



**CONTRACT MODIFICATION**

**Date:** July 29, 2024  
**Contract #:** UCPJMU6794  
**Service:** Water Treatment & Services for Cooling Towers, Boilers, & Related Equipment  
**Modification #:** One  
**Issued By:** James Madison University Ph: 540-568-6181  
Michael Morrison, Buyer Senior Fx: 540-568-7935  
**Contractor:** Water Chemistry, Inc.  
Attn: Scott Russow  
3404 Aerial Way Drive  
Roanoke, VA 24018  
**Contract Administrator:** Jeff Price, Facilities Management

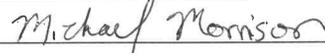
**Description of Modification Notice:**

Per the Special Terms and Conditions (O. Additional Goods and Services) of Contract Number UCPJMU6794, the University is modifying this contract to include additional goods and services for the purpose of maintaining the RO/DI systems in various lab spaces on campus.

The attached documents outline the scope of the modification requested and the additional items added to the existing pricing of the contract.

Except as provided herein, all terms and conditions of Contract Number UCPJMU6794 as herefore changed, remain unchanged and in full force and effect.

**Water Chemistry, Inc.**  
**By:**   
\_\_\_\_\_  
Scott Russow  
\_\_\_\_\_  
Name (print)  
Regional Manager July 29, 2024  
\_\_\_\_\_  
Title Date Signed

**James Madison University**  
**By:**   
\_\_\_\_\_  
Michael Morrison, MS, VCCO, CUPO  
\_\_\_\_\_  
Name (print)  
Buyer Senior 7/30/2024  
\_\_\_\_\_  
Title Date Signed

## IV-B. STATEMENT OF NEEDS – RODI Water Treatment

Contractor shall provide all labor, materials, equipment, supervision, disposal, and documentation necessary to perform maintenance and services for RO/DI water treatment systems at the University. Per each system in five (5) locations the contractor shall develop a maintenance and service schedule to include monthly, quarterly, semi-annually, annually, quarterly for loop, and annual for loop at each location. The standard service frequency is quarterly for the locations. Contractor shall provide material costs associated with each location. JMU reserves the right to change, add, or delete service and/or to alter the schedule of services to be delivered. Proposals shall delineate startup costs for service and ongoing service costs.

A. **Location One, CISAT A3 Building Lab DI System:** DI system with pre and post filtration and an automatically filled storage tank with recirculation loop and UV sterilization with loop filtration.

1. Contractor shall provide start-up costs to include all labor, materials, equipment, supervision, disposal, and documentation necessary to monitor and maintain a DI system totalizing water meter, replace all filters, exchange bottles, and UV bulbs as needed below. Note: bacteria testing to be either HPC or Total Count with a trigger of >100 cfu/ml triggering loop sanitization.

Quantities	Materials
1	20" 5 micron polypropylene pre-filter
1	20" 1 micron polypropylene post-filter
1	3.6 ft <sup>3</sup> carbon tank
3	3.6 ft <sup>3</sup> mixed bed DI tanks
1	1.2 ft <sup>3</sup> mixed bed DI tanks
2	20" 0.2 micron vent filters
7	30" 0.2 micron final filters
6	Aquafine ZCSPL17491 254nm UV lamps
12	Aquafine ZCSPL3095 185nm UV lamps
1	Storage tank/loop Sanitization

2. Contractor shall include the following recurring services as needed below.

Review Operators log book and check water quality	Quarterly
System pre-filter cartridge replacement	Quarterly
System post-filter cartridge replacement	Quarterly
Exchange 3.6 ft <sup>3</sup> carbon tanks	Semi-annually
Exchange 3.6 ft <sup>3</sup> mixed bed worker DI tanks	Quarterly
Exchange 1.2 ft <sup>3</sup> mixed bed DI tanks	Quarterly
Replace Vent filter cartridges	Annually
Replace Loop Filters	Annually
Replace UV units lamps	Annually
Loop system peroxide sanitation	As needed

**B. Location Two, CISAT A3 Building Humidification Treatment System: RODI system with pre and post filtration with recirculation loop.**

1. Contractor shall provide start-up costs to include all labor, materials, equipment, supervision, disposal, and documentation necessary to monitor and maintain a RODI system totalizing water meter, replace all filters, and exchange bottles as needed below.

<b>Quantities</b>	<b>Materials</b>
1	20" 5 micron polypropylene pre-filter
2	3.6ft <sup>3</sup> mixed bed worker DI tanks

2. Contractor shall include the following recurring services as needed below.

Review Operators log book and check water quality	Quarterly
System pre-filter cartridge replacement	Quarterly
System feed water analysis	Quarterly
Load softener salt to brine tank	Quarterly
Exchange (2) 3.6ft <sup>3</sup> mixed bed worker DI tank	Quarterly
System UV Bulb replacement	Quarterly

**C. Location Three, CISAT A3B Building Lab RO/DI System: RO/DI System with pre and post filtration and two automatically filled storage tanks with dual recirculation loops and dual UV sterilization with dual loop filtration.**

1. Contractor shall provide all-inclusive costs to include all labor, materials, equipment, supervision, disposal, and documentation necessary to monitor and maintain a DI totalizing water meter, replace all filters, exchange bottles and UV bulbs as needed below. Note: bacteria testing to be either HPC or Total Count with a trigger of >100 cfu/ml triggering loop sanitization.

<b>Quantities</b>	<b>Materials</b>
1	20" 5 micron BB polypropylene sys pre-filter
1	10" 5 micron BB polypropylene RO pre-filter
15	40# bags of softener salt with rust remover
2	3.6ft <sup>3</sup> mixed bed worker DI tank
1	20" 1 micron polypropylene DI post-filter
4	20" 0.2 micron vent filters
28	30" 0.2 micron final filters
8	Aquafine ZCSPL17491 254nm UV lamps

2. Contractor shall include the following recurring services as needed below.

Review operators log book and check water quality	Quarterly
System feed water analysis	Quarterly
Replace system inlet pre-filter cartridges	Quarterly
Replace RO skid pre-filter cartridges	Quarterly
Deliver and Load softener salt to brine tank	Quarterly
Exchange (1) 3.6ft <sup>3</sup> mixed bed worker DI tank	Quarterly
Replace DI post-filter cartridges	Quarterly
Replace vent filter cartridges	Annually
Replace loop filters	Annually
Replace UV unit lamps	Annually
Loop System peroxide sanitization	As needed

**D. Location Four, A2 Lab DI System:** Location has Recirculating DI System

- Contractor shall provide all-inclusive costs to include all labor, materials, equipment, supervision, disposal, and documentation necessary to monitor and maintain a DI totalizing water meter, replace all filters, exchange bottles and UV bulbs as needed below.

Quantities	Materials
1	10" 5 micron polypropylene pre-filter
1	10" 0.2 micron polypropylene post-filter
1	1.2ft <sup>3</sup> carbon tank
2	1.2ft <sup>3</sup> mixed bed DI tanks
1	UV Lamp

2. Contractor shall include the following recurring services as needed below.

Review Operators log book and check water quality	Quarterly
System pre-filter cartridge replacement	Quarterly
System post-filter cartridge replacement	Quarterly
Exchange 1.2ft <sup>3</sup> carbon tank	Semi-annually
Exchange 1.2ft <sup>3</sup> mixed bed worker DI tanks	Quarterly
Replace UV lamps	Semi-annually

**E. Location Five, Carrier Library Humidification RO System:** Location has Recirculating RO System

- Contractor shall provide all-inclusive costs to include all labor, materials, equipment, supervision, disposal, and documentation necessary to monitor and maintain a RO System, replace all filters, and UV bulbs as noted below.

Quantities	Materials
1	10" 5 micron polypropylene pre-filter
1	10" 0.2 micron polypropylene post-filter
2	1.2ft <sup>3</sup> mixed bed DI tanks
1	UV Lamp

2. Contractor shall include the following recurring services as needed below.

Review Operators log book and check water quality	Quarterly
System pre-filter cartridge replacement	Quarterly
System post-filter cartridge replacement	Quarterly
Exchange 1.2ft <sup>3</sup> mixed bed worker DI tanks	Quarterly
Replace UV lamps	Semi-annually

- F. Special notes for all systems
  - a) Total system volumes are not known.
  - b) The minimum desired water quality for all systems is >1 megohms
  - c) Electronic Service Reports shall be generated and emailed to JMU staff the day of service
  - d) All exchange tanks are the property of the Contractor
- G. Contractor shall perform work between 7:30 AM – 4:00 PM, Monday through Friday.
- H. All costs shall be exclusive of travel. Exception may be granted by JMU on a case-by-case basis. In the event an exception is made, contractors billing for travel-related expenses must be billed in accordance with the Commonwealth of Virginia’s per diem allowance for lodging, meals, and incidental expenses at the time of travel which can be referenced at <http://www.jmu.edu/finprocedures/4000/4215mie.shtml>.
- I. All services provided under this contract shall be trained repair technicians and all work shall be performed in a workmanlike manner in accordance with the manufacturer’s recommended equipment maintenance procedures. Submit all qualifications and certifications associated with the different systems.

## SPECIAL TERMS AND CONDITIONS

The following additional items are added to the existing section VIII. Special Terms and Conditions of Contract #UCPJMU6794.

- A. ELECTRICAL EQUIPMENT STANDARDS: All equipment/material shall conform to the latest issue of all applicable standards as established by National Electrical Manufacturer’s Association (NEMA), American National Standards Institute (ANSI), and Occupational Safety & Health Administration (OSHA). All equipment and material, for which there are OSHA standards, shall bear an appropriate label of approval for use intended from a Nationally Recognized Testing Laboratory (NRTL).
- B. REPAIR PARTS: In the event that the performance of maintenance services under the contract results in a need to replace defective parts, such items may only be replaced by new parts. In no instance shall the contractor be permitted to replace defective items with refurbished, remanufactured, or surplus items without prior written authorization of the University.
- C. SERVICES WARRANTY: Contractor warrants that all services shall be provided for in accordance with manufacturer’s service manuals and as specified in this solicitation. Contractor shall act as the sole point of contact for all units repaired under this agreement.
- D. PROTECTION OF PERSONS AND PROPERTY: The contractor expressly undertakes both directly and through its subcontractor(s) to take every precaution at all times for the protection of

persons and property that may come on the building site or be affected by contractor's operation in connection with the work.

The Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work. The provisions of all rules and regulations governing safety as adopted by the Safety Codes Commission of the Commonwealth of Virginia, issued by the Department of Labor and Industry under Title 40.1 of the Code of Virginia shall apply to all work under this contract.

- E. PRIME CONTRACTOR RESPONSIBILITIES: The contractor shall be responsible for completely supervising and directing the work under this contract and all subcontractors that they may utilize, using their best skill and attention. Subcontractors who perform work under this contract shall be responsible to the prime contractor. The contractor agrees that they are as fully responsible for the acts and omissions of their subcontractors and of persons employed by them as they are for the acts and omissions of their own employees.
- F. SUBCONTRACTS: No portion of the work shall be subcontracted without prior written consent of the purchasing agency. In the event contractor desires to subcontract some part of the work specified herein, the contractor shall furnish the purchasing agency the names, qualifications, and experience of their proposed subcontractors. The contractor shall, however, remain fully liable and responsible for the work to be done by its subcontractor(s) and shall assure compliance with all requirements of the contract.
- G. CONTINUITY OF SERVICES: The contractor recognizes that the services under this contract are vital to the University and must be continued without interruption and that, upon contract expiration, a successor, either the Agency or another contractor, may continue them. The Contractor agrees:
1. To exercise its best efforts and cooperation to effect an orderly and efficient transition to a successor;
  2. To make all agency-owned facilities, equipment, and data available to any successor at an appropriate time prior to the expiration of the contract to facilitate transition to the successor; and
  3. That the agency contractor officer shall have final authority to resolve disputes related to the transition of the contract from the Contractor to its successor.

The Contractor shall, upon written notice from the Contract Officer, furnish phase-in/phase-out services for up to ninety (90) days after this contract expires and shall negotiate in good faith a plan with the successor to execute the phase-in/phase-out services. The plan shall be subject to the agency's approval.

The Contractor shall be reimbursed for all reasonable, pre-approved phase-in/phase-out costs (i.e., costs incurred within the agreed period after contract expiration that result from phase-in/phase-out operations) and a fee (profit) not to exceed a pro rata portion of the fee (profit) under this contract. All phase-in/phase-out work fees must be approved by the agency in writing prior to commencement of said work.

**Monthly Pricing for Testing, Routine Services, Test Kits and Reagent Chemicals**

Ninety Eight (98) closed loops with water	\$ 125.00
Twenty Two (22) closed loops with propylene glycol	\$ 125.00
Twenty Four (24) cooling towers with a total capacity of 8,108 tons and 31 cooling tower cells	\$ 1,500.00
Monthly review and recommendations of Twenty Four (24) cooling towers and all 31 cooling tower cells	\$ 1,000.00
Perform facility legionella plan testing on 24 cooling towers with quarterly provision up to 24 – 5 gallon containers of >12% active sodium hypochlorite and 24 legionella culture CDC Elite certified tests per year	\$ 1,275.00
Monthly East and West Plant review and recommendations of five (5) HP Steam Boilers	\$ 1,000.00
Monthly East and West Plant review and recommendations of six (6) condensate return systems	\$ 300.00
Monthly East and West Plant review and recommendations for three (3) DA Feedwater Systems	\$ 100.00
Monthly East and West Plant review and recommendations of four (4) water softeners	\$ 50.00
Monthly East and West Plant review and recommendations of four (4) condensers	\$ 1,275.00
Monthly East Plant review and recommendations of one (1) centralizer chiller water system	\$ 50.00
Quarterly review and recommendations of Location 1 CISAT A3B Lab DI System	\$ 340.00
Quarterly review and recommendations of Location 2 CISAT A3B Humidification RODI System	\$ 170.00
Quarterly review and recommendations of Location 3 CISAT A3B Lab RODI System	\$ 495.00
Quarterly review and recommendations of Location 4 A2 DI System	\$ 120.00
Quarterly review and recommendations of Location 5 Carrier Library Humidification RO System	\$ 110.00
<b>TOTAL PRICE PER MONTH</b>	<b>\$8,035.00</b>

**Pricing For Optional Services**

Price to perform one set of HPC and CDC Elite Certified Legionella	\$ 250.00
Price to perform one set of Free Chlorine DPD Test	\$ 30.00
Price to perform one set of Lead and Copper Test	\$ 120.00
Price to perform one set of Total Coliform and E. Coli Bacteria Test	\$ 120.00
Price to perform one Basic Water Management Plan	\$ 3,300.00