



CITY OF HOUSTON
FINANCE DEPARTMENT
Strategic Procurement Division

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July 9, 2014

SUBJECT: Letter of Clarification No. 1 Repair & Maintenance of Air Compressors for Various Departments

REFERENCE: ITB Invitation No. S55-L24682

TO: All Prospective Bidders:

This Letter of Clarification is issued for the following reasons:

• **To revise the above referenced solicitation as follows:**

1. Page 7, Provision B.00.04.1, has been changed to read as follows:

This includes, but is not limited to, valves, pumps, switches, cylinders, filters, pistons, seals, bearings, motors, integral diesel engines, air dryers, gearboxes, couplings, packing or discharge check, and ~~eleCTR or designee~~ **electrical/mechanical work.**

2. Page 8, Provision B.00.05, has been changed to read as follows:

At a City location, all machinery and equipment which are undergoing maintenance and repair shall be locked-out/tagged-out (LOTO) to protect against accidental or inadvertent operation when such operation could cause injury to personnel or damage to equipment. LOTO shall be carried out only by authorized personnel, which may include qualified ~~eleCTR or designee~~ **electricians**, mechanics, and operators determined by CTR OR DESIGNEE and Contractor prior to the start of any work.

3. Page 8, Provision B.00.06, has been changed to read as follows:

The air compressor equipment at various City of Houston Department facilities are purchased and installed according to the required compliance with the applicable sections of the following standards and codes:

- American National Standard Institute (ANSI)
- Anti-Friction Bearing Manufacturing Association (AFBMA)
- Compressed Air and Gas Institute (CAGI)
- Institute of ~~EleCTR or designeeical and EleCTR or designeeconic~~ **Electrical and Electronic Engineers (IEEE)**
- National Electrical Code (NEC)
- National Electrical Manufacturers Association (NEMA)
- American Society of Mechanical Engineers (ASME)

4. Page 8, Provision B.00.08, has been changed to read as follows:

Unless otherwise specified, fabrications, processes, parameters, and test methods for any electrical parts and/or equipment shall conform to the latest revision of the following ~~eleCTR or designeeical~~ **electrical** apparatus service association (EASA) documents:

- EASA AR100-2010 – Recommended practice for repair of rotating apparatus (hereafter abbreviated as EASA AR100-2010);
- EASA Technical Note No. 16 — GUIDELINES FOR MAINTAINING MOTOR EFFICIENCY DURING REBUILDING, September 1999 (hereafter abbreviated as EASA Tech Note No. 16);
- EASA Technical Note No. 17 — STATOR CORE TESTING, updated March 1997 (hereafter abbreviated as EASA Tech Note No. 17); and EASA Bearing Fit Tolerance Chart updated 1997.

5. Page 15, Provision B.02.03, has been changed to read as follows:

The Contractor shall perform ~~eleCTR or designeeical~~ **electrical** tests, with measurement recorded in the Teardown Report. These include but are not limited to:

- Insulation resistance to ground, in meg-ohms, of windings and accessories.
- Flow and outlet and suction pressure
- Moisture Indicator

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LETTER OF CLARIFICATION No.1
REPAIR & MAINTENANCE OF AIR COMPRESSORS FOR VARIOUS DEPARTMENTS
SOLICITATION No.S55-L24682

6. Page 17, Provision B.02.15.6, has been changed to read as follows:

(AR6): Air Compressors Group – ~~EleCTR or designee~~ **Electric Trailer Mount:**
(20 hp to +200 hp) **(6 weeks)**

7. Page 17, Provision B.02.21, has been changed to read as follows:

The above measurements shall be submitted to the CTR OR DESIGNEE, along with the ~~eleCTR or designee~~ **electrical** and mechanical data sheets, during the teardown inspection.

When issued, Letter(s) of Clarification shall automatically become a part of the proposal documents and shall supersede any previous specification(s) and/or provision(s) in conflict with the Letter(s) of Clarification. All revisions, responses, and answers incorporated into the Letter(s) of Clarification are collaboratively from both the Strategic Purchasing Division and the applicable City Department(s). It is the responsibility of the proposers to ensure that it has obtained all such letter(s). By submitting a proposal on this project, proposers shall be deemed to have received all Letter(s) of Clarification and to have incorporated them into this proposal.

If you have any questions or if further clarification is needed regarding this Invitation for Bid, please contact me.

Joseph Badell

Joseph Badell
Senior Procurement Specialist
Strategic Purchasing Division
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Enc; 4

END OF LETTER OF CLARIFICATION 1

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Council Members: Helena Brown Jerry Davis Ellen Cohen Wanda Adams Mike Sullivan Al Hoang Oliver Pennington Edward Gonzalez
James G. Rodriguez Mike Laster Larry Green Stephen C. Costello Andrew Burks Melissa Noriega C.O. "Brad" Bradford
Jack Christie **Controller:** Ronald C. Green

SECTION B
SCOPE OF WORK/SPECIFICATIONS

B.00 General Requirements and Scope of Services:

- B.00.01 The Contractor shall furnish all supervision, labor, parts, tools, materials, equipment, supplies, engineering and facilities necessary to provide precise repair services for air compressors from various facilities of the City of Houston. The City will monitor the repair of their air compressors on a daily basis.
- B.00.02 The meaning of some specific terms as used in this contract is given in Exhibit A, Definitions.
- B.00.03 The air compressors covered by this contract are grouped to accordingly to the air compressor's type and size of the units. See Exhibit A, Definitions, for the list.
- B.00.04 This contract covers the general requirements for the disconnecting, transporting, repairing and/or replacing and testing of various air compressor types located at City of Houston facilities.
- B.00.04.1 This includes, but is not limited to, valves, pumps, switches, cylinders, filters, pistons, seals, bearings, motors, integral diesel engines, air dryers, gearboxes, couplings, packing or discharge check, and ~~electrical/mechanical~~ **electrical/mechanical work.**
- B.00.04.2 This specification defines minimum acceptable requirements for the repair of the units and documentation of those repairs as specified in Exhibit B7 (Invoice Checklist).
- B.00.04.2.1 The intent of this contract is for the Contractor to disconnect, remove, and/or install, transport, repair and/or replace air compressors at the City of Houston's or Contractor's facilities.
- B.00.04.2.2 After uncoupling the unit, Contractor shall ensure that all openings to pipes, inlet and discharge dampeners/silencers, and filters are blocked to prevent entry by rodents and birds.
- B.00.04.3 At a minimum the Contractor shall replace all bearings and seals and the lube reservoir of the repaired air compressor / diesel engine shall be flushed clean and filled with the OEM specified lubricants after reassembly.
- B.00.04.4 The Contractor shall provide the Contract Technical Representative (CTR OR DESIGNEE) a list of the Name(s) and Location(s) of ALL shop(s) and subcontractors that will be used for the specified repair work prior to the commencement of any work.
- B.00.04.5 (1) After parts have been repaired, the Contractor shall balance all individual parts and components, then reassemble, test, seal and paint, as required.
(2) All assembled rotating parts shall be dynamically balanced.
(3) All damaged and replaced parts that are deemed non-repairable shall be delivered to a designated location specified by the Department Representative.
- B.00.04.6 The Contractor shall obtain written approval for each shop and subcontractor before start of the contract. If the Contractor plans to use any Sub-contractor not on the list, the Contractor shall obtain written approval from the CTR OR DESIGNEE before subcontracting the work.

- B.00.05 At a City location, all machinery and equipment which are undergoing maintenance and repair shall be locked-out/tagged-out (LOTO) to protect against accidental or inadvertent operation when such operation could cause injury to personnel or damage to equipment. LOTO shall be carried out only by authorized personnel, which may include qualified ~~eleCTR or designee~~**electricians**, mechanics, and operators determined by CTR OR DESIGNEE and Contractor prior to the start of any work.
- B.00.06 The air compressor equipment at various City of Houston Department facilities are purchased and installed according to the required compliance with the applicable sections of the following standards and codes:
- American National Standard Institute (ANSI)
 - Anti-Friction Bearing Manufacturing Association (AFBMA)
 - Compressed Air and Gas Institute (CAGI)
 - Institute of ~~EleCTR or designee~~ **Electrical and Electronic Engineers (IEEE)**
 - National Electrical Code (NEC)
 - National Electrical Manufacturers Association (NEMA)
 - American Society of Mechanical Engineers (ASME)
- B.00.07 Wherever this document refers to the following codes and standards, then that specific sections of the code/standard shall apply to the repairs being carried out by the Contractor:
- Steel Structures Painting Council (SSPC)
 - Anti-Friction Bearing Manufacturing Association (AFBMA)
 - American Society for Non-Destructive Testing
 - American Society for Testing and Materials (ASTM)
- B.00.08 Unless otherwise specified, fabrications, processes, parameters, and test methods for any electrical parts and/or equipment shall conform to the latest revision of the following ~~eleCTR or designee~~**electrical** apparatus service association (EASA) documents:
- EASA AR100-2010 – Recommended practice for repair of rotating apparatus (hereafter abbreviated as EASA AR100-2010);
 - EASA Technical Note No. 16 — GUIDELINES FOR MAINTAINING MOTOR EFFICIENCY DURING REBUILDING, September 1999 (hereafter abbreviated as EASA Tech Note No. 16);
 - EASA Technical Note No. 17 — STATOR CORE TESTING, updated March 1997 (hereafter abbreviated as EASA Tech Note No. 17); and EASA Bearing Fit Tolerance Chart updated 1997.
- B.00.09 ALL COMPRESSORS repair and services shall be performed in a manner to comply with the applicable sections of standards and codes listed in (B.00.06 to B.00.08).
- B.00.10 All test equipment required for test results shall be calibrated at least annually against standards traceable to the National Institute of Standards and Technology (NIST) or equivalent standards laboratories (see EASA AR100-2010 4.7). The Contractor shall establish, document, and maintain calibration records for test and measuring equipment used to demonstrate conformance of product to specified requirements.

OR DESIGNEE . The confirmation of each order shall be provided in writing from the Contractor to the CTR OR DESIGNEE.

B.01.09.1 If parts and/or replacement air compressor unit has NOT been ordered within the specified time (5 days) a five-percent (5%) discount shall be applied to the final invoice amount each (business) day the part was not ordered unless written proof (reason for delay) is provided by the Contractor via air compressor distributor and/or manufacturer. The deduction shall not exceed fifteen percent (15%) of the final invoice amount.

B.01.09.2 If Contractor orders the incorrect part(s) and/or incorrect replacement unit that may cause a delay in delivery of completely assembled unit, then a fifteen percent (15%) deduction of the final invoiced amount shall be assessed as liquidated damages.

B.02 Specific Tasks and Scope of Work

B.02.01 In the event the CTR OR DESIGNEE chooses to transport the air compressor unit to and/or from the Contractor's facility no transporting fee shall be assessed to the City. If the Contractor transports the air compressor, then the Contractor shall furnish hoist, crane, other services associated with loading and/or unloading the unit. Should the City's facility have an existing crane, then the Contractor shall utilize the crane on-site (when applicable).

B.02.02 The Contractor shall chemically and mechanically clean all external surfaces, as required.

B.02.03 The Contractor shall perform ~~electrical~~ ~~CTR or designee~~ **electrical** tests, with measurement recorded in the Teardown Report. These include but are not limited to:

- Insulation resistance to ground, in meg-ohms, of windings and accessories.
- Flow and outlet and suction pressure
- Moisture Indicator

B.02.04 In the event that insulation resistance of the windings is below the recommended minimum value, the motor shall be disassembled, and the windings shall be cleaned and dried before surge-comparison testing.

B.02.05 The Contractor shall inspect the unit and its shaft for corrosion, erosion, chipping, scoring, and other damages and shall record this observation on the teardown report.

B.02.06 The Contractor shall inspect the rotor shaft for "roundness/run-out" and determine if it is within OEM tolerance.

B.02.07 The Contractor shall inspect the air compressor's valves, screws, pistons, seals, bearings, pumps, cylinders, shaft, filters, motor and pulley and other damages and shall record this observation on the Teardown Report.

B.02.08 The Contractor shall determine what parts are to be repaired or replaced with new

- B.02.13.3 Each maximum penalty due to delays (i.e. – Tear Down Report; Cost Estimate and Ordering Incorrect Parts and/or Incorrect Replacement Units due to Contractors negligence) shall not exceed a combined value of fifteen (15%) discount to the final overall Invoice to the City of Houston.
- B.02.14 The CTR OR DESIGNEE will inspect the torn-downed unit, review the Contractor’s proposed work scope and cost estimate. If the cost exceeds the budget per fiscal year, the CTR OR DESIGNEE shall revise the scope and have the Contractor submit another cost estimate within five (5) days.
- B.02.15 Upon written acceptance of cost estimate by the CTR OR DESIGNEE, the Contractor shall proceed with repairs. The Contractor shall commence to work on the unit and complete the repair within the allocated time for delivery of such item:
- B.02.15.1 **(AR1):** Air Compressors Group Reciprocating – Single Acting: (Fractional hp to +30 hp) **(3 weeks)**
 - B.02.15.2 **(AR2):** Air Compressors Group Reciprocating – Double Acting / Single Stage: (Fractional hp to +50 hp) **(4 weeks)**
 - B.02.15.3 **(AR3):** Air Compressors Group Reciprocating – Double-Acting / Two-Stage / XLE: (Fractional hp to +200hp) **(6 weeks)**
 - B.02.15.4 **(AR4):** Air Compressors Group – Rotary Screw: (Fractional hp to +200 hp) **(4 weeks)**
 - B.02.15.5 **(AR5):** Air Compressors Group – Rotary Screw – Gas / Diesel: (Fractional hp to +100 hp) **(4 weeks)**
 - B.02.15.6 **(AR6):** Air Compressors Group – ~~Electric Trailer~~ **Electric Trailer Mount: (20 hp to +200 hp) (6 weeks)**
- B.02.16 The Contractor shall notify the CTR OR DESIGNEE immediately in writing if the Contractor cannot complete the job within the contractually agreed time period for the unit.
- B.02.17 The Contractor shall submit to the CTR OR DESIGNEE a written detailed explanation for the delay with a new documentation to complete the job. If additional work is required, the Contractor shall submit explanation before commencing the additional work.
- B.02.18 At all times during the repair process, the Contractor shall maintain the City’s equipment in a clean and weather protected storage area.
- B.02.19 Shaft seal surface, bearing journals, shall be micrometer checked and results shall be recorded on the rotor information sheet within the D&I Report.
- B.02.20 The critical dimensions of the end bells and bearing housing shall be micrometer checked and recorded on the mechanical inspection sheet within the D&I Report.
- B.02.21 The above measurements shall be submitted to the CTR OR DESIGNEE, along with the ~~CTR or designee~~ **electrical** and mechanical data sheets, during the teardown inspection.