



INVITATION TO BIDDERS

The City of Gatlinburg is accepting sealed bids for a twenty-four (24) month maintenance agreement for the Temperature Control/HVAC System for the Gatlinburg Convention Center. The City reserves the right to extend this agreement for an additional twenty-four (24) months.

These bids will be received at the office of the Treasurer, Gatlinburg City Hall, 1230 Parkway East, Suite 2, P.O. Box 5, Gatlinburg, Tennessee 37738, **until 2:30 p.m., October 19th, 2017** at which time they will be publicly opened and read aloud and the contract awarded as soon thereafter as practicable. Please indicate on your bid to be submitted "Bid on Convention Center HVAC Maintenance Agreement".

For questions concerning the Bid Documents, Bidders may contact City of Gatlinburg, Delea Patterson, AP/Purchasing at 865-436-1409 or Fax 865-436-6464 or deleap@gatlinburgtn.gov.

Questions about the specifications need to be directed to the Gatlinburg Convention Center, Scott Murphy at 865-430-1036.

Each bidder shall be able to provide the City of Gatlinburg with Certificates of Insurance covering property damage and liability in amounts suitable to the City annually.

No bidder will be permitted to withdraw their bid for a period of thirty (30) days following the date of the bid opening.

The City of Gatlinburg reserves the right to waive any informalities in or to reject any or all bids and to accept the bid deemed favorable to the interest of the City of Gatlinburg.

GENERAL PROVISIONS

Prices quoted shall not include Federal or State taxes, if any are applicable. The successful bidder shall furnish tax exemption forms, if required, with their invoices.

The prices quoted are that for which the materials or services will be delivered F.O.B. Gatlinburg, Tennessee.

Any additions, deletions, or variations from the following specifications must be noted.

Inspection of the materials or equipment will be made by an agent of the City of Gatlinburg, and if found defective or fails in any way to meet the terms of this agreement, it will be rejected. Rejected materials or equipment will be replaced at the expense of the bidder.

All technical specifications must accompany bid.

The City of Gatlinburg reserves the right to extend this agreement for an additional twenty-four (24) months if mutually agreeable.

The City of Gatlinburg reserves the right to defer payment for thirty (30) days after delivery. The City of Gatlinburg also reserves the right to reject any and/or all bids.

The bidder agrees to indemnify the City of Gatlinburg from any and all liability, loss or damage the City may suffer as a result of claims, demands, costs, or judgments against it arising from any and all work under this agreement.

The bidder agrees to notify the City, in writing, within thirty (30) days, by registered mail, at the City's address as stated in this agreement, of any claim against the bidder on the obligations indemnified against.

**GATLINBURG CONVENTION CENTER
HVAC MAINTENANCE AGREEMENT SPECIFICATIONS**

1. Maintain liability insurance as follows:

General aggregate \$1,000,000
Personal injury \$1,000,000
Auto liability \$1,000,000

2. All of contractor's employees working on this job should be Universal Certified by an organization approved by the EPA.
3. Should have at least 4 technicians located within 50 mile radius of the Convention Center.
4. Should have a lead technician located within 50 miles of the Convention Center.
5. Should be able to respond to emergency calls with a technician on site within 2 hours who is qualified and competent to respond to emergency calls on the equipment.
6. Should have training for the major equipment serving the convention center; specifically, the Tracer Summit control system, Marley cooling towers, Raypac boilers and Variable speed drives.
7. Should maintain an inventory of replacement parts for the equipment.
8. Must have a toll free 24 hour emergency dispatch. Calls must be handled by live operators who are qualified and competent to dispatch technicians to the job.
9. Should be regularly engaged in total coverage contracts of this magnitude. In order to meet these criteria, contractor must submit a list of references of total service maintenance agreements similar to this agreement in scope and volume of equipment. These references must include contact names and phone numbers.

TYPE OF COVERAGE

During normal working hours contractor will provide routine inspection of the equipment and system and provide routine "Preventive Maintenance Coverage" on the equipment described in "Schedule A" of this agreement.

TERMS AND CONDITIONS

This agreement is subject to the Terms and Conditions included in this agreement.

PERSONNEL

Under this agreement, Contractor will perform all services using factory-trained personnel who are specialists in HVAC, Refrigeration and Electronic system maintenance and service. Contractor must have personnel certified in the use and operation of the Tracer Summit control system.

REPAIR SERVICE

All work under this agreement will be performed during regular working hours unless otherwise specified. The owner or owner's representative may authorize repair services, over and above that included in this agreement. This work will be invoiced at special service and repair billing rates listed at the end of this document. List also Overtime rates and Sunday Rates.

A line on the last page requests the percent of mark-up on parts that will be charged to the owner. If the mark-up will be company standard, please write standard on that line. If there is a special pricing mark-up, i.e. 20%, include that number on the line provided.

REPORTS

A detailed report of each inspection will be issued by the Contractor. This report will include equipment log readings taken during inspection, condition of equipment, recommended repairs, and recommendations in reducing energy consumption, where applicable. Please include a sample inspection report with your bid

SUPPLEMENTAL SERVICES

Additional services will be furnished upon request and proper authorization from the owner. All additional services will be invoiced by the Contractor and payable by the owner.

EQUIPMENT

Under this agreement, Contractor will provide maintenance service on all equipment listed in "Schedule A" of this agreement.

EMERGENCY SERVICE

Emergency service will be available on 24-hour priority basis. Emergency service has not been included in this service agreement but will be available on a priority basis 24 hour per day 365 days per year. The Contractor agrees to provide response to any service call within six (6) hours of the placement of a service call.

AIR CONDITIONING & REFRIGERATION EQUIPMENT – SCOPE OF WORK

The following scope of service will be performed to keep the air conditioning system operating properly and with optimum energy efficiency.

PREVENTIVE MAINTNENACE

** Perform **FOUR** (4) inspections, including one Annual \ Seasonal shutdown preventative maintenance on the equipment listed in "Schedule A" of this agreement

** Complete **ONE** (1) Annual \ Seasonal preventative maintenance services as described in the attached "ANNUAL \ SEASONAL INSPECTION SCHEDULE" once per year

** Complete **THREE** (3) operating season inspections as described in the attached "OPERATING SEASON INSPECTION" schedule attached

In addition, the following service applies to the HVAC equipment listed in "Schedule A".

** **Labor Coverage** - Furnish all preventive maintenance labor. All minor repair & all major repair and emergency repair labor is in addition to this Maintenance Agreement. Emergency service will be available on a 24-hour 365 day per year basis as a supplemental service.

** **Parts Coverage** - Provide coverage for preventive maintenance materials \ parts. All minor repair parts and major repair maintenance parts are in addition to this Maintenance Agreement.

** The Owner will check and replace the filters as necessary. This service includes all of the two (2) inch and (1) inch pleated filters.

Special Terms & Conditions

Under the terms of this agreement, The Contractor will provide the scope of services as detailed in the previous pages. This scope of work includes providing all HVAC maintenance labor and materials to provide the maintenance services as outlined in the scope of work.

In addition to general maintenance, the Contractor, will provide, at the owners request, all emergency and repair labor and services at the labor and materials rates outlined in this agreement at the rates stated in this agreement. During the course of this agreement, all additional costs incurred by the owner will be tallied on an ongoing basis. Should the costs associated with the additional services including:

- Labor Coverage
- Parts Coverage
- Emergency Service

exceed the a set total amount, to be listed at the end of this document, (including general maintenance services as outlined above), The Contractor, will not invoice the owner any monies above this amount.

At the end of each agreement year, the total for all maintenance services, repair and emergency services (including materials) will not exceed the dollar amount cap set forth at the end of this document. All costs above this amount will be absorbed by The Contractor. Should Contractor fail to respond at any time to the owner's request for service, this contract can be voided with written notification.

**SCHEDULE A
EQUIPMENT INCLUDED IN THIS AGREEMENT**

EQUIPMENT TYPE	QTY.	MANUFACTURER	MODEL #	SERIAL #	RATING
<u>Convention Center</u>					
PUMPS 1 & 2	2	B&G	1510-6CB	*TBD	75HP
PUMPS 3 & 4	2	B&G	1510-6CB	*TBD	40HP
HEAT EXCHANGER	1	MUELLER	AT1309 B-20	W28327	
BOILER	2	RAYPACK	WT4001	*TBD	
EXHAUST FANS & DAMPERS	4	GREEN-HECK	*TBD	*TBD	
WSHP -1	1	COMMANDAIRE	SWPH-610	*TBD	5 TON
WSHP-2	1	COMMANDAIRE	SWPH-1000	*TBD	10 TON
WSHP -8	2	COMMANDAIRE	SWPH-2000	*TBD	20 TON
WSHP – 10,11	2	COMMANDAIRE	SWPH-190	*TBD	1 ½ TON
WSHP – 12	1	COMMANDAIRE	SWPH-1800	*TBD	16 TON
WSHP	1	COMMANDAIRE	SWPH-350	*TBD	3 TON
WSHP – 14	1	COMMANDAIRE	SWPH-260	*TBD	2 ¼ TON
WSHP – 15		COMMANDAIRE	SWPH-610	*TBD	5 TON

Note: Units include the compressor, motor, starter, evaporator, condenser, oil heater, purge, and integral controls furnished with the unit.

- To Be Determined First Visit

**SCHEDULE A
EQUIPMENT INCLUDED IN THIS AGREEMENT, CONTINUED**

EQUIPMENT TYPE	QTY.	MANUFACTURER	MODEL #	SERIAL #	RATING
<u>Convention Center</u>					
WSHP - 16		COMMANDAIRE	SWPH-1800	*TBD	16 TON
WSHP – 17,18	2	COMMANDAIRE	SWPH-800	*TBD	7 ½ TON
WSHP – 22,23,24,25,26,	5	COMMANDAIRE	SWPH-510	*TBD	4 TON
WSHP – 27,28,35	3	COMMANDAIRE	SWPH-610	*TBD	5 TON
WSHP – 29,30,31,32, 33,34,36,37	8	COMMANDAIRE	SWPH-510	*TBD	4 TON
WSHP – 38,39	3	COMMANDAIRE	SWPH-800	*TBD	7 TON
WSHP –42,43	3	COMMANDAIRE	SWPH-2000	*TBD	20 TON
WSHP – 44,45,46,47	4	COMMANDAIRE	SWPH-800	*TBD	7 TON
WSHP – 48,49,51,52,53, 54,55,56,57,58,59	12	COMMANDAIRE	SWPH-3500	*TBD	25 TON
COOLING TOWERS	2	MARLEY	*TBD	867 TON	2890 GPM
VARIABLE SPEED DRIVE	1	YORK	*TBD	*TBD	40 HP
VARIABLE SPEED DRIVE	1	YORK	*TBD	*TBD	75 HP
VARIABLE SPEED DRIVE – TOWER FAN	1	YORK	*TBD	*TBD	20 HP

Note: Units include the compressor, motor, starter, evaporator, condenser, oil heater, purge, and integral controls furnished with the unit.

- To Be Determined First Visit

**SCHEDULE A
EQUIPMENT INCLUDED IN THIS AGREEMENT
CONT.**

EQUIPMENT TYPE	QTY.	MANUFACTURER	MODEL #	SERIAL #	RATING
<u>W.L. MILLS</u>					
RTU – 1	1	TRANE	*TBD	*TBD	
RTU – 3	1	TRANE	YCH420A4LA2A IACI – FHJ	*TBD	35 TON
RTU 4,5	2	TRANE	YCH210C4L	*TBD	17 ½ TON
RTU 6,7	2	TRANE	YCH480A4LA2A IKCI-FHL	*TBD	40 TON
RTU – 8	1	TRANE	YSC102A4RMA	*TBD	8 ½ TON
RTU – 9	1	TRANE	YSC072A4RHA	*TBD	6 TON
RTU – 10	1	TRANE	YSC036A4RHA	*TBD	3 TON
RTU – 11	1	TRANE	YCD180D4H	*TBD	12 ½ TON
RTU – 12	1	TRANE	YSCO92A4RHA	*TBD	7 ½ TON
RTU – 13	1	TRANE	YSCO92A4RLA	*TBD	7 ½ TON
RTU – 14	1	TRANE	YSCO92A4RLA	*TBD	7 ½ TON
RTU – 15	1	TRANE	YSC102A4RMA	*TBD	8 ½ TON
RTU – 16	1	TRANE	YSCO92A4RMA	*TBD	7 ½ TON
RTU – 17	1	TRANE	YSC036A4RMA	*TBD	3 TON
CONDENSING UNIT 1,2,5,6	4	TRANE	2TWA0036A4000A	*TBD	3 TON
CONDENSING UNIT 3,4	2	TRANE	2TWA0042A4000A	*TBD	3 ½ TON
CONDENSING UNIT 7	1	TRANE	2TWA0030A4000A	*TBD	2 ½ TON

Note: Units include the compressor, motor, starter, evaporator, condenser, oil heater, purge, and integral controls furnished with the unit.

- To Be Determined First Visit

**SCHEDULE A
EQUIPMENT INCLUDED IN THIS AGREEMENT
CONT.**

EQUIPMENT TYPE	QTY.	MANUFACTURER	MODEL #	SERIAL #	RATING
<u>W.L. MILLS</u>					
CONDENSING UNIT 8	1	TRANE	2TWB0012A1000A	*TBD	1 TON
CONDENSING UNIT 9	1		EMI SCC 15D	*TBD	1 ¼ TON
CONDENSING UNIT 10	1	TRANE	CCRA-C10	*TBD	10 TON
AIR HANDLING UNIT 1,2,5,6	4	TRANE	TWE042C	*TBD	
AIR HANDLING UNIT 3,4	2	TRANE	TWE048C	*TBD	
AIR HANDLING UNIT 7	1	TRANE	TWE030C	*TBD	
AIR HANDLING UNIT 8	1	TRANE	TWE018C	*TBD	
AIR HANDLING UNIT 9	1		EMI WHP 15D	*TBD	
AIR HANDLING UNIT 10	1	TRANE	SCRB-10	*TBD	

Note: Units include the compressor, motor, starter, evaporator, condenser, oil heater, purge, and integral controls furnished with the unit.

- To Be Determined First Visit

Air Cooled Self Contained / Package Units

Seasonal Maintenance and Start Up

Compressor Section

- Check refrigerant charge by evaluating pressures and/or temperatures
- Check and Inspect for refrigerant leaks
- Check and inspect crankcase heaters
- Check oil level in compressor, add if required
- Visually inspect compressor oil where possible and perform oil analysis if required
- Check changeover valves and defrosts cycle operation (where applicable)
- Check and calibrate safety controls
- Check and tighten electrical connections, contactors, relays, operating safety controls
- Check starter, tighten all terminals and check contactors for wear and damage
- Inspect vibration eliminators for secureness and damage

Condensing Section

- Lubricate motor and fan bearings
- Inspect fan section for proper alignment and operation
- Check control interlocks
- Check and clean air cooled condenser
- Check and clean condensate sling ring area (where applicable)
- Clean debris from air inlet louvers

Evaporator / Indoor Air Coil Section

- Inspect coil for cleanliness – clean as required
- Inspect coils for leaks
- Inspect and clean condensate drain pans as required
- Inspect and change air filter as required

Controls

- Inspect controls for cleanliness, tighten if necessary
- Test low-pressure cutout & record – calibrate if required
- Test high-pressure safety & record – calibrate if required
- Inspect & verify operation of fan speed controls
- Inspect & verify outside air damper/economizer section – calibrate as required

Air Cooled Self Contained Units (cont.)

Fan Motor(s)

Inspect for excessive vibration & unusual noises in motors
Clean motor(s) & fan blades to remove loose dirt etc.
Inspect wiring and connections for signs of wear
Lubricate motor bearings
Adjust/record tension on belts & pulleys – replace belts as required
Inspect fan blades for proper operation & condition

Heating Section

Inspect condition of heating element
Check operation of heating safety controls
Inspect operation of exhaust devices
Inspect and clean burner orifices
Inspect and verify operation of igniter operation

ANNUAL/SEASONAL INSPECTION SCHEDULE

AIR COOLED CONDENSER

The following tasks are performed once each year during a shutdown period in order to properly evaluate your equipment status and prepare your unit for the next cooling season:

General System

Report in with customer representative
Review operation with customer for problems and trends
Log machine condition upon arrival
Clean all debris from air inlet of unit
Brush condenser coil(s) to remove loose dirt
Test secureness of doors, guards, and panels
Inspect all structural elements for corrosion and damage
Conduct leak check
Clean coils once per year
Check & record operating pressures & temperatures

Fan Motor Section

Inspect for vibrations and unusual noise in bearings and motor
Inspect fans for vibration and tightness
Inspect wiring and connections for signs of wear, overheating, burns, etc.
Meg and record motor winding resistance (w/a)
Lubricate motor bearings and shaft bearings (w/a)
Inspect pulley grooves and belts for alignment, wear, and tension. Replace if necessary

Unit Controls

Check and test all operating and safety controls
Check all relays, operating controls and safeties
Calibrate all controls, safeties, unloaders and external interlocks
Verify operation of fan speed control (w/a)
Verify operation of fan cycling controller (w/a)
Verify operation of damper cycling controller (w/a)

Unit Starter

Check for proper voltage and starter operation
Tighten wiring/terminal connections at motor starter
Clean connectors (w/a)
Measure operating voltage and record
Inspect wiring for secureness and damage
Advise customer of any deficiencies upon departure

OPERATING SEASON INSPECTIONS

AIR COOLED CONDENSER

The following inspection items ensure your unit is operating reliably and efficiently through the cooling season.

General System

Report in with customer representative
Review operation with customer for problems and trends
Log machine condition upon arrival
Clean all debris from air inlet of unit
Brush condenser coil(s) to remove loose dirt
Test secureness of doors, guards, and panels
Inspect all structural elements for corrosion and damage
Conduct leak check and correct leaks
Check & record operating pressures & temperatures

Fan Motor Section

Inspect for vibrations and unusual noise in bearings and motor
Inspect wiring and connections for signs of wear, overheating, burns, etc.
Lubricate motor bearings and shaft bearings (w/a)
Inspect pulley grooves and belts for alignment, wear, and tension. Replace if necessary

Unit Controls

Verify operation of fan speed control (w/a)
Verify operation of fan cycling controller (w/a)
Verify operation of damper cycling controller (w/a)

Unit Starter

Check for proper voltage and starter operation
Measure operating voltage and record
Inspect wiring for secureness and damage
Advise customer of any deficiencies upon departure

Seasonal & Operational Maintenance Air Handling Units

VISUAL INSPECTION AND CLEANING

Inspect for unusual noises, vibration, odor, etc.
Inspect structural elements for corrosion & damage.
Inspect mounting points for secureness.
Inspect for secureness of guards, doors and panels.
Inspect system for leaks in piping, flange connections, etc..
Clean and remove debris from louvers dampers.
Inspect flexible connections and ductwork for damage and leaks.

UNIT CONTROL PANEL

Clean cabinet for cleanliness, moisture, oil, etc.
Inspect wires for security and damage.
Inspect connections for tightness and corrosion.
Verify operation of indication and alarm devices.
Inspect & check for obvious errors on installed pressure and temp.
Verify operation of start, stop & anti-recycle timers.
Test operation of all other safeties - list in remarks.
Verify operation of dampers-supply, return & exhaust.
Lube dampers linkage - supply, return and exhaust.

SUPPLY FAN STARTER

Inspect enclosure & components for cleanliness, moisture, oil, etc.
Inspect connections for tightness and corrosion.
Inspect wires for security and damage.
Inspect contacts for signs of wear, arcing, overheating, etc.

SUPPLY FAN AND MOTOR

- Lube motor, fan and shaft bearings.
- Inspect and record belt tension and condition.
- Inspect pulleys for wear and alignment.
- Inspect for secureness of blades (propeller type fan).
- Inspect for freedom of rotation, cracks & alignment
- Inspect fan blades or wheel for cleanliness.
- Inspect for vibration and/or noise.
- Inspect fan and motor mountings for security.
- Clean motors and motor cooling openings.
- Inspect cooling coil condition.
- Inspect condensate drains and drain pan.

RETURN FAN STARTER

- Inspect enclosure & components for cleanliness, moisture, oil, etc.
- Inspect connections for tightness & corrosion.
- Inspect wires for security & damage.
- Inspect contacts for signs of wear, arcing, overheating, etc.

RETURN FAN AND MOTOR

- Lube motor, fan and shaft bearings.
- Inspect and record belt tension and condition.
- Inspect pulleys for wear and alignment.
- Inspect for secureness of blades (propeller type fan)
- Inspect for freedom of rotation, cracks & alignment.
- Inspect fan blades or wheel for cleanliness.
- Inspect for vibration and/or noise.
- Inspect fan and motor mountings for security.
- Clean motor cooling openings.

EXHAUST FAN STARTER

- Inspect enclosure & components for cleanliness, moisture, oil, etc.
- Inspect connections for tightness and corrosion.
- Inspect wires for security and damage.
- Inspect contacts for signs of wear, arcing, overheating, etc.

Air Handling Units – Cont.

EXHAUST FAN AND MOTOR

- Lube motor, fan and shaft bearings.
- Inspect and record belt tension and condition.
- Inspect pulleys for wear and alignment.
- Inspect for secureness of blades (propeller type fan)
- Inspect for freedom of rotation, cracks and alignment.
- Inspect fan blades or wheel for cleanliness.
- Inspect for vibration and/or noise.
- Inspect fan and motor mountings for security.
- Clean motor cooling openings.

HOT WATER OR STEAM COILS

- Inspect coil surfaces.
- Verify operation of steam trap.
- Inspect control valves.

ELECTRIC HEAT

- Measure amp draw on all stages, log on motor log sheet.
- Verify operation of airflow switch, high temp, and limit switch
- Inspect contacts for signs of wear, arcing, overheating, etc.
- Verify operation of operating controls.

GAS HEAT

- Visually inspect to ensure proper airflow for combustion is not obstructed from unit
- Inspect flue stack to ensure exhaust path is clear and free of obstruction
- Inspect control panel wiring for loose connections (tighten if necessary) and check each panel for operation
- Check & verify operation of the gas ignition system
- Check condition of heating elements, clean to ensure proper operation
- Inspect electrical connections, contactor relays & operating safety controls
- Check and inspect all gas connections from supply to unit
- Check and verify ignition module / controller – verify proper operation

GAS-FIRED HEATERS INSPECTION / MAINTENANCE SCHEDULE

The following tasks are performed on operational maintenance visits

Visually inspect unit to ensure that the air flow required for combustion is not obstructed from the unit

Visually inspect the flue stack to ensure the exhaust path is clear and free of obstruction

Inspect the control panel wiring for loose connections and check each panel for proper operation

Check & verify operation of the gas ignition system

Check condition of heating elements, clean to ensure proper operation

Inspect electrical connections, contactor relays & operating safety controls

Cooling Tower

Annual & Operating Inspection & Maintenance Schedule

ANNUAL VISIT

- Test drainage system
- Valve off and drain tower
- Clean and inspect level control
- Clean strainer
- Clean louvers, eliminators, and grills
- Clean distribution pan
- Clean spray nozzles
- Clean fan and blades
- Clean sump strainers
- Fill system
- Run system to inspect operation

OPERATING INSPECTION

Visual Inspection & Cleaning

- Inspect for unusual noises, vibration, odor, etc.
- Inspect structural elements for corrosion and damage
- Inspect mounting points for secureness, tighten if necessary
- Inspect guards, doors, and panels
- Inspect system for leaks in piping, flange connections, etc.

Unit Control Panel

- Clean cabinet for cleanliness, moisture, oil, etc
- Inspect wires for security and damage
- Inspect connections for tightness and corrosion
- Verify indication and alarm devices
- Inspect and check for errors on installed pressure and temperature gauges
- Verify operation of damper and/or fan speed control
- Test operation of all other safeties
- Verify make up water system and water level control
- Verify chemical and/or water treatment

Cooling Tower (cont.)

Fan Motors

- Lube motor bearing
- Inspect for vibration and/or noise
- Inspect motor mountings for security
- Clean motors and motor cooling openings

Fans

- Lube fan and shaft bearings, or gearbox
- Drain, flush and replace oil in gearbox
- Inspect and record belt tension and condition
- Replace belt if necessary
- Inspect pulleys for wear and alignment
- Inspect for secureness of blades (propeller type fan)
- Inspect for freedom of rotation, cracks and alignment
- Inspect fan blades or wheel for cleanliness
- Inspect for vibration and/or noise
- Inspect mountings for security

Low Ambient Controls

- Verify dump and fill system
- Verify low ambient controls
- Inspect sump heating device
- Verify piping heat tapes
- Test operation of safety controls

SEASONAL & OPERATIONAL INSPECTION SCHEDULE

PUMPS

- Visual inspection and cleaning
- Inspect overall condition of pump
- Inspect for unusual noises, vibration odor, etc.
- Inspect structural elements for corrosion and damage
- Inspect mounting points for secureness, tighten if necessary
- Inspect for secureness of guards
- Inspect system for leaks in piping, flange connections, etc.
- Inspect shaft seal or packing flushing line and strainer
- Clean strainer if necessary
- Inspect coupler for wear and visual alignment, align if possible
- Verify operation of shaft seal or packing flushing line and strainer, clean if required
- Measure suction pressure
- Measure discharge pressure
- Measure expansion tank level
- Lubricate pump bearings
- Verify operation of indication and alarm devices
- Inspect and check for errors on installed pressure and temperature gauges
- Clean pump strainers if isolation valves are installed and working properly
- Clean the in-line condenser water loop strainers

STARTERS AND CONTACTORS

- Inspect enclosure & components for cleanliness, moisture, oil,
- Inspect connections for tightness and corrosion, tighten if necessary
- Inspect wires for security and damage
- Inspect contacts for signs of wear, arcing, overheating, etc.

MOTOR

- Lubricate motor bearings
- Inspect for excessive vibration
- Clean motor and motor cooling openings, grease bearings
- Record amperage and voltage
- Inspect impellers and seals for wear and replace when required

WATER SOURCE HEAT PUMP

Seasonal Maintenance and Start Up

Compressor Section

- Check refrigerant charge by evaluating pressures and/or temperatures
- Check and Inspect for refrigerant leaks
- Check and inspect crankcase heaters
- Check oil level in compressor, add if required
- Visually inspect compressor oil where possible and perform oil analysis if required
- Check changeover valves
- Check and calibrate safety controls
- Check and tighten electrical connections, contactors, relays, operating safety controls
- Check starter, tighten all terminals and check contactors for wear and damage
- Observe unit operation & cycle from heating to cooling, observe operation
- Lubricate motor and fan bearings
- Inspect fan section for proper alignment and operation
- Check control interlocks
- Check and clean air cooled condenser
- Check and clean condensate sling ring area (where applicable)
- Clean debris from air inlet louvers

Evaporator Air Coil Section

- Inspect coil for cleanliness – clean as required
- Inspect coils for leaks
- Inspect and clean condensate drain pans as required
- Inspect and change air filter as required

Controls

- Inspect controls for cleanliness, tighten if necessary
- Test low pressure cutout & record – calibrate if required
- Test high pressure safety & record – calibrate if required
- Inspect & verify operation of fan speed controls
- Inspect & verify outside air damper/economizer section – calibrate as required

Fan Motor(s)

- Inspect for excessive vibration & unusual noises in motors
- Clean motor(s) & fan blades to remove loose dirt etc.
- Inspect wiring and connections for signs of wear
- Lubricate motor bearings
- Adjust/record tension on belts & pulleys – replace belts as required
- Inspect fan blades for proper operation & condition

Natural Gas Boiler Preventive Maintenance

A. Cooling Season Start-up Preparation and Inspection

The following tasks prepare your unit for cooling duties with reliability, safety and efficiency:

- Starting the boiler and confirming the operating status
- Recording the operating conditions of the boiler and discussing with operations personnel
- Checking all controls for proper operation
- Checking the burner composition for signs of excessive smoke and adjusting if required
- Analyzing flue gasses via a combustion analysis
- Inspecting and testing the relief valve and blow down valve for proper operation
- Checking the low water-fuel shutoff
- Checking all motors
- Checking the entering and leaving hot water or steam temperature

B. Operating Season Inspections

The following inspection items ensure your unit is operating reliably and efficiently through the cooling season.

- Confirming the operating status of the boiler
- Checking burner combustion for signs of excessive smoke and adjusting if required
- Checking all controls for proper operation
- Inspecting and testing the relief valve and blow down valve for proper operation
- Checking the low water-fuel shutoff
- Checking the operation of all motors
- Checking and cleaning the fuel filters
- Checking the entering and leaving hot water or steam temperature

The Annual Equipment Shutdown Inspection and PM

The following tasks are performed once each year during a shutdown period in order to properly evaluate your equipment status and prepare your unit for the next cooling season:

Cleaning fireside surfaces, including water wall tubing and drum surfaces within the firebox area, including the removal of soot.

Examining all fireside surfaces for evidence of corrosion, blisters or pitting.

Examining all welded outlet connections at the steam drum for leaking, including the removal of insulating material when required.

Inspecting the boiler casing for signs of warping, alignment or overheating

Inspecting the supporting members for proper alignment, sagging or shifting

Water wall tubes and accessible generator tubes in the firebox area should be inspected for alignment, corrosion, erosion, bulges, and deteriorated welds

Inspecting refractory material cracking, shifting, sagging, bulging and general deterioration

Inspecting the internal surface of drums and heads for pitting or surface irregularities

Brushing and inspecting each tube for pitting, erosion, corrosion and excessive scale buildup

Cleaning and inspecting the shell material between the tubes and end holes

Cleaning and replacing oil nozzles and filter

Verifying the free movement of all linkage

Checking, cleaning or replacing the fuel filters

Checking the flame detection system for proper operation

Checking all safety and relief valves, the low water fuel shutoff, water level controls and the water gauge glass for proper operation, and cleaning or replacing if required

Checking and adjusting all fuel oil pump seals

Checking the condition of all couplings

Checking and lubricating all motors

SEASONAL INSPECTION SCHEDULE

Air Cooled Coil Cleaning

The following tasks are performed once each year during a shutdown period in order to properly evaluate your equipment status and prepare your unit for the next cooling season:

Owner to provide a water faucet and 110V service near equipment.

Protect any controls which can be reached by the spray with plastic wrap.

Go over coil, with detergent / acid cleaner (if necessary) and high or low pressure spray (w/a).

Allow detergent, to soak in to loosen dirt.

Rinse detergent using high pressure spray.

Adjust cleaning pressure depending on depth of coil, fins per inch, type of soil blockage, etc.

Using a nozzle, direct spray straight into coils to avoid bending fins.

Using properly sized coil comb, straighten any bent coil fins

SEASONAL INSPECTIONS SCHEDULE

CONTROL SYSTEMS

The following tasks are performed two times per year to properly evaluate you system and ensure it is operating reliably:

Perform system function test to verify complete and accurate operation

Examine and analyze standard log reports

Inspect automation equipment for proper operation

Verify operation of controls regarding critical points and control loops

Test power supply, board voltages, and power regulating components--check terminations and visually inspect components

Communicate with the system remotely and verify diagnostic abilities

Calibrate system hardware and equipment where required

**Delea Patterson, AP/Purchasing
City of Gatlinburg
1230 Parkway East, P.O. Box 5
Gatlinburg, Tennessee 37738**

We have reviewed the specifications and offer the following:

Annual cost for Preventive Maintenance \$ _____

Hourly Service rate (Normal Hours) \$ _____
(List regular hours; ie., 8am – 4:30pm, Mon - Fri)

Overtime rates (Specify hours) \$ _____

Sunday, hourly labor rate \$ _____

Holiday, hourly labor rate \$ _____

Mark-up on parts % _____

**“Not to exceed” annual price for parts and labor.
(For all items in excess of the preventive
Maintenance agreement)** \$ _____

Any deviations from the specifications are noted below.
DEVIATIONS? ___YES ___NO

Signed/ _____

Name (Print)

Date

Company Name

Telephone Number

Address

Fax Number

City State Zip

Email (if applicable)

EACH BIDDER SHALL SUBMIT THIS STATEMENT OF COMPLIANCE WITH THEIR BID.

For Title VI and IX compliance, we ask for voluntary disclosure of the following information:

Gender: Male _____

 Female _____

Race: Caucasian _____

 African American _____

 Other _____

(Please specify)

Bidders List

Shoffner Mechanical Equipment
3600 Papermill Road
Knoxville, TN 37939
Kober@skmes.com

Perfection Group, Inc.
Brad Davidson
6816 Barger Pond Way
Knoxville, TN 37912
423-494-2329 cell
bdavidson@perfectiongroup.com

Del-Air Mechanical Contractors
135 Chickamauga Avenue
Knoxville, TN 37917
865-525-4119 Fax 521-7043
randylay@delairmechanical.com
jimmccampbell@delairmechanical.com

The Trane Company
5220 S. Middlebrook Pike
Knoxville, TN 37921
Kristi.hayes@trane.com

Cherokee Group
P.O. Box 6248
Sevierville, TN 37864
865-428-6919 Fax 428-6984
cmccarty@thecherokeegroup.net

Archer Air
2503 West Beaver Creek Dr
Powell, TN 37849
865-859-9082
service@archerac.com