

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

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

**CIN:U40300DL2001PTC112074**

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

**TENDER NOTICE NO. BPSCL/CEO/P&C/14-15/PUR-172/NIT-634/1508  
Dated 16.03.2017**



## **TENDER DOCUMENT**

**SUBJECT: SUPPLY, ERECTION, TESTING & COMMISSIONING OF NITROGEN  
INJECTION FIRE PROTECTION SYSTEM FOR TWO (02) NOS. OF 50  
MVA TRANSFORMER, AS A COMPLETE PACKAGE**

**COST: Rs. 1000/-  
(Rupees One Thousand Only)**

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Bokaro Power Supply Company (P) Limited  
(A Joint Venture of SAIL & DVC)  
Hall No. M-01, Old Administrative Building  
Ispat Bhawan, Bokaro Steel City 827 001

**NOTICE INVITING TENDER**

NIT No. BPSCL/CEO/P&C/14-15/PUR-172/NIT-634/1508

Date: 16.03.2017

For and on behalf of BOKARO POWER SUPPLY COMPANY (P) LTD (BPSCL), sealed tenders in three parts, i.e. Cost of Tender Document & EMD (Part A), Techno-Commercial bid (Part-B) and **Online Price bid** (Part -C) are invited from reputed, experienced & financially sound firms for following items.

<b>Material Details:</b>	
<b>Item</b>	<b>SUPPLY, ERECTION, TESTING &amp; COMMISSIONING OF NITROGEN INJECTION FIRE PROTECTION SYSTEM FOR TWO (02) NOS. OF 50 MVA TRANSFORMER, AS A COMPLETE PACKAGE</b>
<b>Quantity</b>	<b>AS GIVEN IN DESCRIPTION OF MATERIAL (Section-IV).</b>
<b>Material Specification</b>	<b>AS PER SECTION-IV.</b>
<b>Qualifying requirements: -</b>	
<ol style="list-style-type: none"> <li>1. The bidder shall have valid ISO certification at the time of submission of tender.</li> <li>2. The tenderer should have minimum average annual turnover (MAT) of <b>Rs. 10,00,000.00</b> (Rupees Ten Lakh) <b>only</b>. <ul style="list-style-type: none"> <li>➤ Average annual turnover shall be determined taking into consideration turnover of available preceding three (03) consecutive financial years. Other income shall not be considered for arriving at annual turnover.</li> <li>➤ 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.</li> </ul> </li> <li>3. The bidder shall have requisite experience of manufacturing and / or supplying of Nitrogen Injection Fire Protection System to any PSU / Government or JV thereof / Semi Government Organization / Company registered under Companies Act.</li> <li>4. The bidder shall have following test reports from international or national (NABL accredited) lab: <ol style="list-style-type: none"> <li>i) Performance / Operational tests on the system offered.</li> <li>ii) Response time for heat detectors.</li> </ol> </li> <li>5. The bidder shall have TAC approval for the system proposed.</li> <li>4. The bidder shall furnish authenticated copies of <b>latest IT return, Sales tax registration</b> certificate.</li> <li>5. The bidder is required to submit self-attested photocopies of documents in support of their eligibility and experience. In addition, bidder shall submit an affidavit in enclosed format (<b>Annexure – IV</b>) declaring that the documents submitted by them are genuine.</li> <li>6. <b>The bidder must accept for finalization of rates through Reverse Auction.</b></li> </ol>	
<b>Other information: -</b>	
<b>Cost of Tender Paper (non refundable)</b>	<b>Rs. 1000.00 (Rupees One Thousand only)</b>
<b>Last date &amp; time for submission of tender</b>	<b>17.04.2017 up to 12.00 Hours</b>
<b>Bid Opening date &amp; time (Part – A &amp; B)</b>	<b>17.04.2017 at 12.15 PM</b>

**General Terms & Conditions:**

- i) Tenderers should download the tender documents from our website **www.bpscl.com / eps.buyjunction.in** and submit the duly filled documents along with the cost of tender documents of **Rs. 1000/=** by way of demand draft drawn on any nationalized bank/scheduled commercial bank, drawn in favor of **Bokaro Power Supply Co. (P) Ltd**, payable at **Bokaro Steel City**, in the office of the undersigned on any working day during office hours.

- ii) Tender shall be enclosed with **EMD** of **Rs. 15,000.00** (Rupees Fifteen Thousand) **only** in shape of **BG** (as per format available in [www.bpscl.com](http://www.bpscl.com)) having validity up to offer validity plus three (03) months of claim period / **DD / Pay order or Banker's cheque** drawn on any Scheduled Commercial Bank except Co-operative bank and Gramin Bank in favor of **Bokaro Power Supply Company (P) Ltd.**, payable at **Bokaro Steel City**.
- iii) However, Micro & small enterprises (MSEs) / PSU /Govt. Undertakings and Co-operative societies will be exempted from submission of **Cost of tender document & Earnest Money Deposit (EMD)** as per government policy. For MSEs the exemption from paying cost of tender document & Earnest Money will be granted only on submission of valid notarized copy of certificate having a valid Entrepreneurs Memorandum (EM) number.SSI/NSIC certificate holders should also submit a copy of Entrepreneurs Memorandum.
- iv) The undersigned reserves the right to either reject any / all tenders without assigning any reason thereof and also reserve the right to alter the qualifying requirements.
- v) **Any corrigendum/addendum/extension of bid opening date will be published through website [www. bpscl.com](http://www.bpscl.com) / [eps.buyjunction.in](http://eps.buyjunction.in) only and not through news paper.**

For and on behalf  
Bokaro Power Supply Co. (P) Ltd.  
**Sd/-**  
(J. M. Prasad)  
DGM (P&C)  
Email – [purchase.bpscl@gmail.com](mailto:purchase.bpscl@gmail.com)

## Section – I

### 1.00 Conditions & Rules to be observed in submitting Tenders

#### 1.01 Manner of Submission of the Tender

The tender shall be divided into 03 parts as follows:-

- a) **Part - A:** This part Comprises of Cost of Tender documents, EMD, NIT No. & date, marked with **(Part-A)**.
- b) **Part - B:** This part Comprises Technical and Commercial details executed, consent on terms & conditions of NIT along with copy of System generated **acknowledgement-slip** for online submission of sealed price bid etc., marked with **(Part-B)**, Techno-Commercial Bid, NIT No. & Date (*In hard copy*).
- c) **Part-A** and **Part-B** should be sealed in separate envelopes, clearly superscribing on the top of each envelope the relevant part number and description along with NIT reference and date of opening and submit all the parts simultaneously in another sealed envelope clearly superscribing NIT reference and date of opening.

**Note: Part A & Part B shall be submitted in hard copy at following address:**

DGM (P&C)  
Bokaro Power Supply Co. (P) Ltd.  
Hall No. – M-01, Old ADM Building  
Ispat Bhawan, Bokaro Steel City – 827 001  
Ph: 06542 – 240380, Mob: 8986874098

- d) **Part - C:** Online sealed price bid to be submitted 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 4: Click on **View Live Auctions and Tenders**.

Step 5: In the right side open/ global tenders link will be displayed.

Step 6: Click on the link for the above mentioned tender link present under Open tenders

Step 7: 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 available before proceeding further (where ever applicable).

**New Users:**

Steps to get your **User Code** 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 Code and Password.
5. Changing of password on first login is compulsory.
6. On receipt of the User Code 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 code 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:**

1. **Current price, Market status, Start Bid Price, Bid Decrement, Effective Price** will not be available.
2. Time remaining for the event to close will be shown under the Bid Summary screen.
3. For any clarification on the bidding process please contact
  - i) Mr. Manish Nandwana \_ 9163348165\_ [manish.nandwana@mjunction.in](mailto:manish.nandwana@mjunction.in)
  - ii) Ms. Monalisa Shaw \_ 9163348297\_ [monalisa.shaw@mjunction.in](mailto:monalisa.shaw@mjunction.in)
  - iii) Mr. Sumit Kumar Das \_ 8873002750\_ [sumit.das@mjunction.in](mailto:sumit.das@mjunction.in), Bokaro Office

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

## 1.02 Tender Validity Period

The tender shall be valid at least for **120 (One Hundred Twenty)** days from the date of opening.

## 1.03 General

- i) The bidder shall complete the Bid Proposal in all respect by inserting correct applicable 'data' in the 'blank box' against each item/Sl. No. positively.
- ii) **All pages of the copies of documents submitted as credentials should be duly signed / self attested (with seal of the company) by representative of the bidder.**
- iii) If the intending tenderer is a Firm or Company, then they 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.
- iv) If any tenderer withdraws his tender before its acceptance or refuses within a reasonable time without giving any satisfactory and acceptable explanation thereof, the tenderer shall be disqualified for making any tender of the BPSCL for a minimum period of one year and the Earnest Money will be forfeited.
- v) Proprietary Article Certificate (PAC) and Price Reasonable Certificate (PRC) stating that the prices charged are reasonable and the same being charged to all the Govt./Semi govt. organisations/ PSUs including D.G.S.& D. where applicable. Where agent commission is involved, the same in percentage invariably to be indicated.
- vi) Any tender containing false information / particulars shall be liable to be rejected and tenderer found guilty for furnishing false information / particulars may be debarred from future dealings as per prevailing procedure and EMD will be forfeited.
- vii) **Handling of Earnest Money:**
  - a) Earnest Money will be refunded to the un-successful tenderer after finalization of tender and no interest will be paid for the same. **Bidders are requested to submit their bank details for returning of EMD.**
  - b) The amount of Earnest money will be refunded against submission of Security Deposit only in case of successful Tenderer.
- viii) In case the date of tender opening happens to be holiday, the tender will be opened on the next working day at same time.
- ix) **Any conditional offer or offer having deviations from our specification & instruction sheets is liable to be rejected.**
- x) BPSCL reserves the right either to reject any/all the tenders without assigning any reason thereof.

## 2.00 General Terms and Conditions

- 2.01 Specification, quantity, unit rate, taxes, duties, freight, insurance, packaging, forwarding etc. should be mentioned separately and clearly.
- 2.02 Offer is to either type written or by handwritten and in no case partly type written and partly hand written. No corrections, overtyping shall be permitted. If so, the same shall be summarily rejected.
- 2.03 BPSCL reserves the right to call for original documents for verification at any time during tendering, evaluation and / or the execution of the contract. In case of any documents / information submitted by bidder (s) found to be false or containing any misrepresentation of having any fraudulent declaration in it, then in such eventuality, legal action (including cancellation of contract, banning of business dealing, forfeiting of EMD, damages, criminal proceedings etc.) as deemed fit may be initiated by BPSCL against the bidder.
- 2.04 The Tenderer shall quote the unit rate in figures as well as in words. It should be in the format given in **PART 'C'**.
- 2.05 Bank details mentioning account number, bank name, city, branch name and branch code should be mentioned in the offer for NEFT / RTGS payment.
- 2.06 Paying authority – **In-charge (F&A)**, BPSCL but bill in triplicate duly receipted on the revenue stamp with a copy of TC, GC & Packing list etc. are to be submitted to Consignee: In-Charge (Stores), Power Plant, Bokaro Power Supply Company (P) Limited for processing of the same.
- 2.07 Tenderers shall quote their firm rates and no negotiations will be held except with the lowest tenderer, if required.
- 2.08 Supplies must be strictly in accordance with material specifications. Suppliers will be responsible for deviation whatsoever.
- 2.09 a) The supplier will be held responsible for the stores not being sufficiently and properly packed at his expenses for the transport by rail, road and sea; so as to ensure them being free from loss or injury at their destination. This will apply Ex-Godown office also.
- b) Each bale or package delivered under our order shall at the expense of the supplier be distinctly marked with description and quantity of contents with the consignee's name and address with gross weight with the name of supplier and with a distinctive number or mark which is also to be shown for the purpose of identification of the suppliers packing account.
- c) Each bale or package shall contain a packing note quoting the number and date of our order showing its contents in detail.
- 2.10 In accepting the order you are understood to accept to all responsibilities for and infringement in registered design, trademark, patent rights etc.
- 2.11 The supplier has to arrange & bear Transit Insurance charges.**
- 2.12 Where a claim of Sales Tax is preferred and admitted, the supplier must satisfy that he is a registered dealer under Sales Tax Act and Possesses a Certificate of Registration in the firms name in which the supply is made and shall in proof thereof, while submitting bills for payment, furnish the number date and other particulars of such Certificate.
- 2.13 **Security Deposit:** The successful tenderer will have to deposit as security, **05%** of purchase order value subject to a minimum of **Rs. 2,50,000.00** for satisfactory execution of the order of in any form - **Bank Guarantee** (as per BPSCL format available at [www.bpscl.com](http://www.bpscl.com)) having validity up to guarantee period of the item to be supplied plus three (03) months of claim period as per BPSCL format, Bank Draft/ Bankers Cheque in favour of Bokaro Power Supply Company (P) Ltd., B.S. City.

The expression satisfactory execution of the order shall mean fulfillment of all obligation arising out of and the guarantees stipulated in the contract. In default at satisfactory execution of the order the security deposit shall be forfeited to the BPSCL.

Any penalty for which the successful tenderer shall be found liable or any liquidated damages which shall be payable to the BPSCL in terms of the Purchase Order/ Contract, shall also be recoverable by the BPSCL from the Security deposit. If such security deposit will not be adequate for the purpose of liquidating the amount of penalty and/or damages as contemplated, the amount in excess thereof shall be deducted from any sum or sums which may be due or may become due to the successful tenderer from the BPSCL on any account whatsoever.

Notwithstanding what has been stated above if the successful tenderer shall have duly performed all his obligation under and the guarantees stipulated in the purchase order / contract and observe all the terms and conditions thereof and no penalty shall have been recoverable from him and / or the BPSCL shall not have suffered any damages whatsoever, then security deposit shall be refunded, on receipt of a certificate from the consignee that there is no claim against the Successful tenderer under the Purchase Order / Contract.

- i) The Parties should clearly indicate their prices firm in all respects till execution of the order and on door delivery basis by Bank approved road transport to BPSCL Stores.
- ii) In case of asking any variation on any account whether raw materials or sales tax or excise duty or transportation etc. will not be treated as firm price on that account and hence parties should state everything clearly.

2.14 **FORCE MAJEURE:** Supplier shall not be considered in default if delay occurs due to cause beyond their 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 of at the option of owner order may be cancelled without any liability what so ever on the part of the owner.

2.15 **Delivery Required:**

- a) **Supply Part:** Within **four (04) months** complete in all respects after placement of purchase order. However earliest possible delivery date may please be quoted.
- b) **Service Part:** Complete in all respect, Installation, Testing & Commissioning, within **six (06) months** after placement of purchase order.

**Note :** Without any specific mention regarding Excise Duty, Freight & Insurance, Sales Tax, packing and forwarding charges, they would be taken as included in the quoted prices and no claim for these would be entertained later.

Maker's name brand, if any and Country of Origin should be quoted, otherwise tender may be treated as rejected.

**Special Instruction:** Tenders must signify their willingness to submit security deposit. Tender will be opened **17.04.2017 at 12.15 PM**. If it is declared a holiday by BPSCL then in the next working day in the presence of Tenderer's Authorized Representatives, who wish to be present.

2.16 **RATE FINALIZATION:**

Rates shall be finalized through Reverse Auction or through offline negotiation with L-1 bidder at the discretion of BPSCL. The bidder shall submit their price bid through URL <http://www.buyujunction.in>. BPSCL reserves the right to re-launch the reverse action or process the case on the basis of ranking derived from on-line price bid submitted by techno commercially accepted bidders. The tenderers have to submit their acceptance as per enclosed format at **Annexure – V & VI** along with their techno-commercial bid. The schedule and details of reverse auction event shall be communicated by our service provider (**M/s MJunction Service ltd.**) to the techno-commercially accepted bidders.

**3.0 Instruction Sheet**

- 3.01 Properly authenticated test certificates with all technical details of similar items previously manufactured and tested by a government certified laboratory should be provided along with the bids. The test data should be in conformance with safety norms and IS norms.
- 3.02 Properly authenticated test certificates of each lot of the item by a government certified laboratory should be provided at the time of delivery of the subject items. The test data should be in conformance with IS norms.
- 3.03 Tenderer must agree with despatch of materials after duly stamped by inspecting authority.
- 3.04 Acceptance of materials is subject to testing / inspection and fitment in our existing systems.
- 3.05 Tenderer shall agree with Price Basis as **F.O.R. BPSCL Stores**.
- 3.06 Tenderer shall agree with the **Payment terms**:
- a) **For Supply Part**: 80% against GRN and rest 20% after successful Installation, Testing, Commissioning, etc.
  - b) **For Service Part**: 90% after successful completion of job and rest 10% after six (06) months of trouble free operation of the system certified by Engineer-in-charge.
- 3.07 **Delivery**:-
- a) Timely delivery is the essence of the contract.
  - b) In the event of supply not being effected within the contractual delivery schedule given in the order, liquidated damages @ ½ % of the value of the materials with taxes and duties, per week of delay or part thereof, subject to a maximum of 05% is recoverable from the supplier without prejudice to the right of BPSCL to procure the balance material at the risk & cost of the supplier.
  - c) In the event of failure to supply the goods, or part thereof, within the scheduled delivery period, BPSCL reserves the right to cancel the contract part thereof, and if so desired, to purchase the goods from alternate source at the risk and cost of the defaulting supplier.

**4.0 Description of Material**

<b>Sl. No.</b>	<b>ITEM DESCRIPTION</b>	<b>QUANTITY</b>
<b>A.</b>	<b>SUPPLY ITEMS:</b>	
1.	<b>Cat. No. - 73181000561</b> <b>Nitrogen Injection Fire Protection System consisting of FE cubicle, control box, signal box, transformer conservator isolation valve and oil drain pipe for 50 MVA transformers.</b> <b>As per, Scope of work: Annexure – II &amp; Technical Specification of Transformers: Annexure – IV are attached herewith.</b>	<b>02 Sets</b>
2.	<b>Cat. No. - 73181000564</b> <b>Electrical Resistance Welded (ERW) Pipes with support &amp; fitting etc., for connection between Transformers &amp; FE Cubicle, As per requirement, distance between transformers to FE Cubicle considered is 7 meter (approx) &amp; adequate Mounting Support, Class: ‘C’.</b>	<b>02 Sets</b>
3.	<b>Cat. No. - 73181000565</b> <b>Electrical Resistance Welded (ERW) GI Pipes &amp; Fittings for Oil connection between FE Cubicle and Oil Pit, As per requirement, Pipe Length: 06 Meters (Approx)</b> <b>Class: ‘B’.</b>	<b>02 Sets</b>
4.	<b>Cat. No. - 73181000562</b> <b>FRLS Armored Cable,</b> <b>Size: 12C x 1.5 sq. mm.</b>	<b>600 Mtrs.</b>
5.	<b>Cat. No. - 73181000563</b> <b>FRLS Armored Cable,</b> <b>Size: 4C x 1.5 sq. mm.</b>	<b>200 Mtrs.</b>
<b>B.</b>	<b>Erection, Testing &amp; Commissioning of Nitrogen Injection Fire Protection System for two (02) nos. of 50 MVA Transformer</b>	<b>Lump Sum</b>

**NOTES:**

1. Due to proper compatibility of various components, all the supply items shall be supplied from a single party, who shall also be responsible for installation, testing & commissioning of the systems. The offer of every bidder shall be considered in totality as a complete package of all items together with installation, testing & commissioning of the same.
2. The bidder should design, manufacture, transport & supply the system. Installation, testing & commissioning are also to be done by the bidder as a single complete package.
3. The Scope of work: Annexure–II, Special terms & conditions: Annexure –III & Technical specification of transformers: Annexure – IV are attached herewith.
4. Properly authenticated test certificates & guarantee certificates are to be provided by the agency at the time of supply.
5. All statutory licences & requirements of all items (like licence for gas filling & storing in pressurized N<sub>2</sub> gas cylinders), are to be arranged & relevant certificates to be submitted in original by the successful bidder.

6. Any unforeseen problem(s) which may arise while installing, testing & commissioning the systems, is (are) to be solved by the supplier free of cost.
7. Commissioning of the systems is to be done by the supplier at the site, within the existing space & other restrictions imposed by the actual conditions.
8. The installation, testing & commissioning of the subject system will be deemed complete only when a job completion certificate will be issued by the engineer-in-charge of BPSCL, whose decision will be final in this regard.
9. All the statutory & safety rules are to be strictly followed by the agency and by the personnel deployed by them during the installation, testing and commissioning of the new system. All the resources including manpower, tools & tackles, etc. will have to be provided by the agency.
10. The supervision of the installation, testing & commissioning job is the sole responsibility of the bidder.
11. The bidder will be solely responsible for any unsafe, illegal, unworthy, or, untoward incident which may occur during the whole job.
12. The supplier will have to install, test & commission the new systems at the site using its own resources like men & materials including all system components, accessories, junction boxes, rows of terminals, etc. BPSCL will only provide space, LT power supply & illumination.
13. All technical details, specifications, diagrams, certificates or any other related documents are to be submitted in original along with two numbers of copies to the engineer-in-charge for approval, and handed over to BPSCL later after commissioning.
14. The successful bidder may appoint sub-contractor for installation, testing & commissioning of the system, subject to prior approval of the engineer-in-charge, BPSCL.

**Bokaro Power Supply Company (Pvt.) Limited  
(A Joint Venture of SAIL & DVC)**

**PART 'B'**

**TECHNO-COMMERCIAL BID**

NIT No. BPSCL/CEO/P&C/14-15/ PUR-172/NIT-634/1508

Date: 16.03.2017

Sl. No.	ITEM DESCRIPTION	QUANTITY
<b>A.</b>	<b>SUPPLY ITEMS:</b>	
1.	<b>Cat. No. - 73181000561</b> Nitrogen Injection Fire Protection System consisting of FE cubicle, control box, signal box, transformer conservator isolation valve and oil drain pipe for 50 MVA transformers. As per, Scope of work: Annexure – II & Technical Specification of Transformers: Annexure – IV are attached herewith.	02 Sets
2.	<b>Cat. No. - 73181000564</b> Electrical Resistance Welded (ERW) Pipes with support & fitting etc., for connection between Transformers & FE Cubicle, As per requirement, distance between transformers to FE Cubicle considered is 7 meter (approx) & adequate Mounting Support, Class: 'C'.	02 Sets
3.	<b>Cat. No. - 73181000565</b> Electrical Resistance Welded (ERW) GI Pipes & Fittings for Oil connection between FE Cubicle and Oil Pit, As per requirement, Pipe Length: 06 Meters (Approx) Class: 'B'.	02 Sets
4.	<b>Cat. No. - 73181000562</b> FRLS Armored Cable, Size: 12C x 1.5 sq. mm.	600 Mtrs.
5.	<b>Cat. No. - 73181000563</b> FRLS Armored Cable, Size: 4C x 1.5 sq. mm.	200 Mtrs.
<b>B.</b>	<b>Erection, Testing &amp; Commissioning of Nitrogen Injection Fire Protection System for two (02) nos. of 50 MVA Transformer</b>	<b>Lump Sum</b>

**Commercial Terms & Conditions:**

**Manufacturer/ Make of the item(s):**

1. Price Basis:
2. Packing & Forwarding:
3. Excise Duty:
4. Sales Tax/VAT:
5. Freight:
6. Insurance:
7. Service Tax:
8. Delivery Schedule:
9. Payment Terms:

10. Consignee:

a) **If Excise Duty is not applicable** - *In-charge (Stores), Power Plant, BPSCL, B.S. City - 827 001.*

b) **If Excise Duty is applicable** - As per our internal arrangement for availing CENVAT Credit by BSL/SAIL; Purchase Order will be placed by BPSCL with consignee as **“DGM (Stores) / BSL** on account BPSCL” and the same should be written in the invoice of successful tenderer. All other activities will be carried out by BPSCL.

11. Inspection: Final inspection will be done at our stores after receipt of material.

12. Authenticated Test & Guarantee Certificate must be supplied along with the material.

13. Registered with

(‘01’ NSIC/ ‘02’ SSI/ ‘03’ NSIC & SSI/ ‘04’ DGS&D/ ‘05’ None)

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Proof for ‘01’ to ‘04’ attached: YES / NO

14. To be furnished

(a) Drawing, QAP and other documents within 

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 days of date of the P.O. for approval

15. Testing: At

--	--

(‘01’ Consignee’s Site / ‘2’ Works / ‘03’ Govt. Test House/ ‘04’ Govt. Approved Test House / ‘5’ Specify if any other)

16. Guaranteed Period:

a.) ..... months from date of dispatch **OR**

b.) ..... months from the date of commissioning whichever is earlier

c.) ..... of running hours.

17. Security Deposit: **05%** of P.O. value subject to minimum **Rs. 2,50,000.00** in the form of

(‘01’ BG, ‘02’ Bank Draft, ‘03’ Bankers Cheque)

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18. Liquidated Damage: 1/2 % per week subject to maximum 05% of undelivered value.

19. Validity of offer up to: Day          Month          Year

(Minimum for a period of **150 days** from the date of opening)

**Bokaro Power Supply Company (Pvt.) Limited  
(A Joint Venture of SAIL & DVC)**

**PART 'C'**

**PRICE FORMAT**

(To be finalized through Reverse Auction/ Online Price bid also to be submitted with Tender)

**NIT No. BPSCL/CEO/P&C/14-15/ PUR-172/NIT-634/1508**

**Date: 16.03.2017**

Price:

Sl. No.	Item Description	Qty.	LCNC Rate (Rs.) (In Fig. & Words)
<b>A.</b>	<b>SUPPLY ITEMS:</b>		
1.	Cat. No. - 73181000561 Nitrogen Injection Fire Protection System consisting of FE cubicle, control box, signal box, transformer conservator isolation valve and oil drain pipe for 50 MVA transformers. As per, Scope of work: Annexure – II & Technical Specification of Transformers: Annexure – IV are attached herewith.	02 Sets	Online Sealed price Bid to be submitted through URL <a href="http://www.buvjunction.in">http://www.buvjunction.in</a>  (Detailed procedure for submission of online Price-bid is at page no. 5 & 6 of this NIT)
2.	Cat. No. - 73181000564 Electrical Resistance Welded (ERW) Pipes with support & fitting etc., for connection between Transformers & FE Cubicle, As per requirement, distance between transformers to FE Cubicle considered is 7 meter (approx) & adequate Mounting Support, Class: 'C'.	02 Sets	
3.	Cat. No. - 73181000565 Electrical Resistance Welded (ERW) GI Pipes & Fittings for Oil connection between FE Cubicle and Oil Pit, As per requirement, Pipe Length: 06 Meters (Approx), Class: 'B'.	02 Sets	
4.	Cat. No. - 73181000562 FRLS Armored Cable, Size: 12C x 1.5 sq. mm.	600 Mtrs.	
5.	Cat. No. - 73181000563 FRLS Armored Cable, Size: 4C x 1.5 sq. mm.	200 Mtrs.	
<b>B.</b>	<b>Erection, Testing &amp; Commissioning of Nitrogen Injection Fire Protection System for two (02) nos. of 50 MVA Transformer</b>	Lump Sum	

**Special Instruction –**

- In the event of a L1 Bidder backing out prior to placement of order, in addition to forfeiture of EMD the bidder should be suspended for a period of six months from the date of issue of suspension order*
- Breakup of quoted unit LCNC (Landed Cost Net of Cenvat) rate shall be submitted by the bidder. In case of refusal of bidder to submit price break up, the bidder shall be suspended for a period of six months from the date of issue of suspension order.*

**3. Price Basis – Rs. per Set as on LCNC Basis.**

<b>Price Break Up Format</b>		
Sl. No.		
<b>A</b>	<b>Supply Part:</b>	
A1	Basic Price	
A2	Packing & Forwarding	
A3	Excise Duty & Ed. Cess ( <i>as applicable at the time of supply</i> )	
A4	Sales Tax ( <i>CST / VAT</i> )	
A5	Freight	
A6	Insurance	
A7	Any other tax or charges	
<b>TOTAL OF A (A1+A2+A3+A4+A5+A6+A7)</b>		
<b>B</b>	<b>Service Part:</b>	
B1	Basic Price	
B2	Service Tax	
<b>Total of B (B1 +B2)</b>		
<b>C</b>	Less: Cenvat on ED & Edu. Cess	
<b>D</b>	<b>LCNC (Total of A + Total of B - C)</b>	

- 1. Due to proper compatibility of various components, all the supply items shall be supplied from a single party, who shall also be responsible for installation, testing & commissioning of the systems. The offer of every bidder shall be considered in totality as a complete package of all items together with installation, testing & commissioning of the same.**

**SCOPE OF WORK**

**Technological:**

1. The scope of work covers design, engineering, documentation, procurement, manufacture/fabrication, assembly, testing and inspection at manufacturer's works, painting, packing, insurance, supply, transportation to site, unloading, storage, erection, testing, commissioning, final painting, stabilizing and performance guarantee test of the equipment and facilities for Nitrogen Injection System for 2 Nos. of 132/11.5 kV, 50 MVA Transformers at TPP Transformer Yard/ BPSCL on Turn-key basis. This shall be complete in all respects i.e., civil & structural work, electrical, mechanical, instrumentation, etc.
2. The system shall be required for automatic prevention, extinguishing of fire and avoid the explosion of the transformers. The system shall also be provided with the manual operation facilities (remote and local position). The Nitrogen Purging System provided under this package is given in the subsequent paragraphs.
  - I. A steel framed cabinet to be kept on RCC foundation near each transformer to accommodate the following:
    - a. Nitrogen Cylinders of adequate capacity with pressure gauge and valve.
    - b. Solenoid / electrically operated Magnetic valve, actuators/ Lifting Magnet.
    - c. Electro-mechanical control equipment for oil drain (quick drain valve) with oil drain pipe
    - d. Electro-mechanical control equipment for nitrogen release.
    - e. Pre-determined regulated Nitrogen flow arrangement to release the Nitrogen
    - f. Flanges on top panel for connecting oil drain and nitrogen injection pipes for transformer;
    - g. Limit switches for sequential operation and monitoring of the system.
    - h. Panel lighting (CFL Type).
  - II. Transformer conservator Isolation Valve to check & isolate abnormal oil flow from conservator tank to Transformer.
  - III. Pipes, valves, fittings and supports for Nitrogen supply and oil drain facilities. The pipe routing shall be decided by the Contractor. After erection of pipes, the erected pipes should not cause any problem for maintenance jobs of transformers.
  - IV. Oil drain and nitrogen injection pipes with gate valves on transformer tank at suitable locations. Gate valves on oil drain pipe & nitrogen injection pipe should be able to withstand full vacuum. A non-return valve shall also be fitted on nitrogen injection pipe between transformers gate valve & Fire extinguishing cubicle valve.
  - V. Fire detection system detectors including brackets on the top of transformers.
  - VI. The signal box shall be fitted on the transformer. This shall be connected through cables to shutter Transformer conservator Isolation Valve & fire detectors and for further connection to the control box through signal box
  - VII. Control Box / Control Panel for monitoring system operation, automatic the control and sequential and logical operation including remote operation of the system.

**3. Operation of the System**

The system shall be provided with the facilities with auto, manual (remote and local) operation. The Sequential & logical operation are as follows;

**I) Prevention of Fire in Auto Mode:**

- i. Differential Relay Operation;
- ii. Buchholz Relay paralleled with Pressure Relief Valve of RPRR. (Rapid Pressure Release Relay);
- iii. Tripping of all connected breakers (Pre-requisite for initiation of system activation).

**II) Extinguishing of Fire in Auto Mode:**

- i. Fire sensing device;
- ii. Buchholz Relay paralleled with Pressure Relief Valve of RPRR;
- iii. Tripping of all connected breakers/ master relay (Pre-requisite for initiation of system activation).

### **III) Operation in Remote / Manual Mode**

The facility to start the system in remote from control panel and from local switches in manual mode shall be provided

- i. Tripping of all connected breakers is a pre-requisite for initiation of system activation.
- ii. Manual mode switch put on position at control box
- iii. Opening the valve depressurized valve and subsequently injecting of nitrogen after specified time-delay.

IV) In case of power failure oil drain and nitrogen injection shall be done in manual mode.

### **4. Civil & Structural**

The RCC foundations for the cabinet, pipe supports in the yard piping and fixing of control panel in the existing control room. And transformer oil pits are to be considered in the scope on turnkey basis

### **5. Electrical**

- i. Scope of work for Electrics shall include Design, engineering, manufacturing/procurement, fabrication, assembly, Packaging, transportation, Supply, unloading, storage at site, Installation, Testing and Commissioning of all the electrics/electrical equipment & instrumentation related to Nitrogen injection System for 50MVA transformers installed in Transformer Yard of TPP.
- ii. The electrical system for above purpose should no way disturb to the existing electric system of any equipment installed in Power Plant BPSCL.

### **6. Control Panel**

Control panel with necessary indications & operating switches etc. should be provided for the sequential and logical operation of the proposed Nitrogen injection system. Tapping of power from the existing board shall also include modification, if required, in the existing panel, protection setting etc. to make it suitable for connecting feeding cable to proposed Control panel.

### **7. AC / DC power Supply**

The Power shall be made available at 415V AC at one point and 220 V DC at one point.

### **8. Power & Control Cables**

All LT Power & Control cables for new installations and facilities including the following:

- i. FRLs LT Power & Control cables of suitable sizes, from existing switch board (DCDB & ACDB) to the Proposed Control Panel.
- ii. FRLS LT Power cables from Proposed Control Panel to individual light points/switches etc.
- iii. Fire detectors rated above flash point of transformer oil 141 Deg. C for detecting fire out side of the transformers shall be provided as per the requirement of system. The cables shall be suitable for 750 Deg. C for 3 hours ambient temperature.
- iv. Fire retardant low smoke (FRLS) cables for connection between transformer signal box / marshalling box to control panel and control panels to fire extinguishing cubicle shall be used.

## **9. Power Cables**

The LT power cables (FRLS) shall be 1.1 KV grade, multi-core, heavy duty electrical grade Copper conductors, extruded PVC insulated, PVC inner sheath and outer sheath, steel wire armoured as per IS: 1554-1987.

## **10. Control Cables**

- i. 1.1KV grade, multi-core, armoured, annealed copper conductor, PVC insulated and suitable for operation at 70 deg C ambient and shall conform to IS: 1554 (part- D)-1976 and IS: 5831-1984. Minimum copper conductor size to be used 1.5 sq. mm. Control cables shall have 25% or at least 1 no., whichever is higher, as spare cores.
- ii. The scope of work for the Contractor for Erection & laying of cables shall also include supply, fabrication, installation testing and commissioning of cable laying accessories like flexible conduits, GI pipes, clamps, cable No. Tags, ferrules, glands, copper lugs, jointing kits, Termination kits, nuts & bolts and sundry items etc.
- iii. Remote Indication for Starting of drainage of oil from transformers and injection of nitrogen to the transformer shall be provided in the MCB Control room. All the accessories required for wiring, pull boxes, junction boxes, light fitting mounting arrangement etc for illumination at the cabinet.
- iv. The scope of work also includes the design, supply, fabrication, storage, handling, erection, testing & commissioning of complete and proper earthing to the proposed Cabinet and pipes. The equipment shall be connected with the GI earthing strips with the existing earth grid for the earthing of the equipment.

## **11. Scope of Services**

The contractor shall submit four (04) copies of the following detailed engineering / vendor (bought-out items) drawings and documents within 4 weeks from LOA to the purchaser for his approval. The purchaser shall send back one copy of the drawings with his comments/approval. The lists of drawings to be submitted for approval are as follows:

### **1) Technological**

- i. Control philosophy and P&I drawing
- ii. General layout drawing of pipeline
- iii. General arrangement drawing for the equipment
- iv. List of equipment, pipes, valves and pipe fittings
- v. Technical datasheet of each type of equipment
- vi. QAP and Test certificates (including material test certificates from Govt. recognized laboratory or institution) for all utility items, valves, pipes, hoses, pipe fittings, etc
- vii. Design calculations asked for by the employer (BPSCL).

### **2) Electrical**

- i. Single Line Diagram for the system.
- ii. Catalogues & Literatures of equipments & components used in the above system for Reference.
- iii. Cable layout diagram and cable schedule

### **3) Miscellaneous item / works:**

- i. Supply and installation of loose erection accessories, erection consumables and other materials e.g. clamps, brackets, nuts, bolts, insulating tapes, plastic identification tags for cables, PVC identification ferrules for control cables, pipe joints, foundation packing, wedges, shims, touch up paints, required during installation of the equipment etc.

- ii. Testing and commissioning of all the equipment -the equipment shall be commissioned unit by unit as per the site conditions and instructions of engineer-in-charge.
  - iii. All necessary modifications as recommended by the inspecting authority of CEA shall be executed at site at no extra cost by the Contractor.
  - iv. All necessary enabling work for installation of entire equipment elaborated above and equipment required for the offered system shall be in the scope of work.
  - v. All necessary works including supply of field equipment/components not listed above, but may be required for commissioning and desired performance level of the system in totality, shall be deemed to be a part of the scope of work. 415 V, TPN, 50Hz raw power supply shall be available at Purchaser's end; any other voltage level or stabilization required for the system shall be provided by the Contractor and shall be included in the scope of work.
- 4) In addition to above Contractor is to provide following services:
- a) Submission of all approved drawings (including vendor's drawings) in 04 copies to the Employer (BPSCL).
  - b) Submission of Operation & maintenance manual, manual for erection, testing and commissioning etc. for all equipment.
  - c) Providing all necessary assistance to the site engineer of the Employer (BPSCL), as & when required, at site.
  - d) Obtaining prior approval for taking up any job at site, from the Employer (BPSCL).
  - e) Make of the equipment shall be of BPSCL preferred make list or mutually agreed make shall be considered.
  - f) Giving 7 days (min.) advance notice for testing & commissioning of any system installed.
  - g) Submission of list of spare parts for 2 years for smooth and trouble free operation of all the equipment & systems.
  - h) Any other services not specifically mentioned, but required for completion of the job. The same is to be included in scope of services, and indicated separately in the Contractor's offer.

**Special Terms & Conditions**

**1. General**

- a) The successful bidder shall give guarantee for performance of individual equipment for a period of 12 months from date of commissioning.
- b) During guarantee period, elimination of defects in design, manufacture, material quality, workmanship, erection and replacement of defective parts shall be done free of cost and to the satisfaction of the Employer. Cost of dismantling, transport, re-erection, if any, during elimination of the defects/replacement of defective items shall be borne by the successful bidder.

**2. Performance Test**

The successful bidder shall arrange for performance test of the complete system to be carried out at site which will be witnessed by the Employer. These tests shall include simulation and verification of the response of complete system without injection of Nitrogen.

**3. Factory Test**

Tests will be carried out on following in the supplier's workshop in presence of purchaser's representative.

- a) Cubicle showing oil drain and nitrogen injection.
- b) Operation of conservator isolation valve
- c) Operation of control box.
- d) Fire extinguishing performance test on total system.

**4. Special Instructions to Successful bidder**

- a) The successful bidder has to visit the site and satisfy himself with respect to the nature and extend of the work involved.
- b) The Successful bidder has to clear his doubt about the technical parameters and drawings and obtained necessary clarifications from the Employer.
- c) The Successful bidder will have to take prior written approval from the employer before appointing sub-vendor for the work.
- d) The Successful bidder will have to ensure deputation of well experienced engineers and technical staff from various disciplines including mechanical, technology, electrical, instrumentation, automation and process control (as per requirement) for erection, testing and commissioning of plant and equipment.
- e) The plant and equipment supplied should be new and best of its kind and of latest technology. All materials and equipment should comply with latest codes and standards, applicable nationally / internationally. A consolidated list of all codes and standards followed or adopted for design, manufacturing and testing shall be submitted. Preferably, all equipment and accessories shall confirm to the latest Indian Standards and IPSS wherever applicable. All electrical equipment supplied shall be designed, manufactured, tested & erected as per the latest revision of Indian Electricity Rules, Statutory requirements of the Govt. of India, Govt. of State. In the event of requirement of TS exceeding the requirement of corresponding standards, regulations & safety codes, the specification provided in the TS shall govern. In the event of conflict between standard regulation & TS, the most stringent shall be applied.

- f) All equipment as may be necessary shall conform to the provision of Statutory and other Regulations in force such as Indian explosives Act, Indian Factories Act, Indian Boiler Regulation, State Factories Act, Central Pollution Control Board, Indian Weights & Measures Act, etc. The Successful bidder shall take necessary steps to get all the installations within his scope of supply approved by the concerned legal authorities.
- g) Execution of entire work shall be carried out in such a manner that normal working of the existing plant is not interrupted. Shut downs, for mutually agreed periods shall be arranged by the Employer for interconnections / modifications / extensions of existing facilities.
- h) After erection, all equipment, pipes, structures, etc., shall be thoroughly cleaned and painted with one coat of primer and two coats of approved colour paints.
- i) Fire proof paints shall be of good quality and shall be strictly as per instructions and recommendations of the paint manufacturer and to the approval of Employer. Painting in damp or foggy weather shall not be resorted to. Painting specification and procedure shall be subject to the Employer's approval.
- j) All the manufacturing / fabrication works shall be carried out only on the basis of approved drawings and schemes or as directed by the Employer. It is solely the responsibility of the Successful bidder to ensure that all working drawings prepared by him bear the stamp of approval of the Employer prior to start of work. All other drawings shall bear the acceptance stamp of Employer for execution of the project.
- k) All term and condition of the standard bidding document (SBD) issued by BPSCL along with the Tender Specification(TS) subject to agreed changes will be adhere by the successful bidder.
- l) All materials, equipment, tools, tackles etc. brought by the successful bidder within the plant area will not be removed without the written permission from the employer.

## **5. Drawings / Documents**

The Successful bidder shall furnish the documents/ drawings within 30 days in required number of copies to the Employer (BPSCL) for approval/ reference after placement of order/ issue of "Letter of Acceptance".

- 1) The drawings / document submitted by the Successful bidder shall be reviewed & commented (or approved) by Employer within 14 days of receipt of such drawings/ document. Successful bidder shall incorporate all the comments and resubmit in 6 copies to the Employer within 15 days' time from the date of Employer's comments. In order to expedite the approval of drawings discussion shall be held with the Successful bidder at BPSCL/ Bokaro.
- 2) Sub contractor approval given by the employer shall not relieve the contractor of his obligations sub contractor under the contract.
- 3) Drawings/Document submitted by the Successful bidder shall be thoroughly checked and signed by him before submission. All reference drawing numbers, including Employer's existing drawing number if any, must be mentioned in each drawing submitted for approval. The drawings shall be complete with Bill of Material.

## **6. Safety**

- i. Prior to commencing any work at site, the Successful bidder shall obtain clearance from Employer (BPSCL)'s Engineer/Safety Department and shall abide by all the safety rules and regulations of the plant.
- ii. All safety appliances / kits required for the personnel during testing and commissioning shall be arranged by the Successful bidder.
- iii. The safety precautions shall conform to norms set by BPSCL Safety Department and relevant Indian Codes.

## ANNEXURE – III

### Technical Specifications of Transformers

1. Technical Specifications of the transformers in which N<sub>2</sub> Injection system shall be provided are given below:-

Technical particulars of each 132 /11.5 KV, 50MVA transformers:

1.	<b>Make</b>	<b>Heavy Electricals (I) Limited, Bhopal,</b>
2.	<b>IS</b>	<b>2026: 1962</b>
3.	<b>Voltage ratio</b>	<b>132 KV/11.5 KV across lines.</b>
4.	<b>Continuous rating</b>	<b>30 MVA / 40 MVA / 50 MVA.</b>
5.	<b>Phases</b>	<b>3 phases &amp; neutral earthed on HV side 3 phases on LV side</b>
6.	<b>Type</b>	<b>Oil immersed double wound core type.</b>
7.	<b>Winding</b>	<b>Made of copper. (Electrolytic grade, work hardened) of high proof stress</b>
8.	<b>Coolant</b>	<b>Mineral oil as per IS:335 -1987</b>
9.	<b>Quantity of Oil</b>	<b>35320 Ltrs. (Approx.)</b>
10.	<b>Cooling</b>	<b>ONAN / ONAF / OFAF</b>
11.	<b>Ambient temperature Maximum Minimum</b>	<b>50 °C 5 °C</b>
12.	<b>Insulation level on 132 KV side</b>	<b>i) Power freq. Voltage. 275 KV RMS ii) Impulse withstand voltage 650 KV Peak</b>
13.	<b>Insulation level on 11KV side</b>	<b>i) Impulse withstand voltage 95 KV Peak</b>
14.	<b>Tap changing mechanism</b>	<b>Off load tap changer</b>
15.	<b>Year of manufacturer</b>	<b>1969, 1970</b>
16.	<b>Location</b>	<b>Out-door, TPP Transformer yard</b>

2. **Technical Specification and principles of NIS operation**

The specifications and principles of the items to be supplied by the agency are as given below. These are not exhaustive. The agency shall supply any other items that are necessary for the completion of the project and also for smooth & trouble free operation / maintenance work of the system.

Automatic NIS shall be provided for firefighting of 2 X 50 MVA transformers installed at TPP Transformer Yard (BPSCL). This system extinguishes fire of oil filled transformers by injection of Nitrogen. The principles employed in the system are - Drain and Stir. The result of applying the principle is to extinguish the fire quickly. The system consists of automatic top oil drainage facilities and nitrogen injection system for stir and cooling of oil.

The pressurized nitrogen cylinder placed in a cabinet is connected to the transformer oil tank (near its bottom) with the help of pipes and valves. Cable connections are to be provided from the signal box placed on the transformer to the control box in the control room and from the control box to the Cabinet.

Fire detecting system placed at the top of transformer is to be connected in parallel to the signal box. The signal box shall be connected to isolation valve, fitted between the conservator tank and Buchholz relay, for blocking the oil flow from conservator tank, Control box is also to be connected to the relay panel in the control room for system activation signals.

The system is automatically operated with the help of activating signals for immediate operation in the event of rise of oil temperature / fire. On receipt of all activating signals, the drain of a pre-determined quantity of oil commences thus removing high temperature top oil layer.

After a time depending on the scenario, the nitrogen is released from the cylinder to a pressure reducer / regulator and injected inside the tank at a pre-fixed rate, stirring the oil thus bringing the temperature of top oil layer down.

Nitrogen occupies the space created by oil drained out and acts as an insulating layer between the tank oil & fire on top cover. The isolation valve for conservator blocks oil flow from conservator tank to isolate it and subsequently preventing aggravation of fire.

**The system may operate auto as well as manual mode with remote and local position.**

**ANNEXURE-IV**

**Notarized Affidavit**

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

- (i) I am.....(designation/authority) in M/s.....  
.....(name of the firm / Company).
- (ii) I confirm that all documents submitted against NIT  
No.....dated.....in support of eligibility criteria  
are genuine.
- (iii) I undertake to produce all documents in original for verification as and when  
asked for the same by BPSCL.

Solemnly affirmed & declared before me by Deponent(s) who is / are identified by.....	The declaration made herein above are true to the best of our knowledge, information and belief Signed at.....on.....  Deponent(s)
---	---

## **ANNEXURE-V**

(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)  
\_\_\_\_\_ (PAN Number) 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 RFQ. 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-VI

### 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 :