

# **BOKARO POWER SUPPLY CO. (P) LTD.**

**HALL NO:- M-01, OLD ADMINISTRATIVE BUILDING,  
ISPAT BHAVAN, BOKARO STEEL CITY – 827001**

**Reg. Office : Ispat Bhawan, Lodhi Road, New Delhi – 110 003  
CIN:U40300DL2001PTC112074**

**TENDER NOTICE NO. BPSCL/MM/20-21/PUR-210/NIT-969/600**

**Dated 26.02.2021**



## **TENDER DOCUMENT**

**SUBJECT: Procurement, Commissioning & Post Warranty  
Comprehensive Annual Maintenance Contract of SOx,  
NOx & CO Analyzer System.**

## INDEX

<b>Sl. No.</b>	<b>Subject</b>	<b>Page No.</b>
<b>1</b>	<b>Cover Page</b>	<b>1</b>
<b>2</b>	<b>Index</b>	<b>2</b>
<b>3</b>	<b>Notice Inviting Tender</b>	<b>3-4</b>
<b>4</b>	<b>Section – I Conditions &amp; Rules to be observed in submitting Tenders</b>	<b>5 - 7</b>
<b>5</b>	<b>Section – II General Terms and Conditions</b>	<b>8 - 9</b>
<b>6</b>	<b>Section – III Techno-Commercial Terms &amp; Conditions, Tender Specifications &amp; Technical Specifications</b>	<b>10-16</b>
<b>7</b>	<b>Section – IV Price BID / RA Format</b>	<b>17</b>
<b>8</b>	<b>Annexure – I Self Declaration</b>	<b>18</b>
<b>9</b>	<b>Annexure - II Format for RA Acceptance</b>	<b>19</b>
<b>10</b>	<b>Annexure - III Format for submitting Last Quoted Price</b>	<b>20</b>

# Bokaro Power Supply Co. (P) Ltd.

(A Joint Venture of SAIL & DVC)

Hall No: - M-01, Old Administrative Building,

Ispat Bhavan, Bokaro Steel City – 827001

Reg. Office : Ispat Bhawan, Lodhi Road, New Delhi – 110 003

CIN:U40300DL2001PTC112074

## NOTICE INVITING TENDER

NIT No.: BPSCL/MM/20-21/PUR-210/NIT-969/600

Date: 26.02.2021

For and on behalf of BOKARO POWER SUPPLY COMPANY (P) LTD, sealed tenders in two parts, **Part - A** : EMD and **Part- B** : Technical & Commercial Offer with copy of system generated acknowledgement-slip for online submission of sealed price are invited from the bidders meeting the qualification criteria stipulated in the bidding documents for supply of following items:

Item	<b>SOx, NOx &amp; CO Analyzer System</b>
Earnest Money (in Indian Rs.)	<b>Rs. 1,00,000.00</b> (Rupees One Lakh) Only
Pre-Bid Discussion Meeting	<b>16.03.2021 at 11:00 AM</b>
Last date & time for submission of tender	<b>30.03.2021 up to 12: 00 Hours</b>
Bid Opening date & time	<b>30.03.2021 at 12:15 PM</b>

### Qualifying Requirements: -

- The bidder should have minimum average annual turnover (MAT) of **Rs. 30.51 Lakh** only.
  - Average annual turnover shall be determined taking into consideration turnover of preceding three (03) consecutive financial years. Other income shall not be considered for arriving at annual turnover.
  - Audited annual account along with auditor's report of the bidder should be furnished in support of the same. Where audited account is not mandatory as per the law, the bidder has to submit annual financial turnover during the consecutive last three (03) years ending 31<sup>st</sup> March of the previous financial year duly certified by CA.
- The bidder shall be either Original Equipment Manufacturer (OEM) or an authorized Indian representative of the OEM of SOx, NOx & CO Analyzers.
  - If the bidder is a manufacturer, documents in support of the same are to be submitted along with offer.
  - If the bidder is an authorized Indian representative, authorization letter (tender specific) from OEM shall also be submitted along with the offer in addition of documents against 2 (a).
- The bidder shall have requisite experience of manufacturing or supplying as authorized vendor "**Hot Extractive type SOx, NOx & CO Analyzer**" in India to any PSU / Government / Semi Government Organization or Joint Venture thereof / Company registered under Companies Act. The bidder is required to submit Order copy and document of dispatch / Invoice copy in compliance to above requirement.
- The bidder is required to submit self-attested photocopies of documents (Purchase Orders, GRN / Delivery Challan / Completion certificate etc.) in support of their eligibility and experience. In addition, bidder shall submit a self declaration in enclosed format at **Annexure – I**.
- Bidding through consortium is not allowed.
- The bidder shall furnish latest **IT return** and **GSTIN**. The bidder shall also submit acceptance to Terms & Conditions of Reverse Auction in the format attached at **Annexure – II**.

### General Terms & Conditions:

- Offer shall be accompanied with Earnest Money Deposit (EMD) in the form of Demand Draft / Pay Orders / Bankers Cheque Payable at Bokaro Steel City / Bank Guarantee having validity for, *one (01) year*, from any Nationalized Bank / Scheduled Bank except Co-operative Bank drawn in favor of **Bokaro Power Supply Company (P) Ltd.** as per format available at our website: [www.bpscl.com](http://www.bpscl.com). Earnest Money can also be deposited online through RTGS / NEFT / SWIFT / TT Remittance in our account, details of which are given below. The proof of such transfer shall be submitted with the offer in the envelope titled " Earnest Money Deposit".

**Account Details:**

Bank Name	:	State Bank of India
Account Number	:	35665021458
IFSC Number	:	SBIN0004231
Branch Name	:	SME Branch, Sector - 4, City Centre, Bokaro Steel City, Jharkhand - 827004.

*In case of forfeiture of EMD by BPSCL the bidder is required to reimburse the applicable GST to BPSCL.*

- ii) However, Micro & Small Enterprises (MSEs) / PSU /Govt. Undertakings and Co-operative societies will be exempted from submission of Earnest Money as per government policy. For MSEs the exemption from paying Earnest Money will be granted only on submission of valid copy of certificate having a valid Entrepreneurs Memorandum (EM) number / Udyog Adhaar Memorandum / UDYAM Registration certificate (whichever applicable). SSI/NSIC certificate holders should also submit Entrepreneurs Memorandum / Udyog Adhaar Memorandum / UDYAM Registration certificate (whichever applicable). However unit claiming exemption is required to submit copy of registration certificate indicating clearly the item category for which they are registered.
- iii) **Offers not accompanied with Earnest Money Deposit (EMD) (as per clause i) or documents for exemption (as per clause ii) will be treated as INVALID.**
- iv) If you withdraw your bid after opening of bids without giving any satisfactory and acceptable explanation thereof, you shall be disqualified from participating in any tender of the BPSCL for a minimum period of one (01) year and your Earnest Money will be forfeited.
- v) You should quote your firm rates and no negotiations will be held except with the lowest bidder, if required.
- vi) **Handling of Earnest Money:**
- Earnest Money will be refunded to the un-successful bidder after determination of L-1 bidder and no interest will be paid upon the same. **You are requested to submit your bank details for the return of EMD.**
  - The amount of Earnest money may be adjusted against Security Deposit in case of successful bidder.
- vii) Consortium bids will not be considered unless the provision for consortium is specifically mentioned in Tender Document.
- viii) Either the authorized Indian representative on behalf of the OEM or the OEM directly be permitted to bid in a tender, not both. If both quote, only the offer of OEM will be considered as valid.
- ix) One Indian representative cannot represent two OEM or quote on their behalf in a particular tender.
- x) **RATE FINALIZATION:** BPSCL reserves the right to finalize the rate through either of the following modes:
- Opening of Online Price (*submitted on [www.buyjunction.in](http://www.buyjunction.in)*) submitted at the time of techno-commercial bid.
  - Through Reverse Auction to be conducted by our service provider **M/s. mjunction.**
- Note:** BPSCL may ask the techno-commercially accepted bidders to submit decrement in percentage (%) on their online price submitted at the time of techno-commercial bid. Online price bid along with % decrement shall be considered together in case online price bid is opened.
- xi) **BPSCL reserves the right to:**
- Re-tender / extend the due date of submission of offer.
  - Accept or reject any offer / all offers in full or part at any time at any stage without assigning any reasons and without any compensation thereof to the bidders.
  - Modify the tender documents at any stage before the due date of tender.

**Note:**

- Tender documents are to be downloaded from **Website: [www.bpscl.com](http://www.bpscl.com)** only.
- Bidders are requested to visit above website regularly for any addendum / corrigendum / Extension till opening of the NIT. **Any such changes shall not be published through Press advt.**

For and on behalf of  
Bokaro Power Supply Company (P) Limited

(A K Das)  
General Manager I/c. (MM)  
Tel : 8986874119  
Email: [purchase.bpscl@gmail.com](mailto:purchase.bpscl@gmail.com)

**CONDITIONS & RULES TO BE OBSERVED IN SUBMITTING TENDERS**

**1.01 Manner of Submission of the Tender**

The tender shall be divided into 02 parts as follows:-

- a) **Part A:** This part shall comprise of EMD / proof of online submission of EMD.
- b) **Part B:** This part shall comprise of Technical and Commercial details, consent on terms & conditions of NIT/ Signed Copy of Tender Document along with copy of **SYSTEM GENERATED ACKNOWLEDGEMENT-SLIP FOR ONLINE SUBMISSION OF SEALED PRICE\*** bid etc.

Sealed Tenders *through Regd. Post/Speed Post/In-person/Courier Service* only, in an envelope containing 02 (Two) separate sealed envelopes as mentioned above with NIT No. & date of opening along with Sender's Name & Address are to be sent to the below mentioned address:

General Manager I/c. (MM)  
Bokaro Power Supply Co. (P) Ltd.  
Hall No.M-01, Old ADM Building  
Ispat Bhawan, Bokaro Steel City – 827001  
Ph: 06452 240380, Tel: 8986874119

**\* PROCESS FOR ONLINE SUBMISSION OF SEALED PRICE:**

1. Online sealed Price Bid (**Landed Cost per unit Excluding GST**), through URL: **<http://www.buyjunction.in>**.

**The process of submission of Online Price bid is as detailed hereunder-**

Step 1: Type **<http://www.buyjunction.in>** in the internet explorer.

Step 2: Click on Login (present on Top right side of the Page)

Step 3: Click on **View Live Auctions and Tenders**.

Step 4: In the right side open/ global tenders link will be displayed.

Step 5: Click on the link for the above mentioned tender link present under Open tenders

Step 6: Click on new user if you are not registered in buyjunction earlier. Click on Existing user in-case you have already registered in buyjunction earlier. Existing users can login with their user id and password.

**Please note** foreign bidders are required to select their bidding currency from the drop down menu available before proceeding further (where ever applicable).

**New Users:**

Steps to get your **User ID** and **Password**

1. Click on the required tender link under “**Open Tenders**”
2. Choose your Auction currency in-case any option is coming to select currency. Click on “**New User**”
3. Fill up the “**Registration Form**” and click on “**Submit**”. All fields marked with (\*) are mandatory fields.
4. On submitting the filled-up registration form, an auto generated email will be sent to the email address you have mentioned in the registration form containing your User ID and Password.
5. Changing of password on first login is compulsory.
6. On receipt of the User ID and Password you become an **Existing User**. Now follow the steps of existing user to login to the auction site.

**Existing Users**

1. Click on the required tender link under “**Open Tender**”
2. Click on “**Existing User**”.
3. Log in with your existing user id and password for placing your bid.
4. Read through the “**Bidding Procedure**” to proceed further for bidding.

## **Bidding Procedure**

After logging in with your user id and password you have to accept the “**Auction Terms**”.

### **Steps to accept the “Auction terms”:**

1. Click on “**Auction Terms**”.
2. Then click on “**View term without DSC**”
3. Click on the relevant auction terms appearing under “**Term**” column.
4. Select the check box on the left-side of the relevant auction terms.
5. Click on the button besides “**Accept**”.
6. Then click on “**Submit**”.
7. A message will be displayed to you mentioning your acceptance to terms for auction.
8. It is mandatory to accept the terms of online bidding in order to proceed for submission of bid.

### **Steps to Submit Price Bid**

1. Click on “**Bids.**”
2. Then click on “**Live Auction.**”
3. Put your login password as transaction password
4. Select the auction id and click on add to watch list.
5. Now the bidding screen is visible.

#### **6a. For Template Bidding**

1. Click on **Icon “T”** on left column of bidding screen (Which will appear separately **for each lot**).
2. A template form will open where you need to fill up the price & click on evaluate at the bottom
3. If you want to quote the evaluated price then click on “**confirm**”.
4. After clicking on the confirm button of the template window, your price will appear in the “**New Bid**” box.

#### **6b. For Non-Template Bidding**

1. Fill your Price in the “**New Bid Box**” visible on the bidding screen.
2. Select the check box at the extreme left of the bidding screen
3. Click on “**Submit**” button placed at the bottom left of the screen.
4. Bid once placed will have to be honoured.
5. You will see “**Bid Accepted**” in the “**Result**” column. This indicates that your bid is accepted and registered in the system.

### **Steps to take a print-out of the receipt**

1. Once you have placed your bid, to download Bid Receipt, kindly click on “**Download**”.
2. Then click on “**Bid Receipt for Open Tender**”.
3. Select the auction to generate receipt.
4. Take print out of the same market-wise (Term List) / item-wise (Auction list).

**Note:** For any clarification on the bidding process please contact

Mr. Anjan Buda - 9163348263 - anjan.buda1@mjunction.in

Ms. Debalina Maity - 8336991451 - maity.debalina@mjunction.in

Ms. Bingyasini Pradhan - 9163348173 – pradhan.bingyasini@mjunction.in

Ms. Priyanka Mazumdar - mazumdar.priyanka@mjunction.in

**Mr. Mukesh Kumar Singh- 8873002741 – mukesh.singh@mjunction.in - for Bokaro Office**

**A copy of System generated acknowledgement-slip for Online submission of sealed price bid is to be submitted along with Techno-commercial Bid.**

## **1.02 Tender Validity Period**

Validity of the offer shall be **Four (04) months** from the bid opening date. In case of extension of "Bid submission Date", the validity will be counted from the extended bid opening date.

## **1.03 General Instructions:**

- i) You shall clearly indicate that your prices shall remain firm in all respects till execution of the order.
- ii) Specification, quantity, unit rate, freight, insurance, packaging, forwarding, taxes etc. should be mentioned separately and clearly.
- iii) Any conditional offer or offer having deviations is liable to be rejected.
- iv) Where agent commission is involved the same is to be indicated in percentage.
- v) You have to submit Tender Document bearing your signature and seal on all the pages along with Techno-commercial offer / Consent on NIT's Terms & Conditions. Otherwise, it will be presumed that you do not accept our terms and conditions and this may lead to rejection of offer forfeiting your claims if any.

You are advised to mention page no. on each page of documents submitted by you. BPSCL shall not bear any responsibility in case of any loss of documents submitted by you during tender opening or thereafter.

- vi) If you are a Firm or Company, then you shall, in the forwarding letter, mention the number and names of all the partners & shall sign before submitting the same, unless the Power of Attorney holder has specifically been authorized in this respect.
- vii) The tender rates shall be written in English, both in words and figures. In case of any discrepancy between the words & figures of the rates quoted, the rates expressed in words shall be taken as correct. In case of discrepancy in the Unit Rate and Amount, Unit Rate will govern.
- viii) Price or any indication of price shall **NOT** be mentioned in the Techno-Commercial Bid.
- ix) The sealed tenders received will be opened on scheduled opening date and time in the office of Material Management, in presence of such bidders who might choose to witness the same
- x) In case the date of tender opening happens to be holiday, the tender will be opened on the next working day at the same time.
- xi) Communication regarding date of opening of Price-Bid shall be displayed on the Notice board of Material Management and individual communication to the techno-commercially eligible bidders will be sent only to their e-mail address given in tender documents.
- xii) Offers from two or more bidders shall summarily be rejected if they have any of the following parameters common:
  - a) Same PAN
  - b) Same GST Number
  - c) Same Postal address
  - d) Same E-mail ID
  - e) Same Mobile number
  - f) Same person signing in more than one offer/representing more than one bidder.
- xiii) BPSCL reserves the right either to reject any/all the tenders without assigning any reason thereof.

⋮

**2.00 GENERAL TERMS AND CONDITIONS**

- 2.01 BPSCL reserves the right to ask for original documents for verification at any time during tendering, evaluation and / or the execution of the contract. In case any documents / information submitted by you is / are found to be false or containing any misrepresentation or having any fraudulent declaration in it, then, in such eventuality, EMD will be forfeited and legal action (including cancellation of contract, banning of business dealing, criminal proceedings etc.) as deemed fit may be initiated by BPSCL against you.
- 2.02 **Packing :**
- a) **Responsibility for proper packing** – You shall be responsible for the materials being sufficiently and properly packed, for transport by rail / road / sea / air / any combination of above, so as to ensure their being free from loss or damage on arrival at the destination.
- b) **Marking of Packages, Packing, etc.** - Each package delivered under the contract shall bear the following:-
- Name of the Supplier
  - Contract/Order Number
  - Consignee's name and address
  - Description and quantity of contents
  - Gross weight, net weight,
  - Distinctive number or mark which is also to be shown, for the purpose of identification, on the Supplier's packing list.
  - Catalogue Number
- 2.03 **Delivery:** Timely delivery is the essence of the contract & must be completed as per the dates specified therein.
- 2.04 **Liquidated Damages:**
- a) LD will be imposed @ of 0.5% of the value of the delayed material for each week of delay or part thereof subject to maximum 5% of the total value of supply, if delivery of items is delayed beyond six (06) months from date of issuance of purchase order excluding the time taken by BPSCL in approval of drawing & documents.
- b) LD will be applicable @0.5% of the value of the delayed work for each week of delay or part thereof subject to maximum up to 5% of service part , if service part is delayed beyond six (06) months from the date of commencement of work due to reasons attributable to the contractor.
- 2.05 **Risk Purchase / Risk Cost:** If you fail to deliver the material either in full or in part, within the prescribed delivery period, BPSCL shall be entitled at its option to take alternate procurement action, at your risk & cost for the unsupplied portion of the goods / items for which delivery period has expired.
- 2.06 You must mention applicable GST rate in your offer with compliance of following GST clauses:
- a) You shall have to quote GST as extra. If not mentioned, same will be considered as EXTRA.
- b) You shall have to pass on the tax benefit/savings, if any, on account of output taxes to BPSCL.
- c) You shall agree to do all things not limited to providing GST invoices or other documentation as per GST Law relating to the above Services, payment of taxes, timely filing of valid statutory returns for the tax period on the Goods and Service Tax Portal etc. that may be necessary to match the invoice on GSTN common portal and enable BPSCL to claim input tax credit in relation to any GST payable under this agreement or in respect of any part under this agreement.
- d) In case the Input Tax Credit of GST is denied or demand is recovered from BPSCL on account of any non-compliance by you, including non-payment of GST charged and recovered, you shall indemnify BPSCL in respect of all claims of tax, penalty and/or interest, loss, damage, costs, expenses and liability that may arise due to such non-compliance. Further, in case of any differential tax liability on account of any wrong classification/valuation etc. by you, BPSCL will not be liable to reimburse any part of such differential tax, interest, penalty etc. It will be your sole responsibility to discharge appropriate taxes, as applicable.
- e) You shall have to maintain high GST compliance rating track record at any given point of time.
- 2.07 **Bank Details:** Bank details mentioning Account number, Bank name, City, Branch name and Branch code should be mentioned in the offer for NEFT / RTGS payment.
- 2.08 **Paying authority – In-charge (F&A), BPSCL.** Bill in triplicate duly receipted on the revenue stamp with a copy of TC & Packing list etc. are to be submitted to In-Charge (F&A), Bokaro Power Supply Company (P) Limited for processing of the same.



- 2.09 **Inspection:** Acceptance of material is subject to inspection. Final Inspection will be done at BPSCL Stores after receipt of material.
- 2.10 **FORCE MAJEURE:** You shall not be considered in default if delay occurs due to reason beyond your control such as acts of God, natural calamities, civil wars, fire, strike, frost, floods, riot and acts of unsurpassed power. Only those causes which have duration of more than seven days shall be considered in force majeure clause. In the event of delay due to such clause the delivery period will be extended for a length of time equal to the period of force majeure at the option of BPSCL. Order may be cancelled without any liability what so ever on the part of BPSCL.
- 2.11 **Banning of Business Dealings:** On arising of any situation or occurrence of any event as mentioned in Clause 6 of the Guidelines on Banning of Business Dealings, you shall be liable for action under and in accordance with the aforementioned Guidelines. The “Guidelines on Banning of Business Dealings” shall form part of the Tender/Contract and can be viewed on our website [www.bpscl.com](http://www.bpscl.com).
- 2.12 **Security Deposit:** In case Purchase order is placed upon you, you shall have to deposit Security Deposit at the rates mentioned below for satisfactory execution of the order:

Sl. No.	Purchase order value (Excluding GST)	Amount of Security Deposit
i.	Up to Rs. 20 Lakh	10% of Purchase order value, excluding GST
ii.	Over Rs. 20 Lakh up to Rs. 100 Lakh	5% of Purchase order value, excluding GST, subject to minimum of Rs. 2,50,000.00.
iii.	Over Rs. 100 Lakh up to Rs. 500 Lakh	2% of Purchase order value, excluding GST, subject to minimum of Rs. 7,50,000.00.

The Security Deposit shall be in the form of **Bank draft / Bankers Cheque / Bank Guarantee** (as per BPSCL format available at [bpscl.com](http://bpscl.com)) having validity up to guarantee period of the item to be supplied plus three (03) months of claim period. **Bank Draft / Bankers Cheque** shall be in favor of Bokaro Power Supply Company (P) Ltd. payable at Bokaro Steel City.

The expression “satisfactory execution of the order,” shall mean fulfillment of all obligations arising out of and in connection with the purchase order. In case of default in satisfactory execution of the order the security deposit shall be forfeited. Amount of penalty and/or Liquidated Damages imposed (if any) will be recovered from Bill / Security Deposit. If the amount of Bill / Security Deposit is not sufficient, you shall be required to pay the balance amount to BPSCL. If you do not pay the balance amount, the same shall be deducted from any sum or sums which may be due or may become due to you from BPSCL on any account whatsoever.

*In case of forfeiture of Security Deposit, you shall be required to reimburse the applicable GST to BPSCL.*

## 3.0 TECHNO-COMMERCIAL TERMS &amp; CONDITION:

## 3.1 Description of Material:

Sl. No.	ITEM DESCRIPTION	QUANTITY
1.A.	Cat No.: 16700504251 Design, Engineering & supply of online SOx, NOx and CO Analyzer in Flue Gas duct of 04 numbers pulverized coal fired boilers as per the attached tender specifications.	04 Nos.
1.B.	Supervision of Erection and carrying out testing & Commissioning	04 Nos.
1.C.	Post Warranty Comprehensive Annual Maintenance charges	for 04 numbers of system for 03 years

## 3.2 Special Terms and Conditions:

1. Manufacturer's warranty certificate shall be provided by supplier along with the material.
2. The bidder has to complete the supply of materials and associated jobs as per the tender document.

## 3.3 The Commercial Bid should confirm / indicate the following:

1.	Price	To confirm 'Firm price for the duration of the Contract'.
2.	Delivery Term	FOR BPSCL Stores, B. S. City.
3.	Packing & Forwarding Charges	Extra/Inclusive (Applicable amount to be mentioned in percentage or amount)
4.	Freight Charges	Extra/Inclusive (Applicable amount to be mentioned in percentage or amount)
5.	Transit Insurance	To be arranged and borne by Supplier
6.	GST Registration	To indicate GST Registration Number
7.	GST	Extra- Applicable rate to be mentioned HSN/ SAC- to be mentioned
8.	Payment Term	<p><b>A. <u>Supply of Goods:</u></b></p> <p>a) 80% against GRN.</p> <p>b) 10% after successful commissioning of the system. (If commissioning is delayed beyond six months from date of supply, due to reasons not attributable to the contractor, same may be released against submission of Bank Guarantee of equivalent amount having validity till guarantee period).</p> <p>c) Balance 10% shall be released after completion of guarantee period. (However bidder will have the option of taking this payment against submission of Bank Guarantee of equivalent amount having validity till guarantee period).</p> <p><b>B. <u>Supply of Service :</u></b></p> <p>100% on prorata basis after successful commissioning.</p> <p><b>C. <u>Post warranty comprehensive Annual Maintenance Contract (PWCAMC):</u></b></p> <p>100% of PWCAMC charges for each year shall be paid in equal quarterly installments at the end of each quarter against invoice raised by Contractor &amp; duly certified by BPSCL.</p>
9.	Delivery Period	The delivery should be as per below schedule:

		<p>a) Submission of drawing &amp; Bill of Material (BOM) for approval: within one (01) month of placement of Purchase order.</p> <p>b) Supply of materials: Within five (05) months from drawing approval.</p> <p>c) Commissioning: Within six (06) months of supply of materials.</p>
10.	Warranty Clause	<p>1. The bidder shall give warranty for design and performance of individual equipment as well as complete system for a minimum period of two (2) years after commissioning. The warranty shall cover spares, calibration, consumables, deployment of men for periodic maintenance and attending any defect/break-down of the system at no extra cost to BPSCL.</p> <p>2. On-site warranty of the system shall start from the date of issue of Commissioning Certificate of individual equipment and shall be for a period of 02 (two) years. The warranty shall be comprehensive in nature means any defective part or card in the systems has to be replaced by the supplier at no extra cost to BPSCL, including all items/spares required for smooth and trouble-free operation of the system supplied.</p>
11.	Inspection	Final Inspection will be done at BPSCL stores after receipt of material.
12.	Security Deposit	To confirm as per relevant Clause of NIT
13.	LD Clause	To confirm as per relevant Clause of NIT
14.	Risk Purchase Clause	To confirm as per relevant Clause of NIT
15.	Validity Period	To confirm as per relevant Clause of NIT

### 3.4 SPECIFICATIONS

#### Design, Engineering, Supply, Supervision of Erection, Testing, Commissioning & PWCAMC of SO<sub>x</sub>, NO<sub>x</sub> and CO Analyzers:

##### 1.0 INTRODUCTION:

BPSCL intends to install Online Monitoring system of SO<sub>x</sub>, NO<sub>x</sub> and CO in Flue Gas duct of 04 nos. pulverized coal fired Boilers. The job shall be done as per guidelines issued by Central Pollution Control Board (CPCB) to Power Plants for continuous monitoring of industrial emissions.

##### 2.0 GENERAL

All instruments shall be supplied strictly in accordance to this tender document along with Instrument Data sheets. In the event of any conflict between this specification, data sheets, related standards, codes etc., the bidder should refer the matter to the purchaser for clarifications and only after obtaining the same in writing, should proceed with the manufacture of the items in question.

Successful bidder shall submit QAP for approval based on the Typical Quality Plan (Inspection Test Plan) as mentioned in this document. Any material or accessory which may not have been specifically mentioned but which is necessary for satisfactory and trouble-free operation of SO<sub>x</sub> NO<sub>x</sub> and CO Analyzer Systems shall be in the scope of the bidder.

##### 3.0 BIDDER'S SCOPE OF SUPPLY

1. The scope of supply shall broadly consist of the following: -

- a. Analyzers to measure Sulphur Dioxide (SO<sub>x</sub>), Nitrogen Oxide (NO, NO<sub>2</sub>, NO<sub>x</sub>) and Carbon Monoxide (CO).
- b. Analyzer Panels.
- c. Sample Conditioning Systems / Local Panel with Control Unit.
- d. Software (both pre-installed & in Compact Disc removable media) for Analyzer Configuration.
- e. Auto calibrating equipment.
- f. NO<sub>2</sub> to NO Converter.
- g. Calibration Gas (Zero and Span Gas) cylinders for Analyzers with Storage Rack.
- h. All types of Special Cables (as applicable) required for the supplied Analyzer Systems.
- i. PC workstation for collecting local analyzer data.
- j. Preparation of Engineering Drawings and Technical Documentation.
- k. Commissioning Spares.

2. The detailed technical specifications for the items broadly outlined above have been provided in separate sections along with statutory requirements, inspection clauses, other requirements, terms and conditions of supply.
3. The job includes system design, detail engineering, supply, packing & shipment, supervision of erection, configuration, programming, testing and commissioning of Stack Gas Monitoring System for BPSCL. Further, this also covers all bought out items and associated peripheral equipment of the offered system & whatever is necessary to make the system operational as per the specifications mentioned in the tender documents.
4. Scope of Supply shall cover all materials, hardware and software found necessary for successful implementation and commissioning of the system in line with the Functional requirements mentioned in the tender document.
5. Bidder has to furnish along with their offer, complete details of system configuration offered along with detailed Bill of Material (BOM) indicating all items with specified quantities in line with the requirements set forth in the technical specifications. The bidder has to furnish instrument datasheets along with supporting technical catalogues during offer submission for our technical evaluation. However, final approval of the datasheets & Bill of Material (BOM) shall be given only on submission of the same during the engineering stage, after placement of order.
6. Scope of bidder includes total engineering and drawing development. Bidder has to prepare and submit drawings / sketches / diagrams / documents, for BPSCL approval / reference.
7. Any changes / modifications at site, if required based on site conditions, has to be marked in a mark-up copy of the engineering/installation drawings and 2 sets handed over to BPSCL. After incorporation of changes, the drawings have to be submitted as As-built sets after successful commissioning.

#### **4.0 FUNCTIONAL REQUIREMENT:**

1. The Stack monitoring System along with all its accessories shall be housed in the Analyzer room.
2. The analyzer system shall consist of SOX, NOX and CO analyzers whose detailed specifications are given in a separate section.
3. The SOX, NOX, CO analyzers shall receive sample from the stack via hot extraction type system.
4. The analyzers should be complete with built-in Auto & remote calibration system and same should be feasible from local panel. Additionally, provision should be given for manual calibration.
5. The calibration gas cylinders shall be properly tubed to the calibrating equipment.
6. The display of all-important status signals viz. concentration, manual/auto/calibration mode, system fault/purge should be on front panel.
7. PC Workstation is to be installed for local data display.
8. Required cables and accessories for establishing connectivity between analyzers to workstation and workstations to central data acquisition server at BPSCL will be in the scope of the bidder.
9. All the necessary engineering for successful commissioning of the system shall be done by bidder.
10. All software to be supplied under the scope of this tender shall have user licenses for lifetime use for this project. The license shall accompany the software at the time of supply of the same.

#### **5.0 SCOPE OF WORK**

The scope of work includes supervision of erection, testing, commissioning and performance guarantee test as per approvals and handing over the facilities to BPSCL complete in all respect as per the tender requirement. All works involved in supervision of erection, testing and commissioning of the supplied equipments shall be in line with the technical specification, standards, and guidelines and laid down practices given in this technical specification and elsewhere in the tender and as per approved drawings. The specifications, general guidelines and standards to be followed for this work are explained in brief in this document and in detail in the attached technical specifications.

**The scope of work shall include:**

1. Supervision of the following:
  - a) Impulse pipe hydraulic testing, air piping pneumatic testing, cleaning, and blowing.
  - b) Installation of all the supplied equipments/instruments, panels, Junction boxes and accessories.
  - c) Erection of all impulse piping, tubing and isolation valves for the total system.
  - d) Erection of Instrument air pipeline from instrument air header to individual Analyzers Calibration systems.
  - e) Erection of Sample handling system with accessories, tubing, isolation valves and hook-up to analyzers.
  - f) Erection of calibrator system with accessories, tubing, isolation valves and hook-up to calibration gas (zero and span gas) cylinders.
2. Analyzer calibration & Loop Checking of all cables.
3. Establishing data communication between analyzers and local server of BPSCL. The distance between the analyzer and local server station of BPSCL is 500 to 800 m.
4. Testing, pre-commissioning and final Commissioning of the supplied system complete in all respects.
5. Bidder is fully responsible for supervision of complete Analyzer System installation, mounting and configuration of software, commissioning of the supplied Analyzer system in stipulated time mention in P.O. The bidder has to ensure deputation of service engineer for minimum 16 days (in 4/5 visits), To & Fro charges, Boarding & Lodging and others have to be borne by the bidder. No extra payment will be done for this.

**6.0 DOCUMENTATION & SOFTWARE TO BE PROVIDED BY BIDDER**

1. The bidder must submit following documents along with the offer:
  - a. Technical specification of each component.
  - b. Configuration diagram of complete system.
  - c. Calibration procedure of the system.
2. All Drawings and Documents to be furnished by the bidder both in hard and soft copies.
3. Drawings / documents shall be provided by bidder as per following breakup: -
  - a. All drawings/documents requiring BPSCL approval in at least 1 no. hard copy and one soft copy.
  - b. Approved drawings/documents in at least 3 sets hard copy and one soft copy.
  - c. Final As built documents / instruction manuals in 6 sets hard copy and one soft copy in CD.

**7.0 FACTORY ACCEPTANCE TEST (FAT)**

1. After the system to be supplied is fully manufactured, wired and ready for inspection, bidder shall intimate BPSCL for witnessing the Factory Acceptance Test (FAT) as per BPSCL approved procedure at the bidder's works.
2. Bidder shall test and demonstrate the functional integrity of the Analyzer system hardware and software. No material or equipment shall be transported until all required tests are successfully completed and certified "Ready for Shipment" by the BPSCL.
3. Bidder to note that acceptance of any system or the exemption of inspection or testing shall in no way absolve the Bidder of the responsibility of delivering the system meeting all the requirements as specified in tender document.
4. Factory acceptance test procedure shall be submitted for approval at least 2 weeks before the FAT at Bidder works.

**8.0 SITE ACCEPTANCE TEST (SAT)**

1. The site acceptance test shall be carried out in the presence of BPSCL representative.
2. Bidder shall carry out the following functional tests, as a part of site acceptance test as a minimum: -
  - a) Hardware verification as per approved Analyzer system drawings.
  - b) Visual and mechanical check-up for proper workmanship, identification, ferruling, nameplates etc.
  - c) Demonstration of all Analyzers system operation & diagnostics.

- d) Checking of calibration of supplied Analyzers
- e) Checking of proper functioning of all other peripherals like sample handling system

3. Performance Test:

BPSCL shall take over the Analyzer system after uninterrupted, satisfactory, trouble free, fully functional performance test for a period of four weeks after successful commissioning of Analyzer system in totality & completion of all SAT punch points at the site. Minutes of meeting shall be made for recording the date of handover of the Analyzer system. Warranty of the system shall start from this date of handover.

4. During above Performance test period, any malfunctioning of the Analyzers system components shall be replaced / repaired as required free of cost by the Bidder. Once the system failure is detected, the performance test shall start as a fresh from the beginning.

**9.0 TRAINING**

Training shall be conducted at BPSCL premises on the total system.

Training shall be as per the following details: -

- 1. Acquainting personnel on complete Analyzer System.
- 2. Procedures for identification and troubleshooting common maintenance problems.
- 3. Analyzer calibration, trouble shooting and diagnostics, Software installation, configuration.
- 4. Procedures for taking system backups and recovery procedure in case of partial or total system failure.

**3.5 DETAILED TECHNICAL SPECIFICATION**

**SOX, NOX & CO Analyzer System**

Installation of new emission monitoring systems with related instruments for measurement of SOX, NOX & CO (as per CPCB latest guidelines) in Flue Gas duct of 260 TPH pulverized coal fired Boilers.

**STANDARD & CODES:**

All equipment and their associated system, accessories covered under this specification shall comply with all currently applicable statutory regulations and safety codes. All equipment and its components shall be designed and tested in accordance with the latest Indian Standard Specification (IS 14001)/ other International Standards (ASTM/TUV/MCERT) established to be equivalent or superior to the Indian Standard codes unless stated otherwise. The offered system shall be suitable for measurement of SOX, NOX & CO by use of the procedures equivalent to international standards (EPA PS or EN QAL standards) recognized for use as CEMS.

**PROCESS & INSTRUMENTATION:**

The broad features of the online monitoring system will be as follows:

- 1) Field equipment should be operational and tolerant to extreme environmental conditions, in high or low temperatures & high humidity conditions. Maximum temperature and maximum humidity do not occur simultaneously.
- 2) Equipment should be rugged and shall not require manual Intervention except routine calibration.
- 3) The System should be capable of Communication with our existing system at BPSCL via RS485 MODBUS communication to transfer data to CPCB and JSPCB servers. Data transfer to CPCB and JSPCB servers is in BPSCL's scope.
- 4) The entire system shall satisfy all the guidelines given by CPCB.

**SPECIFICATION:**

<b>SOx, NOx &amp; CO Analyzer System</b>		
1	<b>Gases to be measured</b>	i) SOX: Measuring Range: 0 – 1000 mg/Nm3 selectable
		ii) NOX: Measuring Range: 0 – 1000 mg/Nm3 selectable
		iii) CO: Measuring Range: 0 – 2000 mg/Nm3 selectable
2	<b>Measurement Principle</b>	Hot Extractive Type with Dual Probe in the ESP Inlet Duct.
3	<b>Certification</b>	<b>QAL 1</b> Certification is required as per International Standards ( <b>USEPA TUV/MCERTS</b> ). Conformity compliance will not be acceptable.
4	<b>SOx, NOx &amp; CO Gas Analyzer</b>	
	The Analyzer should be housed in CRCA panel fully wired and tested complying with IP54 protection class.	
	<b>i. Measurement Technology</b>	Chopped single/ Dual Beam NDUV / FTIR / NDIR /IR-GFC / IR-CFM Type Sensor Technology shall be offered. The Analyzer should be advanced Microprocessor type and conform to the following.

		<ol style="list-style-type: none"> <li>The Wet Extractive systems shall monitor and report Moisture to correct the results in dry condition.</li> <li>NDIR based NO<sub>x</sub> analyzer ideally converts all NO<sub>x</sub> to NO for measurement purpose. 5% of total converted NO represents NO<sub>2</sub>. NDIR based In-situ Analyzers without converters are measuring NO and considering upto 5% of NO values as NO<sub>2</sub> resulting under reporting of NO<sub>x</sub>. Hence, in order to correct the data special calculation as given below will be applied. <ul style="list-style-type: none"> <li>The reported NO values will be multiplied by 1.05 and then 95% of the product will be considered as NO and 5% of the product will be considered as NO<sub>2</sub>.</li> <li>Final reporting shall follow the equation <math>NO_x = NO + NO_2 = NO \times 1.53 + NO_2 = NO_x</math> as NO<sub>2</sub>.</li> </ul> </li> <li>In other cases, NO<sub>x</sub> values are required to be reported as NO<sub>2</sub> mg/NM<sub>3</sub>, <math>NO_x = NO + NO_2 = NO \times 1.53 + NO_2 = NO_x</math> as NO<sub>2</sub>.</li> </ol>
	<b>ii. Analyzer Sample Cell configuration</b>	In case of CEMS system for measurement of both SO <sub>x</sub> & NO <sub>x</sub> , the SO <sub>x</sub> shall be measured in separate sample cell than the NO sample cell to avoid conversion of SO <sub>2</sub> to SO <sub>3</sub> due to free O <sub>2</sub> after passing through NO <sub>x</sub> converter. For NO <sub>x</sub> & SO <sub>x</sub> there shall be separate sample cells and separate detectors.
	<b>iii. Auto/Remote Calibration</b>	Remote, automatic and manual calibration, calibration check/verification facility shall be available. Automatic calibration shall be user programmable.
	<b>iv. Ambient Temperature</b>	5° C – 50° C
	<b>v. Supply Voltage</b>	100-240 VAC 50 Hz
	<b>vi. Analog Output</b>	3*4-20 mA (isolated o/p for SO <sub>x</sub> , NO <sub>x</sub> and CO)
	<b>vii. Repeatability</b>	± 1% of Full Scale
	<b>viii. Linearity</b>	± 1% of Full Scale
	<b>ix. Zero Drift</b>	± 2% of Full Scale
	<b>x. Span Drift</b>	± 2% of Full Scale
	<b>xi. Digital Comm.</b>	RS 485 Modbus Protocol for Sox, NO <sub>x</sub> output and remote Auto calibration input.
	<b>Sample Conditioning System</b>	
5	<b>i. Sample System Design</b>	<ol style="list-style-type: none"> <li>The sample handling system shall have dual probes at the Duct with heated filter for probe.</li> <li>The sample shall be extracted through heated tubes to the sample conditioning System located near the Duct.</li> <li>The Sample Handling System shall be housed in a free-standing Cabinet / Panel of Rittal make with IP 65 protection.</li> <li>All Sample Handling System components shall be of reputed makes only. The critical components like the pumps, coolers, Solenoids valves, probes &amp; the filters shall be of makes as per following details: <ul style="list-style-type: none"> <li>Sample Probe: Buhler/M&amp;C.</li> <li>Cooler: Buhler/M&amp;C /Axis.</li> <li>Sample Pump: Buhler/M&amp;C.</li> <li>Solenoid Valves: Festo / ASCO/ Rotex.</li> <li>The system logic shall be PLC controlled.</li> </ul> </li> </ol>
	<b>ii. Dust Filters</b>	There should be minimum 3 stages filtering of the sample gas for filtering of High Dust Concentration and High Temperature Flue Gas.
	<b>iii. Probe</b>	Probe MOC shall be SS316 with heated filter Assembly.
	<b>iv. Probe Cleaning</b>	Automatic Probe Cleaning (Blowback) System shall be provided.
6	<b>Calibration Gas Cylinder</b>	<ol style="list-style-type: none"> <li>Two nos. Calibration Gas Cylinders (one each for zero and span calibration) for each analyzer system of 10 ltrs. minimum capacity along with gas composition and gas pressure certificate (from manufacturer) to be supplied.</li> <li>Two nos. suitable cylinder pressure regulator to be supplied for each analyzer system.</li> <li>Two nos. 03 mtr flexible tube of suitable size fitted with proper fittings for interconnection of gas cylinder regulator and calibration gas inlet to analyzer to be supplied for each analyzer system.</li> <li>Solenoid valve shall be provided for remote calibration.</li> </ol>

7	<b>Field Sample Tube</b>	All field sample tube shall be pre-fabricated HEAT TRACED type of PTFE (25 mtrs. for each analyzer system).
8	<b>MMI</b>	The system shall have Color touch screen MMI to show graphic active display of all the system components as well as with error logbook
9	<b>Temperature/Pressure Compensation</b>	The raw SO <sub>x</sub> /NO <sub>x</sub> measured value shall be compensated with Pressure & Temperature inputs to have data available in mg/Nm <sup>3</sup> . The bidder has to supply temperature and pressure measuring instruments.

### **3.6 POST WARRANTY COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT (PWCAMC)**

1. Bidder shall start the Post warranty CAMC for three years covering all equipments i.e. Analyzers and its accessories supplied by the bidder. The validity of PWCAMC should be counted after completion of warranty period.
2. The PWCAMC shall cover supply of all necessary modules, all types of spares, consumables, supply & refilling of all type of gas cylinders along with all services necessary to maintain trouble free & reliable operation of the Analyzer system.
3. No additional cost shall be payable towards renewal of any type of software license fees, if any, for Analyzer system during the PWCAMC period.
4. Bidder shall depute well experienced Service Engineer as & when required having sufficient experience & expertise in maintaining reliable & trouble-free operation of the Analyzer system during Warranty & PWCAMC period.
5. The cost for hardware spares, consumable replacement, and all services required including travel, boarding & lodging charges of service engineer should be inclusive in the annual price to be quoted by the bidder.
6. Minimum one no. spare of each type of module/power supply & any other hardware as has been installed in supplied Analyzer system including all parts of sample handling system at bidder's risk & cost, should be stocked at site to take care of the reliable operation of the Analyzer system & emergency situation during Warranty & PWCAMC period. If the items are to be used from this stock, the same have to be replaced within one-month period from the date of consumption.
7. The spares stock as mentioned above vide sr. no 06 shall be maintained by the Bidder at BPSCL without any commercial implication to BPSCL. The faulty hardware from stocked at site shall be taken out from BPSCL by the Bidder as & when it is replaced with new hardware. The unused spares from stocked at site shall be returned to the Bidder after successful completion of PWCAMC.

**The Post warranty CAMC shall cover following services:**

- a) Emergency Maintenance service - as and when required.
- b) Preventive Maintenance service - 06 visits per year.
- c) Hardware replacement - as and when required.
- d) Software support service



**4.0 PRICE BID / RA FORMAT:****Special Instruction –**

1. *In the event of the L1 Bidder backing out prior to placement of order, in addition to forfeiture of EMD the L1 bidder shall be suspended for a period of one (01) year from the date of issue of suspension order*
2. *Breakup of quoted LC (**Landed Cost**) shall be submitted by the L1 bidder. In case of refusal of L1 bidder to submit price break up, EMD will be forfeited and the L1 bidder shall be suspended for a period of one (01) year from the date of issue of suspension order.*
3. **Price Basis – Rs. per No. on Landed Cost basis excluding GST.**

<b>Price Break Up Format</b>		
<b>Sl. No.</b>		<b>Amount per Number (Rs.)</b>
<b>1.A</b>	<b>SUPPLY OF GOODS:</b>	
A1	Basic Price	
A2	Packing & Forwarding	
A3	Freight	
A4	Transit Insurance	
A5	Any Other charges	
	<b>Sub Total of A (A1+A2+A3+A4+A5)</b>	
<b>1.B</b>	<b>SUPERVISION OF ERECTION and TESTING &amp; COMMISSIONING</b>	
1.	Basic Price	
	<b>Sub Total of B</b>	
<b>1.C</b>	<b>POST WARRANTY COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT (PWCAMC)</b>	
1.	Basic Price	Duration 03 years
	<b>Sub Total of C</b>	
<b>Total for One System: (Sub Total of A + Sub Total of B + Sub Total of C)</b>		
<b>LANDED COST : Total for FOUR System</b>		

**Note: GST Extra**

**Self Declaration**

I.....son/daughter of Shri ..... Aged..... years  
resident of .....PS.....District.....State.....do hereby  
declare that:

1. I am the authorized representative and signatory of M/s.....  
(name of the firm/company).
2. All document(s) submitted/ information provided by M/s..... alongwith the  
Bid Document submitted against Tender No.....  
.....dated .....
- for.....  
.....(Name of work)  
has/have been submitted under my knowledge and are authentic , genuine and true. No part of the document(s) /  
information is false, forged or fabricated.
3. The above declaration in respect of genuineness of the documents/ information has been made having full  
knowledge of provisions of bidding conditions which entitle the Owner/BPSCL to initiate action in the event of  
such declaration turning out to be a false.
4. I undertake to produce all documents in original for verification as and when asked for the same by BPSCL.

(Name & Signature of Authorized person):.....  
Designation:.....

**ANNEXURE-II**

(To be submitted on Supplier's Letter Head)

**Format for Acceptance of General Terms & Conditions, Commercial Terms and all other Terms of the Reverse Auction**

We \_\_\_\_\_ (Supplier Name)

with PAN \_\_\_\_\_ having registered office at \_\_\_\_\_

\_\_\_\_\_ (Address)

agree to all the Commercial, General & other Terms & Conditions listed in the

NIT No. \_\_\_\_\_

dated \_\_\_\_\_

for procurement of \_\_\_\_\_ (item) through Reverse Auction.

We confirm that we are in a position to supply material as per the specification given in NIT. We agree to participate in the Reverse Auction and abide by the rules.

We nominate an executive, whose details are given below, to put the bids on our behalf.

The details of the person authorized to bid on our behalf is as follows.

Name & Designation :

E-mail ID :

Contact phone nos. :

Address :

(Signature & Seal)

Place :

Date :

**ANNEXURE-III**

**Format for submitting last quoted prices**

*(To be submitted on Company Letter Head of the Bidder)*

**(To be sent within 30 mins of conclusion of the Reverse Auction)**

To,  
mjunction services limited  
1<sup>st</sup> Floor, Tata Centre  
43, Jawaharlal Nehru Road  
Kolkata – 700 071

**Fax: 033 – 2288 3279**

**Ref: Reverse Auction for .....for Bokaro Power Supply Co. (P) Ltd. held on .....**

Reference above, we hereby confirm our Market wise last quoted prices in the Reverse Auction held on ..... for .....for Bokaro Power Supply Co. (P) Ltd., Bokaro Steel City.

<b>Market No.</b>	<b>Last Quoted Price</b>

We also confirm that we will submit item wise price break-up, within two working days from the date of Reverse Auction.

Signature :

Name :

Designation :

Date :