CITY OF HOPEWELL – HRWTF

IFB # 04-16 – ATMOSPHERIC VAPORIZER EQUIPMENT PROCURMENT

ADDENDUM # 1

OCTOBER 26, 2015

The above-referenced Invitation for Bid is hereby changed to:

Please see attached.

Note: A signed acknowledgment of this addendum must be received at the location indicated on the IFB either prior to the bid due date and hour or attached to your bid. If bid was already submitted for bid opening date of October 27, 2015 and changes are required in the bidder's pricing then bidder must submit a new bid package with new pricing. Signature on this addendum does not substitute for your signature on the original bid document. The original bid document must be signed.

Respectfully,

Shayna Jones Johnson, Purchasing Agent

Phone: 804-541-2215

Please sign and include this form as part of your bid response to verify receipt of Addendum #1.

Acknowledged:

_____ _____

Signature of Receipt of Addendum #1 Date

_____

Company Name

CITY OF HOPEWELL, VIRGINIA

HOPEWELL REGIONAL WASTEWATER TREATMENT FACILITY

ATMOSPHERIC VAPORIZER EQUIPMENT PROCUREMENT

ADDENDUM NO. 1

October 26, 2015

HDR
11820 Fountain Way, Suite 204
Newport News, VA 23606

hdrinc.com

ADDENDUM NO. 1
TO THE
BIDDING DOCUMENTS
FOR THE CONSTRUCTION OF
CITY OF HOPEWELL, VIRGINIA
HOPEWELL REGIONAL WASTEWATER TREATMENT FACILITY
IFB#04-16 ATMOSPHERIC VAPORIZER EQUIPMENT PROCUREMENT

DATE OF ISSUE: October 26, 2015

TO: ALL PLANHOLDERS

The following changes, additions and/or deletions are hereby made part of the Bidding Documents for the construction of the City of Hopewell, Hopewell Regional Wastewater Treatment Facility, Atmospheric Vaporizer Equipment Procurement, dated September 24, 2015, as fully and completely as if the same were fully set forth therein.

Bidders must acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may result in rejection of the Bid.

This Addendum No. 1 consists of the Invitation for Bid (IFB) Addendum, Addendum No. 1 text (6 pages) and Attachment A.

THE CONTRACT DOCUMENTS AND SPECIFICATIONS, INCLUDING THE CONTRACT DRAWINGS, ARE HEREBY MODIFIED BY THE FOLLOWING ITEMS:

CHANGES TO TECHNICAL SPECIFICATIONS

AD1.1. Section 11000, Atmospheric Vaporizer System, DELETE Article 2.2 paragraph E.5 and REPLACE with the following new paragraph E.5:

Digital control system shall provide sufficient controls to allow the atmospheric vaporizer system to automatically adjust product oxygen flow in response to variations in product oxygen pipeline pressure.

AD1.2. Section 15065, Pipe: Stainless Steel, make the following changes:

DELETE Article 2.2 paragraph D.2 and REPLACE with "Flat faced or raised face."

PRE-BID MEETING

AD1.3. A non-mandatory Pre-Bid Meeting was held on October 13, 2015 at the Hopewell Regional Wastewater Treatment Facility. Pre-Bid Meeting notes, including the sign-in sheet, are provided in Attachment A. The Pre-Bid Meeting notes and sign-in sheet are provided for information purposes only and are not part of the Contract Documents.

QUESTIONS FROM PROSPETIVE BIDDERS

1. **Question:** Article U in the General Terms and Conditions states that bid and performance bonds may be required at the discretion of the purchasing agent. Can you please confirm if these will be required?

   Answer: Performance bonds will not be required.

2. **Question:** Will HDR be providing technical support and oversight throughout the project?

   Answer: Yes

3. **Question:** Section 11000, Article 1.3.B. states that the PLC is be located in the oxygen plant control building and that the location within the building is to be agreed upon with the Owner. Can you please designate where in the building you wish to place this panel since the choice of final location will affect the installation cost.

   Answer: The PLC can be placed in the existing PLC cabinet at the South end of the oxygen plant control building.

4. **Question:** Section 11000, Article 1.3.C states that pressure building coils, a drain vaporizer, and an economizer vaporizer are to be included but the locations are not designated on the site drawing included in the specification. Can you please identify the desired locations for these units? If some of these miscellaneous vaporizers are to be installed on existing concrete pads, must the existing pads be cut and new piers installed or will it be acceptable to mount the new miscellaneous vaporizers on existing pads, provided allowable weights are not exceeded.

   Answer: Locations should be determined by the Contractor in coordination with the Owner.

5. **Question:** Section 11000, Article 1.3.C.2 states that the vaporizer PLC is to be interfaced with the plant control system for a seamless control experience. Article 1.3.G of this same section refers to the need to interface with existing pneumatic signals which implies that the Cryo plant controls have not yet been upgraded to PLC based. Can you please provide more specific details regarding the expected interface between the new PLC vaporizer controls and the existing pneumatic control system?

   Answer: The Owner and Engineer expect that the selected Contractor will be an expert in cryogenic process control. Therefore, it shall be the Contractor's responsibility to evaluate and recommend to the owner the proposed interface between the new PLC vaporizer controls and the existing pneumatic control system.

6. **Question:** Section 11000, Article 1.5 states that a two week performance test is to be conducted on the new vaporizer system. Who is responsible for supplying the liquid oxygen for this test? What is the intended load on the vaporizers during the test, e.g. 100 T/D? Please bear in mind that the cost of liquid oxygen for a two week test will be substantial. Will the Cryo plant be kept in an operating standby mode during this test?

   Answer: We have reviewed this issue relative to recent experience at a similar facility and believe that 5 days of testing for 4 to 6 hours per day is satisfactory. The test should verify the required capacity of 100 T/D. The Cryo plant shall be kept in operation due to the implications of warming it up. An exception to this requirement would be if the Contractor can coordinate the testing with the Annual Cryo Plant turnaround. To the degree possible, the contractor should utilize liquid oxygen (LOX) which is generated onsite by the Cryo plant. The Contractor is responsible for supplying additional LOX if the amount in onsite storage is insufficient to complete the test. The Contractor shall provide a unit price for additional oxygen in his bid which is separate from the cost for basic services specified in the contract documents.

7. **Question:** Section 11000, Article 1.5.1.c states that data collection during the performance test will include the temperature of gaseous oxygen exiting the PIC/TIC station. What is the minimum acceptable exit temperature?

   Answer: The Contractor shall review plant data and the process and the instrumentation drawings (P&ID's) for the existing facility to determine the recommended set points for temperature and pressure. Proposed set points and testing protocol shall be submitted to the Engineer for review as part of the submittal process.

8. **Question:** Section 11000, Article 2.2.B.3 states that the LOX tank operating pressure will be $\leq$ 150 psi. Please confirm the normal tank operating pressure.

   Answer: The normal tank operating pressure is approximately 30 psi.

9. **Question:** Section 11000, Article 2.2.E.2 again refers to the interface between the new PLC system and the existing pneumatic Cryo plant controls. Please elaborate on the expectations for this interface.

   Answer: See answer to question 5.

10. **Question:** Section 11000, Article 2.2.E.4 states that the Contractor is to coordinate with the Owner for tie-in of the vaporizer system with the plant SCADA system. Who is responsible for modifications to the SCADA system?

    Answer: The Contractor is responsible for modifications to the SCADA system.

11. **Question:** Section 11000, Article 2.2.E.5 states that the control system shall allow the Cryo plant to automatically adjust its flow in response to variations in product oxygen pipeline pressure. This would require significant modifications of the Cryo plant controls which appear to be outside the scope of this project. Was the intent of this section that the back-up system be able to adjust its flow in response to changes in pipeline pressure?

    Answer: Refer to item AD1.1 in this Addendum.

12. **Question:** Section 11000, Article 3.4.A.1 states that the atmospheric vaporizer system is to be tested prior to taking the existing LOX system out of service. What type of test is required to satisfy this requirement? Is the oxygen to be vented to atmosphere during this test? Who will supply the LOX for this test?

    Answer: The testing shall confirm the operation of valves, transmitters, controls, and other critical components prior to connecting to the system. The intent is to determine that the new system is fully functional prior to taking the old system out of service. The Contractor shall submit a proposed testing protocol as part of the submittal process. The proposed testing protocol shall indicate if the Oxygen can be utilized or must be vented to the atmosphere. See the answer to Question 6 regarding supply of LOX.

13. **Question:** Section 15065, Article 2.2.A states that stainless steel piping materials are to be type 316L. Is type 316 an acceptable substitute?

    Answer: Provide type 316L stainless steel as specified. Type 316L is more suitable for welding.

14. **Question:** Please clarify what is intended by paragraph 5, section 11000, part 2, heading 2.2, subsection E. Are you proposing that the Oxygen plant ramps production up or down, following consumption, as indicated by pipeline pressure fluctuations? Or are you asking that the Oxygen back up system automatically responds to any drop in pipeline pressure?

    Answer: Refer to item AD1.1 in this Addendum.

15. **Question:** Ref. Section 15065, 2.2.D.2 of the bid specification, will raised face flanges be acceptable in lieu of flat face? Raised face would be preferable in the intended service.

    Answer: Refer to item AD1.2 in this Addendum.

16. **Question:** Ref. Section 15065, 2.3.A.1 of the bid specification, will schedule 10 be acceptable in lieu of schedule 40 for the 6" gaseous oxygen piping? The pressure rating for schedule 10 is 566 psig which is more than adequate for the intended service.

    Answer: Provide schedule 40 pipe as specified.

17. **Question:** Please confirm the preferred PLC manufacturer and series to be used for the PLC control.

    Answer: Currently a MODICON 800 Series PLC is used to monitor/control LOX Facility conditions.

18. **Question:** Please confirm the manufacturer and version of software currently being used for the plant-wide SCADA system.

    Answer: The Plant currently uses SIMATIC WinCC for its SCADA system. Verify version with Owner prior to developing new screens.

19. **Question:** Please confirm if the City will provide the developer license for the SCADA system for use by the Contractor for SCADA system modifications.

    Answer: The City will provide the developer license for the SCADA system for use by the Contractor.

20. **Question:** Please confirm the required interface protocol between the back-up system PLC and the SCADA system, i.e. Ethernet, fiber optic, et al.

    Answer: The plant currently uses Modbus Plus to communicate between the Modicon PLC and the plant SCADA. The exact requirement will depend on the quantity of I/O added/needed by the proposed solution. All the points associated with the water bath (DRIOX) vaporizers will become available and it may be possible to use those I/O points and reprogram the PLC. It is also acceptable to add I/O modules to the existing backplane or extend the backplane of the Series 800 PLC. If additional capacity is needed or a new PLC added, then extension of the Modbus Plus network to that controller will be required.

ATTACHMENTS

A. Addendum No. 1 – Pre-Bid Meeting Notes and Sign-in Sheet

Memo

Date: Tuesday, October 13, 2015

Project: Atmospheric Vaporizer Equipment Procurement

To: Meeting Attendees

From: Douglas Fredericks/HDR

Subject: IFB#04-16 Pre-Bid Meeting Notes

A Pre-Bid meeting for the reference project was conducted on Tuesday October 13, 2015 at the Hopewell Regional Wastewater Treatment Facility (HRWTF). The attached sign-in sheet lists meeting attendees.

1. The Engineer provided an overview of the project. The project intent is to replace the existing Liquid Oxygen (LOX) water bath vaporizers with a new LOX Atmospheric Vaporizer system. The Contractor shall be responsible for full turnkey delivery of the new system including design, layout, installation, startup, and testing of all equipment.
2. A question was asked regarding an extension of the bid date. The City agreed to extend the bid date by one week to November 10, 2015.
3. A question was asked regarding other critical dates. The following revised project dates were agreed to:
    a. Submittal of bid questions: October 16, 2015.
    b. Addendum No. 1 draft from Engineer to City: October 23, 2015.
    c. Addendum No. 1 issued by the City: October 27, 2015.
    d. Project Completion Date: June 1, 2016.
4. Questions submitted by prospective bidders prior to the prebid meeting were reviewed and discussed briefly. Formal responses to these questions will be included in Addendum No. 1.
5. A question was asked regarding control of the Cryo plant during tie-in of the backup system. Control will be by the City.
6. A question was asked regarding City preferred subcontractors. The City does not have preferred subcontractors.
7. A question was asked regarding insulation of LOX piping. Any portions of the piping currently insulated shall be insulated after the installation of new piping associated with the Atmospheric Vaporizer System.

A copy of the sign-in sheet is attached.

HRWTF – Ambient Vaporizer
Prebid Mtg
10/13/2015

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