### **Job Class Profile:**

Water Utilities Superintendent (Industrial)

Pay Level:		CG-40			<b>Point Band:</b>			916-949		
						Accountability		Development	Environmental	
		Interpersonal				& Decision		and	Working	Total
Factor	Knowledge	Skills	Physical Effort	Concentration	Complexity	Making	Impact	Leadership	Conditions	Points
Rating	6	6	3	5	5	5	5	4	5	
Points	280	100	19	24	150	108	103	86	54	924

# **JOB SUMMARY**

The Water Utilities Superintendent (Industrial) performs responsible administrative and skilled mechanical and electrical supervisory work in overseeing the installation, operation, upgrade and transfer of Industrial Water Systems within the Province.

#### **Key and Periodic Activities:**

- Administers and directs the technical operation and maintenance of the Provincial Industrial Water Systems including budget preparation, administration, monitoring, supervision of technical staff, tendering and purchasing, and supervision of contractors and engineers.
- Negotiates required upgrades to ensure successful transfer of industrial water systems to municipalities or operators. Meets with councils/operators to provide preliminary information, evaluations, current and capital costs and recommendations. Negotiates the capital works and finding settlement to commence the transfer. Meets with senior executive to discuss negotiation progress and suggest solutions to related problems. Ensures capital works improvements and budget funding is used for intended purposes. Coordinates required approvals, surveys, etc. to complete the transfer of water system. Prepares all contract documentation and ministerial documentation to make the transfer official.
- Administers the Industrial Capital Works Program and maintenance and operations program and associated funding including directing regional staff on projects; participating in program review, advising on technical requirements and changing capital works projects; reviewing industrial water systems, estimating capital work and upgrades required, and forwarding to professional engineering staff for evaluation; preparing correspondence, terms of reference and contract to hire consultants; analyzing, advising and implementing engineering proposals and studies involving infrastructure, watersheds and water quality in Industrial Water Supplies; reviewing and evaluating engineering consultant specifications and drawings for tender work and providing final approval on items related to industrial water systems; supervising approved work; reviewing and approving invoices for payment; meeting with consultants, councils, fish plant owners and other stakeholders to discuss new or revised operating procedures and methods and other emergency of technical issues.
- Reviews water tariff assessments and recommends changes or amendments to rates. Consults
  with town councils to ensure tariffs are being collected.
- Researches technical data and financial information and writes technical reports and Briefing Notes for the Deputy Minister to aid in decision making regarding the industrial water supplies.
- Performs research in technical and financial matters arising in the industrial water systems

### **Key and Periodic Activities:**

- regarding operation, maintenance, capital works, budgets, water tariffs and policy changes and prepares and drafts reports and Cabinet Papers.
- Prepares customer water consumption contracts and operator agreements.
- Inspects and reviews all systems periodically to ensure that contractor maintenance and operating workers perform their duties efficiently and in accordance with each contract.
- Ensures operators and repairers are supplied with technical manuals, drawings and other data pertaining to each water system.
- Coordinates safety training programs for the department, ensures required supplies are available and delivers First Aid Training.

# SKILL

### Knowledge

### General and Specific Knowledge:

- Knowledge of Water/Wastewater Systems
- Knowledge of engineering design
- Technical knowledge of mechanical/engineering/chemicals safety issues and procedures
- Knowledge of new equipment/supplies in water/wastewater industry
- Knowledge of capital works budget

# **Formal Education and/or Certification(s):**

 Minimum: 3 year Diploma in Mechanical/Electrical Engineering Technology supplemented with computer training

### Years of Experience:

— Minimum: 10 years

# **Competencies:**

- Ability to operate a computer.
- Ability to operate machinery.
- Ability to repair or calibrate machinery.
- Ability to conduct financial and technical analysis/assessment.
- Ability to read and interpret manufacturer's service manuals.
- Ability to proofread technical data and simplify for operators use.
- Ability to negotiate and develop contracts/agreements.
- Ability to develop new solutions to deal with new problems.
- Ability to design/develop new programs, methods, treatments, procedures.
- Ability to provide expert advise and direction to management/executive and Cabinet.
- Ability to write letters, technical reports, briefing notes, Cabinet Papers where clarity and precision of language is critical.

#### **Interpersonal Skills**

 A range of interpersonal skills used include listening to information from other people, asking questions to get information and gaining the cooperation of others to complete work and solving problems, providing routine information and direction to others, providing expert advice to management/executive/cabinet; communicating complex information and direction to others, negotiating contracts/agreements; facilitating meetings, making formal presentations and resolving disputes.

- These skills are required in negotiating contracts and agreements for transfer of water supplies and general operation/maintenance; listening to technical information to evaluate failures and provide means for corrections; dealing with councils, engineers, contractors on the phone and in-person when upset with decisions or policies of the department; providing expert advise on mechanical, electrical and automatic operation of water supplies, processes and machinery; listening to others explaining their point of view that does not involve disagreements with positive views; and working in a confidential environment when dealing with government business.
- Communications occur with employees within the immediate work area, within the department, supervisors/managers, suppliers/contractors, students/trainees, other municipal/provincial/federal government representatives, general public, internal executives and occupational health and safety both inside and out, with employees in other departments within and outside the organization, sales representatives, external executives and professional associations.
- Most significant contacts are with the Director of Engineering to discuss and finalize matters and concerns that require the technical assistance of a professional engineer and final approval; Supervisor of Accounts for daily and monthly concerns regarding purchase orders, invoices, problems with budgetary matters, expenditures and control; and Assistant Deputy Minister regarding negotiations, briefing notes to Deputy Minister or Minister, policy issues, and issues when dealing with councils, contractors, engineers etc.

# EFFORT

#### **Physical Effort**

- The demands of the job do not result in considerable fatigue, requiring periods of rest.
- Lifting objects up to 25 lbs is an occasional requirement when investigating problems and the need to move pump heads, etc.
- Requires sitting either while working on a computer or driving as the majority of work is travelling to water supplies for inspections, meetings or negotiations with engineers, operators, councils or contractors. Also occasionally required to stand, walk, and climb while conducting inspections. Working in awkward or cramped positions is an occasional occurrence when performing inspections.
- The job requires handling of special tools and test equipment for operation and maintenance which involves accurate control and steadiness.
- Fine finger or precision work is regularly required while working on computer to prepare technical reports, letters, briefing notes, cabinet papers.

#### Concentration

- Visual concentration is required when preparing budgets, technical reports, etc.
- Auditory concentration is required when conducting inspections where noises associated with pumps, motors, gears, screening, fans and other equipment emits high pitched sounds.

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Revolving/rotating noises in the 3600 RPM level and sounds of high velocity water in the pipes can place unusual strain on hearing ability.

- Other sensory demands include smell from toxic and dangerous chemicals (chlorine) to ensure water supplies are clean; and touch to ensure does not touch electrical units with power on.
- Time pressures, interruptions, deadlines and lack of control over work pace are experienced on a regular basis as work is so broad with many different tasks and responsibilities including engineering, budgeting, capital works, technical reports, accounts, meetings internally and externally, malfunctioning in water supplies, purchasing/tendering, briefing notes, contractor problems, management requests/needs, and supervision of technical staff and operators. Workloads from project to project are demanding.
- Higher than normal levels of attentiveness or alertness for the health and safety of itself and other operators exist when working with corrosive chemicals that are toxic and can destroy the organs of the body; working with large operating equipment that rotates at high speeds and large horsepowers (150hp); and working with electrical equipment up to 1200 amps @600 volts.
- Eye/hand coordination is required when working with electrical motor control units in cabinets on motors, screening equipment etc, especially around a wet environment and machinery rotating at 3600 RPMS during normal operation and trouble shooting the technical items of electrical/mechanical/ chemical systems.
- Exact results and precision are required when all operating and processing of chemicals in the water treatment unit must be within exact standards or residuals and the water capacities have to be established and regulated to provide results of treated water to the users and all equipment must be precise.

#### Complexity

- Work involves a series of tasks or activities that are different and unrelated (capital works budget, negotiations, technical inspections, training, etc.) and require the use a broad range of skills and a diversity of knowledge. Most challenges/problems/issues must be defined and practical solutions found with those problems/issues being highly technical.
- A typical problem is usually insufficient water qualities, problems or equipment; technical malfunctions; unable to provide efficient equipment that would properly treat the water and be cost-effective; no specifications or standardized solutions; investigation, research and analysis of projects or malfunctions that require computer research and telephone contacts; and automation challenges.
- Reference material to assist in addressing problems, challenges and issues include operation manuals at times, engineering drawings (sometimes out of date), manufacturer contacts, engineering contacts, contractors, suppliers, private skilled/knowledgeable individuals, computer research, colleagues, various government departments, and departmental policies and guidelines.

#### RESPONSIBILITY

#### Accountability and Decision-Making

- Work tasks and activities are somewhat prescribed or controlled.

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- Authority to order material and equipment required for the operation of the Industrial Water Systems up to and including \$2500 through the standard 3 quote and tendering process; verifies payment of invoices and capital works program payments for the industrial water systems; purchase chemicals and items of an emergency nature to maintain water to fish plants and towns.
- Supervisory approval is required for very large purchases and hiring of engineers and contractors that require large capital or replacement expenditures dealing with contracts and agreements through government of town councils; policy and process changes that affect policy and process changes of the department as a whole under the direction of the permanent head. Final approval of department head in hiring operators when needed.
- Discretion and independence of action is exercised when equipment breaks down as can make a decision to hire the town, contractors and engineers to pull the project together and provide immediate connection and establish a figure for financing. Discretion can also be used to determine whether equipment and materials are necessary to provide longer life cycles for water systems; or shutting down projects due to occupational health and safety issues or not following proper procedures.
- Uses discretion and judgement when having to install a piece of equipment but the guidelines do not suit the application due to under design, incorrect compatibility with chemicals etc. The equipment cannot be used and another alternative must be made that will function until an agreement is reached for replacement. This can result in travel expenditures, overtime and leave of absence.
- There is also a high degree of independent discretion and judgment when preparing budgets, monitoring expenditures, providing technical and financial data leading to water tariff increases charged to towns and fish plants.

#### Impact

- Work results can have an impact within the immediate work area, department/group, within/outside the organization and on customers including councils, fish plants and commercial areas.
- Additionally, if mistakes or errors occur it may have significant impact on equipment (water/wastewater systems), processes and systems (budget, tendering, purchasing), information (briefing notes and cabinet papers affect decision making process), finances (cost of equipment/supplies, increase in tariffs), facilities (industrial water systems), material resources, human resources (supervision of technical staff, contractors, etc.), health and safety (supply of clean drinking water) and corporate image.
- Errors are typically identified and resolved within hours of problem identification. An example of a risk or consequence of an error could be the shut down of a water system to a town or fish plant which could be detrimental to the health of the water to the town or the production of fish and profits to a fish plant. In winter, freeze-ups can result.
- Other consequences of error would be improper advise of the use of chemicals in water treatment that would involve sickness due to bacteria, ecoli, etc. in the water supply to users; occupational health and safety risks can be the result of an error in the mechanical equipment and electrical supply. These mistakes/errors have to be resolved in hours because of safety devices that trip or signal malfunctions.

# **Development and Leadership of Others**

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- Typically supervises a small size work group of employees (1 to 4).
- Functions as a project manager for capital works projects (installation/repair of industrial water systems). These projects include reviewing designs, material specifications, drawings, client engineering agreements, meetings with council's engineers and contractors, monitoring project progress, reviewing change orders and overall responsibility for the project until system is completed and operational with final commissioning and acceptance.

# WORKING CONDITIONS

### **Environmental Working Conditions**

- There is a requirement to wear personal protection equipment and take safety precautions including wearing safety boots, glasses and sometimes hard hats and vests, dust masks, aprons, high voltage rubber gloves (electrical inspections), goggles or safety glasses when mixing chemicals; using breathing apparatus when chemical leaks are noted; eye wash installations in plants; fire extinguishers to fight electrical and facility fires; safety latches on all doors and ensuring an alternate means of escape; and being trained in safety courses and first aid.
- The likelihood of minor cuts, bruises, abrasions or minor illnesses resulting from hazards in the job is moderate (injury to lungs due to chlorine) however there is a limited likelihood of fractures or other injuries resulting in partial or total disability.
- Regularly exposed to unusual/distracting noise (vibrating machinery, loud noises), dirt/dust/filth (when chemicals are mixed on floors, machinery, pumphouses), fumes/odours (chemical odours from chlorine, caustic soda, ammonia), limited ventilation and lighting (pumphouses), hazardous chemicals/toxic substances (caustic soda and chlorine are toxic and poisonous in raw content), dangerous heights/depths, wet or slippery surfaces (wet floors, pipes and equipment), electrical shocks (motor control units and equipment operation), temperature extremes (hot equipment when operating and malfunctioning), physical dangers (high speed equipment, revolving equipment and high pressures), sharp objects, heavy machinery, adverse weather conditions and travel.