Specifications for SWC #700
Electric, HVAC, & Plumbing Maintenance and Repair

A. <u>Scope of Contract</u>

The purpose of this Contract is to provide commercial and residential maintenance and repair services for electric, HVAC, and plumbing systems to assist in the day-to-day operation of facilities within the State of Tennessee and the Military bases located in Catoosa, Georgia and Fort Campbell, Kentucky. Other Governmental Bodies, members of the University of Tennessee or Tennessee board of regents systems, and the nonprofit entities identified in Tenn. Code Ann. § 33-2-1001 ("Authorized Users") may utilize the awarded Contract. Contractor agrees to extend this Contract to Authorized Users. Services rendered as a part of this Contract must fall in line with all specifications and guidelines in the Terms and Conditions and Specifications of this Contract.

This Contract is not limited to the buildings that are leased or owned by the State at the time of Contract award. The State of Tennessee reserves the right to add or remove buildings at any time. The Contractor is responsible for servicing any building within their awarded county or counties as requested by the State. The Agency shall maintain control of the equipment or system(s) covered by this Contract, with full authority determining if and when the Contractor shall be called to perform work. Authorized Agency Personnel will make all decisions as to whether the Agency maintenance department or the Contractor will perform a repair. Contractor shall use first-quality materials and best commercial practices when performing work.

Scope of work for the State of Tennessee's electrical, HVAC, and plumbing systems include work that is commonly performed by electrical, HVAC, and plumbing service providers, including, but not limited to the following job types:

A.1. <u>Electric</u>**:** Scheduled maintenance, repairs, additions, retrofits, upgrades, and replacements on the following systems:

All Lighting Systems	*Electrical Utility Lines*	*Light Fixtures*
Breakers	*Electrical Wiring*	*Metering*
Cables	*Fuses*	*Panels*
Commissioning	*High Mast Lighting*	*Poles*
Electrical Transformer	*Light Controls/Sensors*	*Underground Electrical*

The Contractor shall place the highest priority on energy conservation and shall coordinate all activities with the Authorized Agency Personnel and/or their designee for the most economical operation of building(s) equipment or systems.

A.2. HVAC**:** Scheduled maintenance, preventive maintenance, repairs, additions, retrofits, upgrades, replacements, testing, inspections, calibrations, vibration tests, and eddy current tests on the following systems:

Air Handlers
Boilers
Chillers
Condenser Units
Cooling Towers
Freezers
Geothermal Equipment
Heat Pumps
Hot Water Heaters
Ice Makers
Motors
Multi-Splits
Pumps
Refrigeration Units
VRF Units
Walk-in Coolers
Walk-in Freezers
Water Coolers
Water Source Heat Pumps

Repair services for HVAC systems shall include any peripheral equipment that is a component whose function is required for proper operation of the system(s) under contract which may include, electric wiring, insulation, controls, starters, gas piping and fan coils units.

More information on the HVAC Maintenance and Repair requirements can be found in Section F.

A.3. Plumbing**:** Scheduled maintenance, repair, additions, retrofits, upgrades, and replacements on the following systems:

Actuators
Grinder Pumps
Sewer Related
Underground Chilled and Hot Water
Mechanical Lines
Underground Domestic/Waste Water
Operating Systems
Underground Natural Gas Lines

Scope will also include all plumbing equipment and fixtures to include installation of septic tanks and backflow preventers in building(s) or grounds owned and/or leased by the State.

B. Definitions

Agency	Each State of Tennessee board, commission, committee, department, officer, or any other unit of State government except for those governmental entities identified in Tenn. Code Ann. § 12-3-102(a).
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers; the State of Tennessee follows the standards set by this organization.
Authorized Agency Personnel/Authorized Agency Representative	Any End User employee who is authorized to make decisions for their agency's facility; could be the Facility Administrator or a person designated by the Facility Administrator.
Contract Administrator	Contractor's main point of contact at Central Procurement Office
Contractor	The awarded vendor completing work on an individual job.
Contractor Service Personnel	A Contractor's employee designated to perform work at a Facility; e.g. service technician.

CPO	Central Procurement Office
End User	Using Agency, local government, or other entity of statewide contract.
EPA	Environmental Protection Agency; the State of Tennessee follows the standards set by this organization.
Estimate	The approximate total cost to complete the work requested.
Facility	The building, site, or location owned or leased by the State of Tennessee or Other Governmental Bodies where work is requested and will be completed. The listing of current State facilities is found in Attachment D "Building List".
Facility Administrator	Any End User employee who is in charge of making decisions for their Facility
Firm Quote	A fixed sell price offered by the Contractor. When a firm quote is given, it means that the Contractor offering the quoted price is committing to sell the services at that price.
Job Log	This document will be used to sign-in and sign-out of a Facility by the Contractor Service Personnel.
Normal State Operating Hours	Monday through Friday 8:00AM – 4:30 PM, excluding legal State holidays. A listing of State holidays can be found at http://tn.gov/main/article/state-holidays. Any work conducted outside of the normal State operating hours must have prior written approval from an authorized agency personnel.
OSHA	Occupational Safety and Health Administration; the State of Tennessee follows the standards set by this organization.
Other Governmental Bodies	Other Governmental Bodies, members of the University of Tennessee or Tennessee board of regents systems, and the nonprofit entities identified in Tenn. Code Ann. § 33-2-1001 ("Authorized Users") may utilize the awarded Contract.
Premium Time	Rates apply to services rendered Monday through Friday during the hours of 6:01PM - 6:59AM. Premium Time rates also apply twenty-four (24) hours on Saturday, Sunday, and all legal State holidays.
Preventive Maintenance	The servicing of equipment for the purpose of maintaining said equipment while still functional to prevent failure or defect.
Regular Time	Rates that apply to services rendered during the hours of 7:00AM – 6:00PM Monday through Friday, excluding legal State holidays
Specialized Equipment	Equipment not considered industry standard that is needed in order to fulfill services within the Contract Scope of work. Specialized Equipment may require a license or qualified operator.
Specialized Work	HVAC work that falls outside of the Contract Scope of work but is not listed as a Contract exclusion. Providers of Specialized Work are not considered Subcontractors.
State Building Commission (SBC)	Created by the Tennessee Legislature in 1955 (TCA 4-15-101) to oversee construction of all State public buildings.
Subcontractor	A vendor other than the Contractor that is fulfilling services within the Contract Scope of work on behalf of the

	Contractor.
Subcontractor Personnel	Individuals who provide services on behalf of the Subcontractor.
Technical Assistance	Any advice, assistance, and training provided by the Contractor to the End User.
TOSHA	Tennessee Occupational Safety and Health Administration; the State of Tennessee follows the standards set by this organization.
Vendor A	The Vendor with the lowest proposed cost that meets all required prerequisites and is awarded as the main vendor in a specified county.
Vendor B	The Vendor with the second lowest proposed cost that meets all required prerequisites and is awarded as the first emergency or back-up vendor in a specified county.
Vendor C	The Vendor with the third lowest proposed cost that meets all required prerequisites and is awarded as the second emergency or back-up vendor in a specified county.

C. **Exclusions.** The following shall be excluded from this contract, unless otherwise specified:

C.1. Jobs over $100,000

Jobs that are estimated to be over one hundred thousand dollars ($100,000) are excluded from being conducted under this contract without the prior approval of the State Building Commission ("SBC") per By-Laws, Policy, and Procedure of the State Building Commission of Tennessee Item 2. Agencies should maintain SBC approval documentation for a minimum of one year following the end of the contract period for audit purposes of all contract release orders that are valued at one-hundred thousand dollars ($100,000) or more. Agencies should contact the Contract Administrator to determine what the proper approval procedures.

C.2. Additional Contract Exclusions*

a. Handling of Asbestos
b. Fire Alarm Maintenance
c. Fire Sprinkler Maintenance
d. Recurring Sludge Removal from Septic Tank
e. Disposal of Waste from Grease Traps
f. Maintenance and Repair of Energy Management Systems
g. Maintenance and Repair of Fuel Monitoring Systems
h. Installation of Water Treatment Feeder Units
i. Monitoring System Services
j. Programming and Software Upgrades
k. Duct Cleaning Services
l. Water Treatment Services
m. Work requiring an "R" Stamp

*The services listed above shall be excluded from this Contract unless the Contractor is in agreement to perform the services using the Contractor's rates as set in the Contract

(no additional mark-ups shall be allowed, including no mark-ups for Specialized Equipment utilized in the performance of the excluded work).

D. Job Performance Requirements

D.1. Contract Usage

a. All services will be coordinated with Authorized Agency Personnel, and scheduled at such a time that is mutually agreed upon by the Contractor and the agency.

b. No work shall commence without prior written approval by Authorized Agency Personnel.

c. All services and repairs must be performed in accordance with the equipment manufacturer's recommended procedure or as detailed in the scope of work for each individual job. If available and requested, maintenance manuals shall be provided to the agency at no additional cost to the State.

d. Once provided with the authorization from the End User to complete the job, the Contractor Service Personnel is required to arrive on site at the Facility with all of the proper equipment, parts, and materials needed to complete the job. It is the Contractor's responsibility to ensure that this occurs; they should request an on-site visit prior to providing an Estimate or Firm Quote to know what materials are required, if needed. The Contractor will not be allowed to charge for time away from the site to obtain parts (see Section E.3).

D.2. Non-Emergency Jobs Under $5,000

a. Jobs under five thousand dollars ($5,000) shall be performed by Vendor A awarded to perform work in the Facility's county. This work must be conducted using the Contract labor rates and trip charges (see Section D.3 for detailed information on trip charges).

(1) Estimates must be provided *free of charge* to the End User. The Contractor may not charge for any time on-site or travel costs associated with putting together and providing an Estimate.
(2) The End User may accept a verbal field Estimate or may request a written Estimate be submitted.
(3) The Contractor shall utilize the State template (Attachment A "Pricing Template") to provide a written Estimate. If deemed acceptable by the Authorized Agency Personnel, the Contractor may provide a verbal Estimate over the phone or in-person.
(4) Estimates must be broken down according to the item #'s on the contract.
(5) When applicable, a parts and materials list will be included in an Estimate (parts and materials must be broken out per each item).
(6) The repair cost cannot exceed the amount Estimated without justification from the Contractor and prior written approval from Authorized Agency Personnel. Note: the invoice shall reflect actual time worked, as verified by the Job Log, on-site which may be less than that of the estimated amount of hours. Note: if the Contractor has to work over the estimated amount of hours to complete the job,

the Contractor will need to get prior written approval of the Authorized Agency Personnel or their designee.

(7) Estimates will be monitored by Authorized Agency Personnel for accuracy.
(8) The Contractor shall perform the services as described in the Estimate, upon request from the End User.
(9) Estimates shall be provided to the End User five (5) business days after the initial request is made by the Agency unless otherwise specified by the End User.
(10) Usage of Specialized Equipment must be contemplated in the Estimate for the job and cannot be added as an additional charge at a later date.

b. The Contractor shall be required to sign in and sign out using Attachment B "Job Log" in accordance with Section D.3.

c. In the event that Vendor A is unreachable after twenty-four (24) hours of initial contact, unable to perform the work due to time constraints, or the Contractor's inability to provide work on a specific job the End User should obtain a written justification from Vendor A then, and only then, move to Vendor B. The same process shall apply if Vendor B is unable to perform the work and move to Vendor C. If Vendor C is unable to perform the work, the End User should contact the Contract Administrator and solicit work from a non-Contract vendor using their Local Purchase Authority upon approval from the CPO.

d. Requests for Job Estimates: If Vendor A gives an estimate which seems unreasonably high, or if the Agency wants to obtain estimates from several Contractors, the End User reserves the right to contact Vendors B and C awarded their county and awarded Contractors in neighboring counties for estimates based on Contract prices bid and parts (if applicable) for the same job. The End User shall be required to award to the Contractor providing the lowest estimate and meeting specifications. Once the End User has accepted an estimate for a job and has authorized the work, the Contractor shall coordinate completion of the job with the Authorized Agency Personnel. In cases when the End User awards to another vendor besides Vendor A for the county, it shall document the circumstances on the request document. The Authorized Agency Personnel or its designee shall report the use of other Contractors to its End User.

D.3. <u>Non-Emergency Jobs $5,000 and Over</u>

a. Jobs five thousand dollars ($5,000) and over may be performed by Vendor A, B, or C – the End User shall seek and obtain Firm Quotes from all of the Vendors awarded a Contract in the county in which the Facility is located and award the job to the Contractor with the lowest Firm Quote.

(1) The Contractor shall utilize the State template (Attachment A "Pricing Template") to provide a written Firm Quote. Verbal Firm Quotes shall be deemed unacceptable.
(2) Firm Quotes must be provided *free of charge* to the End User. The Contractor may not charge for any time on-site or travel costs associated with putting together and providing a Firm Quote.
(3) The repair cost cannot exceed the amount quoted.
(4) Firm Quotes will be monitored by Authorized Agency Personnel for accuracy.

(5) The Contractor shall perform the services as described in the Firm Quote, upon request from the End User.
(6) Firm Quotes shall be provided to the End User five (5) business days after the initial request is made by the Agency unless otherwise specified by the End User.
(7) Usage of Specialized Equipment must be contemplated in the Firm Quote for the job and cannot be added as an additional charge at a later date.

b. It is up to the discretion of the End User to seek additional Firm Quotes from Contractors in neighboring counties or non-Contract vendors. Should the End User seek additional Firm Quotes, the following process must be followed:

(1) Firm Quotes must be sought by Contractors awarded in the Facility's county in addition to Contractors in neighboring counties or non-Contract vendors.
(2) In the event a non-Contract vendor provides the lowest Firm Quote, it is the responsibility of the End User to obtain approval from the Contract Administrator to use a non-Contract vendor.

c. The Contractor shall be required to sign in and sign out of the Job Log; the Contractor shall be required to coordinate with the End User to schedule the work.

d. The Contractor shall not be allowed to invoice the Agency an amount any higher than what was provided on the initial Firm Quote (unless a scope change occurs, see Section D.5). The Agency must pay the full amount of the invoice as it appeared on the Firm Quote.

D.4. <u>Emergency Jobs</u>

a. Vendor A shall be contacted first and asked to respond to a critical situation. The critical situation is defined as an "emergency" by the End User. The cost of repair is unknown and the job must be resolved immediately.

b. In the event that Vendor A is unavailable to perform the work, is unreachable after thirty (30) minutes of initial contact, unable to be on-site within two (2) hours, or fails to respond telephonically within thirty (30) minutes, as it is required that the vendor be on-site within two (2) hours, the End User can proceed to Vendor B, requesting a two (2) hour response time.

c. If Vendor B is unavailable to perform the work, is unreachable, or fails to respond telephonically within thirty (30) minutes, as it is required that the vendor be on-site within two (2) hours, the End User can proceed to Vendor C.

d. If Vendor C is unavailable to perform the work, is unreachable, or fails to respond telephonically within thirty (30) minutes, as it is required that the vendor be on-site within two (2) hours, the End User shall be allowed to contact awarded contract vendors in neighboring counties.

e. In the event that no Contractors are able to perform the work, are unreachable, or fail to respond telephonically within thirty (30) minutes, as it is required that the vendor be on-site within two (2) hours, the End User shall be allowed to contact any non-Contract vendor within their county or neighboring counties.

f. In the event an End User has an emergency situation and is given a Job cost that equals or exceeds five thousand dollars ($5,000), they are not required to follow the Firm Quote guidelines set in Section D.3. It is up to the discretion of the End User to seek Firm Quotes if it is in their best interest.

D.5. Job Scope Changes

a. The End User shall notify the awarded Contractor immediately if there is a job scope change, schedule change, or any other change that impacts the job.

b. Job scope changes do not require the End User to obtain a new Estimate or Firm Quote. The Contractor must provide a supplemental Estimate or supplemental Firm Quote if there is a change in cost due to the job scope change.

c. The End User has the sole discretion to send the changes to all the other Contractors qualified in the county and allow them to provide a new Estimate or Firm Quote. This can be done either once a change is discovered or after the awarded Contractor submits the new Estimate or Firm Quote to reflect the change in job scope.

d. Any schedule changes shall only be allowed with the mutual agreement of both parties. In the event the awarded Contractor is unable to meet the requested schedule changes, the End User will seek:

(1) Estimate or Firm Quote from Vendor B (or Vendor C if Vendor B is unable to meet schedule);
(2) the Contractor who provided the second lowest Estimate or Firm Quote, if applicable.

The End User may also elect to reschedule the job so the originally awarded Contractor can complete the job.

e. In the event the initially awarded Contractor has already performed some services, and a change to the date or job scope prevents said Contractor from being able to complete the job, the State will pay the initially awarded Contractor for costs incurred. The Contractor must provide detailed written documentation of the services provided, costs incurred, and reason for inability to complete job.

f. In the event a job scope change puts the cost of the project over one hundred thousand dollars ($100,000), the End User shall immediately contact the Contract Administrator per Terms & Conditions Section B.3.n.

D.6. Additional Job Requirements:

a. All Contractors contacted to provide an Estimate or Firm Quote should visit the Facility or Facilities to take exact measurements and examine the premises to become familiar with any problems or unusual circumstances which might exist. No allowances will be made by the State for errors in Estimates or Firm Quotes due to

any Contractor not visiting the sites prior to submitting their Estimate or Firm Quote. Contractors shall be responsible for their own measurements.

b. If required by the End User, the awarded Contractor shall schedule and attend a pre-construction conference where a pre-construction form will be signed by the Contractor Service Personnel and the Authorized Agency Personnel before work can begin. The Contractor shall not charge the State for attending the pre-construction conference.

c. The Contractor must also schedule and attend a final inspection where a final inspection form will be signed by the Contractor Service Personnel and the Authorized Agency Personnel before the invoice will be paid. The Contractor shall not charge the State for attending the final inspection.

E. General Requirements

E.1. Hourly Charge Schedule

a. Regular Time Rates – Regular Time rates apply to services rendered during the hours of 7:00AM – 6:00PM Monday through Friday, excluding legal State holidays. If a Contractor anticipates that a Job will take more than eight (8) consecutive hours in one day, they may charge Premium Time rates with the prior written approval from the End User; this must be identified on the Estimate.

b. Premium Time Rates – Premium Time rates apply to services rendered Monday through Friday during the hours of 6:01PM - 6:59AM. Premium Time rates also apply twenty-four (24) hours on Saturday, Sunday, and all legal State holidays as designated by the State of Tennessee, Department of Human Resources. Authorized Agency Personnel must approve premium time rate in writing prior to work being performed.

c. The State will make every effort to have work scheduled during Normal State Operating Hours; however, it may be necessary to change the work schedule to a time other than Normal State Operating Hours to accommodate conditions at the facility. If such a situation arises, all services will be coordinated with authorized agency personnel, and scheduled at such a time that is mutually agreed upon by the Contractor and the agency.

E.2. Worker Categories

a. Technician: an employee trained and with a minimum three (3) years of experience in performing installation, modification, inspection, troubleshooting, repair and maintenance within their respective disciplines; completed formal education courses recognized and approved by the State of Tennessee, factory trained in manufacturer's equipment

b. Helper: an employee trained to assist in the performance of installation, modification, inspection, troubleshooting, repair and maintenance within their respective disciplines; completed formal education courses recognized and approved by the State of Tennessee, factory trained in manufacturer's equipment.

E.3. Time Verification

The Contractor Service Personnel shall be required to sign in and sign out on the Job Log (see Attachment B "Job Log") the actual time worked with an Authorized Agency Representative, for all on-site services provided. All Facilities shall be required to utilize the Job Log for the signing in and out of Contractor Service Personnel. The Job Log (Attachment B "Job Log") must be utilized regardless of the dollar amount or emergency status of the total job. However, the Job Log will only be used as a tool to verify time worked on jobs under five thousand dollars ($5,000); jobs over five thousand dollars ($5,000) will be provided using the Firm Quote and labor hours will not be broken out or reported in this format.

a. A Contractor Job Log will be provided at a location designated by the agency. The Contractor Service Personnel signing in shall provide their employer (Contractor), their name, a detailed explanation for the visit, and the times in and out as defined in Attachment B "Job Log".

b. Said Job Log will be used to verify labor time charged for all jobs under five thousand dollars ($5,000). The Contractor Service Personnel shall sign in and sign out with Authorized Agency Representative when arriving and leaving the agency facilities and grounds.

c. The Contractor Service Personnel must sign in and sign out on the Job Log in the following situations (at a minimum):

   (1) for a lunch period if and when taken during a workday;
   (2) when going to obtain parts;
   (3) when going to another building or leaving facility; or
   (4) leaving the facility for any reason.

d. The End User will pay the established hourly rate for actual time worked on-site only for all jobs under five thousand dollars ($5,000). Labor rates begin upon sign in and end upon sign out at the Facility.

e. Time verification is required for hourly rate payment for all jobs under five thousand dollars ($5,000).

f. The End User will pay for only one technician to perform the service requested; unless otherwise agreed upon by the End User prior to start of the job, the Contractor may determine that they need a helper or more than one technician to complete the job. Jobs requiring one or more helper(s) or more than one technician must have prior written approval from Authorized Agency Representative.

g. Once work has commenced on a job it shall continue uninterrupted during Normal Business Operating Hours until the job is completed satisfactorily, unless otherwise agreed upon by Authorized Agency Representative.

h. Time off-site cannot be charged to the State without prior written approval from the Authorized Agency Personnel (e.g. preparation of materials for use on the job

anywhere off-site). If off-site work is required, the Contractor must identify it on the Estimate provided for all jobs under five thousand dollars ($5,000). Off-site work must be charged at the same hourly rate as set in the Contract.

E.4. Trip Charges

a. Trip charges are limited to a single charge per round trip or per invoice.

b. Jobs that take one (1) hour or less shall not be charged a trip charge. This will be verified using the Job Log per Section E.3.

c. Trip charges shall *not be applied* to jobs completed in Davidson County.

d. Trip charges shall *not* be applied when providing Estimates or Firm Quotes.

e. Trip charges apply to the county in which the work is being completed regardless of where the Contractor Service Personnel originates.

f. Trip charges shall not apply to return trips due to incomplete work. See Section E.10 for instruction on Warranty/Incomplete work.

g. Trip charges shall not apply to Contractor Service Personnel leaving the Facility during job to obtain parts not identified as required prior to the start of the job.

h. Any job requiring more than two (2) working days may be subject to additional trip charges. The Contractor must request approval for an additional trip charge from the End User prior to the start of the work, who will decide whether or not an additional trip charge is applicable. Without written approval from the End User, the Contractor may not charge for more than one (1) trip charge.

i. Trip charges are not applicable to technical assistance, but apply only to technician regular and/or premium time and helper regular and/or premium time.

E.5. Work Reports

a. A written work report must be completed and left with Authorized Agency Personnel at the time service is completed. The work report must be itemized and contain the following information:

(1) description of work performed;
(2) labor time (time-in/time-out);
(3) list of parts used, when applicable ;
(4) all findings, which concern the state, or operation, of the equipment or system under contract; and
(5) any recommendation for repair or additional service.

b. Prior to use at a Facility or on Agency property, the Contractor shall provide a Material Safety Data Sheet (“MSDS”) for substances or materials for which a MSDS is required.

E.6. Service Level Agreement

a. Contractor Response Time:

(1) Once the End User places the request (or sends the purchase order) to the Contractor for work, the Contractor has two (2) hours to return the call or email (excludes emergency jobs, see Section D.4.b).
(2) Non-Emergency Jobs: The Contractor shall have a maximum twenty-four (24) hour response time during Normal State Operating Hours. Response time begins when the Contractor receives authorization from the End User via phone or email to perform service and ends when the Contractor arrives on-site. It is up to the discretion of the End User to schedule a time outside of this response time.
(3) Emergency Jobs: The Contractor shall have a two (2) hour response time during Normal State Operating Hours. Response time begins when the Contractor receives authorization from the End User via phone or email to perform service and ends when the Contractor arrives on-site. It is up to the discretion of the End User to schedule a time outside of this response time.
(4) On-site service response time shall be defined as a Contractor Service Personnel who can perform the service requested, arriving on-site at the Facility, within the time frame specified.
(5) Estimates shall be provided to the End User five (5) business days after the initial request is made by the Agency unless otherwise specified by the End User.
(6) Firm Quotes shall be provided to the End User five (5) business days after the initial request is made by the Agency unless otherwise specified by the End User.
(7) Invoices shall be provided to the End User within thirty (30) calendar days after job completion.

b. Contractor Service Personnel:

(1) The Contractor must use trained personnel who are trained to work on the equipment or system(s) as described or as listed to perform the services as requested. The trained personnel can be Contractor Service Personnel or Subcontractor Personnel.
(2) The End User retains the right to request Contractor Service Personnel who have current certifications to work on specific equipment.
(3) At the End User's request, the Contractor may be required to furnish evidence of training or certification.
(4) Contractor Service Personnel shall provide uninterrupted service during Normal State Operating Hours.
(5) Contractor Service Personnel shall evaluate jobs and submit Estimates of cost.
(6) The Contractor must have personnel to receive and act on service calls twenty-four (24) hours a day, seven (7) days a week and on holidays. An automated answering system will not be acceptable as a contact. Service calls may include:

i. Dispatching service technicians
ii. Providing technical assistance via telephone or email

(7) Should the End User be dissatisfied with Contractor Service Personnel dispatched to their location, the Contractor will replace the Contractor Service

Personnel, or any assigned technician at the request of the End User, provided it does not violate applicable laws or regulations, at no additional cost to the Agency.

c. Contractor Licenses and Work Requirements:

(1) The Contractor shall meet or exceed the standards set in ASHRAE 90.1-2007 (or the current adopted State standard per the Tennessee Sustainable Maintenance Guidelines).
(2) The Contractor shall hold all current licenses or permits necessary to perform the tasks within their awarded discipline per Tenn. Code Ann. § 62-6-101 et seq. At the End User's request, the Contractor may be required to furnish copies of licenses and/or permits.
(3) A list of applicable and required licenses can be found on Attachment C "Required Licenses & Certifications." This is not an all inclusive list. If any work requested and within the scope of this Contract requires licenses or certification not listed on Attachment C "Required Licenses & Certifications" the Contractor is required to hold the license or certification to do the work.
(4) The Contractor shall comply with all industry standards and guidelines to ensure compliance with all federal, state and local guidelines including but not limited to OSHA/TOSHA/EPA regulations.
(5) The Contractor shall comply with all codes, standards, and regulations in executing projects. This includes, but is not limited to:

i. determining if there are above or underground electrical cables or lines,
ii. underground water, sewer or gas lines, and
iii. obtaining the required permits to complete the job requirements.
iv. Contractor shall work with the End User to determine any above or underground obstacles prior to starting the job.

(6) It is the responsibility of the Contractor to disclose any repair issues within the Facility beyond their scope of work to the End User with the submittal of the Estimate or Firm Quote.

d. Contractor Equipment:

(1) The Contractor must have access to, and bring all equipment, materials, supplies, and tools, necessary to perform the responsibilities of the Contract for the specified job.
(2) The Contractor must have a supply of stock replacement parts available for immediate use.
(3) The Contractor must have access to non-stock replacement parts.
(4) The Contractor shall have for their private use, all tools, equipment, materials and supplies considered industry standard for maintenance and repair services in the trade(s) that they have been awarded on this Contract.

E.7. <u>Subcontracting</u>

a. Contractor shall not use a Subcontractor without prior written approval by the Central Procurement Office.

b. Subcontractor Personnel are required to sign in and sign out of the Job Log and shall comply with Sections E.6.b. – E.6.d.

c. The Contractor cannot charge any higher labor rates to the Agency than the Contract price even though the Subcontractor may be charging a higher price to the Contractor. No additional mark-ups can be charged; Terms & Conditions Section B.4.e "Proof of Cost for Parts, Materials, Supplies, and Equipment" does not apply to the use of Subcontractors.

d. The Contractor is responsible for paying any Subcontractors.

e. If the Contractor does not obtain CPO approval before using a Subcontractor, the Contractor may not be paid for work performed by the Subcontractor.

E.8. Specialized Equipment

a. No Specialized Equipment shall be used without the End User's prior written approval. The use of Specialized Equipment must be identified in the Estimate or Firm Quote.

b. If the approved Specialized Equipment is rented, a copy of the rental invoice must be attached to the Contractor's invoice when submitted for payment. The End User reserves the right to obtain prices for the same type of rental equipment for comparison to prices provided by the Contractor, and if the price estimated or quoted appears to be too high, the End User may obtain Estimates or Firm Quotes for the job in accordance with the Contract specifications.

c. For Contractor-owned Specialized Equipment, the Contractor may charge the current rate that is charged by rental companies for the same type of equipment, provided that this rate is not higher than the Contractor's current rate for usage of the equipment. To substantiate the Contractor's requested rate, Contractor shall provide rental rate documentation from a minimum of two (2) rental companies.

d. The Contractor will be allowed a mark-up as specified in the Terms & Conditions Section B.4.e "Proof of Cost for Parts, Materials, Supplies, and Equipment." In the event that the Specialized Equipment, whether rented or owned, requires an operator other than Contractor Service Personnel or Subcontractor Personnel, the Contractor shall be allowed to include the cost for the operator on the parts line. Any operator other than Contractor Service Personnel or Subcontractor Personnel shall comply with Sections E.6.b. and E.6.c. The cost for the operator shall be based on the same requirements as listed above in E.8.b and E.8.c for the equipment.

e. The Contractor warrants that no equipment shall be rented from a business or company in which the Contractor or Contractor's employees have direct or indirect financial interest and will be compensated directly or indirectly for equipment being rented to perform work specified in the Contract. Any exception taken by the Contractor for obtaining rental equipment will be considered a violation of the Contract, and may result in Contract cancellation.

f. Non-Emergency Jobs Over five thousand dollars ($5,000): Usage of Specialized Equipment must be contemplated in the Firm Quote for the job and cannot be added as an additional charge at a later date.

E.9. Parts Requirements

a. The Contractor will be allowed a mark-up as specified in the Terms & Conditions Section B.4.e "Proof of Cost for Parts, Materials, Supplies, and Equipment."

b. All parts, materials, supplies and equipment used in the performance of the Contract work must be new.

c. Manufacturer parts, manufacturer-approved parts, or equal, as per the agency equipment, will be used to maintain the integrity of the equipment or system(s) under the Contract.

d. All parts, materials, supplies, and equipment utilized and chargeable to the End User, will be invoiced as per the Terms & Conditions Section B.4.e "Proof of Cost for Parts, Materials, Supplies, and Equipment."

e. All new equipment shall be Energy Star certified, WaterSense certified, and/or meet or exceed low flow standards as per the Tennessee Sustainable Maintenance Guidelines where applicable.

E.10. Warranty/Incomplete Work Coverage

a. Services requiring the Contractor to return to the Facility due to equipment or system(s) failure with reference to services previously provided by the Contractor will be at no charge to the End User.

b. Requests by the End User due to equipment or system(s) failure must be made within five (5) business days after completion of the job.

c. The Contractor shall absorb all cost incurred for replacement, repair, or corrections made to End User equipment or system(s) due to the following:

(1) faulty equipment or parts installed by the Contractor; and/or

(2) equipment or system(s) failure due to the Contractor's poor workmanship.

d. The End User shall be given manufacturer warranty agreements for equipment, parts and materials used by the Contractor on the equipment or system(s) under Contract, when ownership is assumed.

e. Equipment, parts, or materials that are under warranty of the manufacturer, and are owned by the State, said warranty will be honored.

f. Technical Assistance

(1) There may be instances whereby the Contractor will require manufacturer's Technical Assistance. The Contractor may invoice at the hourly rate bid for the technician or helper, regular time, if the assistance was conducted at the Facility.
(2) Charges incurred as a result of Technical Assistance while not at the Facility shall be borne by the Contractor.
(3) Telephone technical assistance - telephone response: no more than eight (8) hours from notification to the Contractor during Normal State Operating Hours.

g. The Contractor shall warranty workmanship for one (1) year and the manufacturer's warranty against defects for the duration of the manufacturer's standard warranty period.

h. Default on the Contract and/or expiration of the Contract will not relieve the vendor from warranty requirements.

i. For incomplete work, the Contractor shall be required to return to the Facility to complete the job within the Non-Emergency Job response times listed in Section E.6. If the Contractor fails to meet these required timeframes, the Authorized Agency Personnel is authorized to contact other awarded Contractors in accordance with the aforementioned Section. At the request of the Authorized Agency Personnel, the Contractor shall be required to provide documentation of estimated time of arrival for parts and equipment and shall be required to provide back-up equipment within the time as specified by the Authorized Agency Personnel to ensure that the Facility is kept operational.

E.11. Security Requirements

a. All Contractor Service Personnel, including subcontractors, must be uniformed or have visible identification, while on State property, at all times. Contractor Service Personnel shall be required to provide photographic identification for inspection upon entering all State facilities.

b. Contractor Service Personnel shall provide proper Government issued identification to enter any Facility, may be subject to search, and are restricted to the work area site.

b. Contractor Service Personnel may be subject to background checks by the Tennessee Bureau of Investigation (TBI). Upon request by the End User for background check(s), the Contractor shall absorb all costs to obtain the requested TBI background check(s).

c. Visits to all State Facilities require proper check in and check out; on no occasion will service be provided without proper contact with the Authorized Agency Personnel in charge of the Facility. Security provisions for all State Facilities must be strictly observed and the Contractor shall coordinate access to the State Facility with the Authorized Agency Personnel or their designee.

d. The State reserves the right to inspect and search all Contractor Service Personnel and/or vehicles at anytime while on the facility grounds.

e. The Contractor and Contractor Service Personnel shall strictly abide by all State policies and procedures at all times. Deviations from these policies by the Contractor, Contractor Service Personnel or Subcontractor Personnel will not be tolerated and will be considered grounds for Contract cancellation.

f. All State Facilities are non-smoking; the Contractor, Contractor Service Personnel and Subcontractor Personnel shall adhere to this requirement.

g. If the Authorized Agency Personnel deems it necessary, the Contractor Service Personnel and/or Subcontractor Personnel may be required to leave the premises.

E.12. Parts Requirements

When applicable, parts, materials, supplies, and equipment invoice(s) must accompany the invoice for payment.

A copy of the original invoice(s) incurred with the procurement of chargeable parts, materials, and supplies shall be required as documentation to substantiate cost.

a. Parts from Contract Stock

(1) When chargeable parts, materials, supplies and equipment are utilized from the Contractor's stock, a copy of the original purchase invoice shall be required as documentation to substantiate cost.
(2) If no invoice is available, the End User may elect to verify current market value, and if necessary, amend the invoice to reflect fair market prices.

b. Environmental Responsibility

(1) The Contractor should make every effort to dispose of old equipment in an environmentally responsible way and as required by Local, State, and Federal laws and regulations. The removal of the old equipment will be the responsibility of the Contractor installing the new equipment. Following installation of the new equipment, the old equipment will be removed and all scrap metal components will be recycled using an entity selected by the Contractor. Upon request from the Authorized Agency Personnel, the Contractor may be required to submit written proof of recycle or destruction. Documentation for the disposition of the equipment shall be retained by the installer including serial or model numbers, recycling vendor, and date(s), should the State require proof of proper disposal.
(2) The Contractor and the End User must make every effort to follow the State's current sustainability standards per the Tennessee Sustainable Maintenance Guidelines.

c. End User Purchased Parts

If agreed upon by the Contractor and End User, the End User may provide parts for use by the Contractor. The Contractor shall honor their warranty on labor per Section E.10.

F. HVAC Requirements

Contractors that are awarded Contracts that contain HVAC services are required to be in compliance with the following standards for HVAC maintenance and repair. Contractors not awarded Contracts that contain HVAC services may disregard this section.

F.1. Specialized Work

a. Other HVAC work not listed as standard requirements in the specifications, not listed as an exclusion to this Contract and as requested by the Authorized Agency Personnel or their designee.

b. The Contractor shall be allowed to obtain services from non-Contract vendors ("Outside Firms") and mark-up as specified in Section E.9. The Outside Firms will not be considered Subcontractors; however, Outside Firms must have the required permits, contractor's license, etc identified in Attachment C "Required Licenses & Certifications" and must provide proof of having the required credentials to the Authorized Agency Personnel upon request.

c. If a Contractor is unable to perform a requested service and will need to go to an Outside Firm, before an End User will approve them to complete this work, the End User must check with the B and C Vendors. If the B or C Vendor can do the job without using an Outside Firm and the cost will be less by using their Contract rates, the End User is required to use that B or C Vendor.

d. The Contractor shall obtain approval from the CPO prior to using an Outside Firm. If the Outside Firm will be performing work on State property, they shall be required to provide proof of insurance.

F.2. Refrigerant Conservation Services. The Contractor will ensure compliance with all Federal, State and Local regulations concerning HVAC refrigerant, and have recovery equipment certified by the EPA per Attachment C "Required Licenses & Certifications." The Contractor shall not be allowed to charge for the recovery of refrigerant bottles, tanks and related equipment unless authorized by the Authorized Agency Personnel.

F.3. Boiler Maintenance & Repair Special Requirements. Any maintenance and repair work which is required to be done to the boilers must be in compliance with the Tennessee Department of Labor and Workforce Development Division of Boiler and Elevator Inspection Board of Boiler Rules as published by the Tennessee Department of Labor and Workforce Development and TCA 68-122. Any work requiring an R-Stamp is not allowed to be completed under this Contract.

F.4. Preventive Maintenance Requirements and Suggested Maintenance Schedule. The End User may schedule Preventive Maintenance with the lowest Firm Quote provided (per instructions for obtaining a firm quote in Section D.3). The following is a list of maintenance requirements to be fulfilled upon request and a list of equipment with suggested preventive and annual maintenance schedules. At the discretion of the Authorized Agency Personnel, the maintenance schedules outlined can be used for any HVAC equipment.

After the preventive maintenance inspection has been completed, the Contractor must provide a checklist that demonstrates that all required checks were conducted per the Authorized Agency Personnel's instruction. The checklist must include detailed information for each area inspected. The Contractor must identify equipment and/or parts requiring additional maintenance and the estimated cost to have the work completed. Providing this information to the Authorized Agency Personnel does not guarantee work to that Contractor; the End User will be required to follow guidelines on obtaining quotes as identified in Section D.3.

a. Cooling Towers – Annual and quarterly inspection or preventive maintenance as per the manufacturer's recommended maintenance instructions as described in the applicable manufacturer's cooling towers manual that apply to the system and its mode of operation will be performed by the Contractor, if requested. If the system has significant water loss, planned or unplanned, the cost of the chemicals required to bring the water back to normal water chemical levels will be billed as parts or materials reimbursement as per Section E.9.

   (1) Maintenance Specifications, Annual:

      i. Inspect the general condition of the towers.
      ii. Clean all debris from the inside of the tower and the air inlet louvers.
      iii. Remove the chamber strainer, clean and reinstall.
      iv. Turn the fan by hand to ensure rotation without obstruction.
      v. Check the fan motor for proper fan rotation.
      vi. Adjust the belt tension on the power train fan drive system.
      vii. Check float operated make-up valve to be sure it is operating freely.
      viii. Lubricate the fan shaft bearings and replace if required. The Authorized Agency Personnel may request that a vibration test be performed.
      ix. Fill cold water sump with fresh water to the overflow level.

         1. At restart-up where the sump was completely drained; the initial biocide treatment should be applied.
         2. Following a shutdown where the sump was not completely drained: an initial shock treatment of appropriate biocides should be administered.

      x. Set the float on the make-up valve to shut off the valve when the float is approximately 1/2" below the overflow level.
      xi. Prime and start the water circulating pump(s) and adjust system flow rate to design.
      xii. Open the valve in the tower bleed line and adjust bleed to the recommended rate.
      xiii. Check the voltage and current of all three legs of the fan motor. The current should not exceed the nameplate rating. If a prolonged shutdown occurs, the motor insulation should be checked with a "megger" insulation tester prior to restarting the motor. Caution: rapid on-off cycling can cause the fan motor to overheat. It is recommended that controls be set to allow a maximum of 6 on-off cycles per hour.
      xiv. Inspect protective finish. Inspect the inside and outside of the towers for blemishes or corrosion on the galvanized steel. Affected areas should be thoroughly wire brushed and recoated with ZRC (zinc-rich compound).

(2) Maintenance Specifications, Quarterly:

i. Inspect general condition of towers.
ii. Inspect and clean as necessary:

1. Chamber strainer.
2. Cold water sump.
3. Air inlet louvers.

iii. Check and adjust water level in cold water sump
iv. Drain, clean, and flush with fresh water the entire cold water sump (with strainer in place) to remove silt and sediment
v. Check operation and adjust as necessary the make-up valve.
vi. Check bleed rate and adjust.
vii. Power train:

1. Check condition of belt.
2. Readjust tension on belt.

viii. Lubricate the fan shaft bearings and replace if required. The Authorized Agency Personnel may request that a vibration test be performed.
ix. Lubricate motor base adjusting screw.
x. Clean outside of fan motor.
xi. Inspect protective finish.

1. Inspect the inside and outside of the towers for blemishes or corrosion on the galvanized steel. Affected areas should be thoroughly wire brushed and recoated with ZRC (zinc-rich compound).
2. If system cleaning is necessary it shall be limited to 1 - 2 days duration.
3. Maximum temperature of the cleaning solution should not exceed any of the following:

(a) 5.0% sodium hydroxide.
(b) 5.0% sodium meta silicate.
(c) 2.0% sodium carbonate.
(d) 2.0% tetra sodium pyrophosphate.
(e) 0.5% trisodium phosphate.
(f) 0.5% sodium nitrate.
(g) 5-10% butyl cellosolve.

xii. Inspection of the following:

(a) controls systems
(b) calibration of thermostats
(c) checking for air leaks of pneumatics

b. Air Handlers – Annual and quarterly inspection or preventive maintenance.

(1) Maintenance Specifications, Annual:

i. Inspect belts, bearings, pulleys, and tension belts.
ii. Grease the bearing.
iii. Inspect the coils for dirt and inform agency if cleaning is necessary.
iv. Clean drain pan and inspect for leaks.
v. Use pan treatment tablets (or equivalent).
vi. Change filters at the request of the Authorized Agency Personnel.
vii. Check seals and dampers on all doors.
viii. Treat coils with a biocide when necessary.
ix. Check for smooth operation of dampers, damper motors, and linkages and lubricate where applicable.
x. Check amps, volts, and wear of contacts on motors and motor starters (or frequency drives).
xi. Tighten all electrical connections.
xii. Check motor mounting and isolation pads.
xiii. Check operation of chilled water and hot water valves.

(2) Maintenance Specifications, Quarterly:

i. Inspect belts, bearing, pulleys, and tension belts.
ii. Inspect coils for dirt and inform agency if cleaning is necessary.
iii. Change filters at the request of the Authorized Agency Personnel.
iv. Inspect drain pan and install pan treatment tabs (or equivalent).
v. Check amps, volts, and wear of contacts on motors and starters (or frequency drives).
vi. Tighten all electrical connections.
vii. Check operation of dampers and damper motors.
viii. Check operation of chilled water and hot water valves.

c. Boilers and Hot Water Heaters – Annual and quarterly inspection or preventive maintenance.

(1) Maintenance Specifications, Annual:

i. Visually inspect and test the following:

1. Air switch
2. Operating control
3. Gas pressure switch
4. Low fire start switch
5. High limit switch
6. Oil pressure switch

ii. Check operation of the following:

1. Modulation motor
2. All linkages
3. Combustion blower

iii. Start burner and check:

1. Pilot operation
2. Main flame ignition

iv. Inspect for leaks:

1. All access doors
2. All fuel piping (gas and oil)
3. All boiler tubes

v. Check operation: (where applicable)

1. Condensate tank
2. Condensate pumps and controls
3. Hot water pumps and controls
4. Steam converter
5. D. A. Tank
6. Boiler sight glass
7. Expansion tank

vi. Perform safety check:

1. Shut pilot gas off and check for flame failure
2. Shut main fuel off and check for flame failure and electric valve closure
3. l. W. C. O.

vii. Perform combustion analysis on primary fuel:

1. Record analysis
2. Complete a written report for the agency

(1) Maintenance Specifications, Quarterly:

i. Perform combustion analysis
ii. Check operation of boiler and related safety controls
iii. Check operation of related elements of boiler steam system or hot water system such as the expansion tanks and the D.A. Tanks

c. Chiller (Centrifugal) – Annual and quarterly inspection or preventive

(1) Maintenance Specifications, Annual:

i. Pressurize the unit and conduct a leak check.
ii. Check oil level.

1. Add oil as necessary.

iii. Check refrigerant level.

1. Report need of refrigerant to authorized agency personnel.

2. Add refrigerant when authorized.
3. Refrigerant shall be charged as parts or materials reimbursement as per the parts term and condition.

iv. Check oil sump and purge oil heater and temperature.
v. Check and test all operating and safety controls.
vi. Check the starter operation.
vii. Start chilled water pump.
viii. Start condenser water pump and cooling tower.
ix. Start chiller and calibrate controls.
x. Check purge unit operation.
xi. Log operating conditions after system and unit have stabilized.
xii. Check auxillary equipment operation.
xiii. Review operating procedures and agency's log with operator.
xiv. Check compressor-motor assembly for the following items and performing PM tasks as indicated:

1. Record voltages
2. Meg and record motor winding resistance
3. Lubricate open motor
4. Check alignment on open drive units
5. Check the coupling for wear
6. Check shaft seal assembly
7. Check inlet vane operator and linkage, lubricate where required

xv. Check the compressor oil system for the following items:

1. Change oil, oil filter and dryer
2. Conduct analysis on oil and oil filter at an independent laboratory and provide a written report
3. Check oil pump, seal and motor
4. Clean the dirt leg
5. Check oil heater and thermostat for proper operation
6. Check all other oil system components including cooler, strainer and solenoid valve where applicable

xvi. Check motor starter and perform the following tasks:

1. Run diagnostic check
2. Check starter cooling system
3. Meg motor windings
4. Check all terminals and tighten connections
5. Check overloads trip set points and adjust if required
6. Dry run starter and check status lights

xvii. Review the control panel for the following items:

1. Run diagnostic check of micro control panel
2. Check safety shutdown operation
3. Check all terminals and tighten connections

4. Check display data accuracy and set points

xviii. Review purge unit of the following items:

1. Check operation of the unit
2. Change oil
3. Replace filter dryer
4. Clean orifice in the liquid feedline to coil
5. Clean solenoid valves
6. Clean purge drum, check and clean float valve; replacing gaskets
7. Check heater operation
8. Check all other components for proper condition and operation; record pressure control set point

xix. Check the condenser for the following items:

1. Check the water flow
2. Check flow switch operation
3. Remove condenser heads and inspect end sheets
4. Mechanically brush clean condenser water tubes

xx. Check the cooler for the following items:

1. Check the water flow
2. Check flow switch operation
3. Check refrigerant level

    (a) Report need of refrigerant to authorized agency personnel.
    (b) Add refrigerant when authorized.
    (c) Refrigerant shall be charged as parts or materials reimbursement as per the parts term and condition.

xxi. Check the system for the following:

1. Conduct a leak check and identify leak sources for repair

    (a) Report leak check findings to agency personnel.
    (b) Agency personnel must authorize leak repair.
    (c) Leak repair shall be charged at the hourly rate.
    (d) Leak repair refrigerant shall be charged as parts or materials reimbursement as per the parts term and condition.

2. Record condition of sight glasses and replace if required.
3. Check the refrigerant cycle to verify the proper operation balance
4. Check condenser water and chilled water heat transfer

xxii. General inspection included:

1. Repair insulation removed for inspection and maintenance procedures
2. Clean equipment and surrounding area upon completion of work

3. Consult with the operator at completion of service
4. Provide a written report of deficiencies and repairs that may be required.

(2) Maintenance Specifications, Quarterly:

General Operation:

i. Inspect general condition of towers.
ii. Inspect and clean as necessary:

    1. Chamber strainer
    2. Cold water sump
    3. Air inlet louvers

iii. Check and adjust water level in cold water sump.
iv. Drain, clean, and flush with fresh water the entire cold water sump (with strainer in place) to remove silt and sediment.
v. Check operation and adjust as necessary the make-up valve.
vi. Check bleed rate and adjust.
vii. Power train:

    1. Check condition of belt
    2. Readjust tension on belt

viii. Lubricate the fan shaft bearings and replace if required. The facility administrator may request that a vibration test be performed.
ix. Lubricate motor base adjusting screw.
x. Clean outside of fan motor.
xi. Inspect protective finish.

    1. Inspect the inside and outside of the towers for blemishes or corrosion on the galvanized steel. Affected areas should be thoroughly wire brushed and recoated with ZRC (zinc-rich compound).
    2. System cleaning:

        (a) If system cleaning is necessary it shall be limited to 1 - 2 days duration.
        (b) Maximum temperature of the cleaning solution should not exceed any of the following:

            (i) 5.0% sodium hydroxide
            (ii) 5.0% sodium meta silicate
            (iii) 2.0% sodium carbonate
            (iv) 2.0% tetra sodium pyrophosphate
            (v) 0.5% trisodium phosphate
            (vi) 0.5% sodium nitrate
            (vii) 5-10% butyl cellosolve