



LAKE SUPERIOR STATE UNIVERSITY

Classification Specification

FLSA Designation
NEHU

Date Issued: May 12, 2004

Department: Physical Plant

Title: HVAC/Refrigeration and Controls Specialist

Level: XIII

FUNCTION

To assist in maintaining a high quality standard pertaining to the maintenance and upkeep of the heating, ventilation, air conditioning and refrigeration systems and related auxiliary equipment and controls in all university facilities.

To inform the Physical Plant Director and Managers on the immediate conditions of all assigned areas. Make good practice of the following: perform duties as assigned by Physical Plant Director and Managers; maintain good relations with the students, staff, faculty, and public; being trustworthy and practicing confidentiality; and keeping personal appearance neat and well groomed.

SOURCE OF SUPERVISION

Manager of Building Trades, Assistant Director and Director of Physical Plant and all other managers, as needed.

DIRECTION EXERCISED

Directs work of student helpers, as assigned; also employees in lower and higher classifications on occasion.

DUTIES AND RESPONSIBILITIES

Respond to corrective work orders and comfort calls for HVAC, DHW, HHW, AC and EMS systems.

Perform regular maintenance and preventive maintenance on all HVAC, DHW, HHW, AC and EMS systems and related equipment.

Operate recapture and recycling systems for the safe disposal of CFCs from all refrigeration units.

Operate, program, calibrate and install field controls to include digital controls on energy management systems.

Operate and maintain required logs and records on air conditioning and refrigeration systems and auxiliary equipment.

Transport materials, tools and equipment to the work site and install and/or repair HVAC systems

Operate energy management system with ability to investigate problems, trouble alarms and actual alarms and correct operations

Perform work in the following areas:

- Install and service pressure instruments, bimetallic and fluid filled temperature and flow instruments.
- Install, perform preventive maintenance and service on pneumatic and hydraulic actuators and control valves.
- Install, perform preventive maintenance and service on air and water cooled condensers, cooling tower systems, evaporators and condensers.
- Install, perform preventive maintenance and service fans and fan motors, control air systems and absorption systems.

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- Install, perform preventive maintenance and service direct expansion and chilled water air conditioning systems.
- Install, perform preventive maintenance and service refrigeration hermetic, semi-hermetic and non-hermetic compressors, air handling units and auxiliary equipment.
- Piping and tubing joining including, but not limited to, silver brazing, soft soldering, caulking, threading, compression joints, flaring and other connect methods common to the trade.
- Pipe welding including electrical, heli-arc, oxy-acetylene welding to join and secure piping systems and related components.
- Responsible for materials and inventory control for the HVAC/Refrigeration and Controls Specialist shop.

Troubleshoot, install and perform emergency repairs, minor repairs, major repairs, and scheduled preventive maintenance on air conditioning and refrigeration systems, metering devices and piping, air handling units and compressors.

Troubleshoot, install and perform emergency repairs, minor repairs, major repairs, and scheduled preventive maintenance on electric, electronic and pneumatic controls, boilers and auxiliary equipment

Troubleshoot, install and perform emergency repairs, minor repairs, major repairs, and scheduled preventive maintenance on hot water heating systems and steam heating systems.

Troubleshoot, install and perform emergency repairs, minor repairs and major repairs on fixed and auxiliary equipment and assists other trades in higher classifications on major repairs or unrelated trades.

Review building and project specifications for code compliance and recommend application, methods and equipment and materials

Use hand and power tools related to the maintenance, upkeep and preventive care of all job related equipment assigned.

Initiate and maintain material requisitions; provide labor and material costs for assigned work orders.

Read and interpret blueprints, schematics, operating instructions and specifications.

Ability to follow through and carry out assignments.

Perform work according to manufacturers specifications, departmental guidelines, trade practices, blue prints, shop drawings, and schematics.

Perform other duties as assigned, based on the weather conditions and the needs of the University. Such work may include, among other assignments: snow and ice removal; assist other trades employees; and special projects.

JOB QUALIFICATIONS

Graduate from high school or equivalent. Trade or vocational school graduate with five years experience in the heating, ventilation and air conditioning and refrigeration service field. Must have CFC certification. Must have license to purchase Freon. Operational knowledge of Federal, State of Michigan and City of Sault Ste. Marie codes, rules and regulations. Certification from the Michigan Department of Agriculture in Commercial Pesticide Applicators and the 5B endorsement for Microbial Pest Management. Must be in possession of a valid State of Michigan driver's license, pass a Security background license check which

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must be kept current at all times. Must possess a telephone and have the ability to work overtime as assigned.

Must have current certifications in the following:

- 29 CFR 1910.178, Powered Industrial Trucks;
- 29 CFR 1910.147, The Control of Hazardous Energy Sources;
- 29 CFR 1910.66, Powered Platforms for Building Maintenance;
- 29 CFR 1910.146, Confined Space Standard;
- 29 CFR 1910.331, Electrical Safety Related Work Practices; and
- A willingness to obtain additional knowledge.

Must have strong mechanical aptitude as demonstrated with a score above 75% on the DAT Mechanical Reasoning Examination. Must have a working knowledge of electricity and minor electronic and electronic controls. Must understand job safety on the work site in the use of ladders and scaffolding and have a working knowledge of fire codes and practices as applicable to the work being performed. Must have a good working knowledge of light, medium and heavy duty equipment and the ability to operate such equipment in a safe manner.

Must have the following:

- Ability to read, write, calculate, maintain records and solve problems.
- Adequate health and physical condition to handle heavy manual tasks.
- Ability to hear the conversational voice, with or without a hearing aid as required.
- Ability to speak and be understood, under normal circumstances.
- Full use of arms, hands, legs, and feet, or sufficient use of all limbs to accomplish assigned tasks.
- Ability to lift and carry items weighing up to 80 pounds.
- Ability to lift and transport, with assistance, 200 pounds.
- Ability to use chain falls and come-alongs for heavy lifting operations.
- Ability to climb and work from ladders and personnel lifts.
- Ability to do frequent bending and stooping for long periods of time.
- Ability to work up to 50 feet in height.
- Ability to work in steam tunnels and pits where temperatures can be excessive.
- Ability to work in pipe shafts, crawl spaces, electrical vaults and other confined spaces requiring stooping, bending and crawling.
- Under special circumstances, protective equipment and clothing may be required.
- Assignments may require working outdoors in inclement weather.

Must have the ability to be trustworthy and maintain confidentiality. Must have the ability to read and follow written and oral directions. Must have the ability to plan and work well independently, or in a large group.

The above statement reflects the general duties considered necessary to describe the principle functions of the job identified, and shall not be construed as a detailed description of all the work requirements that may be inherent in the job. It is not intended to limit or in any way modify the right of any supervisor to assign, direct and control the work of employees under his/her supervision.

Approved: _____

Signature

Date: _____

Physical Job Requirements

Job Title HVAC/Refrigeration and Controls Specialist **Department** Physical Plant

For activities that are performed in this position, give weight, size, percentage of time or frequency of the activity, or how many times per day/week/month it is performed, how many hours, and distance or heights involved, where each is applicable.

Key: M = Monthly; W = Weekly; D = Daily; S = Seasonal; O = Occasional; N/A = Not Applicable or None

D	Climbing and/or standing on ladders	N/A	Activities requiring quick, repetitive movements (total body)
D	Climbing Stairs	M	Activities requiring quick, repetitive movements (hands only)
D	Reaching	N/A	Operating cleaning machines
D	Kneeling	N/A	Stripping and waxing floors
D	Bending/stooping	N/A	Operating floor buffer
D	Pushing/pulling	N/A	Shampooing carpets
D	Lifting/carrying up to 30 lb weights	N/A	Vacuuming carpets
D	Lifting/carrying over 30 lb weights	S	Washing windows, on and off ladder
M	Being on feet all day (8-hour shift)	O	Loading and unloading supplies
M	Being seated all day	N/A	Mopping floors
M	Moving furniture/equipment	O	Sweeping with push brooms
S	Shoveling	N/A	Dusting furniture
M	Scrubbing furniture	D	Operating hand tools
D	Driving vehicles	N/A	Driving heavy equipment
D	Operating shop machinery	N/A	Operating kitchen machinery
D	Eyes focused on computer screen	O	Other: Lifting up to 80 lbs
M	Long hours of travel		Other
D	Walking (indoors, outdoors)		Other