Job Class Profile:

Mechanical Controls Repairer

Pay Level:

CG-28

Point Band:

578-621

						Accountability		Development	Environmental	
		Interpersonal				& Decision		and	Working	Total
Factor	Knowledge	Skills	Physical Effort	Concentration	Complexity	Making	Impact	Leadership	Conditions	Points
Rating	5	2	4	4	3	3	2	1	5	
Points	233	33	25	19	90	65	41	21	54	581

JOB SUMMARY

The Mechanical Controls Repairer performs preventative maintenance and repair of pneumatic controls and related equipment pertaining to heating, ventilation and air conditioning systems located throughout government institutions and public buildings.

Key and Periodic Activities

- Replaces fan belts; greases and oils motors and bearings; cleans and replaces filter media; and repairs mechanical equipment.
- Isolates zones in heating and ventilation system for major repair work undertaken by mechanical contractors.
- Calibrates, repairs and/or adjusts thermostats, humidity controls, temperature controls, pressure control valves, relays and accessories used in the operation of heating and ventilation systems.
- Installs thermostats, controllers and other pneumatic control equipment.
- Checks controls to ensure proper temperatures, pressures and air flow are being distributed throughout the system at the desired level.
- Records temperatures using various temperature and humidity meters.
- Performs maintenance on refrigeration units used in conjunction with air conditioning systems.
- Checks the operation and performs repairs on instrumentation, air compressors, valve packing glands, damper bearings and linkages.
- Installs or repairs pneumatic air line fittings throughout air distribution systems.
- Checks hot water distribution circulating pumps, motors and system mixing valves throughout heating systems to ensure proper temperatures and pressures are maintained.

SKILL

Knowledge

General and Specific Knowledge:

- Building Instrumentation and Automation.
- Building HVAC Systems (Heating, Ventilating, Air Conditioning).
- Pneumatic Control Systems.

- Equipment and Maintenance Procedures Manuals.
- Occupational Health and Safety Act and Regulations.
- Boiler Pressure Vessel Act and Regulations.
- **Formal Education and/or Certification(s):**

— Minimum: High School Diploma. 3 year Diploma in Mechanical Engineering Technology.

Years of Experience:

— Minimum: 2 to 3 years.

Competencies:

- Ability to follow basic instructions and work orders regarding specific tasks and projects.
- Ability to apply established techniques to the completion of activities.
- Ability to coordinate a range of related work or project activities.
- Ability to develop new and innovative ways to complete projects more efficiently and effectively.
- Ability to provide advice to co-workers and supervisor in relation to maintenance and repair of building systems.
- Ability to operate a computer for operations such as the HVAC system and to find air pressure averages and temperature averages, pump pressures, etc.
- Ability to write straightforward text such as memos.
- Ability to repair or calibrate machinery such as thermostats.
- Ability to operate machinery such as chillers, compressors, pumps and cooling towers.
- Ability to conduct analysis or assessment to diagnose system problems.

Interpersonal Skills

- A range of interpersonal/communication skills are used and include listening to information from other people; asking questions to get information and providing routine information and direction to others.
- The most significant contacts are with: the supervisor regarding day-to-day work assignments, performance evaluation and other issues; co-workers in the performance of daily activities to obtain advice and/or information; and, in the absence of the immediate supervisor, with the Area Manager for issues that may require immediate attention.

EFFORT

Physical Effort

- Some duties of the job may result in fatigue, requiring periods of rest.
- Lifting or moving hand tools weighing up to 25 lbs. is a regular requirement and lifting or towing tools and other materials over 50 lbs. is performed occasionally.
- There is a requirement for standing or walking on a constant basis in the performance of daily
 activities and sitting, climbing and working in awkward or cramped positions or body movement
 are performed occasionally.
- Manual or physical activities include performing fine finger or precision work when using a

Concentration

- Visual concentration or alertness is required to perform repairs and maintenance work on building systems.
- Auditory concentration or strain is experienced when listening for unusual noises in motors to detect problems.
- Other sensory demands, such as **smell**, is important to identify any unusual odours that would indicate a problem requiring repair.
- Eye/hand coordination is required when working with various tools on equipment that requires calibrations and adjustments.
- Alertness and concentration are required when working around operating equipment such as belts, pulleys and motors.
- Higher than normal levels of attentiveness or alertness for the health and safety of others is required to ensure all building systems are in proper working order so that there are no occupational health and safety issues such as airflow, building temperature, etc.
- Time pressures and deadlines are experienced when systems malfunction as appropriate repairs much be conducted as quickly as possible.
- Unavailability of parts and supplies could result in **interruptions** and **lack of control over work pace**.
- Exact results and precision are required when regulating thermostats to ensure the appropriate building temperature is maintained.

Complexity

- Work involves performing preventative maintenance and repair of pneumatic controls and related equipment which may involve different but related processes and methods.
- A typical problem or challenge is maintaining a building temperature to the satisfaction of all occupants and in accordance with regulations and standards.
- Reference material to assist in addressing problems, challenges and issues include equipment manuals; shop drawings; maintenance procedures manual; Occupational Health and Safety Act and Regulations; Boiler Pressure Vessels Act and the supervisor and/or area manager for direction and guidance on unusual situations.

RESPONSIBILITY

Accountability and Decision-Making

- Work is performed independently but within a highly controlled and regulated environment. The monitoring of the building systems is carried out with considerable independence, however, machinery malfunctions and/or other issues must be reported to the Supervisor.
- Without formal approval there is authority to replace small parts which may involve shutting down machinery for a short period of time.
- Supervisory approval is required to make significant changes to the building systems such as the removal of a pump or tank.

Impact — Impacts generally affect the immediate work area; department; organization; building occupants. — Work activities impact on resources such as equipment; processes and systems; finances; material resources; human resources and the corporate image. - When all building systems are working properly and temperature and air flow, etc. are maintained at an acceptable level and in accordance with standards and regulations positive impacts result. - Mistakes or errors can result in damage to equipment; increased financial costs for equipment repair/replacement; discomfort for building occupants and building closure if systems are not running properly and occupational health and safety issues are present. - Work is evaluated by supervisor through inspection and discussion to ensure maintenance is completed to acceptable standards. Errors are typically identified and resolved within hours of problem identification. **Development and Leadership of Others** — Does not have full time responsibility for the direct supervision of staff. May provide on-the-job advice and guidance to students, employees and management regarding issues with building thermostats, air pressure, heating, ventilation, etc. WORKING CONDITIONS

Environmental Working Conditions

- There is a requirement to wear safety equipment such as a hard hat; safety glasses and boots; and hearing protection. Fall arrest equipment may be required on an occasional basis.
- The likelihood of injury or illness resulting from hazards in the job is limited if normal
 precautions are followed.
- There is exposure to unusual/distracting noise from motors, belts, etc; dirt, dust, filth or garbage when working with grease and oil; fumes; limited ventilation and lighting; vibration from motors and air handling units; odours; temperature extremes; sharp objects; and heavy machinery.