

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/P&C/19-20/C-011/NIT-804/1980

Dated 03/06/2019



TENDER DOCUMENT

**NAME OF WORK: Installation of Microprocessor based Fire
Detection & Alarm System on Turnkey Basis.**

COST: Rs.4,130.00

(Rupees Four Thousand One Hundred Thirty only)

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Bokaro Power Supply Co. (P) Ltd.

(A Joint Venture of SAIL & DVC)
Hall No: - M-01, Old Administrative Building,
Ispat Bhawan, Bokaro Steel City – 827001
Reg. Office : Ispat Bhawan, Lodhi Road, New Delhi – 110 003
CIN:U40300DL2001PTC112074

NOTICE INVITING TENDER

NIT No. : BPSCL/P&C/19-20/C-011/NIT-804/1980

Date: 03/06/2019

For and on behalf of BOKARO POWER SUPPLY COMPANY (P) LTD, sealed tenders in two parts, **Part - A :** Cost of Tender document & EMD, **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 eligibility and qualification criteria stipulated in the bidding documents for the following work at our Power Plant.

| | |
|--|--|
| Description of Work | Installation of Microprocessor based Fire Detection & Alarm System on Turnkey Basis. |
| Estimated Cost (in Indian Rs.) | Rs.1,21,83,101.00 (Rupees One Crore Twenty One Lakhs Eighty Three Thousand One Hundred One Only) Excluding GST. |
| Earnest Money (in Indian Rs.) | Rs. 1,00,000.00 (Rupees One Lakh) only |
| Cost of Tender Document (Non-refundable) (in Indian Rs.) | Rs. 4,130.00 (Rupees Four Thousand One Hundred Thirty) Only <i>including GST @ 18%</i> |
| Period of Contract | 1. Completion Period: The entire work of design, engineering, supply, erection, testing, commissioning and handing over shall be completed within 12 months from the date of issue of order. 2. Non-Comprehensive AMC for above system: Two years from the date of completion of warranty period of the system. |
| Pre-Bid Discussion | 28/06/2019 at 11:00 Hrs. (IST) |
| Last Date & Time of submission of Tender | 05/07/2019 at 12:00 Hrs. (IST) |
| Bid opening Date & Time | 05/07/2019 at 12:15 Hrs. |

Qualifying Requirements / Eligibility Criteria :

- Bidder should have Minimum average annual turnover (MAT) of **Rs. 182.74 Lakh**.
 - Average annual turnover shall be determined taking into consideration turnover of preceding three consecutive financial years. Other income shall not be considered for arriving at annual turnover.
 - Audited annual accounts along with auditor's report of the bidder should be furnished in support of the same. Where audited annual account is not mandatory as per the law, the bidder has to submit annual financial turnover during the last three (03) consecutive years, ending 31st March of the previous financial year duly certified by CA.
- The bidder should be a manufacturer / an authorized representative of the Manufacturer / certified system integrator having infrastructural facilities of carrying out assembly, testing and repairing of FDA system in India. A declaration in this regard mentioning the available resources and organization strength should be submitted.
- In case of bidder being an authorized representative / certified system integrator; a letter of Authorization from the Equipment Manufacturer must be submitted along with offer. The authorized partner / certified system integrators must have successfully executed at least one purchase order / work order based on system for which they are bidding.
- Bidder should have requisite experience of executing **similar work** in any Public Sector Undertaking / Government / Semi Government organization or joint venture thereof / Company registered under Companies Act during last 7 years ending last day of month previous to the one in which offer are invited.
Value of such order shall be either of the following:
 - Three similar completed works each costing not less than to **Rs. 48.73 Lakhs**
 - OR**
 - Two similar completed works each costing not less than to **Rs. 60.91 Lakhs**
 - OR**
 - One similar completed work costing not less than to **Rs. 97.46 Lakhs**

- **Similar work** means: *supply, erection, testing and commissioning of Microprocessor based Addressable Fire Detection and Alarm System in industrial setup of power/process plant.*
 - If the order consists of several items, only the value of similar items shall be considered for evaluation.
5. In support of their eligibility and experience, the bidder is required to submit self attested photo copies of work orders/ purchase orders, completion certificates , commissioning and performance certificate of the installed system (by the concerned competent authority etc.) along with the techno-commercial bid. In addition, bidder shall submit a self declaration as per format at **Annexure-VII**.
 6. Bidding through a consortium is not allowed.
 7. The bidder shall submit self certified copies of following:
IT Return (*Latest*), EPF, ESI Certificate, Partnership Deed/ Affidavit for Proprietorship/ Memorandum & Articles of Association, including changes in the Constitution of the Firm,(if any) and Copy of GST registration certificate).*The bidder is also required to submit duly filled Annexure IX.*

General Terms & Conditions:

- i) Offer shall be accompanied with Cost of the tender documents of **Rs. 4,130.00** (non-refundable) in the shape of Demand Draft / Banker's Cheque drawn from any Nationalized / Scheduled Bank except Co-Operative Bank, in favour of **Bokaro Power Supply Company (P) Ltd.,** Payable at Bokaro Steel City.
- ii) Offer shall be accompanied with Earnest Money Deposit (EMD) of **Rs. 1,00,000.00 (Rupees One lakh) Only** in the shape 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 favour of **Bokaro Power Supply Company (P) Ltd.** as per format available at our website: www.bpscl.com
In case of forfeiture of EMD by BPSCL the bidder is required to re-imburse the applicable GST to BPSCL.
- 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 as per government policy. For MSEs the exemption from paying cost of tender document & Earnest Money will be granted only on submission of valid copy of certificate having a valid Entrepreneurs Memorandum (EM) number / Udyog Adhaar Memorandum (whichever applicable). SSI/NSIC certificate holders should also submit Entrepreneurs Memorandum / Udyog Adhaar Memorandum (whichever applicable). However unit claiming exemption is required to submit copy of registration certificate indicating clearly the item category for which they are registered.
- iv) **Offers not accompanied with Cost of Tender Document (as per clause i) or Earnest Money Deposit (EMD) (as per clause ii) or documents for exemption (as per clause iii) will be treated as INVALID.**
- v) **BPSCL reserves the right to :**
 - a) Re-tender / extend the due date of submission of offer.
 - b) 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.
 - c) Modify the tender documents at any stage before the due date of tender.

Note:

1. Tender documents are to be downloaded from **Website: www.bpscl.com** only.
2. 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

(V Agrawal)
DGM (P&C)
Tel : 8986874118
Email: 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 Comprises of Cost of Tender document & EMD.
- b) **Part B:** This part Comprises of Technical and Commercial details, consent on terms & conditions of NIT/ signed Tender Document along with copy of SYSTEM GENERATED **ACKNOWLEDGEMENT-SLIP FOR ONLINE SUBMISSION OF SEALED PRICE*** bid etc.

Sealed Tender *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 printed on it, is to be sent to the below mentioned address:

DGM (P&C)
Bokaro Power Supply Co. (P) Ltd.
Hall No.M-01, Old ADM Building
Ispat Bhawan, Bokaro Steel City – 827001
Ph: 06452 240380, Mob: 8986874118

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

1. Online sealed Price Bid (**LANDED COST 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.buda@mjunction.in

Mr. Kaushik Roy _ 9836447044_ Roy.Kaushik@mjunction.in

Ms. Debalina Maity _ 8336991451_ Maity.Debalina@mjunction.in

Mr. Anshu Verma – 8873002772 - anshu.verma@mjunction.in

Mr. Mukesh Kumar Singh- 8873002741 – mukesh.singh@mjunction } 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 **Five (05) 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) Tenderer shall clearly indicate that their prices are firm in all respect till execution of the order.
- ii) Specification, quantity, unit rate, freight, insurance, packaging, forwarding, taxes etc. should be mentioned separately and clearly.
- iii) Tenderer's are requested to visit site for actual assessment of the job before submission of their offer.
- iv) Any conditional offer or offer having deviations is liable to be rejected.

- 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 & Condition otherwise, it will be presumed that you do not accept our terms and conditions and this may lead to rejection of your offer forfeiting your claims if any.
- Bidders are advised to mention page no. on each page of documents submitted by them. BPSCL shall not bear any responsibility in case of any reported loss of documents submitted by the bidder during tender opening or thereafter.
- vi) 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.
- vii) Price or any indication of price shall **NOT** be mentioned in the Techno-Commercial Bid.
- viii) The sealed tenders received will be opened on scheduled opening date and time in the office of Purchase & Contract, in presence of such bidders who might choose to witness the same
- ix) If name of the bidder is not mentioned on the envelope, it may be considered as unsolicited and processed as per P&WP in vogue.
- 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 Purchase & Contract 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.

GENERAL TERMS AND CONDITIONS

- 1.01 You will have to follow and observe the safety & statutory requirements.
- 1.02 You will have to be fully responsible for any sort of unsafe activity of your workmen. All working personnel should have proper safety certificates issued by BPSCL before start of work.
- 1.03 Bidder will produce medical fitness certificate for his workers. Height passes to be obtained from safety department, if required.
- 1.04 Supervision of the work has to be carried out by the agency.
- 1.05 Work is to be carried out as per instruction & satisfaction of the Engineer-In-Charge.
- 1.06 In case of any documents/information submitted by the bidder(s) 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 the bidder.
- 1.07 If any tenderer withdraws his bid after opening of bids without giving any satisfactory and acceptable explanation thereof, the tenderer shall be disqualified for making any tender of BPSCL for a minimum period of six months and the Earnest Money will be forfeited.

1.08 Payment Terms :**For Supply of Goods:**

- a. Payment will be processed for entire amount, however actual payment will be released for 80% amount including 100% of GST against receipt of materials at site duly certified by Engineer – in – charge.
- b. 10% will be paid after commissioning of the system duly certified by Engineer – in – charge.
- c. Balance 10% will be released against submission of Bank Guarantee of equivalent amount valid up to guarantee period.

For Erection and commissioning:

- a. 80 % payment will be released on pro rata basis as per progress of work duly certified by Engineer – in – charge.
- b. 10% will be paid after commissioning of the system duly certified by Engineer – in – charge.
- c. Balance 10% will be released after observation period of three days.

For AMC: Payment will be done on Pro rata basis as per satisfactory progress of work duly certified by Engineer in charge.

The expression satisfactory execution of the order shall mean fulfillment of all obligation arising out of and in connection with the contract. 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, the bidder will be required to pay the balance amount to BPSCL. If the bidder doesn't pay the balance amount, the same 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.

- 1.09 You will have to strictly adhere to the provision of various labour laws including payment of bonus Act 1965.
- 1.10 You will have to pay Rs.4/- extra to the working persons as per BPSCL rules above minimum wage of one day.
- 1.11 The manpower (labour and Supervisor) deployed for completion of the job and for compliance of work & safety of the workmen should be adequate. However the compliance and completion of the job cannot be restricted to labour supply but on the actual execution of the job to be certified by the Engineer – In – charge.
- 1.12 Paying authority –In - charge (F&A), BPSCL.

- 1.13 By accepting the order you are understood to have accepted to all responsibilities for completing the work in all respect.

1.14 **GST Related Clauses :**

1. All bidders should quote GST as extra. If not mentioned, same shall be taken as EXTRA.
2. Bidders have to submit their GSTIN registration details to BPSCL along with supporting documents.

| | | |
|----|-----------------------------|--|
| 1. | GSTIN | |
| 2. | Service Accounting Code No. | |
| 3. | Applicable GST Rate | |
| | CGST (in %) | |
| | SGST (in %) | |
| | IGST (in %) | |

3. Bidder would pass on the tax benefit/savings, if any, on account of output taxes to BPSCL.
4. Bidder 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.
5. In case the Input Tax Credit of GST is denied or demand is recovered from BPSCL on account of any non-compliance by the Supplier/ Contractor, including non-payment of GST charged and recovered, the Supplier/ Contractor 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 the vendor, BPSCL will not be liable to reimburse any part of such differential tax, interest, penalty etc. It will be the sole responsibility of the vendor to discharge appropriate taxes, as applicable.
6. Supplier/ Contractor shall maintain high GST compliance rating track record at any given point of time.

1.15 **Work accident :**

- a. You will be responsible for the safety of the workers employed by you. In the event of any work-accident, major or minor, you/your representative must take care of the injured person immediately and provide him the required treatment as suggested by the doctor. If you/your representative are not available for medical care, the injured worker will be treated in Bokaro General Hospital and the cost of treatment will be recovered from you.
- b. You shall be fully responsible for making payment of compensation to your workmen or to those of your sub-contractor in respect of any accident or injury occurring to them. BPSCL will in no way be responsible for it and will remain indemnified against all such claims of compensation in such cases

1.16 **SUBMISSION OF PERFORMANCE GUARANTEE BOND FOR QUOTING UNWORKABLE RATE:**

If a tenderer quotes unworkable rates i.e. if the quoted price is less than **75%** of the estimated price and is considered for placement of order, the party will be asked to justify the rate quoted. On non acceptance of justification / refusal of the same, the tenderer will be asked to furnish Performance Guarantee Bond (in addition to the Security Deposit) in the form of **Bank Draft/Bank Guarantee**. The amount of Performance Guarantee Bond will be equal to the difference between **75%** of estimated price and quoted price of the tenderer. Earnest Money of the tenderers who refuse to give Performance Guarantee Bond will be forfeited and they will not be considered for taking participation in any kind of Tender for next Six (06) months from the date of issue of letter to the Defaulter Firm, if order / contract is not finalised from the present tender.

In case of forfeiture of Performance Guarantee Bond the contractor is required to re-imburse the applicable GST to BPSCL.

- 1.17 **AWA CLAUSE:** The contractor shall have to pay an amount of Rs 96.15 per day on actual attendance per month (not exceeding Rs 2500/month) to the worker engaged for this job as additional welfare amenity (AWA) as per relevant circular/notification of BPSCL and you are requested to include the amount against AWA in your quoted rate, submit the offer accordingly.

- 1.18 **RATE FINALIZATION:** BPSCL reserves the right to finalize the rate through either of the following modes:

1. Opening of Online Price (*submitted on www.buyjunction.in*) submitted at the time of techno-commercial bid.
 2. Through Reverse Auction to be conducted by our service provider **M/s. mjunction.**
 3. Where it is decided not to conduct the RA, the techno-commercially accepted bidders may be asked to submit decrement in percentage (%) on their price submitted at the time of techno-commercial bid. In this case – On line price bid and % decrement shall be considered together to finalize the rate.
- 1.19 **FORCE MAJEURE** : Bidder 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 / completion period will be extended for a length of time equal to the period of force majeure without imposition of Liquidated Damages at the option of owner.
- 1.20 **Banning of Business Dealings:** On arising any situation or occurrence of any event as mentioned in Clause 6 of the Guidelines on Banning of Business Dealings, the tenderer/bidder or supplier under the tendering process or contract with BPSCL, as the case may be, 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.
- 1.21 **Handling of Earnest Money:**
- Earnest Money will be refunded to the un-successful tenderer after finalisation of tender and no interest will be paid for the same. Bidders are requested to provide Bank Details for refund of EMD.
 - The amount of Earnest money may be adjusted against Security Deposit only in case of successful Tenderer.
- 1.22 **RISK AND COST:** Failure on Contractor’s part to start the work within reasonable time/ the progress of the job is poor/ for any breach of contract will entail termination of the Contract. In such an event, the job will be executed at the risk and cost of the Contractor by alternative arrangements.
- 1.23 **SAFETY CLAUSE:** Without prejudice to the right conferred by the clause above for stoppage of work for violation of safety requirements, you shall be liable for penalties mentioned below:
- i. Upto Rs. 5000/-by DGM (safety)/Head of safety Engg. Department /Head of the Department where work is being done for 1st violation of safety norm, non use of PPEs(Personal Protective Equipments) like safety shoes, hand gloves, safety helmets, goggles etc as per work requirements by you or your workers. This condition is applicable in case of violations of Road Safety norms also.
 - ii. Fine upto Rs. 20,000/- on 2nd Violation as mentioned in clause (i) above.
 - iii. You shall be debarred for one year / deregistered from taking up further contractual work in BPSCL from the date of issue of debarring / deregistering order on 3rd violation as mentioned in clause no (i) above.
 - iv. Fine upto Rs. 10,000/- for violation in use of Full Body Harness by you or your worker for working at height (above 1.8 meter from immediate floor).
 - v. Fine Rs. 25,000/- (minimum) to Rs. 50,000/- (Maximum) for serious injuries and disabilities caused by violations as mentioned in Clause No. (i) and (iv) above.
 - vi. Independent of the above, you shall be fined Rs. 1,00,000/- (1 Lakh) or more and debarred / deregistered from taking up further contractual work in BPSCL from the date of issue of debarring / deregistering order in case any Fatal accident occurs due to violations as mentioned in Clause (i) and (iv) above.

Note: In case penalty is imposed then the successful bidder has to re-imburse the applicable GST to BPSCL

The contractor has to strictly agree to all the terms and conditions mentioned in tender documents. Detailed scope of work is given below. Items not specifically mentioned but required for completion of the job shall be treated as included.

Contractor shall comply all works as per IS 2189, TAC and NFPA Guidelines. In case of conflict the stringent shall govern.

Areas to be covered by Fire Detection and Alarm System have been mentioned in under:

| List of Area | | | |
|--------------|-------------------------------|-----------------------|---------------|
| Sl. No. | Description | Approx. Size in Meter | False Ceiling |
| 1 | GCB-1 | 35X8X3.5 | Yes |
| 2 | Dust Feeder Room | 30X8X3.5 | No |
| 3 | GCB-2 | 20X8X3.5 | Yes |
| 4 | Operator Room | 8X8X3.5 | Yes |
| 5 | MCC-6 | 15X8X3.5 | Yes |
| 6 | UCR-1 | 15X8X3.5 | Yes |
| 7 | Stair & Lobby | 8X8X3.5 | No |
| 8 | UCR-2 | 25X8X3.5 | Yes |
| 9 | Non-Operating Room | 15X8X3.5 | No |
| 10 | MCC-7 | 15X8X3.5 | Yes |
| 11 | MCC-8 | 15X8X3.5 | Yes |
| 12 | ECR-II | 20X20X5 | Yes |
| 13 | ECR-I | 30X30X5 | Yes |
| 14 | 6.6 KV Room-1 | 120X7X4.5 | No |
| 15 | 6.6 KV Room-2 | 120X8X4.5 | No |
| 16 | LT S/G CPP | 120X10X4.5 | No |
| 17 | Exciting Panel -6 | 5X3X4.5 | No |
| 18 | Exciting Panel -7 | 5X3X4.5 | No |
| 19 | Exciting Panel -8 | 5X3X4.5 | No |
| 20 | 11 KV Room | 90X10X4.5 | No |
| 21 | Bowl Mill Cable Gallery | 90X6X3 | No |
| 22 | CPP 6.6 KV Cable Gallery& TPP | 120X8X3.5 | No |
| 23 | LT S/G TPP | 90X10X5 | No |
| 24 | Switch Yard Tunnel-1 | 90X3X3 | No |
| 25 | 11 KV Room No-3 Cable Gallery | 90X4X5 | No |
| 26 | 11 KV Room No-2 Cable Gallery | 90X4X5 | No |
| 27 | 11 KV Room No-1 Cable Gallery | 90X4X5 | No |
| 28 | 11 KV to 6.6 KV Tunnel | 30X4X5 | No |
| 29 | Switch Yard Tunnel-2 | 80X4X5 | No |

SCOPE OF WORK:

The scope of work includes complete Design, Engineering, Supply, Erection, Testing, Commissioning, Performance Tests and Handing over of Analogue addressable type Fire Detection and Alarm System for various premises of the project as per above List of Area on a turnkey basis.

The broad areas where fire detection system is to be installed are listed below:

- Unit Control Rooms/ Electrical Control Rooms
- MCC Rooms, HT/LT Switchgear Rooms including 6.6 KV&11KV Room
- Designated Cable Galleries& Cable Tunnels
- Battery Rooms

The detailed list of areas is mentioned above at List of Area.

- SUPPLY OF MATERIAL:** The tentative list of items to be provided is as given below:

| Sl. No. | Description of Material | Quantity |
|---------|---|-------------|
| 1 | Cat. No.- 08520211411 Fire Alarm Control Panel Microprocessor based 7 loop analog addressable intelligent type main Fire Alarm Control Panel with Color LCD screen display, modular type, expandable minimum up-to10 loops and networkable, OPC, along with its configuration software and battery bank with charger. EN-54 & VDS/UL Approved. | 02 Sets |
| 2 | Cat. No.- 08520211412 Repeater Panel Color LCD Screen Display Screen / 640 character LCD Display, networkable active Repeater Panel. EN-54 & VDS/UL Approved. | 02 Nos. |
| 3 | Cat. No.- 08520211413 Optical cum Thermal Detector Intelligent Addressable Multi criteria Optical cum Thermal Detector with inbuilt fault isolator (those manufacture not having detectors with inbuilt isolator, must consider Isolator base / additional Isolator Module extra after five devices) and interchangeable detector base. EN-54 & VDS/UL Approved. | 686 Nos. |
| 4 | Cat. No.- 08520211414 Optical cum Chemical Detector Intelligent Addressable type, maintenance easy, Optical cum Chemical Detector with pollution sensor, detector with inbuilt fault isolator (those manufacture not having detectors with inbuilt isolator, must consider Isolator base / additional Isolator module extra after five devices) and interchangeable detector base. EN-54 & VDS/UL Approved. | 12 Nos. |
| 5 | Cat. No.- 08520211415 Response Indicator | 76 Nos. |
| 6 | Catalog No. 08520211416 Break Glass Type Manual Call Point Intelligent Addressable Break Glass Type Manual Call Point. EN-54 & VDS/UL Approved. | 76 Nos. |
| 7 | Cat. No.- 08520211417 Sunder or Hooter Addressable type loop powered /external powered Sunder or Hooter with multiple tone & programmable sound pressure level, in case hooter is not loop powered and addressable the cable for same is to be considered separately and additional Addressable Interface Module is to be provided. EN-54 & VDS/UL Approved. | 56 Nos. |
| 8 | Cat. No.- 08520211418 Control Relay Module Addressable Control Relay Module for tripping of auxiliary unit like AHU, Dampers etc. EN-54 & VDS/UL Approved. | 23 Nos. |
| 9 | Cat. No.- 08520211419 Monitor Module Addressable type Monitor Module for monitoring of potential free contacts / resistances / impedances etc. EN-54 & VDS/UL Approved. | 23 Nos. |
| 10 | Cat. No.- 08520211420 | 9,670 |

| | | |
|----|--|----------------|
| | Heat Sensing Cable Digital Linear Heat Sensing Cable Fixed type. | Meters |
| 11 | Cat. No.- 08520211421 Linear Heat Detection Unit Intelligent Addressable analogue Linear Heat Detection Unit for digital heat sensing cable with inbuilt / external fault isolator module (<i>those manufacture not having detection unit with inbuilt isolator, must consider Isolator base / additional Isolator module extra after each detection unit</i>). EN-54 & VDS/UL Approved. | 50 Nos. |
| 12 | Cat. No.- 08520211422 2C x 1.5 mm ² Armored Copper Cable in the existing surface /recessed /tray as required. | 6000 Meters |
| 13 | Erection Hardware | As required |

Note:

1. The above list of equipment is tentative. The bidder must assess the site for actual requirement of equipment for successful completion of the FDA System.
2. For the items which are not covered in the specification, the Bidder shall furnish the full details of such items they propose to offer with the details of the standards followed.

3. List of approved make.

- | | |
|-----------------------------|--|
| a) DETECTORS | : HONEYWELL / EDWARDS / BOSCH / SIEMENS/GODREJ |
| b) FACP | : SIEMENS / EDWARDS / BOSCH / HONEYWELL/GODREJ |
| c) DIGITAL LHD CABLE | : KIDDE / PATOL / SYSTEM SENSORS |
| d) MANUAL CALL POINTS | : SIEMENS / EDWARDS / BOSCH / HONEYWELL/GODREJ |
| e) CABLES FOR DETECTOR LOOP | : FINOLEX / DELTON / INCAB / MEM |
| f) POWER CABLES | : DELTON / HAVELLS / MEM / POLYCAB |

2. ERECTION, TESTING AND COMMISSIONING :

1. Erection, testing & commissioning of intelligent analog addressable Fire Detection and Alarm System comprising of Addressable Analogue Intelligent Detectors, Manual Call Points, Response Indicators, Fire Alarm Control Panel, Hooter and Accessories in designated areas.
2. SMF Battery backup for 4 hours and float cum boost charger in – built to the panel.
3. Laying of all types of cables & cabling accessories.
4. Fixing of GI Pipes / GI Conduits and other accessories wherever required for laying of cables.
5. Minor civil work required for installing fire alarm system equipment.
6. Preparation of Design and detailed engineering drawings.
7. Submission of operation and maintenance manuals.
8. Submission of as built drawings.
9. Earthing – Extension of nearest available power earth ring to the panel location and connecting the equipment's to the earth ring as per IE rules and safety guidelines.
10. Provision of separate special earth for equipment electronics.
11. Training of customer engineers on maintenance and operation aspect of system. Contractor shall provide training for Customer's personnel at site.

All items indicated against Fire Detection cum Alarm System shall be supplied by contractor as per approved drawings and contractor has to supply three copies of the following Documents after successful commissioning of system:

- a. Operators Manual
- b. As - Built Drawings
- c. Technical Literature & Service manuals for various components.

3. ANNUAL MAINTENANCE CONTRACT: Contractor has to include Non Comprehensive AMC of the system for Two Years after warranty period in the offer with Spares List that will be required for AMC Job.

- a. Deputation of at least one skilled manpower on regular basis.
- b. The spares for AMC will be provided by BPSCL. A list of spares for Two Years shall be submitted along with the offer by the bidder.
- c. AMC Contractor who is engaged in carrying out AMC shall bring his own tools and tackles, site testing equipment required for maintenance of equipment and system.

Fire Detection and Alarm equipment offered shall be complete in all respects and any equipment/ accessories not explicitly indicated in the tender document, but considered essential for proper functioning of equipment and system shall be treated as included in the contractor's scope at no additional cost.

TECHNICAL SPECIFICATIONS

1. **SYSTEM :** An integrated 32-bit Microprocessor based 7 loop modular, networkable intelligent addressable system (*expandable up to min 10 loops or more*), with each loop capable of handling at least 125 detectors and 125 devices in any combination with loop length of 300 m. The panel shall have LCD screen display capable of showing min. 640 characters. EN-54 & VDS/UL Approved.

The system shall comprise of the following:

- a. Intelligent, addressable, two nos. inbuilt fault isolator Multi criteria detector, Spark/Ember type detector, heat detectors, and indoor manual call points.
 - b. Digital Linear Heat sensing cable, addressable linear heat detector and interfacing modules for connection to Fire alarm panel.
 - c. Microprocessor based fire alarm panel with necessary configuration software along with Battery and Battery charger.
 - d. Bases of detector
 - e. Response Indicator.
 - f. Fire warning Hooter
 - g. Cabling (including power & control) required for complete Fire Detection and Alarm System.
 - h. Earthing of complete Fire Detection and Alarm System.
 - i. Terminal boxes and junction boxes as required for complete fire alarm system.
 - j. Accessories for mounting and supporting all equipment's covered in this specification.
 - k. Audio hooters distributed over various areas to alert during fire for evacuation.
 - l. Relay modules, necessary input/output module
 - m. Any other items which are required to make the system complete in all respects and for satisfactory operation of the system.
2. **CODES AND STANDARDS:** The system and materials should be as per the standard mentioned in Tender document. The contractor shall be solely responsible for obtaining the required approval and clearances for the different components and systems of the fire detection and alarm system from the following authorities as applicable:
 - a. Tariff Advisory Committee (TAC) of the Insurance Association of India
 - b. Local Fire Authorities

3. DESIGN REQUIREMENTS

- a. Fire alarm system shall be designed to provide continuous surveillance against fire in the areas covered by the system under all conditions. The system should comply with NFPA 72 Style 7 requirement.
- b. The equipment shall be designed and manufactured in accordance with the best engineering practice and shall have proven record for the services intended.
- c. The installation practices adopted for fire detection and alarm system shall be as per the relevant standards.
- d. The number of detectors, spacing and their locations shall comply with NFPA 72E / BS 5839 Part 1 / IS 2189. The actual quantity of detectors required, taking into consideration total area to be protected, type of building construction, air movement, air velocity, ceiling obstruction etc., so as to obtain complete coverage, shall be worked out by the Contractor based on the final drawings of the various buildings during detailed engineering.
- e. Analogue addressable type detectors & rate of rise of temperature detectors, linear heat sensing cables Manual call points etc. shall generally comply with standard requirements.

The automatic fire detectors shall be of analogue addressable type having the following features:

- i. Individual addressing capability at the fire alarm panel to facilitate precise pointing of fire location / detector activated.
 - ii. Discrimination between a false fire and real fire condition.
 - iii. Detection and automatic calibration / setting of over / under sensitive detector by decreasing or increasing their sensitivity levels.
 - iv. Pre-alarm in case of detector or a section of detectors requiring maintenance.
 - v. All types of addressable detectors / interface units shall be compatible with the fire alarm panel.
 - vi. The detectors shall have easy disassemble for cleaning and sealed sensor head to prevent entry of dust, dirt, insect's etc. to reduce nuisance alarms.
 - vii. The detectors shall provide auto addressing & physical address-setting by means of rotary / binary switches.
 - viii. The detectors shall be ceiling mounted type.
- f. The devices shall be looped together and then connected to the fire alarm panel. The address of each detector shall be indicated on the respective fire alarm panel. BIDDER shall furnish in the BID, the number of detectors in each loop and the number of loops in each panel. BIDDER shall furnish the areas covered in each loop. Optimization of cable quantities shall be considered while designing the system. The detectors shall be suitably distributed in each loop and connected to the MFAP (Main Fire Alarm Panel).
- g. The detectors shall be suitable for testing from the fire alarm panel without operating any detector & firefighting system
- h. Areas where two types of detectors are provided such as multi-sensor and linear heat sensor cables in cable galleries, both the type of detectors shall be suitably cross zoned such that fire is detected only when both types of detectors located in that area operate. Operation of any one of this type of detectors shall give an alarm.
- i. Each detector shall be provided with an indicating lamp glowing steadily to indicate that it has operated which shall otherwise flash intermittently to indicate the healthy condition of the detector and sensing circuits.
- j. The detectors shall continually monitor any changes in sensitivity due to the environmental effects of dirt, smoke, temperature, etc. This information shall be stored in the processor and transferred to the loop controller.
- k. When the detectors are mounted below the false floor or in inaccessible position, response indicator for each of the detectors and test switch shall be mounted on a separate box, which shall be suitable for mounting on the wall. If the detectors are mounted above the false ceiling, response indicators with test switch shall be mounted directly below the detector (on the false roof).
- l. Smoke detectors shall be intelligent and addressable devices, and shall connect with two wires to one of the Fire Alarm Control Panel loops. The multi- criteria Optical Cum Thermal detector should have measure thermal conditions and an earliest detection of smoke with the optical smoke detectors. All sensor signals should analyze continuously by the internal evaluation electronics (Intelligent Signal Processing) and are linked with each other via an inbuilt microprocessor. The area covered by each smoke detector shall be as per EN – 54 & VDS / UL Approved.

Each detector shall have in built fault isolator units for highest fault tolerance or those manufacture not having with inbuilt isolator, must consider Isolator base / additional Isolator module extra after five detector. The status LED should have easy viewing angle.
- m. Heat detectors shall be intelligent and addressable devices, and shall connect with two wires to one of the Fire Alarm Control Panel loops. The Heat detector should have measure Maximum thermal conditions and Rate of rise of heat at the occupancy. All sensor signals should analyze continuously by the internal evaluation electronics (Intelligent Signal Processing).The area covered by each smoke detector shall be as per EN – 54 & VDS / UL Approved. Each detector shall have in built fault isolator units for highest fault tolerance / those manufacture, not having Monitor Module with inbuilt isolator, must consider Isolator base / additional Isolator module extra after five detector.

The status LED should have easy viewing angle.
- n. Maintenance Easy Optical Cum Chemical Smoke Detectors shall be intelligent and addressable devices and shall connect with two wires to one of the Fire Alarm Control Panel loops. The Optical Cum Chemical Smoke Detectors should have an earliest detection of smoke with the optical smoke

detectors and Carbon Mono-Oxide Sensors. All sensor signals should analyze continually by the internal evaluation electronics (Intelligent Signal Processing) and are linked with each other via an inbuilt microprocessor.

The status LED should have easy viewing angle.

The area covered by each smoke detector shall be as per EN – 54 & VDS / UL Approved. Each detector shall have in built fault isolator units for highest fault tolerance.

The Optical Cum Chemical Smoke Detector (CO Detection Technology) should come with pollution sensor technology to intimate the FACP immediately for any kind of pollution.

4. **LINEAR HEAT DETECTION SYSTEM (LHS):** Linear heat detection system shall be provided in Cable Galleries. Linear heat detection system shall comprise digital LHS cables, interface units and necessary hardware required for installation.
5. **MANUAL CALL POINTS:** Each area shall be provided with a Manual Call Point and Hooter. The Manual Call Points shall be of the wall mounting or pedestal mounting type. Manual Call Points shall be so located that no person need travel more than 30m from any point within the premises in order to raise an alarm & preferably located near the exit. Required number of Response Indicators and Isolators shall be provided in each loop. Necessary Relay Modules to complete the scope shall be provided. Manual call points shall be of Break Glass Type, which can be reset and reused.
6. **FIRE ALARM CONTROL PANEL:**
 - Illuminate fire zone.
 - Active alarm warning devices
 - Operate internal fire sounder.
 - Devices shall be deactivated by operation of the “Silence Alarm” switch.
 - Reset of the controller, after the fire incident has been investigated, will be achieved by operation of the reset-switch.
 - The enclosures of panels shall be fabricated form sheet steel, minimum thickness 1.5 mm and shall be provided with a hinged lockable door protection to at least IP: 65 shall be provided. The fire alarm control panels shall comply with IS: 2189. Alarm panels shall, as a minimum requirement is equipped with the following:
 - a. Mains supply “ON” Indicator.
 - b. “FIRE” Indicator.
 - c. “Fault” Indicator.
 - d. Alarm indicator for each Loop.
 - e. Alarm accepts push button to acknowledge fire alarm signals, silence external audible alarms.
 - f. Reset facility to restore monitoring systems to the quiescent condition.
 - g. Integral sealed battery and trickle battery charger.
 - h. Termination for incoming and outgoing wiring systems.
 - i. Suitable System fault indication both visual and audible.
 - j. Integral power supply with battery stand by (suitable for 4 hour backup) as per IS: 2189.

The Addressable Fire Alarm Control Panel (FACP) shall be networkable type. FACP shall have its own microprocessor, software, memory and Touch Screen Display / 640 Character LCD Display.

The panel should be modular in nature and expandable from single loop to up to minimum 10 loops with each loop capable of up to 125 detectors & 125 devices in any combination.

Adequate ventilation and cooling arrangements shall be provided in the panel for heat dissipation.

7. **REPEATER PANEL:** Repeater panel shall repeat all group annunciation / alarms that appear on control room FACP and shall be located in two control rooms. The display and control functions provided at repeater shall be same as that of Main Panel. The unit shall be aesthetically designed, suitable for wall / structure mounting. The unit shall be designed for power supply and operating conditions, same as that of Main Panel.

8. CABLING SYSTEM

- a. **CABLES :** Cables required for complete fire alarm system for interconnecting Fire Alarm Panels, Detectors, Manual Call Points, other field devices, Repeater Panel, etc., shall be 1100V grade, multi core, annealed, high conductivity stranded copper conductor, extruded PVC insulated, laid up inner sheathed, galvanized steel strip / wire armored, outer FRLS extruded PVC sheathed cable as per IS-1554-Part - I, 1988. The detector wiring shall be of CLASS A type.

The Contractor shall supply and install all cables required for looping between Detectors and Manual Call Points and wiring out of connections to a marshaling/junction box in each zone as required.

- b. **JUNCTION BOXES (JB):** Junction boxes shall be fabricated out of 2.0 mm thick CRCA sheet steel & shall be hot dip galvanized. For outdoor installation, they shall be of cast iron type and provided with a canopy at the top.

Junction boxes for indoor installation shall have degree of protection of IP 54. All the junction boxes shall have a weeping hole at the bottom plate and provided with necessary double compression brass cable glands. Two earthing terminals suitable for terminating 8 SWG GI wire shall be provided. All structures required for mounting the JB's shall be included in bidder's scope.

- c. **CABLE INSTALLATION AND ACCESSORIES:** The detector wiring shall be of CLASS A type.
- All detector loop cables shall normally be two core, multistranded, annealed copper conductor, armored with PVC insulation, FRLS outer sheath as per IS- 1554 Part-1 and 10853 Part-53. Other specific requirement of detector cables, if any, shall be clearly mentioned by the Bidder. Power cables shall be 3 x 2.5 mm², Cu conductor, PVC/PVC cable confirming to IS 1554, Part-I.
 - All detector circuit cables shall be armored and inside premises the same shall be clamped to the wall / ceiling.
 - In general out-door cables shall be laid on cable trays/ trenches and shall be armoured.
 - For road crossing GI Pipes shall be used, if owner provided Cable crossing are not in the vicinity.

Cables for /fire detection and alarm system shall be routed in a convenient route acceptable to customer and as per approved drawings. Cabling shall be done in a neat manner with clamps at regular intervals.

SPECIAL TERMS & CONDITIONS:

1. All interested bidder will have to make a site survey of actual locations before submitting their offer.
2. Bidders must submit a list of mandatory spares required to maintain the system for a period of two years after warranty period along with price list. The prices shall be valid for at least twelve months from the date of offer.
3. It is assumed that the bidder had studied the specification and satisfied himself regarding the workability of the proposed system and takes full responsibility for the proper system design, best quality of material and workmanship, guaranteed operation and smooth performance of all the equipment and accessories.
4. Any loss of plant and equipment after receipt at site due to imprudence, negligence and unsuitable treatment and handling shall have to be replaced by the contractor at his cost.
5. Any existing services or other property if damaged or demolished during the course of execution either willfully or negligently, shall be re-erected by the contractor at his own cost.
6. The contractor shall take all precautions against damages due to rains or other natural calamities and no liability shall be with the purchaser for any loss on this account.
7. The approval of drawings and/or inspection by BPSCL and/or their authorized representative shall not absolve or relieve the Contractor from any of his obligation under the contract and they shall wholly and solely responsible for the satisfactory operation and guaranteed performance of the system.
8. Any equipment/ material which in any way fail to meet the requirements of the specification will be rejected by the Purchaser and the equipment/material involved shall not be used under the contract. The contractor shall be required to promptly furnish new material at his cost without hampering the overall schedule of commissioning of the project.
9. Any changes or difficulties which might be encountered during the execution of work or any other problems due to local working conditions which are not anticipated/included in the tender document shall fall under full obligations of the contractor. No claim on account of any ambiguity in any respect will be entertained after the placement of order by the Purchaser.
10. All equipment supplied shall allow access to facilitate connecting up, inspection, maintenance, repair and operate satisfactorily under such variations of load, pressure and climatic conditions as may occur during working.
11. All materials, dimensional standards, tolerances, process of manufacturing and testing procedures shall be in accordance with the latest revision of the Standard Codes specified in this Technical Specification. In case where such suitable Standards are not mentioned, any acceptable Indian/International Standards shall be adopted.
12. The contractor shall supply as per the approved makes of equipment/supplies, as given in the tender document. In case of any deviation from the approved list for bought out items, prior written approval shall be obtained by Contractor from BPSCL. BPSCL reserves the right to refuse approval for additional makes.
13. The contractor shall be responsible for completeness of supplies, work and services to make the system complete, operative and properly hooked up to the Purchaser's network. Any equipment and material not specifically mentioned in this document, but required for safe, smooth and efficient operation and guaranteed performance of the fire protection system shall be deemed to be included under the scope of the Contractor.
14. The contractor shall submit the Quality Assurance Plan containing the overall quality management and procedures which he proposes to follow for performing the work during various phases of execution.

15. STANDARDS AND REGULATIONS

- a. The design and engineering, manufacture, installation and performance testing (including safety, earthing and other essential provisions) of equipment and accessories covered under this specification shall, in general, comply with the latest issue of :
 - Applicable Standards and Codes of Practices published by Bureau of Indian Standards.
 - Central Board of Irrigation and Power
 - Indian Electricity Act, 2003
 - Central Electricity Rules
 - Indian Electricity Rules
 - T.A.C. & N.F.P.A. Codes and Regulation
- b. Equipment complying with other recognized Standard such as IEC, BS, VDE, DIN etc. will also be considered if it ensures performance equivalent to or superior to Indian Standards.

- c. Equipment and Accessories for which Indian Standards are not available shall be designed, manufactured and tested in accordance with the latest issues of recognized standards such as IES, BS, VDE, DIN, FOCLPC), UL etc.
- d. In case of conflict between applicable standards given in the tender document, stringent shall govern to the extent of such difference.

16. MAKE AND INTERCHANGEABILITY: The make of major equipment shall be limited to approved makes indicated above.

17. INSTRUCTION MANUALS: Instruction manual shall give step by step procedure for:

- Erection, testing and commissioning
- Operation
- Maintenance and Repair

Maintenance instruction shall include:

- Diagnostics trouble shooting/fault location charts
- Tests for checking of proper functioning

18. DRAWINGS AND DOCUMENTS

a. Bidder must submit following documents along with the offer:

- Technical write-up on the proposed system including all its components along with Manufacturer's catalog.
- Certificate of approval – UL/VDS/EN-54
- Technical specification of each component, units/sub-units and cables.
- General arrangement and mounting details of all units/sub-units.
- Single line configuration diagram of system showing detector and other field devices connection.

b. The contractor shall submit a comprehensive list of drawings in 03 sets within 01 month of placement of order for approval by BPSCL:

c. Following drawings/documents shall be submitted in six sets by the contractor along with the supply of equipment:

- General arrangement/System configuration drawing for Fire Detection and Alarm System.
- Wiring diagram for Fire Alarm Panel.
- Cable schedule routing drawing, cable termination details etc.
- Layout details of detectors and other field devices.
- Power supply scheme.
- Total power requirement.
- All approved drawings/documents
- All test charts and inspection certificates in bound volumes.
- Licensed operating software for Fire Detection and alarm System.

18. INSPECTION: The contractor shall submit an inspection procedure for all items to be supplied by him within 8 weeks of placement of order. The inspection procedure shall be finalized and approved by BPSCL.

No equipment/part item shall be dispatched without provisional acceptance certificate and dispatch instructions issued by BPSCL.

All equipment, assemblies shall be shop tested as per relevant standards and test certificated to be submitted by the contractor. BPSCL's representative shall have the option to visit the place of manufacture for stage inspection. All equipment shall be inspected by BPSCL before dispatch of the equipment as per specification and approved drawings. The contractor has to make all arrangements for providing the necessary tools, tackles and instruments to carry out the inspection at no extra cost.

The contractor is to meet the inspection & testing requirements for the equipment coming under statutory regulations IE rules, Tariff Advisory Committee etc. and submit certificates and documents from appropriate authority to Inspecting Engineer for the same.

19. TEST CERTIFICATES : For each of the items being manufactured, following test certificates and documents in requisite copies shall be prepared and submitted to the Inspecting Engineer for scrutiny and records

Materials Identification & physical and chemical test certificates for all materials except IS: 2062 – 1992 and FG150 IS: 210 – 197 materials used in manufacture of the equipment.

- 20. SITE TESTS:** All the equipment shall be tested at site to know their condition and to prove suitability for required performance.
- The contractor shall be responsible for satisfactory working of complete integrated system and guaranteed performance.
- 21. AMC :**
- a. The rate quoted for AMC shall be firm for the entire period of maintenance contract.
 - b. Contractor shall submit a Bank Guarantee of ₹ 5, 00,000/- (Rupees Five Lakh only) having validity up to AMC period.
 - c. Contractor shall adhere to all statutory regulations and accepted safety norms of the installation in maintenance of the equipment/ system
 - d. Contractor shall be responsible for the safety of equipment/ system at no extra cost to the Purchaser.
- 22. Penalty Clause for AMC :**
- a. In case of short supply of manpower as indicated in terms and conditions, Rs 100.00 per day per manpower will be charged as penalty in addition to deduction of minimum wages.
 - b. For delay in attending the job while front to work & spares are already provided by BPSCL, a penalty @ Rs. 500/- per hour per case will be imposed.
 - c. A penalty @ Rs. 1,000/- per case will be imposed for poor workmanship.
 - d. Delay in attending the job due to shortage of manpower would attract penalty of Rs 500/- per case.
- 23. SUBLETTING OF CONTRACT:** The Contractor may engage one or more sub-contractor for erection, commissioning and AMC work with prior approval from BPSCL. Such approval will be given only when the working personnel of the sub-contractor should have adequate qualifications, work-experience and job-competence in the respective areas. The subcontractor will work under your technical supervision and guidance.
- 24. Guarantee Period:** Period shall be one year after successful commissioning of the system. Any defect found during guarantee period shall be rectified by contractor at no extra cost.
- 25. Liquidated Damages:** In case of delay in completion, for the reasons attributable to the contractor, a sum equivalent to 0.5% of the value of the delayed work for each week of delay and part thereof subject to maximum of 5% of the total value of the contract will be recovered from contractor as Liquidated Damage (LD).

PRICE BID/ RA FORMAT

Special Instruction –

1. In the event of a L1 Bidder backing out prior to placement of order, in addition to forfeiture of EMD the bidder shall be suspended for a period of six months from the date of issue of suspension order.
2. Breakup of quoted LC (Landed Cost) excluding GST shall be submitted by the L-1 bidder as per given format. In case of refusal of L1 bidder to submit price break up, EMD will be forfeited and the bidder shall be suspended for a period of six months from the date of issue of suspension order.
3. **Price Basis L1 bidder will be decided on lowest Landed Cost excluding GST Basis.**

| Sl. No. | Description of work | Qty.* | Amount |
|---------|--|--------------------|--|
| 1. | Installation of Microprocessor based Fire Detection & Alarm System on Turnkey Basis. (As per scope of work) | As mentioned below | Online Price Bid(Landed Cost excluding GST) through URL : http://www.buyjunction.in |

Note: Goods & Service Tax: EXTRA as applicable.

| PRICE BREAK-UP FORMAT | | |
|-----------------------|---|--------------|
| S.No. | Description | Amount (Rs.) |
| A. | Supply of Material | |
| | a. Basic Price* | |
| | b. Packing & Forwarding Charges | |
| | c. Freight Charges | |
| | d. Transit Insurance | |
| | e. Any other Miscellaneous Charges | |
| | Sub- Total for A | |
| B. | Erection, Commissioning & Testing Charges | |
| C. | Non- Comprehensive AMC Charges for 2 Years [#] | |
| | LANDED COST: (A+B+C) | |

| ITEM-WISE BREAK UP | | | | |
|------------------------------|--|--------------------------------------|-------------------|--------------|
| S. No. | Description | Qty. | Rate / Unit (Rs.) | Amount (Rs.) |
| A. SUPPLY OF MATERIAL | | | | |
| 1 | Fire Alarm Control Panel | 02 Set | | |
| 2 | LCD Screen Display Screen | 02 nos. | | |
| 3 | Optical cum Thermal Detector | 686 nos. | | |
| 4 | Optical cum Chemical Detector | 12 nos. | | |
| 5 | Response Indicator | 76 nos. | | |
| 6 | Manual Call Point | 76 nos. | | |
| 7 | Sounder or Hooter | 56 nos. | | |
| 8 | Control Relay Module | 23 nos. | | |
| 9 | Monitor Module | 23 nos. | | |
| 10 | Digital Linear Heat Sensing Cable | 9,670 mtrs. | | |
| 11 | Linear Heat Detection Unit | 50 nos. | | |
| 12 | 2C x 1.5 mm ² Armored Copper | 6000 mtrs. | | |
| 13 | Erection Hardware | 1 Set | | |
| | *Basic for supply of material | | | |
| B. | Erection, Commissioning & Testing Charges | 1 Set | | |
| C. | Non – Comprehensive AMC for 2 Years[#] | | | |
| | c.1 | AMC Charges for 1 st Year | | |
| | c.2 | AMC Charges for 2 nd Year | | |

ANNEXURE - VII

Self Declaration

I.....son/daughter of Shri Aged.....
years

resident ofPS.....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 - VIII

CHECKLIST TO BE FILLED BY BIDDER EXCEPT REMARKS:- All documents which are required for fulfillment of the qualifying requirement/ Eligibility criteria are to be submitted along with tender in serial order (clearly mention page no.) and the tenderer must fill the checklist.

CHECKLIST OF DOCUMENT SUBMITTED BY TENDERER

| Sl. No. | Document | Page No. | Remarks by BPSCL |
|---|-------------------------|----------|------------------|
| 1. | Work Order | | |
| 2. | Completion Certificate | | |
| 3. | Partnership/ Proprietor | | |
| 4. | EPF | | |
| 5. | ESIC | | |
| 6. | PAN | | |
| 7. | Latest ITR | | |
| 8. | * GSTIN | | |
| 9. | Turnover/ PL Sheet | | |
| *If the agency is not under the preview of GST then please write Not applicable (N.A.). | | | |
| Total numbers of pages in Techno-commercial Bid | | | |

Signature of tenderer with seal

(To be submitted on bidder's Letter Head)

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

We _____ (Contractor Name) having

PAN _____ & registered office at _____ (Address)

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

NIT No. _____ dated _____

for the work of _____

(Name of work) through Reverse Auction.

We confirm that we are in a position to do the job as per the scope of work given in NIT/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 :

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
 1st Floor, Tata Centre
 43, Jawaharlal Nehru Road
 Kolkata – 700 071

Fax: 033 – 2288 3279**Ref: Reverse Auction forfor 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 forfor Bokaro Power Supply Co. (P) Ltd., Bokaro Steel City.

| Market No. | Last Quoted Price |
|-------------------|--|
| | <i>To be submitted by the L-1 Bidder only after finalization of RA</i> |

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 :

ENVIRONMENT, HEALTH AND SAFETY**EHS (Environment, Health and Safety) Clause for contracts where overall site is under BPSCL control****Bidder's Responsibilities**

The contractor shall during the entire term of contract undertake to perform the following obligations relating to environment, health and safety:-

1. Ensure that your workforce is not exposed to asbestos or asbestos containing atmosphere.
2. Take suitable control measures to ensure that the workers are protected from dust emission.
3. Monitor and ensure that the working area is free from any toxic gas, vapour and fume. Take adequate measures to reduce level of concentration below permissible limit. Exposure to any particular toxic gas, vapour or fume shall not exceed the maximum permissible limit prescribed in local regulation for any particular period of time. Ensure adequate ventilation and no immediate danger to life and health of personnel working at site.
4. Ensure that there is no flammable atmosphere and uncontrolled fire hazard in and around the work place. In case it is required to work in flammable atmosphere, implement safe working procedure and suitable control measures in order to work safely.
5. Ensure that the workers are protected from excessive noise and heat. Take adequate measures to reduce noise/heat level below the permissible limit.
6. Ensure safe access and egress in and around work place. Ensure proper maintenance of Platforms, staircases, ramps etc. Special care and all safety measures should be taken while working at height. Roof work and access to roofs must not be undertaken without prior permit.
7. All Personal Protection Equipments supplied by the bidder should be of internationally recognized standards. All tools and tackles bought by the contractor for use during the contract period should have proper and valid certification by competent authority.
8. All lifting equipments, tools and accessories provided by BPSCL should be maintained and returned back in sound condition after the completion of contract period.
9. Ensure that the illumination in and around workplace and access areas are maintained properly. Make sure to switch off the light, fan and air conditioners after use.
10. The bidder must ensure that all machinery and equipments are provided with earth fault circuit breakers at all times when using electrical leads. Use of electrical tape for temporary repair is prohibited.
11. Guards and covers for equipments/machineries are to be provided where ever necessary.
12. Gas cylinders shall be securely stored, transported, identified and used in line with legislation and EHS requirements.
13. Fire extinguishers and other fire fighting equipments provided in different locations should never be misused.
14. Bidder must ensure optimum use of water with minimum wastage.
15. Contractor shall also ensure that the work area is kept clean, tidy, & free from debris. The Bidder is also fully responsible for protection of ground and underground from pollution.
16. Identify and highlight potential hazards / risks existing.
17. Ensure suitable corrective actions are implemented for identified issues.
18. Provide adequate emergency and first-aid facilities and it should be available in all shifts.
19. All workers should be trained and communicated about the onsite emergency and evacuation plan.
20. All equipments and plant should be maintained in safe condition.
21. The Bidder and their Personnel admitted to site must conduct themselves in an orderly and safe manner and conform at all times to the EHS Requirements. Fighting, engaging in horseplay, being under the influence of or possessing alcohol or drugs, gambling, soliciting, stealing, immoral or otherwise undesirable conduct is not permitted and shall not be tolerated. Upon knowledge of such conduct, BPSCL shall exclude the concerned person from the site and take all other appropriate measures as deemed necessary. BPSCL reserves the right to perform random drug and alcohol tests.
22. The Bidder shall immediately notify BPSCL of any environmental incident, injury, illness, near-miss, unsafe condition or practice and any loss or damage to property, including incidents related to the Bidder Personnel. An investigation report assessing the root cause, corrective action, and preventative action shall be submitted by the Contractor to BPSCL within 24-hours of the incident's occurrence.