Ensure complete and accurate communication with supervisory personnel.**

H1. Ensure complete and accurate communication with supervisory staff, campus staff and personnel relating to daily functions as appropriate.

H2. As a lead worker in this position, act as Buildings/Grounds Superintendent Designee, when required.

H3. Respond to calls for emergency repairs during off-duty hours when contacted.

H4. Provide coverage for building FMS Personnel in their extended absence.

H5. Provide backup and emergency response for all Institution equipment.

H6. Complete and process assigned work orders. Provide full, timely and complete documentation associated with work orders to accurately reflect tasks completed, charges identified, parts and materials used including costs, labor hours, completion date, and reasons for any encountered delays. This information is needed for tracking and billing purposes. This applies to all categories of assigned work order requests (project, corrective, preventative, etc.).

H7. When requested, assist in preparation of estimates for proposed work to be completed (including projects, repairs, replacements, modifications, contracted work, etc.)

H8. Ensure timely, accurate, and complete record keeping. Maintain records and complete reports as assigned/requested.

H9. When appropriate, direct Facility Maintenance Specialists to assist in troubleshooting problems, coordinating or expediting repairs.

H10. Provide technical maintenance skills and information to the Supervisor in the planning, purchasing, or updating of HVAC equipment and systems.

H11. Operate power tools; such as drill press, lathe, shear and break press; hand tools, torches, gauge sets, welding equipment, etc., to fabricate and repair parts for maintenance and installation of equipment.

H12. Order parts and supplies as needed, and maintain an effective method of inventory control over them.

H13. Complete institution project work as needed.

H14. Use personal initiative and perform work without constant supervision.

H15. Perform routine and preventative maintenance on HVAC equipment, controls and instrumentation as needed.

H16. Maintain shop and work areas in a clean, organized, and safe order.

H17. Snow removal as required.

H18. Attend in-service training as required.

H19. Attend necessary training associated with, and maintain the ability to perform all aspects of needed confined space activities, (i.e.; entrant, attendant, and rescue, etc.).

H20. Attend meetings and participate openly on assigned committees as required.

H21. Maintain proper certification to operate all campus maintenance equipment ,(aerial work platforms, etc.)

H22. Secure and maintain necessary credentials to legally perform tasks associated with the purchasing, handling, and disposal of refrigerants. These credentials shall be in accordance with Federal EPA, OSHA and State of Wisconsin Codes.

H23. Interpret Wisconsin Department of Commerce, DNR, Federal OSHA and EPA regulations as well as State, and National building codes.

H24. Operate campus vehicles and equipment to perform duties as assigned.

H25. Assist other UW-P Facilities Management departments as directed.

H26. Perform other duties as assigned by supervisor.

5% Objective I: Ensure Adherence to Safe Work Practices at UW-Parkside.

I1. Perform all duties following established UW-P Health and Safety policies.

I2. Report all unsafe conditions to the appropriate personnel in a timely manner.

5% Objective J: Maintenance of Security in the Work Area.

J1. Follow the campus security procedures.

J2. Ensure proper key and tool control.

5% Objective K: Promote a harassment/discrimination free work environment.

K1. Communicate with co-workers, students, and visitors in a professional manner.

M. Experience to include:

1. Knowledge and ability to operate and maintain computerized Energy Management Systems (EMS).
2. Knowledge to maintain centralized chiller operations, including cooling towers, pumps, water treatment, etc.
3. Knowledge to maintain pneumatic and electronic control systems.
4. Knowledge of commercial/industrial type building mechanical systems.
5. Knowledge of refrigeration and air conditioning systems and equipment.
6. Knowledge of the usage of hand tools, test equipment and calibration equipment.

N. Responsible for Money, University funds, or accounts which hold financial Information?
No

O. Ergonomic Requirements:
Walking,bending, climbing ladders, driving auto, frequent typing/keyboarding, climbing stairs, lift objects in tight places.

P. Qualifications:

Required:

- General education in maintenance of heating and ventilating systems, troubleshooting steam systems, calibration of control systems componets.
- Experience in refrigeration and air conditioning systems.
- Must be 18 years of age or older.
- Must have graduated high school or equivalency.
- Must have a valid driver's license
- Must secure within six months of employment and maintain an EPA Refrigerant, Handling, Reclamation, and Recovery Certification.

Q. Equipment to be used on the job:

***Preference*:**

1. Tools: (power or manual tools)
   Drill press, power tools, welding equipment, refrigeration charge and drain down kit, miscellaneous hand tools.

2. Large Machinery: (includes vehicles)

3. Electrical Equipment: (includes office equipment)
   Computer, fax, two way radio, troubleshooting electronic devices.

4. Chemicals:
   Water treatment chemicals, biocides, caustic additives, sulfate acid, refrigerants and aerosol propellants.

R. Additional Information:

This position works primarily on campus heating and ventilating and Energy Management Systems.

S. Organizational Chart - must be attached