

CLARK COUNTY STAFF REPORT

DEPARTMENT: Public Works / Clean Water / Wastewater Operations

DATE: July 18, 2017

REQUESTED ACTION: Add Job Classification of Supervisory Control and Data Acquisition System Specialist

Consent Hearing County Manager

PUBLIC WORKS GOALS:

- Provide a safe, efficient transportation system
- Support a vibrant system of parks and natural areas while preserving the environment
- Continue responsible stewardship of public funds
- Increase partnerships and foster an engaged, informed community
- Empower a skilled, responsive workforce
- Make Public Works a great place to work

BACKGROUND

Public Works operates and maintains the Salmon Creek Wastewater Treatment Plant, along with its pump stations and regional interceptor sewer lines. The department's goal is to operate the system in a safe, dependable and cost-effective manner that meets all environmental regulations.

In June 2014, the Board of County Commissioners agreed to transfer the plant to the Discovery Clean Water Alliance, a regional sewer entity with four member agencies: Clark County, Clark Regional Wastewater District and the cities of Battle Ground and Ridgefield.

Human Resources received an "Employee Request for Position Review" on June 16, 2016, requesting a review of the Wastewater Maintenance Leadworker position for appropriate classification. The Wastewater Treatment Manager and Public Works Director supported this review.

Wastewater Maintenance Leadworkers historically have been responsible for overseeing the wastewater plant controls and instrumentation system. Leadworkers have designed, developed code, installed, tested, modified and maintained complex Programmable Logic Controller and Supervisory and Control Data Acquisition (SCADA) computer controls hardware, programs, software interfaces and applications in a process control environment to maximize efficiency of the treatment plant and pump stations. Leadworkers were also responsible for inspecting, adjusting, installing, troubleshooting, repairing and performing preventative maintenance of all equipment and structures associated with the treatment plant.

The plant currently has two Wastewater Maintenance Leadworkers. They work with vendors and contractors on Programmable Logic Controller matters. They coordinate and communicate with engineers and other personnel to implement operating procedures, as well as make assessments for repairing or replacing plant components. They also coordinate and lead the work of Maintenance Technicians.

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When the plant was transferred to the Discovery Clean Water Alliance at the start of 2015, these positions were split into two distinct categories. One Wastewater Maintenance Leadworker focuses on the day-to-day maintenance of the plant and coordination of the Wastewater Technicians. The other leadworker's focus expanded from working solely on SCADA at the Salmon Creek Wastewater Treatment Facility to a more regional outlook. The position is required to answer questions on a regional level and work with contractors and vendors for the entire system.

This leadworker no longer coordinates or leads Wastewater Technicians or handles mechanical fixes for the plant. This employee has become an expert on code development and testing, maintaining and modifying the current SCADA system on a regional level. This position requires specialized knowledge of SCADA systems, wastewater biology, wastewater operations, database management and technical equipment controls.

During the classification review, HR looked at other treatment plants and found specific SCADA positions. HR recommends pulling the SCADA functions from the Wastewater Maintenance Leadworker' job description as the two positions are doing completely different functions. This should assist in future recruitments for the specific skill set.

Human Resources recommends adding the Supervisory Control and Data Acquisition System Specialist position and incorporating it into American Federation of State, County and Municipal Employees (AFSCME) Local 307. The proposed salary amount falls within range PS.117 (\$33.37-\$40.60 per hour).

COUNCIL POLICY IMPLICATIONS

None

ADMINISTRATIVE POLICY IMPLICATIONS

None

COMMUNITY OUTREACH

None

BUDGET IMPLICATIONS

YES	NO	
X		Action falls within existing budget capacity.
	X	Action falls within existing budget capacity but requires a change of purpose within existing appropriation
	X	Additional budget capacity is necessary and will be requested at the next supplemental. If YES, please complete the budget impact statement. If YES, this action will be referred to the county council with a recommendation from the county manager.

BUDGET DETAILS

Local Fund Dollar Amount	N/A
Grant Fund Dollar Amount	N/A
Account	Wastewater Operations

Company Name	N/A
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DISTRIBUTION:

Board staff will post all staff reports to The Grid. <http://www.clark.wa.gov/thegrid/>

Attachments: Budget document, Job description

Lois Pearce for

Dean Boening
Clean Water Division Manager

Heath H. Henderson

Heath H. Henderson, PE
Public Works Director/County Engineer

[Signature]
APPROVED:
CLARK COUNTY, WASHINGTON
BOARD OF COUNTY COUNCILORS

DATE: *2/8/17*

SR# *SR 153-17*



SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA) SYSTEM SPECIALIST

JOB PURPOSE AND SUMMARY

The Supervisory Control And Data Acquisition (SCADA) System Specialist designs, develops code, installs, tests, modifies, and maintains complex PLC and SCADA computer controls hardware, programs, software interfaces and applications in a process control environment to maximize the efficiency of wastewater treatment plants and remote pumping stations. The position will be responsible for initiating and conducting a wide range of technical tasks and projects associated with the design, installation, maintenance and on-going support of electrical/electronic controlled pieces of machinery.

CLASSIFICATION DISTINCTIONS

The SCADA Systems Specialist classification requires specialized knowledge of SCADA systems, wastewater biology, wastewater operations, data base management, and technical equipment controls that support a modern activated sludge wastewater treatment plant.

A SCADA System Specialist will exercise independent judgement and demonstrate an advanced level of technical expertise in plant control systems and instrumentation with the ability to resolve complex or unique control systems functionality issues. The SCADA Systems Specialist reports to directly to the Wastewater Operations Manager.

TYPICAL DUTIES & RESPONSIBILITIES:

The duties listed below, while not all-inclusive, are characteristic of the type and level of work associated with this position. The individual in this position may perform all or some combination of the duties listed below, as well as other related duties.

Control System Management. Typical tasks: Plans and supervises the installation and maintenance of instrumentation, telemetry, SCADA and electrical systems. Works closely with engineering and consultants regarding capital and R&R projects; recommends additions and replacements of instrumentation, telemetry, SCADA and electrical systems. Design, develop and install communication and network systems for SCADA in a secure, reliable and cost effective manner. Develop and implement SOP and troubleshooting programs and job aids. Coordinate and communicate with Engineers or other personnel to implement operating procedures, resolve system malfunctions, or provide technical information. Manage and oversee vendors and contractors on PLC matters. Compile and manage backups of all programmable equipment. Utilizes analytical, planning, problem-solving, and project management skills. Complies with safety regulations and promotes a safe work practices.

Control System Maintenance and Repair. Typical tasks: Diagnostics, repair, maintenance and calibration of wastewater instrumentation and electrical control systems. Investigate system

or equipment failures or faulty operation and recommend remedial actions. Perform emergency repairs and adjustments while processes/systems are running in a timely and efficient manner. Supervises the installation and maintenance of complex telemetry, SCADA and alarm systems.

QUALIFICATIONS

- Operations Background must have at least five (5) years of experience maintaining systems in a class III or above facility.
- Five (5) years of work experience in supporting and developing process control applications, telemetry and networks including SCADA system engineering, industrial control system software and PLCs.
- Experience in control system components including but not limited to: PLCs (Allen Bradley Controllogix, Compact Logix, PLC5 and SLC-500 software systems), Historian (Wonderware), Control networks (Ethernet and Serial) and VFDs.
- HMI experience including but not limited to: Wonderware, Intouch, Allen-Bradley Panelview, and Rockwell Factory Talk ME.
- Radio 450 mhz licensed.
- Experience in industrial control software including but not limited to: alarm software and security measures, PanelBuilder, VFD configuration software and PLC software.
- Knowledge of design techniques, tools, and principals involved in production of precision technical plans, drawings and schematic layouts.
- Excellent troubleshooting ability, both electrical and mechanical.
- Knowledge of Federal, state and county laws and regulations relating to wastewater collection and treatment.
- Skills in diagnosing issues and recommending solutions to control system problems.
- Skills in developing, organizing and coordinating and inspecting work of contractors and staff working on control system projects.
- Working knowledge of MS Excel, Word, Outlook, MS SQL.
- Install and maintain industrial software suites and sequel data bases.
- Possession of a valid driver's license required.

Knowledge of: Departmental procedures, SCADA system engineering, Industrial control system software and PLCs, operation and common problems of valves, pumps, motors, boilers, electrical apparatus, and associated equipment used in wastewater treatment; occupational hazards and safety precautions and procedures applicable to work; computerized maintenance management systems.

Skill in: Designing, developing and installing communication and network systems for SCADA methods, tools and testing equipment of the instrument technician trade; electronic, hydraulic, pneumatic, and mechanical theory and practices for installation, maintenance, troubleshooting and repair of process control instrumentation; the National Electric Code (NEC) and State and local electrical codes; pertinent safety practices and procedures.

Ability to: Follow oral and written instructions; detect and correct defects in process equipment and systems; read, comprehend, interpret and understand complex technical manuals, machine blueprints and specifications; pass all required safety training classes and apply those procedures to the work environment; work nights and weekends intermittently or on an emergency basis and via remote link for facility support; network with DCWA partners to support regional development; use a computer to generate reports; work in confined spaces in awkward positions; perform accurate arithmetical calculations; drive a motor vehicle; establish and maintain effective working relationships; provide technical support to coworkers; effectively communicate in writing and orally; skillfully use tools, equipment and materials of the trade; wear and properly use all associated Personal Protective Equipment and perform all work in a safe manner.

WORK ENVIRONMENT & PHYSICAL DEMANDS

Employees in this category work in all types of climates, both indoors and outdoors. Work may be performed in adverse weather and environmental conditions. This includes working in and around raw sewage, in small, often awkward, positions. Work may be performed from ladders or scaffolding and possibly in hazardous atmospheres. Heavy phone contacts with suppliers, manufacturers, other agencies will be regularly experienced as well as face to face interactions with the public. Employees are subject to shift work, may work alone, and will be subject to perform on-call duties 24 hours a day, seven (7) days a week.

Physical demands include but are not limited to standing, crouching, bending, climbing stairs and ladders, reaching, twisting, repetitive motion and lifting. Employees may be required to use a respirator and/or a self-contained Breathing Apparatus.