

Job Description

Job Title:	Energy Analyst
Department:	Plant Operations
Reports To:	Energy Manager
Jobs Reporting:	N/A
Salary Grade:	USG 10
Effective Date:	December 2022

Primary Purpose

Reporting to the Energy Manager, the Energy Analyst monitors and programs the University's Building Automation System (BAS) supporting operation of existing and integration of new systems. As part of strategic upgrade to university infrastructure, the incumbent will provide critical voice and technical leadership in the development of solutions related to Building Automation Systems.

University of Waterloo infrastructure comprises of over eight million square feet of space powered by a large 1st Class Central Power plant feeding a sophisticated district energy system connecting over eighty major academic buildings supporting state of the art teaching and ground-breaking research.

Responsibilities will align with the Plant Operations goal of contributing towards providing a safe and accessible, invitingly clean and comfortable, functionally enriched and well-maintained campus environment through service excellence.

Key Accountabilities

Strategic Planning

- Provides a critical voice and technical leadership in the development of solutions related to Building Automation systems during the transformation of old infrastructure technologies to new energy efficient and technologically advanced ones.
- Provides technical advice to the UW Energy Manager on various UW Sustainability and Energy Management initiatives to maximize efforts in Shift: Neutral and reduce Deferred Maintenance.

Projects

- Provides in-house expertise related to all building commissioning related to any aspects of BAS.
- Updates BAS programming and interface as renovations occur across campus.
- Leads multi-disciplinary project teams with technical experience and expertise to achieve established goals.
- Prepares reports to demonstrate progress to goals, explain unanticipated variances, and document project hand overs.

Operations

- Diagnoses and troubleshoots system alarms and errors.
- Assists Controls Shops with investigation of complex errors and advises on the best course of action (service, repair, or replacement).
- Assists with calibration and troubleshooting HVAC control sensors, switches, transmitters, distributed control units, valves, actuators.

Job Description



- Operates and troubleshoots multiple platform building automation systems (Apogee, Desigo, Delta, Metasys, Allen Bradley).
- Monitors BAS for proper operation, adjusting as required to maximize equipment life and efficiency.
- Places monitoring systems into and out of service to assist with established work and protection impairment procedures.
- Provides feedback on equipment condition, operational impact, and potential replacement timelines and options.
- Analyzes equipment operational trends as part of BAS operational procedures.
- Provides technical operating information to external consultants & contractors.
- Assists with review of internally performed retrofits to ensure compatibility with existing systems.
- Interprets, reconciles, and updates electrical diagrams and documentation.

Health & Safety

- In consideration of the University's commitment to the safety and well-being of all faculty, support staff, students, and visitors, responsible for ensuring University facilities and departmental activities are compliant with all applicable legislation, regulations, codes and standards related to facilities operations as well as occupational health and environmental safety.
- Maintains current health, safety and regulatory certifications in the areas required to perform the function of the position.

Other

- Performs other related duties and responsibilities as assigned and supports departmental activities, including performing work of other classifications within the level of incumbent's capability/ competency/ skills, and/or regulatory requirements.
- Coordinates the work of other employees assigned to assist with tasks.
- Assists with addressing stewardship responsibilities and promoting long-term sustainability of facilities and infrastructure, maximizing opportunities for efficient delivery of services.

**All employees of the University are expected to follow University and departmental health and safety policy, procedures and work practices at all times. Employees are also responsible for the completion of all health and safety training, as assigned. Employees with staff supervision and/or management responsibilities will ensure that assigned staff abide by the above, and actively identify, assess and correct health and safety hazards, as required.*

Required Qualifications

Education

- Graduate of Electromechanical Engineering Technology – Building Automation Program or equivalent education and experience
- Completion of courses in HVAC & Energy Management is an asset

Experience

- Three years of recent experience programming BAS systems (reading documentation, program modification, troubleshooting, maintenance, etc.)
- Project coordination experience in BAS and HVAC related projects
- Knowledge of applicable codes OBC, ESA, and Fire Code
- Understanding of energy management/reduction practices

Knowledge/Skills/Abilities

- Sound knowledge of the principles of pneumatic, electric, electronic, and digital controls.
- Ability to operate, troubleshoot and perform routine maintenance on building automation systems (network) and equipment is essential.
- Must be customer and team oriented, as well as self-motivated and able to work successfully with minimal supervision.
- Must have the ability to read and interpret control and wiring diagrams, blueprints, drawings, computer programs, and sequences of operation.
- Solid knowledge of Siemens PPCL/Johnson Controls CCT programming environment.
- Exposure to Delta Controls, Desigo, Metasys, or Allen Bradley is an asset.
- Functional understanding of networks (RS 485, Ethernet, IP, routers, switches, VPN's, etc.).
- Excellent communication skills (oral and written).
- Ability to perform detailed work with accuracy.
- Able to document sequences of operations to conduct training for U of W staff.
- Ability to work to timelines, demonstrating decision making and accountability to achieve goals.
- Flexible work hours to meet departmental goals.

Nature and Scope

- **Contacts:** Communicates internally with Plant Operations trades personnel, Supervisors and University community clients. External contacts: consultants, vendors, and contractors. Other staff reporting to the Energy Manager include the Energy Engineer. Support ongoing efforts to adjust, optimize, and reprogram HVAC operations as required.
- **Level of Responsibility:** Performs work within the capability/ competency/ skills, and/or regulatory requirements. May coordinate work among other trades/ classifications. May source and requisition materials. Energy Manager must be consulted in the case of unusual or sensitive situations.
- **Decision-Making Authority:** May make decisions concerning required replacement adjustments and preventive maintenance of controls systems and equipment. Communicates, reports, advises and receives instruction from Energy Manager concerning costs, materials, priority of work and breakdown emergencies and changes to the operation of HVAC systems and equipment.
- **Physical and Sensory Demands:** Minimal demands typical of a position operating within an office environment. Occasional physical demands are typical of an industrial environment; walking, standing, climbing up/ down ladders, bending, crouching, stooping, reaching, lifting and carrying light (up to 5kg or 11lb), medium (5-20kg or 11-44lb), and/ or heavy (over 20kg or 44lb) objects, pushing, pulling, working in an awkward position and/ or maintaining one position for long periods of time, exposure to machine noise, and potential for injury. Exertion of physical or sensory effort resulting in moderate fatigue, moderate strain or risk of injury. Possesses ability to reduce any strain by changing positions, use of mechanical assisting devices and/ or alternating performing other activities.
- **Working Environment:** Team environment predominately in an office-based setting and involving collaboration with staff within Plant Operations.