

Specifications for HVAC Maintenance

- I. Scope of Maintenance Agreement
 - a. Preventative maintenance and repair services shall be provided by the Contract on all equipment and associated devices related to the HVAC systems as outlined within these specifications.
 - b. The Contractor shall furnish all personnel, parts, material, test equipment, tools and services in conformance with the terms and conditions as outlined below. If any part is deemed obsolete it must be replaced with a like in kind replacement. If a replacement is found not to be available it must be brought to the OSC Management.
 - c. It is the intention of this specification to establish and define those services that are to be performed.
 - d. The Contractor shall not be relieved from assuming all responsibility for properly estimating the difficulties and cost of performing the services required with this specification because of the failure to investigate the conditions or become acquainted with all the information concerning the services to be performed.
 - e. 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, and historical data bank, as pertinent to each task.
 - f. As work is due, the Contract shall issue to his technician on the job, the necessary and appropriate recommended maintenance procedures and a listing of any special lubricants and tools that are required for proper maintenance of the equipment.
 - g. The Contractor's computer generated maintenance program shall provide for continuous updating of maintenance procedures and frequencies. Breakdown experience and frequency shall determine the on-site material inventory level and preventative maintenance frequencies.
 - h. Conditioned space design conditions: 72 – 76 degrees F, 45 – 55% RH
 - i. The Agency assumes that the system(s) being quoted upon is in a maintainable condition. The successful bidder shall inspect all of the equipment (30) days prior to the start (7/1) of the contract to ensure that it is in working and operable condition. The successful bidder shall have up to thirty (30) days to report, in writing to the Old State Capitol facilities manager or designated representative, all deficiencies and cost of necessary repairs. If any deficiencies to the equipment are noted and repairs are needed, the Agency reserves the right to determine who will make the necessary repairs.
- II. Equipment – Maintenance Service
 - a. Equipment Not Included
 - i. Maintenance service, including repair labor and parts replacement for portions of the systems and equipment that are non-maintainable or nonmoving are not required and not included as part of this specification.
 - ii. Excluded items shall be considered as: foundations, structural supports, domestic water lines, drains, plumbing, oil lines, gas lines, piping, oil storage tanks, boiler shell and tubes, unit cabinets, boiler trim, refractory material, and cooling tower structure.
 - iii. This specification covers only that equipment as listed herein, and in the event the system is altered, changed or equipment is added or not included in the

specification, that portion shall be added or deleted as required and shall be in accordance with this specification.

b. Equipment Included

- i. The specific quantities, sizes, and model numbers of the major pieces of equipment shall be listed separately on the EQUIPMENT LIST attached.
- ii. 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.
 1. Heating system – boilers, elements, furnaces, pumps, heating coils, steam traps, water strainers, unit heaters, duct heaters, heat exchangers, humidifiers, etc.
 2. Cooling system – air conditioning compressor(s), evaporative condensers, air cooled condensers, pumps, cooling coils, etc.
 3. Air handling system – fans, motors, air filters, dampers, induction units, mixing boxes, fan coil units, etc.
 4. Miscellaneous equipment – exhaust fans, manual valves, 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.
 5. Duct work – service work is to include all parts, materials and labor to maintain the entire existing ductwork throughout the building.
 6. Batteries – all emergency generator batteries shall be replaced no later than August 30th and/or as needed. Replacement thereafter shall be a minimum of every two years and/or as needed.
 7. Emergency generator – service is to include all parts, materials and labor. The emergency generator annual inspection shall be performed by a qualified certified ONAN diesel mechanic. The emergency generator annual inspections shall also include a load test.

c. Services Included

- i. The general services listed below shall apply to the systems and equipment as shown in the EQUIPMENT LIST.
 1. Lubricate all equipment monthly and/or as needed to permit bearings, gears and all contact wearing points to operate freely and without undue wear.
 2. Adjust all linkage, motors, drives, etc. that have drifted from the initial design setting and positions.
 3. Calibrate all sensing, monitoring, output, safety, and optimum efficiencies.
 4. Test and cycle all equipment as a system after is has been cleaned, lubricated, adjusted, and calibrated to assure that it is in proper operating condition and performing at optimum efficiency.
 5. Replace 2” pleated filters monthly and/or upon request by OSC Facilities Manager.

6. Clean all components of dust, old lubricants, etc. to allow the equipment to function as designed.
7. Paint all equipment as needed to prevent and protect against corrosion and deterioration.
8. Examine each piece of equipment and device to see that it is functioning properly and in good operational condition.
9. Perform annual (or upon request) vibration analysis on all air-handling units and supply documented results within fifteen (15) days; this annual analysis shall be completed no later than December 30th of each year.
10. Perform annual (or upon request) vibration analysis on chillers and supply documented results within fifteen (15) days; this annual analysis shall be completed no later than December 30th of each year.

III. Maintenance Procedures and Records

- a. 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 OSC Facilities Manager at the time of service.
- b. The Contractor shall communicate with the OSC Facilities Manager or representative on a daily or as needed basis by utilizing e-mail as communication in addition to telephone and fax. Contractor shall respond accordingly same means of communication within twenty-four (24) hours.
- c. During the course of this service, the Contractor shall advise and assist in the determination of improvements to the mechanical system that shall conserve energy and minimize utility expenditures.
- d. The Service Company's routine preventative monthly maintenance shall be provided and completed no later than the first ten (10) normal work days of operation of each month. Routine monthly preventative maintenance shall be scheduled at least one month in advance with the OSC Facilities Manager.
- e. Parts to HVAC equipment vital to the operations that are in need of immediate repair shall be ordered the same day and shipped via Next Day Air. All repairs to the operations deemed vital by the OSC Facilities Manager or representative shall be completed without delay.
 - i. HVAC equipment vital to the operation of the Old State Capitol include but not limited to:
 1. Air-handlers (18)
 2. Emergency generator
 3. Chill water pumps (2) Located at the River Center
 4. Hot water pumps (2) Located at the River Center
 5. Exhaust fans (7)
 6. Hot water heater and circulation pump
 7. Humidifiers (16)
 8. Electrical
- f. Contractor shall not remove or use any parts from other machinery for repairs. All parts shall be replaced with newly manufactured parts of equal or greater value. All repairs and replacement parts shall be noted, documented, and signed by the contracted service representative and OSC Facilities Manager or representative at the time of the service. A

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copy of the report shall be given to the OSC Facilities Manager or representative at the time of service.

- g. Subcontracting portions of systems or services requested in this specification shall only be allowed with prior consent from the OSC Facilities Manager or representative. The OSC Facilities Manager shall reserve 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 Facilities Manager.

IV. Preventative Maintenance and Emergency Service Calls

- a. The Service Company shall provide monthly preventative maintenance service and schedule at least two (2) days in advance with the Facilities Manager. Service shall be performed within the first ten (10) operating days of each month.
 - i. After each service call, a detailed service report shall be completed and left with the Facilities Manager or representative.
 - ii. Two (2) of the scheduled service calls shall include the system startup and the system shutdown, for the appropriate season.
- b. The Service Company shall provide emergency service on an as-required basis. Emergency service shall be considered as called in addition to the scheduled preventative maintenance calls, but included in this agreement.
 - i. This emergency service shall be provided as often as needed, on a 24-hour basis, nights, weekends and legal holidays included.
 - ii. The Service Company shall be capable of responding to an emergency situation within two (2) hours.
 - iii. 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.
- c. Service Company shall schedule quarterly, semi-annual and annual preventative maintenance services with the Facilities Manager no less than two (2) days in advance.
 - i. Annual services shall be completed no later than December 30th of each year. Failure to comply with specifications herein shall constitute cause for termination of the services and/or withholding of payment.

V. Service Performance Guarantees

- a. Performance Review
 - i. The Agency's agent may review, at any time, the services provided and reports submitted to verify that the preventative maintenance is in fact being properly and adequately performed. Any lack of maintenance service shall be submitted to the Office of State Purchasing in writing for corrective action.
 - ii. Problems or deficiencies of significant importance or of a continual nature shall constitute cause for termination of the services and/or withholding of payment.
- b. Guarantees
 - i. The Contractor shall maintain all instrumentation devices and systems in complete operating condition subject to the approval of the Agency. The Contractor, in effect, will guarantee these systems for the term of this contract.
 - ii. 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 no limited to acts of government,

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strikes, lockouts, fire, explosion, riot, civil commotion, war, malicious mischief, flood, and other acts of God. The cost of this maintenance and service shall be included in the cost of this contract.

- c. Non-Performance
 - i. Failure to repair vital HVAC equipment within two (2) days
 - ii. Failure to answer calls and respond within two (2) hours
 - iii. Falsifying records
 - iv. Failure to correct recurring problems of not more than three (3) attempts
 - v. Failure to submit service records at the time of service
 - vi. Failure to submit test analysis reports within thirty (30) days
 - vii. Failure to perform annual vibration analysis on equipment specified
 - viii. Failure to complete routine preventative monthly maintenance within the first ten (10) normal work days of operation of each month
 - ix. Failure to replace filters as scheduled
 - x. Failure to schedule, and complete scheduled, quarterly, semi-annual and annual preventative maintenance
 - xi. Failure to communicate with the Facility Manager or representative on a daily and/or on an as needed basis by email, telephone, or fax
 - xii. Non-compliance with minimum performance standards
 - d. The Agency 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 by the HVAC contractor or the contractor cannot furnish a valid documented reason for the delay, the Agency 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.
 - e. The Agency reserves the right to suspend payments at regular monthly billing rates and/or terminate the contract for non-compliance.
- VI. Special Conditions
- a. 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 this specification.
 - b. 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, riot, civil commotion, war, malicious mischief, flood, and other acts of God.
- VII. Preventative Maintenance Task Sheet
- a. Air Handling Units
 - i. Monthly Maintenance
 - 1. Inspect overall unit for vibration and appearance; make adjustments/repairs as necessary
 - 2. Inspect air filters and replace if necessary
 - 3. Inspect condensate drain and clean if necessary
 - 4. Inspect belts and adjust if necessary
 - 5. Inspect bearings and grease if necessary
 - 6. Replace 2" pleated filters

- ii. Quarterly Maintenance
 - 1. Inspect bearings
 - 2. Inspect belts
 - 3. Inspect sheaves
 - 4. Inspect squirrel cage
 - 5. Inspect motor and electrical systems
 - 6. Perform megohm test on motors (20 h/p and above)
 - 7. Inspect coil for build-up of lint or dust
 - 8. Inspect overall unit for vibration and appearance; make adjustments/repairs as necessary
- iii. Annual Maintenance
 - 1. Perform vibration analysis
 - 2. Inspect sheaves
 - 3. Inspect bearings
 - 4. Inspect belts
 - 5. Inspect squirrel cage
 - 6. Inspect motor and electrical systems
 - 7. Perform megohm test on motors (20 h/p and above)
 - 8. Inspect coil for build-up of lint or dust and clean coil if required or as requested
 - 9. Inspect and clean fresh air intake grills (4)
 - 10. Inspect overall unit for vibration and appearance; make adjustments/repairs as necessary
- b. Emergency Generator
 - i. Monthly Maintenance
 - 1. Functionally check operation; make adjustments/repairs as necessary
 - 2. Inspect belts; adjust and/or replace as necessary
 - 3. Inspect fan
 - 4. Inspect and top off coolant as needed
 - 5. Inspect radiator and hoses for leaks
 - 6. Inspect and clean diesel sump pump
 - 7. Inspect batteries; replace as necessary
 - 8. Inspect water hoses; replace as necessary
 - 9. Blowdown auxiliary tank
 - 10. Check operations of auxiliary fuel pump switch
 - 11. Check high and low level fuel switches
 - 12. Check coolant level
 - 13. Check water level in batteries
 - 14. Inspect, clean and coat battery terminals
 - 15. Paint unit as required
 - 16. Test indicating lamps on generator panel in receiving and replace as necessary
 - ii. Annual Maintenance
 - 1. Functionally check operation; make adjustments/repairs as necessary
 - 2. Change oil, oil filters and air filter
 - 3. Check belts; replace as necessary
 - 4. Check batteries; replace as necessary

5. Change diesel oil filter(s)
 6. Change air filter(s)
 7. Test coolant; replace coolant every two (2) years
 8. Pressure test cooling system for leaks
 9. Inspect fan belts; replace and adjust as required
 10. Test oil heaters
 11. Load test batteries
 12. Inspect charging system and check operation
 13. Megg generator starter coils
 14. Check gauges for accuracy
 15. Observe generator during exercise cycle
 16. Run oil analysis on engine oil
- c. Exhaust Fans
- i. Quarterly Maintenance
 1. Inspect sheave
 2. Inspect bearings and grease as required or upon request
 3. Inspect belts, tighten and/or replace as necessary or upon request
 4. Inspect motors and electrical; make adjustments/repairs as necessary or upon request
- d. Water Pumps
- i. Monthly Maintenance
 1. Inspect pump seal for excessive water loss; make adjustments/repairs as necessary or upon request
 - ii. Quarterly Maintenance
 1. Inspect pump seal for excessive water loss; make adjustments/repairs as necessary or upon request
 2. Perform megohm test on motors (20 h/p and above)
 3. Inspect and grease bearings
 4. Inspect for vibrations, unusual noise, odors, etc.
 5. Inspect packing; adjust to a slow drip if necessary
 6. Inspect mechanical seal
 7. Verify slow in sealing/flushing line
 8. Lubricate coupling
 9. Lubricate motor bearings
 10. Inspect system for leaks in piping, flange connections, etc. and record condition
 11. Clean ventilation openings (grills and/or screens)
 12. Visually inspect coupling
 13. Inspect contacts for signs of wear, arcing, overheating, etc., and record condition
 14. Measure operating amperage and record readings
- e. Hot Water Heaters
- i. Monthly Maintenance
 1. Check operation; make adjustments/repairs as necessary
 2. Calibrate controls
 3. Inspect general appearance
 4. Check control set point and operation

5. Manually lift and reset relief valve
6. Record hot water supply
7. Bottom-blow heater tank to remove sediment
8. Check all wiring, insulation, and connections on heaters and controls
9. Check safety power out/off on heater
- ii. Annual Maintenance
 1. Manually flush and try lever test pressure relief valve
 2. Open and close isolation valves and check piping and valves for leaks
 3. Check heater current and voltage
 4. Check condition of anode rod
 5. Check control setting and operation
 6. Bottom-blow heater tank to remove sediment
 7. Record hot water supply temperature
- f. Humidifier
 - i. Monthly Maintenance
 1. Check operation; make adjustments/repairs as necessary
 2. Calibrate controls
 3. Inspect general appearance
 4. Check steam trap and hand valves
 5. Check float assembly and adjust if necessary
 6. Check drains and drain pan
 7. Check heating element
 8. Inspect electrical connections, relays, contactors, and operating and safety controls
 9. Check spray nozzles

VIII. Contractor Qualifications

- a. 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.
 - i. The Contractor shall have a permanent office on the state of Louisiana. The Contractor shall supply the Old State Capitol with a single telephone number, which shall be answered by a Contractor representative between the hours of 8:00 AM and 4:30 PM, Monday through Friday. The same number shall be answered after normal hours and on weekends and holidays. Telephone answering systems are not acceptable.
 - ii. The Contractor shall, no later than five (5) working days before a technician is scheduled to begin performing maintenance tasks, submit to the Old State Capitol a resume for each HVAC technician he proposes to employ either initially or as a replacement. Resumes must be submitted prior to the assignment of any technician.
 - iii. Contractor shall employ certified, qualified and trained service personnel to perform the services that are to be provided. The Facilities Manager shall reserve the right to require that the Contractor dismiss any and all unacceptable personnel for due and just cause as determined by the Facilities Manager.
 - iv. The Service Company's preventative maintenance program shall be computer generated, based on run time, manufacturer's recommendations, and historical

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- data bank on similar equipment. Simple computer based, run time only, or hand scheduled programs are not acceptable.
- v. Service Company shall actively employ a minimum of five (5) HVAC journeyman class service technicians. Journeyman shall have a minimum of three (3) years of experience at the journeyman level.
 - vi. Each resume shall contain at least the information described below. Additional information which demonstrates the proposed employee's knowledge, skill and experience is encouraged.
 - vii. Subcontracting portions of the services requested in this specification shall not be allowed without prior consent from the Facilities Manager. The OSC personnel shall have the right to interview and to approve the subcontractors. Subcontractors approved shall continue their portion of the maintenance work as long as the work remains acceptable to the Old State Capitol.
 - viii. Copies of certification cards shall be submitted, upon request, before the contract is awarded. HVAC service technicians must be full time employees of the Contractor.
 - ix. Helpers shall have a minimum of two (2) years of general experience in HVAC maintenance work. Helpers may be used to assist HVAC technicians. Helpers may not perform journeyman level tasks unless he is performing those tasks under the direct supervision of a journeyman. Helpers may not perform any maintenance tasks unless a journeyman is in the building.