

TO: Personnel Board

FROM: Brooke Gillitzer, Human Resources Analyst

DATE: 09 September 2025

SUBJECT: Control Systems Technician

In May 2024, Jason (Jay) Chandler and Joe Demorrett, Water Supply Manager at the time, requested a study of their Control System Technician position (#1790), a Compensation Group 16, Range 19 position at Water Utility. Upon reviewing the updated position description, the current class specification and other related class specifications, and conducting interviews with Joe Grande (Water Resources Manager), Jay Chandler, Laine Kruizenga (Building and Trades Foreperson) and Chad Veinot (Electrical Operations Supervisor – Traffic Engineering), I recommend the following:

- Delete the classification of Control Systems Technician in CG 16, R19.
- Recreate the classification of Control Systems Technician in CG16, R20.
- Recreate position #1790 in the new classification.
- Reallocate the employee, J. Chandler, to the new position.

The Control System Technician is in the Water Resources Section of Madison Water Utility. The Water Supply subunit of this section is responsible for ensuring that safe water is distributed, at the correct flows and pressures, throughout the City of Madison. This position was recreated from an Electronics Maintenance Technician to the Control Systems Technician through a reclassification study in 2019. Other positions in the Water Supply subunit include a Control Systems Programmer, five Waterworks Operator 2 positions, three Waterworks Operator 1 positions, and a Public Works Maintenance Worker 2. The Control Systems Technician also works closely with the Building and Trades Foreperson (Master Electrician) and Maintenance Mechanics in the Maintenance Section of the Water Utility. Upon The Water Supply Manger's retirement in October 2024, the Water Supply Section and Water Quality Section were combined into the Water Resources Section, and Joe Grande became the Water Resources Manager. He currently supervises this position.

First, a review of the classification specification for the Control Systems Technician which describes the work as:

. . . This is highly skilled lead and **journey-level electronics** and industrial electrician work in the **maintenance, installation, modification, calibration and repair** of electrical equipment and control systems (including Supervisory Control and Data Acquisition (SCADA); process and motor control; radio/fiber optic communication; video surveillance; card access; and related equipment and devices used in the treatment, storage, pumping and distribution of potable water. The work may involve leading lower level staff on assigned projects, assisting higher level staff on more complex assignments and performing system maintenance on a stand-by/emergency basis. The work is performed under the general direction of the Water Supply Manager and coordination with the Control Systems Programmer. [emphasis added]

Jay was promoted from Traffic Engineering to a Control Systems Technician in October 2021 at Water Utility. While an employee of Traffic Engineering, Jay would assist with the fiber

installation and splicing for Water Utility. Jay gained a Master Electrician Certification in 2014 and gained the Waterworks Operator Certification in December of 2022.

After Jay was promoted to the Control Systems Technician positions, the Water Utility purchased a fiber splicer to allow the work to be completed internally. The increase in fiber optics being installed allows for communication set ups to the well sites. Before that, Water Utility had basic information coming over via radio communication. Now, employees can see the information and control systems remotely. This has created efficiency in the workflow and time saving by allowing employees to watch and control systems every minute. It prevents needing to send an employee out in the morning and having the system run. Completing the fiber work internally saves Water Utility time and money. Projects in which new equipment is installed are completed timelier (measured in months rather than years) and at a fraction of the cost. A recent project involved running 2,400' of fiber along Agriculture Drive to the new Well 31. Work was coordinated with and guided by City IT and City Engineering rather than any agency needing to subcontract the work. The project was completed in 6-8 months rather than the projected timeline of 3-5 years as subcontracting often significantly delays projects.

The improvements helped Water Utility optimize the use of this new facility due to the poor communication that was dramatically improved by the fiber communication. A similar project is underway at the Larkin Street Tower where 500' to 600' of fiber was laid with new termination points established. Fiber optic improves the Water Utility's inter-site communication and has become a necessity with the recent Genetec camera system upgrade. Along with new installations comes the need for routine maintenance including switch replacements that are scheduled by IT. In-house completion again is at a small fraction of the cost of outside contractors. The timely completion of scheduled work often leads to scheduling of additional work, creating a cascading effect, and a greater demand for fiber optics work. The inter-agency cooperation between Water Utility, Engineering, Traffic Engineering, and Information Technology allows for an approach providing operational efficiencies that improve City services and save time and money for both the City and the Utility specifically. It also allows for other agencies such as Traffic Engineering and IT to borrow the services from the Control System Technician position.

By having the Control Systems Technician have a Master Electrician Certification, this allows for the design and specification work to be completed. A Journey-level Certification allows for replacement and maintenance. The Master Electrician Certification allows for the ability to calculate the load, upgrade transformers and breakers, and pull permits needed. Water Utility is having more upgrading of mechanical devices such as pumps and for increases in electricity capacity that involves designing, calculating and planning for the future to ensure upgrades are long-term and cost-efficient. Many of the mechanical devices are from the 1950s or 1960s. Upgrades to this have involved increasing from 400 amp to 1200 amp. The Master Electrician Certification requires continuation of credits to maintain.

Currently, the Building and Trades Foreperson in the Maintenance Section of Water Utility functions as a Master Electrician. Having two positions able to act as a Master Electrician prevents disruption of water service for City of Madison residents. The Building and Trades Foreperson at Water Utility is responsible for maintaining all Water Utility buildings. If that position were to take on the Master Electrician work that the Control Systems Technician is currently doing, there would be a decrease in the standard that the buildings are currently being maintained. This also provides coverage for each of the positions when the other is not working. The SCADA and communication work that the Control Systems Technician does is a different section of electrical code than what the Building and Trades Foreperson does with building

maintenance. Having two Master Electricians allows for each to have in depth knowledge of the specific electrical codes related to their positions and allow for more time to analyze and ensure safety of the electrical systems thereby preventing accidents or injuries.

Requiring the Control Systems Technician to have a Waterworks Operator Certification allows for understanding of the ground water and distribution system needs and how the Waterworks Operators need the systems to function. The Control Systems Technician is also then able to provide backup to the Waterworks Operator positions when needed. The Waterworks Operator Certification requires continuing educ credits to maintain.

For comparison, I reviewed the class specifications for a variety of positions in CG 16 Ranges 19 to 22 and CG 71 / Range 5 to determine what differentiates them from CG 16 /Range 19 positions.

The Water Utility has an existing Building and Trades Foreperson position in CG 71 / Range 5 that is described as:

. . .highly skilled master level skilled trade work in the maintenance, repair, replacement, upgrade, installation, testing and inspection and commissioning of **electrical**, HVAC and/or plumbing systems and equipment found in a wide range of municipal facilities. Work involves planning, scheduling, overseeing, performing and evaluating electrical, HVAC and/or plumbing construction, repair and/or maintenance work and related activities. The work also involves **overseeing, testing, inspecting, commissioning, contacting and/or consulting** with outside contractors and vendors performing related construction, repair or maintenance work. This class is distinguished by **responsibility for the overall operational activities of electrical**, HVAC, and/or plumbing work. Under general supervision, the employee exercises considerable judgment in meeting program objectives. Work includes functioning as a **leadworker** and directing subordinate facilities skilled trades and **maintenance employees** as may be assigned. Assignments are received from a higher-level supervisor and are performed under limited supervision.. [emphasis added]

The Building and Trades Foreperson classification at Water Utility functions as a Master Electrician and is a similar salary range as the Control Systems Technician currently. The Control Systems Technician having a Master Electrician Certification allows it to perform functions of the Building and Trades Foreperson, but also has the additional communication and fiber duties which adds to the complexity of the position.

The Communications Operations Leadworker is CG 16/ Range 20 and is described as:

. . . highly skilled lead and advanced technical maintenance, installation, and repair work in the **Communications Section of the Traffic Engineering Division**. The work involves **coordinating and overseeing** the planning, installation, maintenance and repair of **communication systems and other electronic equipment**. The work is performed under the general supervision of the Communications Operation Supervisor and **involves leading, training and scheduling lower level staff, assisting in the design of new and modified communication systems, and performing base system maintenance** on a regular and stand by/emergency basis [emphasis added]

The Communications Operations Leadworker is similar to the Control Systems Technician in coordinating and overseeing the planning, installation, maintenance and repair of communication systems and other electronic equipment. However, while the Control Systems Technician leads projects where lower level staff may assist, it does not have responsibility to

lead and train lower-level staff that the Communications Operations Leadworker does. The Control Systems Technician would now require a Master Electrician Certification which would increase the complexity of work to the same level.

The Traffic Systems & Networking Specialist is CG 16/ Range 22 and is described as:

... highly skilled technical, **lead work** in the Electrical Section of Traffic Engineering. Under general supervision, this position is responsible for **coordinating and overseeing the installation and repair of complex electrical/electronic computerized equipment** associated with traffic signals, street lighting, **fiber optic network** and other City-maintained equipment and systems. Work is characterized by the exercise of **independent judgment in laying out work and directing Electrical Section employees**. [emphasis added]

Both positions are responsible for coordinating and overseeing the installation and repair of complex electrical/electronic computerized equipment which include fiber optic network. Both positions require a Master Electrician Certification. A Traffic Systems & Networking Specialist differs from the Control Systems Technician in that it functions as a leadworker for multiple employees who direct the work and employees in the Electrical Operations section of Traffic Engineering. Another difference is the complexity and amount of traffic electrical equipment which services not just the City of Madison but surrounding areas as well.

If this position becomes vacant in the future, there is an opportunity to recruit and underfill it at a trainee level using the classification of Maintenance Electrician 2 in CG 16, Range 19 that requires a Journey-level Electrician Certification, depending on candidates' qualifications.

Based on this analysis contained in this memo, I recommend to delete the classification of Control Systems Technician in CG 16, R19 and recreate it in CG16, R20; recreate position #1790 in the new classification and reallocate the employee, J. Chandler, to the new position, within the permanent salary detail of the 2025 Water Utility operating budget.

The necessary resolution to implement this recommendation has been drafted.

Effective Date: 06/09/2024

Compensation Group/ Range	2025 Annual Minimum (Step 1)	2025 Annual Maximum (Step 5)	2025 Annual Maximum (+ 12% Longevity)
16/19	\$77,939.68	\$90,935.26	\$101,847.46
16/20	\$80,800.72	\$94,663.40	\$106,023.06

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