To

All interested vendors

Date: 27.02.2020

Dispatch No:

CORRIGENDUM

SUBJECT: CORRIGENDUM FOR NOTICE INVITING QUOTATION FOR SUPPLY & INSTALLATION OF GREENHOUSE GAS ANALYSER (GAS CHROMATOGRAPH) FOR THE CENTRE FOR RURAL TECHNOLOGY (PROJECT NO.XCRTSPNXDBT01191XXSM004), IIT GUWAHATI DATED 21.02.2020

Dear Sir/ Madam,

Please refer Annexure-V for modified specifications of the referred item.

Revised Date and Time:

Last date & Time of receipt of Tender: 19.03.2020, (1700 HRS)
Time of opening Tender: 23.03.2020, (1500 HRS)
Venue of Bid opening: Centre for Rural Technology, IIT Guwahati.

Encl.: ANNEXURE V
## ANNEXURE V

**Generalized Tender Specification Gas analyzer for Green House Gas Analysis.**

### 1. Base Unit

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| | (a) Microprocessor Controlled PC Based Gas Chromatograph System with Accessories for the analysis of Green House Gases  
(b) Typical Retention Time Repeatability: 0.008 min or better  
(c) Typical Peak Area Repeatability: <2% RSD or better. |

### A. Oven

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| | (d) Capacity: Minimum 22 liters or more to accommodate minimum 4 columns and 4 detector simultaneously for having better flexibility to configure the system as per the required GC Analyzer as required in future.  
(e) Temp: 5°C above Ambient to 500 °C or better.  
(f) Cooling Time: 400°C to 50°C in 5 minutes at 22°C room temperature or better.  
(g) Temp stability: ±0.05°C or better.  
(h) Column type: Capillary, Packed, wide bore  
(i) Column temperature programmer:  
(j) Number of method-40 or more.  
(k) Ramp: Temperature Programming: 0.1°C/Min to 50.0°C/Min in steps of 0.1°C/Min. 7 Ramps and 8 Plateaus or more.  
(l) Auxiliary Heating zones: 2 |

### B. Pneumatic system

Pneumatic system should consist of advanced electronic pressure control, which allows setting of pressures and flow through keyboard. EPC which enables features like carrier pressure programming. Storing pneumatic settings as method so that it can be changed in a keystroke & enable fast and efficient analysis with excellent repeatability of retention’s times. Complete control of detector parameters through software settings. All detector parameters viz. Range, polarity, detector current etc to be set through keyboard. Detector flow should also be set through keyboard.  
- Setting split ratio through keyboard  
- Auto diagnosis user selectable  
- Flow Control: Flow setting to be incorporated for injector as well as detector gases.  
- Alarm signals: Easy to interact with machine.  
- Leak Test: Leak Test Method for leakage testing.  
- Gas saving: Special mode for saving the carrier gas through vent.

### 3. Detector

**Flame Ionization detector with amplifier (FID) (1 No)***  
- Compatible with 1/4", 1/8", 1/16" and capillary columns  
- Flameout detection  
- MDL: <1.8pg C /Sec for C9 hydrocarbon or better  
- Linear Dynamic Range: >10^7 or better  
- Maximum Temperature: 450°C or better

### Electron Capture Detector Packed EPC for GC

**Technical Data**  
- Radioactive Source: 370 MBq equal to 63 10 mCi, Ni or better  
- Cell Volume: <350 microliters or better  
- MDL: <1×10-13 gm/sec. Lindane or better  
- Sensitivity: 0.1 pg/sec Lindane or better  
- Linear Dynamic Range: >104 or better  
- Maximum Temperature: 450°C or better

### 4. Software

**With Interface Card and Connecting Cables**  
**Features:**  
- 32-bit, multi-channel and multi-user software for acquisition and processing of chromatographic data  
- Operating System: Windows 95, 98, Me, NT, 2000, XP, Vista  
- Data Acquisition: Independent of other activities proceeding in Windows  
- Data Import: ASCII and AIA built-in conversion module  
- Export: ASCII, AIA, DBF built-in conversion module  
- Customized reports
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<tr>
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<th><strong>Columns</strong></th>
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<tbody>
<tr>
<td>5</td>
<td>1. COLUMN PACKED SS HS-Q 80/100 3M 2.0MM ID 1/8&quot; OD GEN CONFIG PRECOND NOC KIT-C Qty -1</td>
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<td>2. COLUMN PACKED SS Porapak Q 80/100 4M 2.0MM ID 1/8&quot; OD or equivalent Qty -1</td>
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<td>3. COLUMN PACKED SS HS-Q 80/100 1M 2.0MM ID 1/8&quot; OD GEN CONFIG PRECOND NOC KIT-C P/N: PC12115 or equivalent Qty-1</td>
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<td>4. COLUMN PACKED SS Porapak Q 80/100 1M 2.0MM ID 1/8&quot; OD or equivalent Qty-1</td>
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<tr>
<td>6</td>
<td><strong>Conversion of CO,CO2 in to methane</strong></td>
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<td></td>
<td>• Catalytic Reactor (Methaniser) with Additional Heated Valve Oven</td>
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<td>7</td>
<td><strong>Column Switching Valves</strong></td>
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<td>• 6 PORT Column Switching VALVE</td>
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<td></td>
<td>• 10 PORT Inject &amp; Back Flush VALVE</td>
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<td></td>
<td>• Additional Single Mass Flow Controller for Packed Injector</td>
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<tr>
<td>8</td>
<td><strong>Loops</strong></td>
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<td></td>
<td>• SAMPLING LOOP 2 ML WITH VALCO NUTS &amp; FERRULES</td>
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<td>• SAMPLING LOOP 5 ML WITH VALCO NUTS &amp; FERRULES</td>
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<td>9</td>
<td><strong>Pre Requisites</strong></td>
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<td>• UHP Grade H2,N2,Zero Air and Oxygen Gas with suitable PC &amp; Printer,suitable 5KVa UPS with 30 minutes back up.</td>
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<td>10</td>
<td><strong>Calibration Gases</strong></td>
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<td>• Calibration Standard for Methane &amp; Carbon Dioxide 0.5ltrs Water Capacity.</td>
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<td>• Calibration Standard for Nitrous Oxide 0.5ltrs Water Capacity.</td>
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<td>• Gas purification panel for all gases with moisture, hydrocarbon and dedicated Oxygen filter for carrier gas and suitable lining set up need to be provided.</td>
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