CCSD
CLARK COUNTY
SCHOOL DISTRICT

Chiller Technician II

Position Details

Class Code: 7402
Job Family: Skilled Trades/Technicians
Classification: Support Professional
Terms of Employment: Pay Grade 57 on the Support Professional Salary Schedule
FLSA STATUS: NON-EXEMPT

Position Summary

Under general supervision, schedules repairs/maintenance and supervises, inspects, and trains technicians assigned to chiller work.

Essential Duties and Responsibilities

The list of Essential Duties and Responsibilities is not exhaustive and may be supplemented.

1. Assists in installing, repairing, and maintaining residential/light commercial Heating, Ventilation, Air Conditioning, and Refrigeration (HVACR) equipment, including split DX, multi-zone, variable air volume (VAV) packaged systems, and their operating controls.
2. Maintains, troubleshoots, and repairs commercial chillers and their ancillary equipment (i.e., cooling towers, air handlers, flat plate heat exchanges, motors, pumps, variable frequency drives, associated instrumentation/controls, etc.), including tear-downs and rebuilds.
3. Inspects chillers and ancillary equipment using instruments (i.e., thermometers, pressure gauges, multimeters, etc.), to record parameters such as Delta P, Delta T, bearing temperatures, oil pressure, and motor amperage; determines condenser, evaporator, and compressor condition/performance.

4. Performs leak tests when required. Uses oil-dry nitrogen to fill chillers to manufacturer's specifications, drains condenser/evaporator shells, calibrates pressure gauges, and records pressure levels.
5. Locates leaks using the bubble test or a halogen vapor detector. Applies liquid detergent to seals, gaskets, fitting connections, and motor terminals, or pressurizes with oil-dry nitrogen and 5% tracer gas.
6. Repairs leaks found on chillers.
7. Performs eddy current testing to evaluate copper heat exchanger tubes.
8. Performs safety tests, interlock tests, and loop tuning (i.e., high or low refrigerant cut-out set points, emergency shutdown procedures, and failure/back-up system operation).
9. Verifies the following:
    - Proper programming/functioning of safety interlocks and alarms
    - Proper refrigerant monitoring/evaluation system operations
    - Correct installation/operation of isolation valves
    - Appropriate stage up/down of chillers and water pumps
    - Proper reset parameters, per design sequence of operations
    - Proper control sequence and component integration (i.e., set points/reset strategies, start-up/shutdown procedures, and time delays)
    - Chillers meet specified performance, part-load operation, and energy efficiency requirements
    - Chilled water supply temperature reset does not adversely affect supply air dehumidification
    - Chiller capacity/efficiency at peak load
10. Reviews chiller equipment installation plans/specifications.
11. Prepares material lists, cost estimates, and purchase requisitions for chiller system parts/equipment.
12. Provides technical assistance to in-house engineers, architects, contractors, vendors, etc., in planning, designing, rebuilding, upgrading, and installing chillers, ancillary equipment, and controls.
13. Inspects new equipment installations performed by contractors; reports status of work performed to supervisors, warranty specialists, and project managers.
14. Instructs facility maintenance/operations staff on chiller operations and safety practices.
15. Coordinates work with school personnel, maintenance, facility planning, and outside agencies (i.e., Fire Departments, Southern Nevada Health District (SNHD), Southwest Gas, NV Energy, etc.)

16. Conducts in-service trainings on chiller technology changes and safety standards (i.e., Occupation Safety and Health Administration (OSHA), Job Safety Analysis, etc.)
17. Assists crane operators in rigging and placing equipment.
18. Responsible for safely handling and disposing of hazardous materials related to the HVACR trade.
19. Provides input for the evaluation of assigned staff.
20. Charges and recovers Freon from chillers.
21. Conforms to safety standards, as prescribed.
22. Performs other tasks related to the position, as assigned.

Distinguishing Characteristics

Plans, inspects, and directs assigned technicians in installing, maintaining, and repairing heating, air conditioning, and refrigeration equipment operating at low/high voltages and pressures.

Knowledge, Skills, and Abilities (Position Expectations)

1. Knowledge of HVACR trade practices and procedures.
2. Knowledge of building construction.
3. Knowledge of Environmental Protection Agency (EPA) Clean Air Act practices/procedures.
4. Knowledge of electrical codes and practices.
5. Knowledge of troubleshooting complex electrical circuits.
6. Knowledge of Turbocor compressors, including diagnostics/reset procedures.
7. Knowledge of centrifugal, screw, and reciprocating compressors, including service, diagnostics, maintenance, and repair procedures.
8. Knowledge of chiller controls and operating theory.
9. Knowledge of Variable Frequency Drive (VFD) technology.
10. Knowledge of mechanical plant hydronic systems.
11. Knowledge of cooling tower construction and operations.
12. Ability to recognize, understand, interpret, and apply all local, state, and national codes/regulations, including International Building Codes (IBC), Universal Building Code (UBC), Uniform Mechanical Code (UMC), Uniform Plumbing Code (UPC), National Electrical Code (NEC), National Fire Protection Association

(NFPA), American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE), OSHA, EPA, etc.

13. Ability to read and interpret blueprints, schematics, wiring/logic diagrams, specifications, and plans.
14. Ability to learn/apply operating, safety, and work procedures.
15. Ability to meet predetermined deadlines.
16. Ability to communicate effectively, verbally and in writing.
17. Ability to interpret written and verbal instructions.
18. Ability to plan and organize work.
19. Ability to safely move and relocate heavy objects.
20. Ability to perform strenuous, physical work.
21. Ability to operate hand/power tools and equipment.
22. Ability to distinguish color-coded wires.
23. Ability to work flexible hours/shifts.
24. Ability to work in confined areas.
25. Ability to withstand heights and perform work safely.
26. Ability to work cooperatively with employees, vendors, and the public.
27. Ability to recognize/report hazards and apply safe work methods.
28. Ability to work with computers and install programs.
29. Ability to communicate effectively with custodians, office personnel, administrators, and dispatchers.
30. Ability to work under stressful, urgent conditions.
31. Ability to locate and repair Freon leaks in HVACR equipment.
32. Possess physical and mental stamina commensurate with the responsibilities of the position.

Position Requirements

Education, Training, and Experience

1. High school graduation or other equivalent (i.e., General Education Development (GED), foreign equivalency, etc.)
2. Journeyman HVAC Mechanic card, and two (2) years' experience as a journeyman HVACR mechanic; or,
   Five (5) years' experience as an HVACR technician; or,
   A combination of HVACR technical training and experience (minimum four (4) years' HVACR experience) equivalent to five (5) years.
3. Four (4) years' experience as a Chiller Technician I or equivalent.

4. Successful completion of two (2) approved off-site training courses (i.e., Johnson Controls, Dakin McQuay, Entech Sales and Service, Trane, Smardt, Multistack, York, etc.) with curriculums including operations theory, internal component/control system descriptions, and troubleshooting techniques.

Licenses and Certifications

1. A valid driver's license that allows the applicant/employee to legally operate a motor vehicle in Nevada. License must be maintained for duration of assignment.
2. Copy of driving history (dated within six (6) months from the date printed) issued by the Department of Motor Vehicles (DMV) at time of application or Qualified Selection Pool (QSP) placement and at time of interview prior to final selection.
3. Certification as a Universal Refrigerant Handler according to Title 40 of Code of Federal Regulations (CFR) part 82, subpart F. Certification must be maintained for duration of assignment.
4. Journeyman certificate, if applicable.
5. Clark County School District forklift certification. If certificate is not in possession at time of application or QSP request, it must be obtained within five (5) months of hire into position. Certification must be maintained for the duration of the assignment.

Preferred Qualifications

None specified.

Document(s) Required at Time of Application

1. High school transcript or other equivalent (i.e., GED, foreign equivalency, etc.)
2. Journeyman certificate, if applicable.
3. Proof of required off-site chiller training completion.
4. Copy of a valid driver's license that allows the applicant/employee to legally operate a motor vehicle in Nevada.
5. Current copy of driving history (dated within six (6) months from the date printed) issued by the DMV.
6. Certification as a Universal Refrigerant Handler according to Title 40 CFR part 82, subpart F.
7. District-issued forklift certificate, if applicable.
8. Specific documented evidence of training and experience to satisfy qualifications.

Examples of Assigned Work Areas

District facilities - schools (i.e., classrooms, cafeterias, offices, boiler rooms, facility rooftops, etc.), construction sites, etc.

Work Environment

Strength

Medium/heavy - exert force of 50-100 lbs., occasionally; 25-50 lbs., frequently; 10-20 lbs. constantly.

Physical Demand

Frequent sitting, standing, walking, pushing, pulling, stooping, kneeling, crouching, reaching, handling, and repetitive fine motor activities. Hearing and speech to communicate in person, via video conference and computers, or over the telephone. Mobility to work in a typical office setting and use standard office equipment. Stamina to remain seated and maintain concentration for an extended period of time. Vision: Frequent near acuity, occasional far acuity, and color vision. Vision to read printed and online materials, a Video Display Terminal (VDT) screen, or other monitoring devices.

Environmental Conditions

Varies from climate-controlled office settings to work outdoors with temperatures ranging from mild/moderate to extreme cold/heat. Exposure to noise levels ranging from moderate to loud for occasional to frequent time periods.

Hazards

Frequent electrical shock hazards, furniture, playground/office equipment, communicable diseases, chemicals and fumes (as related to specific assignment), and power/hand-operated equipment and machinery (as related to specific assignment.)

Examples of Equipment/Supplies Used to Perform Tasks

District-issued/personal vehicles, ladders, analog/digital temperature analyzers, eye/hearing protection equipment, electronic refrigerant leak detectors, pressure/vacuum pumps, oxy-acetylene welding/cutting equipment, megohmmeters, analog and digital volt-ohm/amp meters, pneumatic calibration gauge kits, motorized forklifts, chain hoists, refrigerant reclamation equipment, handheld radios, hand/power tools, etc.

AA/EOE Statement

The Clark County School District is proud to be an equal opportunity employer. The Clark County School District is committed to providing all applicants and employees equal employment opportunities without regard to race, color, religion, sex, gender identity or expression, sexual orientation, national origin, genetics, disability, age, military status, or other characteristics protected by applicable law. Here at Clark County School District, we are a diverse group of people who honor the differences that drive innovative solutions to meet the needs of our students and employees. We believe that through a culture of inclusivity, we have the power to reflect the community we serve.

Job Revision Information

- Revised: 08/07/23
- Created: 02/06/13