

Louisiana State Exhibit Museum

Agency: Louisiana Department of State

Site Address: 3015 Greenwood Road, Shreveport, LA 71109 (Archives Building & Rotunda)

Point of Contact: Robert Adams- – 318-632-2020

.....
The intent of these specifications is to provide for a complete HVAC mechanical services contract.

Scope

Preventative maintenance and repair services shall be provided by the Service Company on all equipment and associated devices related to the HVAC systems as outlined within the specifications.

The Service Company shall furnish all personnel, parts, material, test equipment, tools, and service in conformance with the terms and conditions as outlined below.

It is the intention of these specifications to establish and define those services that are to be performed.

The Service Company shall not be relieved from assuming any and all responsibility for properly estimating the difficulties and cost of performing the services required within this specification, because of failure to investigate the conditions or become thoroughly acquainted with all the information concerning the services to be performed.

The owner assumes that the system(s) being quoted upon is in maintainable condition. The successful bidder shall inspect all of the equipment to ensure that it is in operable condition. If any piece of equipment is deemed inoperable or in need of repair, the successful bidder shall report all findings in writing to the maintenance superintendent within thirty (30) days.

Service Company Qualifications

The following requirements shall be considered as the minimum standards for the employees of the Service Company to be considered as qualified to provide services under this contract, and shall be a prerequisite to any award.

- Certified, qualified and trained service personnel shall perform services that are to be provided. **Subcontracting portions of systems or services requested in this specification shall not be allowed without prior consent from the maintenance superintendent.** The maintenance superintendent shall have the right to interview and approve all subcontractors before the work is started. Subcontractors approved shall continue their portion of maintenance work as long as the work remains acceptable to the maintenance superintendent. The maintenance superintendent shall have the right to require that the contractor dismiss any and all unacceptable personnel for due and just cause as determined by the maintenance superintendent.

- The Service Company's preventative maintenance program shall be computer generated, based on run time, manufacturer's recommendations, and historical data bank of similar equipment. Simple computer base, run time only, or hand scheduled programs, are not acceptable.
- Service Company shall actively employ a minimum of five HVAC journeyman class service technicians. Journeyman shall have a minimum of three years' experience at journeyman level. Proof should be provided within five business days, upon request.

Equipment – Maintenance Service

- Equipment – Not Included
 - o Excluded items shall be considered as: foundation, structural supports, domestic water lines, drains, plumbing, oil lines, gas lines, piping, oil storage tanks, boiler shell and tubes, unit cabinets, boiler trim and refractory material.
 - o This specification covers only that equipment as listed herein, and in the event that the system is altered, changed or equipment is added or not included in this specification, that portion shall be added or deleted as required, and shall be in accordance with this specification.
- Equipment – Included
 - o The specific quantities, sizes, and model numbers of the major pieces of equipment shall be listed separately on the EQUIPMENT LIST.
 - o The preventative maintenance and the responsibility of the Service Company shall not be limited to only these major pieces of equipment as shown on the EQUIPMENT LIST, but shall also include all appurtenant devices and systems as listed below that are related to the heating, ventilating and air conditioning system.
 - Heating System: boilers, heat pumps, elements, furnaces, pumps, heating coils, steam traps, water strainers, unit heaters, duct heaters, heat exchanges, humidifiers, etc.
 - Cooling System: air conditioning compressors, evaporative condensers, air cooled condensers, pumps, water chillers, cooling coils, etc.
 - Air Handling System: fans, motors, air filters, dampers, induction units, mixing boxes, fan coil units, etc.
 - Miscellaneous Equipment: manual valves, VSD drives, float valves, direct expansion valves, thermometers, gauges, magnetic starters, manual motor starter, pump and fan motor drives, belts, electrical wiring from motor starter to their respective motor(s), check valves, refrigerant piping and piping insulation.
 - Duct Work: service work is to include all parts, materials and labor to maintain entire existing ductwork throughout the building.
- Services Included

The general services listed below shall apply to the systems and equipment as shown on the EQUIPMENT LIST (ATTACHMENT A)

 - o Lubricate all equipment monthly and/or as needed to permit bearings, gears, and all contact wearing points to operate freely and without undue wear.
 - o Adjust all linkage, motors, drives, etc. that have drifted from the initial design setting, and positions.
 - o Calibrate all sensing, monitoring, output, safety, and optimum efficiencies.

- Test and cycle all equipment as a system after it has been cleaned, lubricated, adjusted, and calibrated to assure that it is in proper operating condition and performing at optimum efficiency.
- Replace filters on filter schedule (see ATTACHMENT B).
- Clean all components of dust, old lubricants, etc. to allow the equipment to function as designed.
- Paint all equipment as needed to prevent and protect against corrosion and deterioration.
- Examine each piece of equipment and device to see that it is functioning properly and in good operational condition.
- Perform annual (or upon request) vibration analysis on air-handling units and supply documented results within fifteen (15) days; (annual shall be completed no later than December 31 of each year).
- Perform annual (or upon request) vibration analysis on chiller and supply documented results within fifteen (15) days; (annual shall be completed no later than December 31 of each year).
- Additional Services
For other additional services that apply to this equipment maintenance section, refer to the following sections:
 - Maintenance Procedures and Records
 - Preventative Maintenance and Emergency Service
- Service Fees
 - Disposal Fees: all disposal fees shall be covered by the vendor
 - Mileage Fees: all mileage and travel fees shall be covered by the vendor.

Maintenance Procedures and Records

- The contractor shall utilize computer generated preventative maintenance directions, which indicate task functions to be performed on each scheduled service call, as determined by calendar periods, operating hours, runtime, manufacturer's recommendations, historical data bank, as pertinent to each task. Detailed written service reports shall be submitted to the maintenance superintendent at the time of service.
- The contractor shall issue, to the mechanic on the job, the necessary and appropriate recommended maintenance procedure, tools, etc. that are required for proper maintenance.
- The contractor's administration system shall provide for continuous updating of maintenance procedures and frequencies. Breakdown experience and frequency shall determine the on-site material inventory level and preventive maintenance frequencies.
- The contractor shall communicate with the maintenance superintendent on a daily or on an as-needed basis by utilizing e-mail as communication in addition to telephone and fax. Contractor will respond accordingly by same means of communication within twenty-four (24) hours.
- During the course of the service program, the contractor shall advise and assist in the determination of improvements to the mechanical system that shall conserve energy and minimize utility expenditures.
- The Service Company's routine preventive monthly maintenance shall be provided and completed no later than the first ten (10) normal work days of operation of each month. Routine

monthly preventive maintenance shall be scheduled at least one month in advance with the maintenance superintendent.

- Contractor shall perform an annual vibration analysis on chiller and on all air-handlers and submit a documented report within fifteen (15) days to the maintenance superintendent defining any problems found and recommended corrective action.
- Parts of HVAC equipment vital to the operation of the building that are in need of immediate repair shall be ordered same day and shipped "Next Day Air." All repairs deemed vital by the maintenance superintendent shall be completed without delay. HVAC vital equipment includes, but is not limited to, chiller, air-handlers, pumps, boilers, and electrical.

Preventative Maintenance and Emergency Service Calls

- The Service Company shall provide monthly preventive maintenance service and schedule at least one month in advance with maintenance superintendent. Service shall be performed within the first ten (10) operating work days of each month.
 - o After each service call, a detailed service report shall be completed and left with the maintenance superintendent.
 - o Two of the scheduled service calls shall include the system startup and the system shutdown, for the appropriate season.
- The Service Company shall provide emergency service on an as-required basis. Emergency service shall be considered as called in, in addition to the scheduled preventive maintenance calls, but included in this agreement.
 - o This emergency service shall be provided as often as needed, on a 24-hour basis, nights, weekends and legal holidays included.
 - o The Service Company shall be capable of responding to an emergency situation within two (2) hours.
 - o The emergency service response system shall be a professionally manned telephone answering service. Automatic telephone answering/recording machines or home telephone numbers are not acceptable.
- Service Company shall schedule, in advance, quarterly, semi-annual and annual preventive maintenance services with the maintenance superintendent. Annuals shall be completed no later than December 31 of each year.

Contract Guarantee

- The contractor shall maintain all instrumentation devices and systems in complete operating condition subject to the approval of the owner. The contractor, in effect, will guarantee these systems for the term of this operations and maintenance contract.
- The contractor shall provide full maintenance and service of the entire system including replacement of the parts and materials for the entire term of the contract for any failures with the exception of those proven to be beyond the contractor's control and as a direct result of, but limited to, acts of government, strikes, lockouts, fire explosion, theft, riot, civil commotion, war, malicious mischief, flood, and other acts of God. The cost of this maintenance and service program shall be included in the cost of this contract.

Service Performance Guarantee

- Performance Review
 - o The owner's agent may review, at any time, the services provided and reports submitted, to verify that the preventive maintenance is, in fact, being properly and adequately performed. Any lack of maintenance service shall be submitted to the Service Company in writing for correction.
 - o Problems of deficiencies of significant importance or of a continual nature shall constitute cause for termination of the services and/or withholding of payment.
- Non-Performance
 - o Failure to repair vital HVAC equipment within two (2) days, with the exception of prior consent from the maintenance superintendent.
 - o Failure to answer calls and respond within two (2) hours.
 - o Falsifying records.
 - o Failure to correct recurring problems of not more than three (3) attempts.
 - o Failure to submit service records at time of service.
 - o Failure to submit test analysis reports within thirty (30) days.
 - o Failure to perform annual vibration analysis on equipment specified.
 - o Failure to complete routine preventive monthly maintenance within the first ten (10) normal work days of operation of each month.
 - o Failure to schedule and complete scheduled quarterly, semi-annual and annual preventive maintenance.
 - o Failure to replace filters as scheduled.
 - o Failure to communicate with the maintenance superintendent as needed by e-mail, telephone, or fax.

Failure to meet the preceding requirements shall give the owner the right to suspend payments for that period of time at regular monthly billing rates and/or terminate the contract. The owner reserves the right to have a consultant examine and provide a written report on conditions as found. If such conditions are not corrected within ten (10) days or the HVAC contractor cannot furnish a valid documented reason for the delay, the owner reserves the right to employ another HVAC contractor to complete the work. The accumulated cost of such expenditures will be billed to the current HVAC contractor.

Special Conditions

- The successful bidder's responsibility for injury to persons or property that may be caused by, or arise through the maintenance, service, functioning, or use of the system, shall be limited to injury caused directly by the Service Company's obligations as set forth in the specification.
- The successful bidder shall not be made liable for any loss, delay, injury, or damage, whether direct or consequential, that may be caused by proven conditions beyond the Service Company's direct control including, but not limited to, proven acts of government, strikes, lockouts, fire explosion, theft, riot, civil commotion, war, malicious mischief, flood and other acts of God.
- The successful bidder shall maintain Comprehensive General Liability Insurance. The coverage shall be for the amounts not less than: \$100,000 bodily injury each person, \$550,000 bodily injury each occurrence, and \$250,000 property damage each occurrence. The successful bidder shall provide a certificate of insurance indicating at least these minimum amounts.

Preventive Maintenance Task SheetAir Handling Units

- Monthly Maintenance
 - Inspect air filters and replace if necessary
 - Inspect condensate drain and clean if necessary
 - Inspect belts and adjust if necessary
 - Inspect bearings and grease if necessary
 - Inspect overall unit for vibration and appearance; make adjustments/repairs as necessary
- Quarterly Maintenance
 - Inspect belts
 - Inspect bearings
 - Inspect sheaves
 - Inspect squirrel cage
 - Inspect motor and electrical systems
 - Perform megohm test on motors (20 h/p and above)
 - Inspect coil for buildup of lint or dust
 - Inspect overall unit for vibration and appearance; make adjustments/repairs as necessary
- Annual Maintenance
 - Perform vibration analysis
 - Inspect belts
 - Inspect bearings
 - Inspect sheaves
 - Inspect squirrel cage
 - Inspect motor and electrical systems
 - Perform megohm test on motors (20 h/p and above)
 - Inspect coil for buildup of lint or dust and coil if required
 - Inspect overall unit for vibration and appearance; make adjustments/repairs as necessary

Chiller

- Monthly Maintenance
 - Inspect unit for leaks
 - Inspect motor starter contacts
 - Inspect compressor oil level and color
 - Inspect entire unit for appearance; make adjustments/repairs as necessary
 - Check evaporator and condenser pressure, oil tank pressure, differential oil pressure and discharge oil pressure
 - Check oil level in the sump while chiller is running
- Quarterly Maintenance
 - Perform oil analysis; replace as necessary
 - Inspect unit for leaks

- Inspect motor contacts
- Inspect compressor oil level and color
- Perform megohm test on compressor motor
- Inspect entire unit for appearance
- Clean all water strainers in water piping system
- Lubricate oil filter shutoff valve o-rings to factory specifications
- Semi-Annual Maintenance
 - Inspect air-cooled condenser coil and clean as recommended by factory specifications
- Annual Maintenance
 - Record and perform annual maintenance procedures referred to in the maintenance section of the purge and operation manual; make adjustments/repairs as necessary
 - Replace oil and filter
 - Inspect and clean condenser coils
 - Measure compressor motor winding resistance to ground
 - Perform leak test
 - Clean all water strainers in water piping system
 - Change the return line filter-drier assembly
 - Perform vibration analysis

Pumps

- Monthly Maintenance
 - Inspect pump seal for excessive water loss; make adjustments/repairs as necessary or upon request
- Quarterly Maintenance
 - Inspect pump seal for excessive water loss; make adjustments/repairs as necessary or upon request
 - Perform megohm test on motors 20 HP and above
 - Inspect and grease bearings

Boilers

- Monthly Maintenance
 - Inspect; make adjustments/repairs as necessary
- Annual Maintenance
 - Calibrate all operating and safety controls; make adjustments/repairs as necessary
 - Check coils; make repairs; replace as necessary

Contractor shall be responsible for replacing all materials including lubrication oil and refrigerant. Contractor shall perform an annual vibration analysis on chiller and submit detailed documentation within fifteen (15) days defining any problems found and recommended corrective action to the maintenance superintendent.

Building Automation System

Provide quarterly preventive maintenance service to network automation engine.

- Analog input field devices

- Analog output field devices
- Binary input field devices
- Binary output field devices

Perform quarterly preventive maintenance service on network automation engine. Equipment shall include all appurtenant devices and systems as listed below related to building automation.

- Workstation
- Monitor
- Printer
- Modem
- Network card and backup device (C/D/Tape/Zip)

Quarterly Maintenance

- Review network automation engine for critical, off-line, follow-up, override, disabled and lockout status indications. Take correct measures to resolve discrepancies.
- Review system diagnostics for verification of network communications and throughout performance. Take correct measures to resolve discrepancies.
- Verify proper systems restart, system date, time and hardware status.
- Review hard drive for corrupt files, fragmentation and available free space. Take correct measures to resolve discrepancies.
- Secure I/O device connections. Clean interior and exterior surfaces. Take correct measures to resolve discrepancies.
- Check monitor for clarity, color and focus. Take correct measures to resolve discrepancies.
- Check printer for proper operation. Take correct measures to resolve discrepancies.
- Verify reliable dialup operation on modem. Take correct measures to resolve discrepancies.
- Verify network card device on-line status. Take correct measures to resolve discrepancies.
- Test backup device (C/D/Tape/Zip). Take correct measures to resolve discrepancies.

Provide a computer generated summary report to the maintenance staff in charge.

- Vendor shall host one (1) hour of training within the first ninety (90) days of the fiscal year to museum staff instructing how to properly adjust temperatures within the museum.