

SECTION 01000
SUMMARY/SPECIFICATION OF WORK

PART 1 GENERAL**1.01 WORK COVERED BY CONTRACT DOCUMENTS**

The following are minimum requirements of a desired service program. Please provide a detailed service plan to meet these objectives. In this plan, please outline the proposed services your company will provide to each facility and to each system treated. Also, enclose how your company will track your conformance to the service plan. The program shall provide the optimum in scale prevention, corrosion minimization and bacteriological control. The program will maintain the chillers at peak efficiencies and minimize the liability of Legionnaires Disease. The program will be easily implemented and controlled. All products shall have the proper state and federal approvals.

The following information shall be documented:

- A. Monthly chemical testing of all control and monitoring parameters for all systems treated.
- B. Analytical testing necessary to confirm field tests.
- C. Efficiency monitoring on chillers and any other water processing equipment.
- D. Corrosion coupon monitoring on all cooling towers, feed water and designated closed loops.
- E. Monthly test of chilled water loop to verify treatment is controlling bacteria levels.
- F. Verify Controllers are operating correctly and corrective action that will be taken to correct any problems.
- G. The vendor shall have a program in place that will totally eliminate chemical handling by operating personnel. Please note there are up to 5 sites that chemicals need to be delivered to depending on what chillers are in use. A summary and information on the chemical handling systems proposed shall be provided along with MSDS.

Locations

- 1. Tuscaloosa City Hall-2201 University Blvd, Tuscaloosa Al, 35401
- 2. Tuscaloosa Police Department-3801 Trevor S. Phillips Ave, Tuscaloosa Al, 35401
- 3. Ed Love Water Treatment Plant-1125 Jack Warner Pkwy, Tuscaloosa Al, 35404

4. Municipal Court Building-2122 6th Street, Tuscaloosa Al, 35401
5. Tuscaloosa Regional Airport-7601 Robert Cardinal Airport Rd, Tuscaloosa Al, 35401

1.02 EQUIPMENT INSPECTIONS

- A. The vendor shall inspect all equipment that is opened for inspection. A written inspection report and pictures of the equipment shall be furnished to operations personnel. Any noted deficiencies shall be clearly outlined and corrective action recommended.
- B. Inspections shall be performed semi-annually defined as March and September.

1.03 SERVICE REPORTS

- A. Service visits shall be made a minimum of 1 time per month and all treated systems shall be tested.
- B. An electronic version shall be sent to the Facilities Maintenance division and addressed to the Facilities Maintenance Manager. Any deficiencies shall be noted and corrective action shall be recommended. An email report will be generated to the Facilities Manager if any parameters are out of limits. If two service visits occur without the corrective action being taken a letter of such shall be sent to the Facilities Manager noting the nonconformance.

1.04 CORROSION ANALYSIS

- A. Corrosion coupons shall be monitored in the cooling tower and chilled water loops. Closed loops shall be monitored for corrosion.

1.05 PROGRAM AUDIT

- A. Annually, the vendor shall perform an audit of the account. The person auditing the account shall have water treatment experience and have performed audits previously. Documentation of this experience should be provided to the OWNER. The cost of this audit shall be the responsibility of the supplier. Please list the qualifications of proposed audit personnel.

1.06 SERVICE PERSONNEL EXPERIENCE

- A. All service personnel shall have water treatment experience or any combination of experience/training that qualifies them to perform the work as requested. The representative shall have experience in the prevention and control of Legionella. The representative shall also have experience in the implementation of cooling water programs. A backup person should be designated and have all of the above qualifications. Please attach resume of designated personnel.

1.07 COMPANY EXPERIENCE

- A. The company shall furnish a list of 5 references. The company’s primary business shall be water treatment.
- B. The company shall have the insurance specified on page 10 of the contract documents.

1.08 RESULTS GUARANTEE

- A. The company shall furnish a results guarantee. The program will perform as promised or the costs to restore the system to the proper operating conditions shall be borne by the vendor. Furthermore, the costs of the chemicals and service for the previous 6 months shall be refunded. This guarantee shall be provided in writing prior to the award of the water treatment contract.

1.09 ANALYTICAL BACKUP AND SUPPORT

- A. The company will have a laboratory capable of performing the following:
 - 1. Corrosion Coupon Analysis
 - 2. Water Analysis
 - 3. Deposit Analysis
- B. The company will have a laboratory capable of performing the following with turnaround time of less than 5 days at no additional cost:
 - 1. Microbiological Analysis
 - 2. Metallurgical Analysis
- C. The laboratory shall be certified by the State of Alabama.

1.10 RESPONSE TIME

- A. Vendor will include by attachment to the proposal a 24 hour, seven days per week, contact phone number and the cell phone and other contact numbers for each representative assigned to service the account.

1.11 PERFORMANCE GOALS

- A. The performance goals of the following should be met:
 - 1. Cooling Tower Systems
 - a. Corrosion rate: less than 2 mil per year mild steel less than 0.2 mil per year copper
 - b. Layup corrosion rates less than 2mpy
 - c. Efficiency: maintain condenser efficiency of 100% of starting

- d. Maintain full load KW/ton at design
 - e. Bacteriological: less than 100,000 organisms/ml on average
 - f. Maximum 500,000 organisms per ml
 - g. No anaerobic bacteria present
2. Closed Loops
- a. Corrosion rates Chilled loops: Less than 0.1 mpy copper
- B. If a non-conformance occurs, a letter of non-conformance shall be written to the Facilities Maintenance Manager detailing the reason for nonconformance and the proposed corrective action.

1.12 PRODUCT SPECIFICATIONS

- A. Oxidizing Biocide capable of controlling microorganisms including biofilm and algae.
- B. Non Oxidizing Biocide- This product shall be effective in controlling Bacteria, Algae & Fungi and compatible with Oxidizing biocides on an alternate basis.
- C. System Layup Treatment – A layup treatment shall be added at the end of the cooling season to protect the piping from corrosion over the winter months. This product shall be added to the condenser water prior to shutdown, circulated and then drained. The product shall be “environmentally friendly” organic corrosion inhibitor and shall not contain any petroleum distillates. The layup film will be maintained for the entire layup period and then easily be removed upon startup in the spring by oxidizing biocide. The product shall be capable of protecting vapor spaces of the piping and equipment as well through the use of volatile organic corrosion inhibitors. The product will be available in single dose polyalcohol bags.
- D. Effective treatment for all cooling towers and chillers shall be provided in the contract on an annual basis.
- E. Closed Loop Products
- F. Chilled Loops
- G. Scale and Corrosion Inhibitor – This product shall provide the optimum in corrosion protection and be environmentally friendly. The product shall not allow bacteria to grow and flourish.
- H. The product shall contain dispersants, scale inhibitors, and pH buffers. The product will be fed to the system through pot feeders. Effective treatment will be provided on the contract.

- I. Biocide – The Chilled Loop Biocide will be supplied
- J. The cost for any required chemicals if they are required to achieve the specifications and requirements shall be included as an itemized list. Please summarize the needed chemicals for each facility and include the proposed costs in the bid.

1.13 WORK SCHEDULE

- A. The CONTRACTOR shall furnish a work schedule to the OWNER (Facilities Maintenance Division) two weeks prior to commencing work.

1.14 CHEMICALS

- A. The chemicals listed in this Bid Proposal are for determining the most qualified bidder and in no way represent the quantities for this contract. If a chemical price is considered high by the OWNER, the OWNER reserves the right to use other forces for the line item for this Contract. This Contract is to enhance the OWNER's forces and does not give the CONTRACTOR exclusive right to perform the work listed above.

1.15 CONTRACTOR'S USE OF PREMISES

- A. CONTRACTOR shall coordinate use of premises under direction of OWNER.
- B. CONTRACTOR shall assume full responsibility for the protection and safekeeping of products under this Contract, stored on the site.
- C. CONTRACTOR shall move any stored products, under CONTRACTOR's control, which interfere with operations of the OWNER.

1.16 OWNER OCCUPANCY

- A. OWNER will occupy the premises during the entire period of construction for the conduct of its normal operations. Cooperate with OWNER's designated representative in all operations to minimize conflict, and to facilitate OWNER usage.

1.17 PERSONAL PROTECTION IN WORK ENVIRONMENT

- A. The CONTRACTOR shall be responsible for providing and wearing proper personal protection equipment.

END OF SECTION