



INVITATION FOR SEALED BID

TAC #524

**Description: MAINTENANCE & ENERGY MANAGEMENT SERVICE
Department: PARK & RECREATION**

NIGP Commodity Code(s): 910-36-00-000-0

Total pages including this page is 33

FAXING OF BID WILL NOT BE ACCEPTED

Important Instruction – Read Carefully:

**If you have obtained these bid specifications from either of:
City of Tulsa's Fax-on-Demand (918-596-1171) or
City of Tulsa's Website : www.cityoftulsapurchasing.org**

**you must notify the buyer Laura Blades of your intent to bid by
e-mail lblades@ci.tulsa.ok.us in order to receive addenda. The buyer
will always acknowledge your e-mail for your records. All addenda
will be posted on fax-on-demand and the website.**

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Pay special attention to those pages with a reference to the following notes:

Note #1: Signature of authorized agent required

Note #2: Signature of an authorized agent and notarized required

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Your bid response should follow the same format listed above plus any additional format requested in the body of the bid invitation.

**INVITATION FOR SEALED BIDS
TO
City of Tulsa**

200 CIVIC CENTER, ROOM 109, TULSA, OKLAHOMA 74103

Bid number and date of bid opening must appear on the lower left outside corner of bid envelopes and all related containers.

DATE OF OPENING: March 29, 2001

BID NUMBER: TAC 524

BID MUST BE IN THE CITY CLERK'S OFFICE AT THE ABOVE ADDRESS BY 5:00 P.M. THE DAY PRECEDING THE "DATE OF OPENING" SHOWN ABOVE.

BIDS WILL BE OPENED AT 8:30 A.M. IN THE CITY COUNCIL ROOM ON THE DAY SPECIFIED UNDER "DATE OF OPENING."

PUBLISHED IN THE TULSA DAILY COMMERCE AND LEGAL NEWS: March 14, 15, 16, 19, 20, 2001

Bid must be accompanied by bidder's bond, cashier's check or certified check in the amount of: NONE

PLEASE READ TERMS AND CONDITIONS ON THE NEXT PAGE BEFORE COMPLETING BID DOCUMENTS

THE FOLLOWING SECTION MUST BE COMPLETED BY BIDDER

Delivery will be made in not more than _____ days after receipt of order.

Payment terms _____ % _____ days.

City of Tulsa may increase quantity of order at the unit price bid for _____ days. (Bidder to Specify Days) I have examined the terms and specifications and the instructions to bidders herein and agree, provided I am awarded a contract, to provide the above described items for the sum shown in accordance with the terms and specifications stated herein. All deviations are in writing and attached hereto.

Enclosed is a BID BOND ; CASHIER'S CHECK; Certified Check in the amount of \$ _____, which I agree the City of Tulsa may retain as liquidated damages in the event of my failure to comply with the terms of this bid.

MUST BE SIGNED BY AUTHORIZED AGENT TO BE VALID

FIRM NAME _____ by _____

STREET _____ TITLE _____

CITY STATE _____ ZIP CODE _____ PHONE NUMBER _____ DATE _____

GENERAL TERMS AND CONDITIONS OF BIDS

THESE ITEMS APPLY TO AND BECOME A PART OF THE BID.

NO EXCEPTIONS TO THESE TERMS & CONDITIONS WILL BE CONSIDERED.

1. **BIDS MUST BE SUBMITTED ON THIS FORM ONLY INCLUDING A SIGNATURE OF AN AUTHORIZED AGENT.** Each bid shall be placed in a separate envelope. Be sure envelope is completely and properly identified and sealed, showing the bid number and date in the lower left hand corner. Bids must be time stamped in the office of the City Clerk by 5:00 P.M. on the day before date of opening.
2. No bidder may withdraw his proposal for a period of thirty (30) days after the date and hour set for the opening of bids.
3. All prices shall be quoted F.O.B. Tulsa, Oklahoma, and delivery to City of Tulsa location shall be without additional charge.
4. The bidder shall attach the manufacturer's name of the equipment or material to be furnished, type, model numbers, manufacturer's descriptive bulletins and specifications. All guarantees and warranties should be clearly stated. This data shall be in sufficient detail to describe accurately the equipment or material to be furnished. Manufacturer's specifications, in respect to the successful bidder, shall be considered as part of his contract with the City of Tulsa.
5. The bidder shall show in the proposal both the unit prices and total amount, where required, of each item listed. In the event of error or discrepancy in the mathematics, the unit prices shall prevail.
6. Any exceptions or deviations from written specifications shall be shown in writing and attached to the bid form.
7. Each bidder agrees to comply with the terms of Title 5, Chapter 1, of Tulsa, Oklahoma Charter and revised ordinances relating to equal employment opportunity.
8. **THE ENCLOSED FORMS REGARDING NON-COLLUSION AND FINANCIAL INTEREST MUST BE SIGNED, NOTARIZED, AND RETURNED WITH THE BID.**
9. The City of Tulsa reserves the right to reject any and all bids, to waive any technicalities in the bidding, and to award each item to different bidders or all items to a single bidder.
10. All bids must be accompanied by bidders bond, cash, certified or cashier's check in the amount shown on the face of the bid form. This amount shall be retained by the City of Tulsa as liquidated damages in the event the successful bidder (or bidders) fails to execute a contract, if required. The bidder agrees that said amount is presumed to be the damages sustained by the City due to the impracticability and extreme difficulty in fixing the actual damages. The office of the City Clerk will return the bid deposits to the unsuccessful bidders, after a contract has been awarded or all bids have been rejected.
11. In the event cash discounts are offered by the bidder, the discount date shall begin with the date of invoice, the date of receipt of all material covered by the purchase order, or the date of receipt by the City of Tulsa of the original copy of the purchase order with properly executed Affidavit of Claimant, whichever is the later date.
12. Direct purchase of certain items of equipment or material by the City of Tulsa are exempt from Federal Excise Tax and Oklahoma Sales Tax. In such cases the bidder shall quote prices which do not include Federal Excise Tax and Oklahoma Sales Tax. The City of Tulsa will furnish executed exemption certificates upon presentation by the bidder at the time of purchase.
13. Bid must show number of days required for delivery under normal conditions. Failure to state delivery time obligates bidder to complete delivery in fourteen (14) calendar days. Unrealistically short or long delivery promises may cause bid to be disregarded. Contractor must keep Purchasing Department advised at all times of status of order. Default in promised delivery or failure to meet specifications authorizes the Purchasing Agent to purchase supplies elsewhere and charge full increase of cost and handling to defaulting contractor. Consistent failure to meet delivery promises without valid reason may cause removal from bid list.
14. Bidder agrees to defend and save City of Tulsa from and against all demands, claims, suits, costs, expenses, damages and judgments based upon infringement of any patent relating to goods specified in this order or the ordinary use or operation of such goods by City or use or operation of such goods in accordance with bidders direction.
15. If the bid requires a written contract, the successful bidder shall execute a written contract with the City of Tulsa and return the required bonds and insurance certificates within ten (10) days after submission of contracts to said bidder by the City.

INTEREST AFFIDAVIT

STATE OF _____ }
 } ss
COUNTY OF _____ }

_____, of lawful age, being first duly sworn, states that s(he) is the agent authorized by the bidder to submit the attached bid. Affiant further states that no officer or employee of the City of Tulsa either directly or indirectly, owns a twenty-five percent (25%) interest in the bidder's business or such a percentage which constitutes a controlling interest. Affiant further states that the following officers and/or employees of the City of Tulsa have some direct or indirect interest in the bidder's business:

By _____
(Signature)

(Title)

Subscribed and sworn to before me this _____ day of _____, 19_____.

NOTARY PUBLIC SIGNATURE

My Commission Expires:

The Interest Affidavit must be completed, signed by an authorized agent, and notarized.

BIDDER AFFIDAVIT - TITLE 74 O.S. (1974 SUPP.) 85.22-85.25

STATE OF _____ COUNTY OF _____

_____, of lawful age, being first duly sworn on oath says
Authorized Agent

1. (s)he is the duly authorized agent of _____, the bidder submitting the competitive bid which is attached to this statement, for the purpose of certifying the facts pertaining to the existence of collusion among bidders and between bidders and municipal officials or employees, as well as facts pertaining to the giving or offering of things of value to government personnel in return for special consideration in the letting of any contract pursuant to the bid to which this statement is attached.
2. (s)he is fully aware of the facts and circumstances surrounding the making of the bid to which this statement is attached and has been personally and directly involved in the proceedings leading to the submission of such bid; and
3. neither the bidder nor anyone subject to the bidder's direction or control has been a party;
 - a. to any collusion among bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding,
 - b. to any collusion with any municipal official or employee as to quantity, quality or price in the prospective contract, or as to any other terms of such prospective contract, nor
 - c. in any discussions between bidders and any municipal official concerning exchange of money or other thing of value for special consideration in the letting of a contract.

SIGNATURE OF AUTHORIZED AGENT

Subscribed and sworn to before me this _____ day of _____, 19_____.

Signature of Notary Public

MY COMMISSION EXPIRES

The Bidder Affidavit must be completed, signed by an authorized agent, and notarized.

CONTRACTOR/BIDDER INFORMATION SHEET

To be completed by all Bidders
For Contracts with the City of Tulsa
(Please print or type)

Project No. or Description _____

Full Name of Bidder _____

Legal Identity
(Corporation, Partnership,
Individual, etc.) _____

Address _____

Telephone No. _____

FAX No. _____

Taxpayer Identification Number _____

Contact Person _____

Phone No. _____

Fax No. _____

E-mail address _____

Webpage Address _____

Price Sheet Summary

Vendor Name: _____ Signature: _____
Date: _____

You will be able to obtain a copy of the Bid Summary on the City of Tulsa's Purchase-Net Fax-on-Demand and Website shortly after bid opening.

TAC #524

Maintenance and Energy Management Service

\$ _____
Monthly Cost

Hourly rate (additional service)

\$ _____
Per Hour

TAC #524
MAINTENANCE & ENERGY MANAGEMENT SERVICE
PARK & RECREATION

PURPOSE:

The City of Tulsa, Oklahoma, desires to enter into a contractual relationship with an Energy Repair and Maintenance Firm for the purpose of **Maintenance and Energy Management Service** for the Park & Recreation Department.

INTENT:

It is the intent of this bid to set forth the terms, conditions and requirements necessary to secure **Maintenance and Energy Management Service** on a contractual basis and in a competitive manner. It is further intended that the services covered by this bid shall be furnished by the successful bidder subject to all the terms and conditions set forth in this bid. No other terms and conditions shall be binding upon the parties unless hereafter accepted by them in writing. (Written acceptance of the performance of all or any portion of the services covered by this bid shall constitute unqualified acceptance of all its terms and conditions.) The terms of any proposal referred to in this bid will be included and made a part of the contract only to the extent of specifying the nature of service ordered, the price therefore, and the performance thereof, and then only to the extent that such terms are consistent with the terms and conditions of this bid. Evidence of inspections shall be submitted to the Park & Recreation Department.

SCOPE OF SERVICES:

The work performed as a result of this bid shall be of the highest quality and shall be consistently so throughout the terms of the resulting contract. All work shall meet or exceed all State, Federal and City regulations. All work performed shall be of the type and frequency as shown on Exhibit "A".

CHARACTER OF SERVICES:

The successful bidder, as an independent contractor, shall furnish all labor, material and tools to make necessary installation, repair and maintenance of Energy Management System.

SITE EXAMINATION:

Each bidder shall examine the locations listed in Exhibit "A" of this bid and represent by submitting a proposal that he has made all investigations essential to a full understanding of the difficulties which may be encountered and has

special qualifications for performing the work covered by this bid in accordance with the requirements, terms and conditions of this bid.

CONTACT:

Questions relating to bidding procedures shall be directed to:

Laura Blades, Buyer
Phone No: (918) 596-7553

A site examination can be arranged by contacting:

Mike Battemfield
Phone No.: (918) 596-2486

CONTRACTS:

The term of the contract shall be for a period of one (1) year beginning from the date it is executed by the City of Tulsa. The contract shall be renewable, with the consent of both parties for two (2) successive one (1) year periods.

PERFORMANCE BOND:

A Performance Bond in the amount of \$500.00 will be required at the time of contract signing, as well as proof of any insurance documents required herein.

ASSIGNMENT:

Successful bidder shall not sell, sublet, or assign this agreement or any portion thereof to any person or persons, except upon the written approval of the City of Tulsa.

Contractor shall comply with all applicable Governmental laws and regulations.

CONTRACTOR'S LIABILITY:

General Liability. The City of Tulsa and the Tulsa Parks Department shall not be liable for any loss or damage sustained by the Contractor. The Contractor shall save the City of Tulsa whole and harmless from any and all claims of whatsoever nature growing out of or resulting from or in any way connected with the exercise of the privilege herein granted. Contractor will exercise every necessary precaution for the safety of the property and the protection of any and all persons and/or property located adjacent to or making passage through said property.

Liens. Contractor agrees to indemnify and hold the City harmless from all claims, demands, causes of action or suits of whatever nature arising out of the services, labor and materials furnished by the Contractor or his subcontractors under the scope of this bid and from all laborer's material men's and mechanics'

liens upon the real property upon which the work is located or any property of the City of Tulsa.

Insurance. The Contractor, and any subcontractors, shall carry and keep in force during the term of the contract policies of public liability insurance including any contractual liability assumed under the contract in the minimum amounts set forth below and workmen's compensation and employer's liability insurance in the amounts required by law. The contractor shall also furnish an owner's protective policy in the same amounts with the City of Tulsa as the named assured by the same insurance company as the insurer of contractor's liability coverage.

Personal Injury, each person	\$175,000.00
Property Damage, each person	\$25,000.00
Personal Injury and Property Damage Aggregate, each occurrence	\$1,000,000.00

The policy shall provide a clause stating that it cannot be canceled by the insurer without the insurer first giving the City ten (10) days written notice of cancellation. The successful bidder shall furnish the City a certificate of insurance showing such coverage within ten (10) days following the acceptance of the bid by the City.

PRICE ADJUSTMENT OPTION

The price paid for a commodity under this contract shall not change during the term of this contract. However, if the bidder anticipates that it will not be able to maintain firm prices for any renewal period, a change in price may be allowed in a renewal of this contract if the following criteria are met:

- (1) The bidder includes a formula, to be used to calculate a change in price at the time of renewal, **in the bid for the initial contract**. Such formula shall be reasonable, objective and capable of measurement.
- (2) The contractor notifies the City, in writing, no later than 30 days prior to the expiration of the initial contract period, or any renewal period, of its intent to exercise the right to escalate or de-escalate prices under the contract. The notice shall include a calculation of the price increase or decrease requested including the formula used.

EMPLOYMENT DISCRIMINATION BY CONTRACTOR PROHIBITED:

A. During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employees or applicant for employment because of race, religion, color, sex or national origin, except where religion, sex or national origin is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provision of this nondiscrimination clause.
- (2) The contractor, in all solicitations or advertisements for employment placed by or on behalf of the contractor, will state that such contractor is an equal opportunity employer.
- (3) Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

B. The contractor will include the provision of the foregoing paragraphs of this section in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

OTHER APPLICABLE LAWS:

Any provisions required to be included in a contract of this type by any applicable and valid Federal, State or local law, ordinance, rule or regulation shall be deemed to be incorporated herein.

AWARD OF BID:

The bid shall be awarded to the firm whose proposal is responsive to the bid and is most advantageous to the City, considering the factors identified in the bid and Section 406E of Title 6, The Purchasing Ordinance set forth below:

406E. AWARD OF CONTRACT

1. Authority in the Mayor. The Mayor shall have the authority to award contracts within the purview of this chapter.
2. Lowest Secure Bidder. Contracts shall be awarded to the lowest secure bidder meeting specifications. Bid Specifications may include a point system for evaluating the lowest secure bid. In determining "lowest secure bidder", in addition to price, the following factors shall be considered:
 - a. The ability, capacity and skill of the bidder to perform the contract or provide the service required;

- b. whether the bidder can perform the contract or provide the service promptly or within the time specified, without delay or interference;
- c. the character, integrity, reputation, judgment, experience and efficiency of the bidder;
- d. the quality of performance of previous contracts or services;
- e. the previous and existing compliance by the bidder with laws and ordinances relating to the contract or service;
- f. the sufficiency of the financial resources and ability of the bidder to perform the contract or provide the service;
- g. the quality, availability and adaptability of the supplies or contractual services to the particular use required;
- h. the ability of the bidder to provide future maintenance and service for the use of the subject of the contract;
- i. where an earlier delivery date would be of great benefit to the requisitioning agency, the date and terms of delivery may be considered in the bid award, and
- j. the number and scope of conditions attached to the bid.
- k. if a point system has been utilized in the bid specifications, the number of points earned by the bidder.

Terms and conditions shown on page 4 apply to this transaction.

BIDDER'S AFFIDAVIT:

Each bidder shall accompany their bid with a fully executed and notarized copy of the attached **Non-Collusion Affidavit** and the **Interest Affidavit**. Failure to do so may be cause for rejection of the bid.

EXHIBIT A

Coverage to include mechanical, automation, filters and water treatment as follows:

PRIMARY HEATING AND BOILER EQUIPMENT

1. **Scheduled Service Visits** - provide service so that the listed equipment receives 3 Operational Inspections per year. Inspection services include, but are not limited to, those on the attached schedule(s).
2. **Scheduled Service Materials** - provide materials necessary to complete Operational Inspection services.
3. **Comprehensive Annual Inspection** - provide services so that the listed equipment receives one Comprehensive Annual Inspection each year. Annual Inspection tasks include, but are not limited to, those on the attached schedule(s).
4. **Annual Inspection Materials** - provide materials necessary to complete Comprehensive Annual Inspections.
5. **Diagnostic Services** - provide the following diagnostic services according to the indicated schedule(s): 2 No. of Electronic Flue Gas Analyses per year.
6. **Fireside Cleaning** - power brush and vacuum fireside once per year.
7. **Enhancement Engineering** - monitors the overall performance of the equipment, taking into consideration current manufacturer's recommendations, reliability, productivity, operating cost and changes in use. When identifies alterations, upgrades, retrofits, etc., which would benefit the Customer, Contractor will suggest appropriate action.
8. **Repair Labor** - provide the On Call Repair Labor as required to restore covered equipment to operating condition, following an Equipment Failure, 24 hours per day, 7 days per week..
9. **Repair Materials** - provide the replacement part(s) as required to restore covered equipment to operating condition, following an Equipment Failure.

(2) Boilers	Lochinvar	CHN-1800	51 hp	Unit	30A/30B
(2) Heating Water pumps	Govern Air	3 x 3-9TV26	5 hp	Unit	44A/44B

SCHEDULED SERVICE AIR FILTERS

<u>Unit Number/Description</u>	<u>Location</u>	<u>Quantity</u>	<u>Changes/Year</u>
24" x 24" x 2" Pleated Filters	Govern Air Unit	36	12
12" x 24" x 2" Pleated Filters	Govern Air Unit	8	12

EQUIPMENT LISTING - ELECTRONIC

<u>EQUIP. DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>MODEL/ SERIAL NO.</u>	<u>SIZE</u>	<u>QTY.</u>	<u>LOCATION</u>	<u>SCHED(S)</u>	<u>COVERAGE EXCEPTIONS</u>
Heating Valve Acts	Tevco	TMV354J	2-1/2"	1	Zone #1	A/9088	E
Heating valve Acts	Tevco	TMV37P	3/4"	2	Zone #2 & 3	A/9088	E
Boiler Valves	Belimo	2779/AE120	2-1/2"	2	Boiler	A/9088	E
Damper Actuators							
OA/RA, Exh, Minim.	Belimo	AF24SR		9	Unit	A/9088	E
"Metasys Equip."							
O.A. Sensors	JCI	TE-6000-1		1	Unit	A/9088	E
R.A. Sensors	JCI	TE-6001-1-		1	Unit	A/9088	E
S.A. Sensors	JCI	TE-6001-1		3	Unit	A/9088	E
O.A. Humd. Sensor	JCI	HE-6310-2		1	Unit	A/9088	E
R.A. Humd. Sensor	JCI	HE-6310-2		1	Unit	A/9088	E
Zone Sensors	JCI	TE-6413W-Z010		3	Zone #1,#2,#3	A/9088	E
Room Sensors	JCI	TE-6100-960		3	Space	A/9088	E
Hot Water Sensor	JCI	TE-6001-3		1	Unit		E
N2Dialer	JCI			1	Unit		E
Modem	Hayes	2400 Baud					E
Main Controller	JCI	DX-9100		1	Unit	A/9088	E
Expansion Modules	JCI	XT-9100-8004		1	Unit	A/9088	E
Expansion Modules	JCI	XP-9102-8204		1	Unit	A/9088	E
Expansion Modules	JCI	XP-9103-8004		1	Unit	A/9088	E
E = Scheduled Service Labor, Scheduled Service Materials, Repair Labor and Repair Materials							

ASSOCIATED AIR CONDITIONING AND REFRIGERATION EQUIPMENT LISTING - CONTINUED

<u>EQUIP. DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>MODEL/ SERIAL NO.</u>	<u>SIZE</u>	<u>QTY.</u>	<u>LOCATION</u>	<u>SCHED(S)</u>	<u>COVERAGE EXCEPTIONS</u>
A.C. Compressors	Copeland	8DD3-5000	50 ton	2	Unit	11A/11B	E
A.C. Compressors	Copeland	6DR3-4000	40 ton	2	Unit	11A/11B	E
Evap. Cond. Units	Govern Air			2	Unit	54A/54B	B
Evap. Cond. Fan Mtr.	Govern Air		71/2hp	2	Unit	54A/54B	E
Evap. Cond. Pumps	Govern Air		5 hp	2	Unit	44A/44B	E
S.A. Fan Assembly	Govern Air			2	Unit	56A/56B	B
S.A. Fan Motors	Govern Air		40 hp	2	Unit	56A/56B	E
R.A. Fan Assembly	Govern Air			2	Unit	56A/56B	B
R.A. Fan Motors	Govern Air		15 hp	2	Unit	56A/54B	E
Evap. Cooler	Govern Air			2	Unit	54A/54B	B
Evap. Cooler Motors	Govern Air		1-1/2 hp	2	Unit	54A/54B	E
B = Scheduled Service Labor and Scheduled Service Materials Z = Scheduled Service Labor, Schedule Service Materials, Repair Labor & Repair Materials							

RECIPROCATING AIR CONDITIONING AND REFRIGERATION EQUIPMENT

1. **Scheduled Service Visits** - provide service so that the listed equipment receives 3 Operational Inspections per year. Inspection services include, but are not limited to, those on the attached schedule(s).
2. **Scheduled Service Materials** - provide materials necessary to complete Operational Inspection services.
3. **Comprehensive Annual Inspection** - provide services so that the listed equipment receives one Comprehensive Annual Inspection each year. Annual Inspection tasks include, but are not limited to, those on the attached schedule(s).
4. **Annual Inspection Materials** - provide materials necessary to complete Comprehensive Annual Inspection services - provide up to 5% of the total charge (to a maximum of \$200.00 worth of refrigerant) per machine per year.

5. **Diagnostic Services** - provide diagnostic services as indicated below to the listed reciprocating equipment. 1 No. of Spectrochemical Oil Analysis per year.
6. **Filter Services** - provide and install new, quality air filter media for all listed systems. 12 Filter changes per year are included as part of this agreement.
7. **Enhancement Engineering** - monitor the overall performance of the equipment, taking into consideration current manufacturer's recommendations, reliability, productivity, operating cost and changes in use, When identifies alterations, upgrades, retrofits, etc., which would benefit the City, suggest appropriate action.
8. **Repair Labor** - provide the On Call Repair Labor as required to restore covered equipment to operating condition, following an Equipment Failure, 24 hours per day, 7 days per week.
9. **Repair Materials** - provide the replacement part(s) as required to restore covered equipment to operating condition, following an Equipment Failure. In addition, refrigerant lost as a consequence of the Equipment Failure will be replaced.

COMPREHENSIVE ANNUAL INSPECTION RECIPROCATING CHILLERS AND STAND ALONE COMPRESSORS

NOTE: The Comprehensive Annual Inspection may be performed in more than one season due to climatic conditions, winter shutdown, spring start-up, etc. This will ensure proper equipment lay-up, start-up and appropriateness and timeliness of the procedures.

Report in with Customer Representative.

Record and report abnormal conditions, measurements taken, etc.

Review customer logs with customer for operational problems and trends.

Compressor(s)

Inspect vibration eliminators for secureness and damage.

Clean and flush cooling system.*

Verify setting of oil cooler water (valve) regulator.*

Test oil for acid.*

Change oil and filter element.*

Take oil sample for analysis.*

Tighten terminal connections at heater elements.

Test secureness of mounting points, and tighten all major points.

Test freeze control cutout and record temperature.*

Verify operation of oil temperature control.

Test oil high temp cutout and record; calibrate if needed.*

Starter

Inspect wire insulation for signs of overheating, burns, etc.

Megger motor at starter and record reading.

Measure operating amperage and record readings.

Clean enclosure.

Tighten terminal connections at starter.

Measure operating voltage and record readings.

Inspect starter for signs of wear, arcing, overheating, burns, etc.

Open Compressor (only)

Lubricate motor bearings.

Clean motor air intake screens.

Lubricate coupling.*

Inspect motor windings and report condition.

Visually inspect coupling.

Check shaft alignment. Align as needed.

Controls

Inspect control center; clean and tighten connection; inspect components.

Verify operation of bypass valve.

Verify capacity control reaction.

Test low pressure cutout and record; calibrate if needed.

Test high pressure safety and record; calibrate if needed.*

Verify operation of cooling water (valve) regulator.*

Operational Test

Run and record a complete test log on machine.

Verify refrigerant charge.

Verify oil level.

Verify superheat adjustment.

Inspect for vibrations and unusual noises in bearings, motors, etc.

Inspect moisture indicator for evidence of moisture.

Test accuracy of all pressure gauges.

Record compressor oil pressure.

Record compressor suction pressure.

Record compressor discharge pressure.

Compressor and Vessels

Test for refrigerant leaks and report results.

***where applicable**

OPERATIONAL INSPECTION RECIPROCATING CHILLERS AND STANDALONE COMPRESSORS

Report in with Customer Representative.

Record and report abnormal conditions, measurements taken, etc.

Review customer logs with customer for operational problems and trends.

Compressor(s)

Verify setting of oil cooler water (valve) regulator.*

Open Compressor (only)

Lubricate motor bearings.

Operational Test

Draw oil sample for analysis.

Run and record a complete test log on machine.

Verify refrigerant charge.

Verify oil level.

Verify superheat adjustment.

Inspect for vibrations and unusual noises in bearings, motors, etc.

Inspect motor windings and report condition.

Lubricate coupling.*

Inspect motor windings and report condition.

Visually inspect coupling.

Controls

Verify operation or bypass valve.

Verify capacity control reaction.

Verify operation of oil temperature control.*

Verify operation of cooling water (valve) regulator.*

Starter

Measure operating amperage and record readings.

Inspect starter for signs of wear, arcing, overheating, burns, etc.

Inspect moisture indicator for evidence of moisture.

Record compressor oil pressure.

Record compressor suction pressure.

Record compressor discharge pressure.

Check and record superheat.*

Check and record subcooling.*

Compressor and Vessels

Test for refrigerant leaks and report results.

Report condition and repair requirements (if any).

NOTE: The preceding inspection tasks will be completed when operating conditions permit.

***where applicable**

OPERATIONAL INSPECTION STEAM OR HOT WATER BOILERS

Report in with Customer Representative.

Record and report abnormal conditions, measurements taken, etc.

Review customer logs with customer for operational problems and trends.

Review customer logs for completeness, accuracy and trends.

Visually inspect boiler exterior for possible leaks and report.

Observe condition of flame.

Controls

Verify boiler room supply vents are free from obstructions.

Verify operation of makeup water system.

Verify operation of pressure or temperature, primary and backup controls.

Operational Test

Test accuracy of stack temperature gage.

Test low water cutoff.

Try lever test safety relief valve.

Test boiler room floor drains for proper functioning.

Report boiler condition and repair requirements (if any).

NOTE: The preceding inspection tasks will be completed when operating conditions permit.

COMPREHENSIVE ANNUAL INSPECTION STEAM OR HOT WATER BOILERS

NOTE: The Comprehensive Annual Inspection may be performed in more than one season due to climatic conditions, winter shutdown, spring start-up, etc. This will ensure proper equipment lay-up, start-up and appropriateness and timeliness of the procedures.

Report in with Customer Representative.

Record and report abnormal conditions, measurements taken, etc.

Review customer logs with customer for operational problems and trends.

Review customer logs for completeness, accuracy and trends.

Drain boiler as required to perform tests and inspections.

Perform slow drain test or low water cutoff.

Verify operation of makeup water system.

Inspect condition of flues and report.

Inspect refractory and firebrick for defects and report.

Visually inspect boiler exterior for possible leaks and report.

Test boiler room floor drains for proper functioning.

Inspect fireside of boiler and report.

Inspect waterside of boiler for scale buildup and/or oil and report.

Reassemble and fill boiler fire burner to boil of oxygen.

Boiler Trim

Disassemble, clean and inspect low water fuel cutoff.

Clean or replace sight glass.

Disassemble, clean and inspect water feeder.

Controls

Clean or replace expansion tank sight glass.*

Inspect all electrical connections for tightness.

Verify boiler room supply vents are free from obstructions.

Verify accuracy of temperature gages.

Inspect air lines for obvious problems.

Inspect wire insulation for signs of overheating, burns, etc.

Verify accuracy of pressure gages.

Operational Test

Test accuracy of stack temperature gages.

Test emergency disconnect boiler shutdown.

Try lever test safety relief valve.

Verify operation of pressure or temperature, primary and backup controls.

Report boiler condition and repair requirements (if any).

***where applicable**

COMPREHENSIVE ANNUAL INSPECTION PUMP

Report in with Customer Representative.

Record and report abnormal conditions, measurements taken, etc.

Review operation with customer for problems and trends.

Inspect for vibrations, unusual noises, odors, etc.

Inspect mounting points for secureness and tighten.

Inspect packing; adjust to a slow drip if necessary.*

Inspect mechanical seal.*

Verify flow in sealing/flushing line.*

Lubricate coupling.*

Lubricate motor bearings.

Inspect system for leaks in piping, flange connections, etc., and record condition.

Lubricate pump bearings.

Inspect motor windings for dirt built-up.

Clean ventilation openings (grills and/or screens).

Visually inspect coupling.*

Starter or Contactor

Inspect wiring for secureness and damage, and record condition.

Megger motor at starter and record reading.

Clean enclosure.

Tighten terminal connections at starter.

Inspect contacts for signs of wear, arcing, overheating, etc., and record condition.

Measure operating amperage and record readings.

Operational Test

Inspect level in system expansion tank and record reading.

Record discharge pressure.

Measure operating voltage and record reading.

Test accuracy of all pressure gages.

Record suction pressure.

Report pump condition and repair requirements (if any).

***where applicable**

OPERATIONAL INSPECTION PUMP

Report in with Customer Representative

Record and report abnormal conditions, measurements taken, etc.

Review customer logs with customer for operational problems and trends.

Inspect for vibrations, unusual noises, odors, etc.

Inspect packing; adjust to a slow drip if necessary.*

Inspect mechanical seal.*

Verify flow in sealing/flushing line.*

Lubricate coupling.*

Lubricate motor bearings.

Inspect system for leaks in piping, flange connections, etc., and record condition.

Lubricate pump bearings.

Inspect motor windings for dirt buildup.

Clean ventilation openings (grills and/or screens).

Visually inspect coupling.*

Starter or Contactor

Inspect contacts for signs of wear, arcing, overheating, etc., and record condition.

Measure operating amperage and record readings.

Operational Test

Inspect level in system expansion tank and record reading.

Record suction and discharge pressures.

Report pump condition and repair requirements (if any).

NOTE: The preceding inspection tasks will be completed when operating conditions permit.

***where applicable**

COMPREHENSIVE ANNUAL INSPECTION EVAPORATIVE CONDENSER

NOTE: The Comprehensive Annual Inspection may be performed in more than one season due to climatic conditions, winter shutdown, spring start-up, etc. This will ensure proper equipment lay-up, start-up and appropriateness and timeliness of the procedures

Report in with Customer Representative.

Record and report abnormal conditions, measurements taken, etc.

Review operation with customer for problems and trends.

Test mounting points for secureness and tighten if necessary.

Inspect all structural elements for corrosion and damage.

Inspect for scale buildup on eliminators.

Clean and adjust float assembly if necessary.

Clean condenser strainers.

Test for secureness of guards, doors and panels.

Inspect heater elements for scale buildup.*

Tighten terminal connections on heater elements.*

Verify operation of heaters.*

Verify operation of dump valve and drain system.*

Inspect spray office/nozzles.

Inspect system for leaks in piping, flange connections, etc.

Starter or Contactor

Tighten terminal connections at starter.

Inspect wiring for secureness and damage, and record condition.

Measure operating amperage and record.

Inspect contacts for signs of wear, arcing, overheating, etc., and record condition.

Measure operating voltage and record.

Motor(s)

Inspect wiring for secureness and damage.

Inspect for unusual noises in bearings, motors, etc.

Lubricate motor bearings.

Lubricate motor adjustment screws.

Inspect contacts for signs of wear, arcing, overheating, etc.

Megger motor (at starter) and record reading.

Controls

Verify operation of fan/damper/load control systems.

Verify that overflow drain is clear.

Verify operation of water level probes.*

Verify operation of water feed and controls.

Verify operation of bleed system.

Verify operation of low ambient temperature control.

Test low water level heater shutdown and record results.*

Pump(s)

Inspect packing; adjust to a slow drip if necessary.*

Inspect mechanical seal.*

Verify flow in sealing/flushing line.*

Lubricate coupling.*

Lubricate pump bearings.

Visually inspect coupling.*

Record discharge pressure.

Record suction pressure.

Fan(s) (Centrifugal Only)

Lubricate fan bearings.

Inspect pulley grooves and belts for alignment, wear, and tension.

Inspect fan wheel for free rotation, cracks and alignment.

Replace belts.

Fan(s) (Axial/Propeller Only)

Inspect pulley grooves and belts for alignment, wear and tension.*

Inspect drive shaft, couplings, and bearings for wear, alignment and secureness.*

Replace belts.

Inspect fan blade locking device for secureness.

Lubricate couplings and bearings.

Report condition and repair requirements (if any).

***where applicable**

OPERATIONAL INSPECTION EVAPORATIVE CONDENSER

Report in with Customer Representative.

Record and report abnormal conditions, measurements taken, etc.

Review customer logs with customer for operational problems and trends.

Inspect all structural elements for corrosion and damage.

Inspect for scale buildup on eliminators.

Adjust float assembly if necessary.

Clean condenser strainers.

Inspect spray orifice/nozzles.

Inspect system for leaks in piping, flange connections, etc.

Verify operation of dump valve and drain system.*

Verify operation of heaters.*

Controls

Verify that overflow drain is clear.

Verify operation of bleed system.

Verify operation of water feed and controls.

Verify operation of low ambient temperature control.

Pump(s)

Inspect packing; adjust to a slow drip if necessary.*

Inspect mechanical seal.*

Verify flow in sealing/flushing line.*

Starter or Contactor

Inspect wiring for secureness and damage and record condition.

Measure operating amperage and record.

Inspect contacts for signs of wear, arcing, overheating, etc., and record condition.

Motor(s)

Inspect for unusual noises in bearings, motors, etc.

Lubricate motor bearings.

Fan(s) (Centrifugal Only)

Lubricate fan bearings.

Inspect pulley grooves and belts for alignment, wear and tension.

Lubricate couplings and bearings.

Inspect fan wheel for free rotation, cracks and alignment.

Fan(s) (Axial/Propeller Only)

Inspect pulley grooves and belts for alignment, wear and tension.*

Lubricate couplings and bearings.

Inspect fan blade locking device for secureness.

Report condition and any repair requirements.

NOTE: The preceding inspection tasks will be completed when operating conditions permit.

Lubricate coupling.*

***where applicable**

Lubricate pump bearings.

Visually inspect coupling.*

COMPREHENSIVE ANNUAL INSPECTION FANS AND CENTRAL FAN SYSTEMS

NOTE: The Comprehensive Annual Inspection may be performed in more than one season due to climatic conditions, winter shutdown, spring start-up, etc. This will ensure proper equipment lay-up, start-up and appropriateness and timeliness of the procedures

Report in with Customer Representative.

Inspect for vibrations and unusual noises.

Record and report abnormal conditions, measurements taken, etc.

Report condition of dampers.

Review operation with customer for problems and trends.

Test secureness of guards, doors and panels.

Inspect all structural elements for corrosion and damage.

Fan and Motor

Starter

Inspect motor windings for cleanliness.

Inspect wiring for secureness and damage.

Verify operation of system motor, gages, etc.

Megger motor at starter and record reading.*

Inspect flexible connections and ductwork for damage and leaks.

Inspect switch gear, starter and contractor points.*

Inspect tension on drive and fan belts and change as needed.

Inspect starter for signs of wear, arcing, overheating, burns, etc.*

Lubricate fan shaft bearings.

Inspect electrical connections for tightness and absence of moisture.

Lubricate motor bearings.

Measure and record operating voltage.*

Verify proper operation of dampers and damper linkage.*

Measure and record operating amperage.*

Clean intake screen on motor.

Report condition and repair requirements (if any).

Inspect fan wheel for free rotation, cracks and alignment.

***where applicable**

OPERATIONAL INSPECTION FANS AND CENTRAL FAN SYSTEMS

Report in with Customer Representative.

Record and report abnormal conditions, measurements taken, etc.

Review customer logs with customer for operational problems and trends.

Fan and Motor

Verify operation of system motor, gages, etc.

Inspect tension on drive and fan belts and change as needed.

Lubricate fan shaft bearings.

Lubricate motor bearings.

Inspect for vibrations and unusual noises.

Report condition of dampers.*

Report condition of motor windings - clean/dirty.

Clean intake screen on motor.

Starter

Inspect starter for signs of wear, arcing, overheating, burns, etc.

Measure and record operating amperage.*

Report condition and repair requirements (if any)

NOTE: The preceding inspection tasks will be completed when operating conditions permit.

***where applicable**

SPECTROCHEMICAL OIL ANALYSIS

Sampling Procedure

Run machine to circulate oil in sump.

Oil should be warm, not hot, from operation so as to obtain a representative sample.

Sample will be taken at a petcock installed on the oil line before the filter.

Provide an appropriate and clean container for the sample.

Provide a label indicating: machine manufacturer, model, oil type, run hours and time elapsed since last sampling.

Identify water content which will be reported in ppm, detectable to less than 1 ppm.

Measure the viscosity of the sample at 40°C and report in centistokes.

Measure total acid number and report.

Provide a written report of all conditions and contents, to include:

Unit/oil condition (normal, abnormal, critical).

Suitability of oil for continued use.

Recommendations for corrective action (if required)

Answers to specific questions submitted with the sample.

Analysis and Report

Provide laboratory analysis to identify twenty metallic elements which are measured by a direct reading spectrometer.

FLUE GAS ANALYSIS AND BURNER SETUP

Provide all equipment necessary to the analysis.

Make adjustment to burner to bring it to peak seasonal efficiency.

Provide an experienced operator.

Make recommendation concerning any burner/boiler condition which may prevent the equipment from operating at the greatest efficiency possible.

Provide a report indicating calculated burner efficiency to include excess air and theoretical CO₂.

CONDENSER WATER TREATMENT SERVICES

Provide all chemicals and deliver them to the point of use.

Guarantee the condenser will remain free and lean of scale.

Provide written monthly treated water analysis reports.

Instruct the Customer of treatment application, analytical testing, test result interpretation and treatment program adjustments.

Provide written raw treated water analysis reports.

***where applicable**

Adjust chemical treatment as a result of the provided monthly reports.

Maintain the chemical feed and bleed equipment. Provide the customer with written repair and/or replacement requirements.*

Additional Tasks and/or Special Instructions:

Evaporative Condensers:

Will be treated as stated above with special attention paid toward bacterial control while using this type of equipment and the renewed concern of Legionnaires Disease bacteria.

CLOSED LOOP WATER TREATMENT SERVICES

Provide all chemicals and deliver them to the point of use.

Provide written monthly treated water analysis reports.

Provide written raw treated water analysis reports

Adjust water chemistry as a result of the provided monthly reports.

Maintain the chemical feed and bleed equipment. Provide the customer with written repair and/or replacement requirements.*

Guarantee the system will remain free and clean of scale.

Instruct the Customer of treatment application, analytical testing, test result interpretation and treatment program adjustments.

***where applicable**

NOTE: All reports indicated in this contract are to be submitted within 30 days of complete to:

**Mike Battenfield
1712 Charles Page Blvd.
Tulsa, OK 74127
FAX 596-2499**

METASYS

Network Analysis Services

Network Analysis

On a Scheduled Basis, as Indicated in the Agreement:

Analyze and report on the performance of the Metasys system network

Reset the Metasys Diagnostic Counters.

Allow data to tabulate in the diagnostic registers.

For each Operator Workstation and Network Control Unit (NCU):

- List N1 Diagnostic Statistics.
- Analyze the number of Reconfiguration's for impact on network performance.
- Analyze the Error Rate for each N1 Network Node.
- Analyze the Transmission Rate for each N1 Network Node.
- Determine the N1 Network Performance Ratio.

For each NCU or Companion Trunk (N2 or L2 Trunks):

- List N2 and L2 Diagnostic Statistics.
- Analyze the Error Rate for each Network Node.
- Analyze the Transmission Rate for each Network Node.
- Determine the Network Performance Ratios.

Provide a report summarizing Network Analysis results.

As Required

Perform the Network Analysis tasks as appropriate to verify or discount suspected communications or Network throughout problems.

Perform the Network Analysis tasks as appropriate to evaluate the impact on network performance of various configuration options, as part of a proposed system expansion or modification.

Metasys and Companion Workstations

On Each Scheduled Service Visit to the Jobsite

Report in with appropriate Customer personnel.

Review METASYS for CRITICAL, FOLLOW-UP and OFF-LINE status indications.

Review METASYS for OVERRIDE, DISABLED and LOCKOUT status indications.

Review System Event Log with customer; discuss METASYS operational concerns.

Perform or schedule "corrective Maintenance" procedures as appropriate to resolve situations noted in the preceding Reviews.

Install appropriate METASYS Software refinement and problem correction revisions ("Minor Rev's"), as they become available.

Metasys Workstation

On a Scheduled basis

Check monitor for clarity, focus and color.

Clean Read/Write heads for removable disk driver(s).

Cycle power, listen for unusual motor/bearing noise.

Verify proper system restart, check system date, time and hardware status.

Clean exterior surfaces.

Save/Copy METASYS Workstation Data Base, including custom graphics and resident NCU Archive Data bases, as indicated in the agreement.

Companion Headend Workstation

Check monitor for clarity, focus and color.

Clean Read/Write heads of removable disk drive(s).

Cycle power, listen for unusual motor/bearing noise.

Verify proper system restart, check system date, time and hardware status.

Clean exterior surfaces

Network Control Units (NCU) And Network Expansion Units (NEU)

On a Scheduled Basis

Check LED Indications to verify proper DC power levels appropriate Transmit and Receive activity on the N1, N2 and L2 trunks, and the check for possible Error Code indications.

Inspect wiring for signs of corrosion, fraying and rapid discoloration.

Check voltage level of NCU Battery sub-module.

Cycle NCU power to initiate Self-Test Diagnostic. Monitor LED sequencing for proper self-test displays or Error Code indications.

Remove excessive dust from heat sink surfaces.

Clean Network Terminal Unit (NTU) faceplate and input pad, if present.

Clean transparent window in door, if appropriate.

Clean enclosure exterior surfaces.

Verify the proper operation of critical control processes and points associated with this unit and make adjustments, if necessary.

As Required

Verify/calibrate other points and control processes, where the need for possible "Corrective Maintenance" is indicated.

AHU, UNT, and VAV Application Specific Controllers**On a Scheduled Basis****AHU Application Specific Controller**

Verify that AHU is being controlled at the appropriate values.

Change one set point value; verify smooth transition and stable control at the new set point.

Return set point to original value.

Repeat for each additional control loop, if any.

Verify that controlled valves and dampers will stroke fully in both directions, sealing tightly where appropriate.

Verify the proper operation of critical control processes and points associated with this unit. Make adjustments if necessary.

UNITARY Equipment Application Specific Controller

Verify that ASC is in control at the desired value(s).

Change one set point value; verify smooth transition and stable control at the new set point.

Return set point to original value.

Repeat for each additional control loop, if any.

Verify that controlled valves and dampers will stroke fully in both directions, sealing tightly where appropriate.

Verify the proper operation of critical control processes and points associated with this unit. Make adjustments if necessary.

VAV Box Application Specific Controller

Verify that ASC is in stable control at the desired value(s)

Where controller performance is in doubt:

- Change set point value. Verify smooth, stable control at the new value.
- Return set point to original value.

Verify the proper operation of critical control processes and points associated with this unit. Make adjustments if necessary.

As Required

Verify/calibrate other points associated with these units where the need for possible "Corrective Maintenance" is indicated.

Note: Contractor to provide evidence of the ability to perform all the service and maintenance required to the Metasys system by properly trained electronic technicians.