

## Job Description

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<b>Job Title:</b>	Electrical Engineer
<b>Department:</b>	Plant Operations
<b>Reports To:</b>	Manager, Electrical Engineering
<b>Jobs Reporting:</b>	None
<b>Salary Grade:</b>	USG 11 - 13
<b>Effective Date:</b>	June 2022

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### **Primary Purpose**

The Electrical Engineer reports to the Manager, Electrical Engineering and is responsible for the design and implementation of projects to support cost-effective systems and achieve energy conservation solutions for the University campus, facilities, and infrastructure.

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 the in development of technical solutions for a wide variety of teaching, research, and infrastructure driven projects.
- 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.

#### **Electrical Design**

- Key representative of Plant Ops in large electrical engineering projects from concept design to final commissioning and user handover.
- Responsible for the design of projects with a wide range of complexities (innovative technology) requiring centrally supported services (high voltage, medium voltage, transformers, arc flash safety, etc.).
- Responsible for management of external consultants engaged in design of large/complex electrical projects ensuring that client objectives and UW long term goals are met.
- Stamps (take legal responsibility) for their own electrical drawings for building permit applications.
- Prepares design documentation in preparation for requests for contract procurement ensuring that UW procurement policies are met and BPSD requirements addressed.
- Completes calculations, site investigations, and financial documentation required for change orders.
- Follow safety processes required by UW, and the Ontario Construction Act.
- Keeps accurate documentation and financial records.
- Acts as Owners representative when meeting Contractors & Consultants during bid procurement of large and complex projects.

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- Utilizes technical knowledge, understanding of UW operation, and client priorities in resolving issues caused by unexpected site conditions, large change orders, potential delays, commissioning, and warranty claims.
- Reviews design documentation prepared by outside consultants to ensure compliance with user requirements, UW operational needs, and UW Policies.
- Supports in Manager, Electrical Engineering in resolving operating and maintenance problems in the area of electrical equipment and large infrastructure systems to ensure safety, cost efficiency and long-term resiliency.

### **Project/program management:**

- Leads and manages projects through scaled project initiation, planning, execution, and closure phases according to culture and processes, and methodologies defined by UW and Plant Operations Design & Construction
- Develops, monitors and controls programs through definition, benefit delivery, and closure phases
- Liaises to establish clear, concise agreed upon project/program objectives/goals/vision, benefits, scope and success criteria
- Identifies and communicates the impact of project implementation/service interruptions have on teaching/research/strategic initiatives of the UW campus
- Ensures alignment of outcomes and requirements with University and department strategies and values
- Creates an environment of shared purpose and collaboration amongst diverse group(s) of team members
- Motivates and manages project/program team(s)
- Offers strong, effective communication skills to enable facilitation, negotiation, information flow, buy in, and stakeholder engagement
- Demonstrates accountability to sponsor for visibility, management, and variances within schedule, budget, scope, and quality
- Demonstrates appropriate responses to others' emotions and actions during difficult situations and conflicts
- Directs and/or coordinates the work of team members to enable appropriate allocation of resources while accounting for skills, availability, training requirements, and distribution of work
- Establishes realistic plans that proactively plan for and manage risks, issues, tasks, schedules, communications, quality, benefits, procurement, and delivery of solution(s) throughout the project/program life cycle
- Manages project constraints (schedule, scope, resources), dependencies (internal and external), and priorities
- Demonstrates strong analysis, problem solving, and conflict resolution skills towards diverse issues and risks
- Establishes and follows appropriate change processes to enable informed decision making as projects evolve
- Coaches and liaises to establish strong sponsorship and governance through the establishment of strong relationships with management and applicable senior leadership
- Removes obstacles for team(s), and escalates to management, governance bodies, and/or senior leadership, when appropriate
- Monitors and reports progress appropriately to interested and impacted stakeholders
- Ensures appropriate decision making occurs according to timelines and milestones
- Facilitates the procurement process, negotiates contracts, and statements of work, and ensures vendor compliance
- Maintains project/program integrity and coherence

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- Builds stakeholder relationships based on trust and integrity
- Understands and adheres to university policies and procedures as they relate to assigned projects/programs
- Ensures appropriate representation and/or collaboration on the project with other areas of expertise such as business/process analysis, enterprise architecture, integration stakeholders, and others

### **Project recovery**

- Engages appropriate stakeholders such as project sponsor, applicable senior leadership, representative of a regulatory body
- Analyzes projects in trouble through the application of specific analysis and problem-solving skills and expertise to identify issues and offer appropriate recommendations
- Works closely with Manager, Electrical Engineering to provide resolution to projects in trouble, making appropriate changes to ensure project recovery
- Resolves complex conflicts that reside within troubled projects and teams
- Facilitates discussions and educates stakeholders, team members, sponsors and governance bodies on appropriate roles and responsibilities
- Communicates in a non-judgmental persuasive manner

### **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
- Promotes the participation of faculty, students, and staff relative to energy conservation initiatives

*\*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**

- Bachelor's Degree in Electrical Engineering
- Current Professional Engineering license (P.Eng.) within Ontario

### **Experience**

- The incumbent will have five (5) years in designing, planning and construction of building electrical distribution and systems within a major institutional sector such as education, post-secondary education, hospital, or consulting service industry in Canada.
- Demonstrated project management experience developing project plans, schedules, and budgets.
- Physical Plant design experience within the building construction industry will be considered an asset.
- Extensive experience in design and management of projects in the electrical area (i.e. high and medium voltage systems).

### **Knowledge/Skills/Abilities**

- Demonstrated track record of effective leadership and collaboration with colleagues and direct reports.
- Excellent judgment and strong problem-solving skills, including the ability to understand the financial impact of relevant options
- Excellent communication and interpersonal skills, with a deep commitment to customer service, proven innovative approach to problem solving and an aptitude towards service excellence and responsiveness.
- Outstanding analytical and time management abilities.
- Strong ethics and diplomacy.
- Ability to supervise & review design to ensure safety, code compliance, and operational efficiency.
- Ability to stamp (take legal responsibility) for design work.
- Proficiency in the latest version of AutoCAD is an asset.
- Sound understanding of drawing principles and standards.
- Demonstrated track record of design, and implementation of energy conservation and sustainability measures.
- Demonstrated ability to manage complex and high-risk construction projects.
- PMP accreditation is an asset.
- Strong current knowledge of medium and high voltage electrical systems.
- Understanding of the Ontario Building Code, OESC, OFC, IES, as well as CSA.
- Experience in institutional projects is preferred.
- Proficient in using MSOffice

### **Nature and Scope**

- **Contacts:** This position encounters a wide variety of internal and external people at all levels of responsibility. Must maintain excellent relationships with all these people. This requires excellent personal and communication skills.
- **Level of Responsibility:** The position is responsible for design and delivery of a wide range of electrical projects; reviews reports, and designs prepared by external consultants; stamps own design drawings & documentation as required by Professional Engineers of Ontario.
- **Decision-Making Authority:** Responsible and accountable efficient, cost effective, and safe design of the University electrical systems.
- **Physical and Sensory Demands:** Minimal physical demands primarily operating within an office environment; project site visits as required.
- **Working Environment:** Team environment in an office-based setting and involving collaboration with all business and operating units within the department and across the University.