ODISHA POWER GENERATION CORPORATION LIMITED
IB THERMAL POWER STATION UNIT # 3 & 4
At/PO: BANHARPALI, DIST: JHARSUGUDA – 768 234 (ODISHA)
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NOTICE INVITING TENDER

NIT No. ITPS/Pur./2023-24/04(P) Date: 15/05/2023

Separate Sealed bids (Two Part) in the prescribed format are invited from bona fide and financially sound reputed Agencies/ Registered Firms/ Companies for supply of following materials at IB Thermal Power Station, Banaharpali.

SLN	Scope of Work	Tender Cost inclusive of GST (In ₹)	EMD (In ₹)	Sale of Tender document	Date of receipt & submission /Opening of technical Bid
1	Procurement of New Fire Tender ITPS, OPGC (Two Part)	2000/-	1,01,000.00	15/05/2023 to 29/05/2023 (Hard copy only)	Up to 3:00 PM on 30/05/2022 3:30 PM onwards on 30/05/2022

NB:

1. **Bidders having the requisite qualifying requirements specified in the bid document shall only be considered for the work.**
2. **Further please note to submit your offer considering GST provision and its related input tax credit benefits to be passed on to OPGC**

Cost of bid document (non-refundable) shall be paid by Demand Draft in favor of OPGC Ltd. drawn on State Bank of India (Code-9510)/ Union Bank of India (Code-UBIN0806625)/ Central Bank of India (Code-283899) payable at ITPS, Banharpali. Cost of bid document shall have to be submitted along with the bid and the DD towards the tender cost (separate from EMD) should be prepared on or before the last date of sale of tender, otherwise the bid shall be liable for rejection. In case of any discrepancy found between tender document submitted by the agency and the master copy in our office, the latter should prevail. No claim on this account shall be entertained. Complete and signed sealed bids in hard copy form only shall be received at Contract Cell, ITPS. Bids shall be opened at Contract Cell, ITPS in the presence of the bidders or their authorized representatives, if present at the time of opening. If the last date of issue/ receipt/ opening happens to be a HOLIDAY/ office closed, the tender will be issued/ received/ opened at the respective time on the next working day. The photocopies of all the supporting documents required for participating in the tender mentioned in NIT/ Tender paper shall be submitted along with the bid; otherwise, the bid is liable for rejection. Bids without EMD will be rejected outright.

Bids received after stipulated date & time shall not be entertained. OPGC shall not take any liability on account of any postal/courier delay. OPGC reserves the right to accept/ reject any or all tenders, seek

additional clarifications, split up the scope among eligible bidders or cancel the tender altogether without assigning any reasons thereof.

N.B:
For further details & downloading of Tender documents, please visit our web site www.opgc.co.in.

Important: Agenda/Corrigenda/ Extensions, if any, will be notified on the OPGC website only and will not be published in any other media. Bidders are requested to visit our website regularly for any amendment of the present bid till finalization of bidding process.

Sd/- GM- Purchase

SAFE & CLEAN POWER IS OUR COMMITMENT

INFORMATION TO BIDDERS

ODISHA POWER GENERATION CORPORATION LIMITED ("OPGC" OR "OWNER") AN ISO 14001 & OHSAS ORGANIZATION AND COMMITTED TO THE SAFETY HEALTH ENVIRONMENT INCORPORATED UNDER THE COMPANIES ACT 1956, INDIA. OPGC STARTED AS A WHOLLY OWNED COMPANY OF THE GOVERNMENT OF ODISHA (THE "GOO") WITH THE OBJECTIVE OF ESTABLISHING, OPERATING & MAINTAINING LARGE THERMAL POWER GENERATING STATIONS. IN THE PURSUIT OF ITS OBJECTIVE, OPGC ESTABLISHED IB THERMAL POWER STATION ("ITPS") WITH TWO UNITS OF 210 MW EACH IN THE IB VALLEY AREA OF JHARSUGUDA DISTRICT IN THE STATE OF ODISHA (UNITS 1 & 2) - PHASE-I. THE POWER PLANT COMMENCED THE COMMERCIAL OPERATION IN 1996. THE ENTIRE GENERATION FROM THESE UNITS IS CONTRACTED TO GRIDCO, THE STATE OWNED COMPANY, ON THE BASIS OF A LONG-TERM POWER PURCHASE AGREEMENT. AS PART OF ITS CAPACITY ADDITION PROGRAM, OPGC ESTABLISHED TWO ADDITIONAL UNITS OF 2 X 660 MW, BASED ON SUPERCRITICAL TECHNOLOGY, ADJACENT TO THE EXISTING POWER STATION AT THE SAME LOCATION. THE PLANT SITE IS ABOUT 17 KMS. FROM BELPAHAR RAILWAY STATION AND 40 KMS. FROM JHARSUGUDA RLY. STATION ON S.E. RLY. ON THE MUMBAI- HOWRAH MAIN LINE.

1.0 THE BIDS COMPLETE IN ALL RESPECT MUST BE SUBMITTED IN A SEALED ENVELOPE SUPER SCRIBED WITH TENDER ENQUIRY NUMBER, NAME OF THE WORK AND DUE DATE OF OPENING. THE BID DOCUMENTS ARE NOT TRANSFERABLE. THE BIDDER MUST SUBMIT THE FOLLOWING ALONG WITH THE BID:

a) EMD OF REQUISITE AMOUNT AS PER NIT SHALL BE PUT IN A SEALED ENVELOPE SEPARATELY. BID WITHOUT EMD WILL BE REJECTED OUTRIGHT.
b) PHOTOCOPIES OF REGISTRATION CERTIFICATE, INCOME TAX PAN AND GSTN.
c) BID DOCUMENTS DULY SIGNED & STAMPED IN ALL PAGES AS A TOKEN OF ACCEPTANCE.

2.0 ORIGINAL PRICE BID DULY FILLED IN, SIGNED & STAMPED ON EACH PAGE SHALL BE SUBMITTED. ANY PRICE BREAKUP (IF REQUIRED) MUST BE SUBMITTED SEPARATELY. THE RATES OFFERED BY THE BIDDER SHALL BE CLEARLY WRITTEN IN ENGLISH (CLEARLY HAND WRITTEN OR TYPED) BOTH IN WORDS AND FIGURES AND SHALL BE FREE FROM ANY ABERRATIONS, DELETIONS, CORRECTIONS AND OVERWRITING. IN CASE OF ANY ILLEGIBILITY OF THE OFFER SUBMITTED BY BIDDER THE INTERPRETATION BY OPGC SHALL BE FINAL AND BINDING ON THE BIDDER. INSERTION, POSTSCRIPT, ADDITION AND ALTERATION SHALL NOT BE ACCEPTED AFTER SUBMISSION OF THE BID.

3.0 NOTE: TENDERS SUBMITTED WITHOUT THE ABOVE REQUIREMENTS SHALL BE LIABLE FOR REJECTION.

4.0 BIDDERS ARE ADVISED TO SUBMIT THE TENDER BASED STRICTLY ON THE TERMS AND CONDITIONS AND SPECIFICATIONS CONTAINED IN THE TENDER DOCUMENTS AND NOT STIPULATE ANY DEVIATIONS IN NORMAL CASE.

5.0 OPGC WILL AWARD THE CONTRACT TO THE SUCCESSFUL BIDDER WHOSE BID HAS BEEN FOUND THE EVALUATED LOWEST I.E. ON L-1 BASIS.

6.0 OPGC RESERVES THE RIGHT TO EVALUATE THE QUOTATION ON SUCH DEVIATIONS HAVING FINANCIAL IMPLICATIONS BY ADDING THE COST DETERMINED BY OPGC.

7.0 WHEREVER IT IS MENTIONED IN THE SPECIFICATION THAT THE CONTRACTOR SHALL PERFORM CERTAIN WORK OR PROVIDE CERTAIN FACILITIES, IT IS UNDERSTOOD THAT THE CONTRACTOR SHALL DO SO AT HIS COST.

8.0 BEFORE QUOTING THE RATES THE BIDDER SHOULD GO THROUGH THE SPECIFICATIONS, SCOPE OF WORK, AND SPECIAL CONDITION OF CONTRACTS ETC. AND GET HIMSELF FULLY CONVERSANT WITH THEM.

9.0 THE DETAILS OF ITEMS IN THE PRICE SCHEDULE SHALL BE READ IN CONJUNCTION WITH THE CORRESPONDING TECHNICAL SPECIFICATIONS. ITEMS OF WORK PROVIDED IN THE PRICE SCHEDULE BUT NOT COVERED IN THE TECHNICAL SPECIFICATIONS SHALL BE EXECUTED STRICTLY AS PER INSTRUCTIONS OF ENGINEER IN CHARGE.

10.0 THE BIDDERS SHALL QUOTE RATES INCLUSIVE OF THE COMPLETE COST TOWARDS CONSUMABLES, TOOLS AND TACKLES, EQUIPMENTS, LABOUR, LEVIES, TAXES AND DUTIES IF ANY, ALL SAFETY PPE'S AS PER OPGC NORMS TO ALL WORKMEN, RECTIFICATION, MAINTENANCE TILL HANDING OVER, SUPERVISION OVERHEADS, PROFITS AND ALL INCIDENTAL CHARGES NOT SPECIFICALLY MENTIONED BUT REASONABLY IMPLIED AND NECESSARY TO COMPLETE THE WORK ACCORDING TO CONTRACT.

11.0 OPGC RESERVES THE RIGHTS OF ACCEPTING THE WHOLE OR ANY PART OF THE TENDER AND BIDDER SHALL BE BOUND TO PERFORM THE SAME AT THEIR QUOTED RATES.

Note:

- Item wise HSN Code with GST rate applicable to be indicated in the offer
- Further please note to submit your offer considering GST provision and its related input tax credit benefits to be passed on to OPGC
- Dealer/ Distributor/Channel Partner should enclose valid authorization certificate from principal manufacturer.
- Vendors are requested to kindly furnish your PAN, GST No.
- Tender Specification/Make for Supply of aforementioned items shall be as per the tender specification & BOQ.
- Bidders has to follow the general instruction while submitting the price bid.
- Bank Mandate form to be submitted to make your payment through RTGS/NET.
- Vendors are requested to send their **Sealed & Secured Bid (Two Part)** subscribing the tender number, date and due date on the envelope. Mail offer may not consider at the time of price opening.
- The Tender shall be accompanied by Earnest Money Deposit (EMD) as stipulated in NIT. The Earnest Money offered shall be in shape of Demand Draft/Pay Order/Bank Guarantee (BG as per attached format & shall be valid for 06 months) in favor of ODISHA Power Generation Corporation Ltd. drawn on State Bank of India (Code-9510)/ Union Bank of India (Code-UBIN0806625)/ Central Bank of India (Code-283899).
- All Micro & Small Enterprises (MSEs) who are registered with DIC/ KVIC/ KVIB/ Coir Board/ NSIC/ DHH/ Udyog Aadhar Memorandum are eligible to get the benefit of exemption from payment of EMD & Tender cost and to get the exemption, the participating bidders have to obtain/ register as MSME for the specific service/ supply of goods/ both.
- To get the exemption of EMDs & Tender Fee, the party has to make an application to the head of Supply Chain Management (SCM) who is conducting tendering process along with proof of documents regarding eligibility of the exemption at least 2 days before the last day of bid

submission. The HOD after due examination will allow to participate without submission of EMD & Tender Fee & the same has to be communicated to bidder in writing.

- The Earnest Money of all unsuccessful Bidders will be returned within thirty (30) days after the award of the Contract.
- Any Tender not accompanied with Earnest Money in accordance with aforesaid provisions shall be rejected by the Owner as non-responsive Bid.
- No interest will be payable by the Owner on the said amount covered under Earnest Money/ other Security Deposits.
- On finalization of Tender, Earnest Money deposited in form of DD of successful Bidder will be treated as part of the initial security at the option of the said Contractor or shall be returned to the successful bidder at his option.
- A Bidder shall submit the Tender which satisfies each and every condition laid down in this notice and other tender documents, failing which the Tender will be liable to be rejected.
- The Odisha Power Generation Corporation Ltd. do not bind themselves to accept the lowest or any tender or to give any reasons for their decision. The Owner reserves the right to allow the Public Sector Undertakings price preference facilities as admissible under existing Govt. policy. The prospective Bidders may apprise themselves of the relevant Govt. notification in this regard before submission of their bid. The Odisha Power Generation Corporation Ltd. reserves the right of accepting the whole or any part of the Tender or split the total scope of work among eligible Bidders and Bidder(s) shall be bound to perform the same at his/ their quoted rates.
- OPGC reserves the right to accept/ reject any or all tenders, split up the scope among eligible bidders or cancel the tender altogether without assigning any reason thereof.
- Bidder has to submit the price bid as per the price bid format.
- Bid documents duly signed & stamped in all pages as a token of acceptance.
- Original price bid duly filled in, signed & stamped on each page shall be submitted. Any price breakup (if required) must be submitted separately. The rates offered by the bidder shall be clearly written in English (clearly hand written or typed) both in words and figures and shall be free from any aberrations, deletions, and corrections and overwriting. In case of any illegibility of the offer submitted by bidder the interpretation by OPGC shall be final and binding on the bidder. Insertion, postscript, addition and alteration shall not be accepted after submission of the bid.
- Bidders are advised to submit the tender based strictly on the terms and conditions and specifications contained in the tender documents and not stipulate any deviations in normal case.
- Vendors are requested to submit their seal offers at our office by sending through **COURIER/ SPEED POST/ REGISTER POST/ By Person.**
- OPGC will award the contract to the successful bidder whose bid (offered/ evaluated) has been found the lowest i.e., on L-1 basis.
- OPGC reserves the right to evaluate the quotation on such deviations having financial implications by adding the cost determined by OPGC.
- Wherever it is mentioned in the specification that the contractor shall perform certain work or provide certain facilities, it is understood that the contractor shall do so at his own cost.
- Before quoting the rates the Bidder should go through the specifications, scope of work, special condition of contracts etc. and get himself fully conversant with them.

- The details of items in the price schedule shall be read in conjunction with the corresponding technical specifications. Items of work provided in the price schedule but not covered in the technical specifications shall be executed strictly as per instructions of Engineer in charge.
- Rate will be valid for the 1 year from date of award of contract. Extension/Repeat order can be placed as per requirement of the OPGC for a period of 6 months for supply.
- Delivery: Material shall be required within 6 month on F.O.R. site Basis from the date of placement of purchase order on successful bidder.
- OPGC reserves the rights of accepting the whole or any part of the tender and bidder shall be bound to perform the same at their quoted rates.

Note: Tenders submitted without the above requirements shall be liable for rejection.

PRICE OFFERED SHOULD BE FOR DESTINATION (OUR SITE) INCLUDING FREIGHT CHARGE, IB THERMAL POWER STATION, P & F, INSURANCE EXCEPT GST WHICH IS TO BE EXTRA ARE TO BE INDICATED IN TERMS OF PERCENTAGE OF BASIC PRICE OR WILL BE LOADED MAXIMUM WHILE COMPARING. 100% PAYMENT WITHIN 30 DAYS OF RECEIPT & ACCEPTANCE OF MATERIALS. OFFER MAY NOT CONSIDER WITHOUT EMD. PLEASE ENCLOSE PRODUCT CATALOGUE & COMPANY PRICE LIST, OFFER WILL REMAIN VALID FOR A PERIOD OF 180 DAYS FROM THE DATE OF TENDER OPENING. TDS @20% SHOULD BE DEDUCTED FROM YOUR BILL IN CASE OF NON-SUBMISSION OF PAN DETAILS.

BIDS RECEIVED AFTER STIPULATED DATE & TIME SHALL NOT BE ENTERTAINED. OPGC SHALL NOT TAKE ANY LIABILITY ON ACCOUNT OF ANY POSTAL/COURIER DELAY. OPGC RESERVES THE RIGHT TO ACCEPT / REJECT ANY OR ALL TENDERS, SEEK ADDITIONAL CLARIFICATIONS, SPLIT UP THE SCOPE AMONG ELIGIBLE BIDDERS OR CANCEL THE TENDER ALTOGETHER WITHOUT ASSIGNING ANY REASONS THEREOF.

GENERAL INSTRUCTIONS

1.0 EACH QUOTATION SHOULD BE SENT IN PROPERLY SEALED ENVELOPE ADDRESSED TO THE GM (PROCUREMENT DEPT.) - UNIT 3&4, IB THERMAL POWER STATION, BANHARPALI, DIST. JHARSUGUDA, PIN: 768234. THE ENVELOPE SHOULD BEAR THE TENDERER'S DISTINCT RUBBER STAMP. TENDER NO. _____ DUE ON DT. _____ SHOULD INVARIABLY BE GIVEN ON THE COVER.

2.0 IN CASE OF ITEMS OF SPECIFIC MAKE, ONLY MANUFACTURERS AND THEIR ACCREDITED AGENTS/ STOCKIEST/ AUTHORIZED DEALERS ARE ENTITLED TO QUOTE. FOR THIS THEY SHOULD SUBMIT AN ATTESTED COPY OF THE PRINTED PRICE LIST ALONG WITH TENDER.

3.0 THE TENDERS SUBMITTED MUST BE FREE FROM OVER WRITINGS OR EROSIONS. CORRECTIONS & ADDITIONS IF ANY MUST BE ATTESTED. INCOMPLETE TENDER SHOULD NOT BE SUBMITTED. TENDERS RECEIVED AFTER DUE DATE OF OPENING WILL NOT BE ENTERTAINED.

4.0 THE REQUIRED EMD IN SHAPE OF DD DRAWN IN FAVOUR OF "ODISSA POWER GENERATION CORPORATION LIMITED" PAYABLE AT SBI, IB THERMAL POWER STATION, BANHARPALI, CODE NO.9510, / CENTRAL BANK OF INDIA, BELPAHAR (CODE - 3899)/ UNION BANK OF INDIA, ADHAPADA (CODE - UBIN0806625) SHOULD INVARIABLY BE ENCLOSED WITH THE TENDER.

5.0 NO INTEREST WILL BE PAYABLE BY THE OWNER ON THE SAID AMOUNT COVERED UNDER EARNEST MONEY/ OTHER SECURITY DEPOSITS.

6.0 THE OFFER GIVEN MUST REMAIN VALID FOR A PERIOD OF 180 DAYS FROM THE DATE OF OPENING OF BID.

7.0 RATE WILL BE VALID FOR 1 YEAR FROM DATE OF AWARD OF CONTRACT.

8.0 MANUALS/ PAMPHLETS/ LEAFLETS AND DRAWINGS ILLUSTRATING TECHNICAL DETAILS/ YEAR OF MANUFACTURE, MAKERS NAME AND COUNTRY OF ORIGIN MUST BE ENCLOSED WITH THE TENDER, SAMPLE IF REQUIRED SHOULD BE SUBMITTED ALONG WITH TENDER. OPGC WILL NOT PROVIDE ANY DRAWING TO THE BIDDER.

9.0 THE PRICE QUOTED SHOULD BE FIRM AND DELIVERY F.O.R. DESTINATION INCLUSIVE OF PACKING, FORWARDING, TRANSPORTATION AND INSURANCE CHARGES EXCEPT GST WHICH IS TO BE EXTRA AS ACTUAL.

10.0 ACTUAL/ PERCENTAGE OF SALES TAX/ EXCISE DUTY LEVIABLE AND DECLARED TO BE CHARGED SHOULD BE DISTINCTLY SHOWN ALONG WITH PRICE QUOTED. WHERE IT IS NOT MENTIONED CLAIMS FOR PAYMENT OF SALES TAX AND EXCISE DUTY SHALL NOT BE ENTERTAINED ON ANY GROUND. SALES TAX REGISTRATION NUMBER MUST BE INDICATED INVARIABLY.

11.0 THE TENDERER SHOULD BE ABLE TO COMPLETE DELIVERY WITHIN 6 MONTHS FROM THE DATE OF RECEIPT OF PURCHASE ORDER.

12.0 THE TENDERER SHOULD BE AGREEABLY TO OUR PAYMENT TERMS I.E 100% WITHIN 30 DAYS OF RECEIPT AND VERIFICATION OF MATERIALS AT OUR SITE.

13.0 QUALITY OF MATERIALS TO BE SUPPLIED SHOULD BE BRAND NEW, FREE FROM ALL FLAWS, GOOD FINISH AND SHOULD BE AS PER TECHNICAL SPECIFICATION AND RELEVANT TO IS SPECIFICATION.

14.0 THE TENDER MUST ACCOMPANY PHOTO COPY OF LATEST & VALID INCOME TAX CLEARANCE CERTIFICATE & GST CERTIFICATE WITHOUT WHICH TENDER WILL BE REJECTED.

15.0 DESTINATION MEANS CENTRAL STORES, IB THERMAL POWER STATION, AND BANHARPALI.

16.0 WHENEVER TENDERERS HAVE ENTERED INTO RATE CONTRACT WITH DGS&D OR EPM, THE WILL INDICATE THE SAME IN THEIR TENDERS AND SUBMIT A COPY OF RATE CONTRACT AS A PROOF OF CLAIM.

17.0 THE QUANTITY INDICATED IN THIS ENQUIRY IS PROVISIONAL AND SUBJECT TO CHANGE AS PER PLANT REQUIREMENT, WHICH MAY INCREASE OR DECREASE DURING THE CONTRACT PERIOD. OPGC HAS NO OBLIGATION TO RECEIVE THE FULL ORDERED QUANTITY.

18.0 SUPPLIER HAVING PAST EXPERIENCE OF SUPPLYING SIMILAR ITEMS TO OTHER THERMAL POWER STATIONS MAY SUBMIT A PHOTO COPY OF THE P.O. ALONG WITH THE QUOTATION.

19.0 WARRANTY WILL BE MINIMUM OF 12 MONTHS FROM DATE OF DISTPATCH.WARRANTY & TEST CERTIFICATE HAS TO BE PROVIDED ALONG WITH MATERIAL.

20.0 THE UNDERSIGNED RESERVES THE RIGHT TO ACCEPT/ REJECT ANY OR ALL THE TENDER WITHOUT ASSIGNING ANY REASON THEREOF.

21.0 PENALTY FOR DELAY IN DELIVERY: - THE VENDOR IS LIABLE TO PAY PENALTY AT THE RATE OF 0.5 % OF THE COST OF UNDELIVERED MATERIALS PER WEEK OR PART THEREOF SUBJECT TO MAXIMUM 05 % OF THE COST OF UNDELIVERED MATERIALS. IF DELAY IS BEYOND 10 WEEKS OR LESS DEPENDING UPON THE REQUIREMENT, THE BUYER RESERVE THE RIGHT TO CANCEL THE P.O. AND COLLECT THE MATERIALS FROM ANY OTHER SOURCE AT THE RISK OF ORIGINAL SUPPLIER WITHOUT MAKING ANY REFERENCE TO HIM. THE ADDITIONAL FINANCIAL INVOLVEMENT OCCURS IF ANY FROM PROCURING OTHER SOURCE SHALL BE RECOVERED FROM YOU.

22.0 COMMERCIAL EVALUATION:

a) PREPARATION OF COMPARATIVE STATEMENT

VENDOR SHOULD NOTE FOLLOWING LOADING FACTORS TO BE USED BY OPGC DURING EVALUATION PROCESS IN CASE THE SAME HAS NOT BEEN CONSIDERD DURING OFFER SUBMISSION:

P&F CHARGES	2%
FREIGHT LESS THAN 300 KMS	3%
300 KMS. TO 500 KMS.	4%
500 KMS. TO 1000 KMS.	5%
ABOVE 1000 KMS.	6%
INSURANCE	0.086%

NOTE: PERCENTAGE LOADING WILL BE LIMITED TO FULL TRUCK/ TRAILER LOAD RATE FOR EACH TRUCK LOAD).

b) PAYMENT TERMS LOADING

1.5% PER MONTH (WHEREVER PARTIES HAVE QUOTED 100% THROUGH BANK/ ADVANCE AGAINST OUR STANDARD AND PAYMENT TERMS OF BID DOCUMENTS).

IN CASE OF PAYMENT THROUGH BANK LOADING FOR A PERIOD 30 DAYS AND IN CASE OF ADVANCE PAYMENT ALONG WITH P.O. THE LOADING FOR THE PERIOD OF DELIVERY PERIOD PLUS 30 DAYS, MAY BE TAKEN. IN CASE OF 90% THROUGH BANK & BALANCE 10% WITHIN 30 DAYS AFTER RECEIPT AND ACCEPTANCE OF MATERIALS.

LOADING FACTOR WILL BE 1.5*0.9= 1.35%. ACCORDINGLY FOR OTHER PAYMENT TERMS LOADING FACTORS WILL BE CALCULATED.

c) DELIVERY TERM LOADING

IF THE DELIVERY PERIOD REQUIRED AS PER BID REQUIREMENT IS DEVIATED THE LOADING SHALL BE DONE @0.5% PER WEEK OR PART THEREOF FOR THE PERIOD OVER AND ABOVE THE STIPULATED DELIVERY PERIOD.

23.0 LOADING PROCEDURES:

BASIC PRICE

PACKING & FORWARDING CHARGES (ON BASIC PRICE ONLY)

FREIGHT ON (BASIC + P&F)

INSURANCE ON	(BASIC + P&F + FREIGHT)
GST	(BASIC + P&F + FREIGHT+INSURANCE)
PAYMENT TERMS LOADING ON	(BASIC + P&F + FREIGHT+GST)
DELIVERY TERM LOADING ON	(BASIC + P&F + FREIGHT+GST)

24.0 WEIGHT/ LENGTH VARIATION: IN CASE THE PAYMENT IS DONE ON WEIGHING THE CONSIGNMENT AT SITE, ALLOWABLE TOLERANCE OF +/- 0.25% SHALL BE APPLICABLE. THIS TOLERANCE SHALL BE ALLOWED AS WEIGH BRIDGE TOLERANCE DUE TO WEIGHMENT IN TWO DIFFERENT WEIGH BRIDGE (IF AVAILABLE). FOR ANY VARIATION BEYOND THIS ALLOWABLE TOLERANCE NECESSARY ADJUSTMENT SHALL BE MADE DURING RELEASING PAYMENT BY WAY OF SUBMISSION OF CREDIT NOTE BY THE VENDOR. IF THE WEIGHT VARIATION IS +/- 0.25% FROM THE INVOICED WEIGHT/ CHALLAN WEIGHT THE INVOICED WEIGHT WILL BE ACCEPTED FOR THE PURPOSE OF ACCOUNTAL AS WELL AS PAYMENT. IF THERE IS THREE CONTINUOS NEGATIVE TOLERANCE IS FOUND NO MORE TOLERANCE SHALL BE ALLOWED. VENDOR SHALL HAVE TO SUBMIT THE CREDIT AS PER WEIGHMENT BY OPGC.

25.0 FORCE MAJEURE: ANY DELAY OR FAILURE TO PERFORM THE CONTRACT BY EITHER PARTY CAUSED BY ACTS OF GOD OR ACTS OF GOVERNMENT OR ANY DIRECTION OR RESTRICTION IMPOSED BY GOVERNMENT OF INDIA WHICH MAY AFFECT THE CONTRACT OR THE PUBLIC ENEMY OR CONTINGENCIES LIKE STRIKES, RIOTS ETC. SHALL NOT BE CONSIDERED AS DEFAULT FOR THE PERFORMANCE OF THE CONTRACT OR GIVE RISE TO ANY CLAIM FOR DAMAGE. WITHIN 7 DAYS OF OCCURRENCE AND CESSATION OF THE EVENT(S), THE OTHER PARTY SHALL BE NOTIFIED. ONLY THOSE EVENTS OF FORCE MAJEURE WHICH IMPEDES THE EXECUTION OF THE CONTRACT AT THE TIME OF ITS OCCURRENCE SHALL BE TAKEN INTO COGNIZANCE.

26.0 PATENTS, ROYALTIES, SELLER'S LIABILITY AND COMPLIANCE OF REGULATIONS: VENDOR SHALL PROTECT AND FULLY INDEMNIFY THE PURCHASER FROM ANY CLAIMS FOR INFRINGEMENT OF PATENTS, COPY RIGHT, TRADE MARK OF THE LIKE. SELLER SHALL ALSO PROTECT AND FULLY INDEMNIFY THE PURCHASER FROM ANY CLAIMS FROM SELLERS WORKMAN/ EMPLOYEES, THEIR HEIRS, DEPENDENTS, REPRESENTATIVES ETC. OR FROM ANY OTHER PERSON/ PERSONS OR BODIES/ COMPANIES ETC. FOR ANY ACT OF COMMISSION OR OMISSION WHILE EXECUTING THE ORDER. SELLER SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL REQUIREMENTS UNDER THE LAWS AND SHALL PROTECT AND INDEMNIFY COMPLETELY THE PURCHASER FROM ANY CLAIMS/ PENALTIES ARISING OUT OF ANY INFRINGEMENT.

27.0 SECURITY, BANK GUARANTEE:

a) SECURTY DEPOSIT: SECURTY DEPOSIT CLAUSE FOR PERFORMANCE OF SUPPLY @5% OF BASIC VALUE IN SHAPE OF DD/ BG/ DEDUCTED FROM THE BILL. NO INTEREST WILL BE PAYABLE BY THE OWNER ON THE SAID AMOUNT COVERED UNDER EARNEST MONEY/ OTHER SECURITY DEPOSITS. THE EARNEST MONEY DEPOSITED WITH THE TENDER SHALL BE ADJUSTED TOWARDS INITIAL SECURITY DEPOSIT AT THE OPTION OF THE BIDDER. CONTRACTOR SHALL FURNISH THE INITIAL OR TOTAL SECURITY AMOUNT @5% OF BASIC VALUE IN SHAPE OF BG/DD/DEDUCTED FROM THE BILL.

b) BANK GUARANTEE (BF) IN THE PRESCRIBED FORMAT FROM ANY NATIONALIZED OR SCHEDULED BANK TO BE SUBMITTED WITHIN THE SPECIFIED TIME PERIOD. IN ALL THE CASES IF TOTAL SECURITY IS NOT DEPOSITED EITHER IN FORM OF DEMAND DRAFT OR BANK GUARANTEE WITHIN 15 DAYS OF ISSUANCE OF LOI/ ORDER THE SECURITY AS MENTIONED ABOVE SHALL BE RECOVERED FROM THE RUNNING BILL OF THE CONTRACTOR. THE BANK GUARANTEE FACILITY SHALL BE EXTENDED TO ONLY COMPANIES OF REPUTE AT THE DISCRETION OF OPGC.

BANK GUARANTEE IN LIEU OF SECURITY DEPOSIT SHALL BE VALID FOR THE ENTIRE CONTRACT PERIOD PLUS ADDITIONAL 03 MONTHS. IN CASE OF ORDER EXTENSION/ RENEWAL BANK GUARANTEE TO BE RENEWED ACCORDINGLY.

28.0 **LANGUAGE:** THE CONTRACT INCLUDING THE PURCHASE ORDER AND ALL SCHEDULES, ANNEXURES (IF ANY) AND RELATED DOCUMENTS AND COMMUNICATIONS AND NOTICES ISSUED PURSUANT TO OR IN CONNECTION WITH ITS PROVISIONS, SHALL BE IN ENGLISH. IN THE EVENT THE CONTRACT, ITS SCHEDULES, ANNEXURES (IF ANY) OR ANY RELATED DOCUMENT IS TRANSLATED INTO OR IS IN ANY OTHER LANGUAGE, THE ENGLISH VERSION THEREOF SHALL TAKE PRECEDENCE AND CONTROL THE INTERPRETATION THEREOF.

PREPARATION OF BID:

The bidder(s) shall submit the bid in two part, namely-

1.0 TECHNO-COMMERCIAL UNPRICED BID
2.0 COMMERCIAL PRICED BID

PART-I: TECHN-COMMERCIAL UNPRICED BID

A complete set of original Tender documents as issued to the Bidder duly filled in as prescribed in different clauses of the Tender documents with signature & stamp in all pages as token of unconditional acceptance shall constitute Techno-commercial Unpriced Bid.

The bidder shall enclose the following documents in this bid:

- Crossed demand draft for requisite amount drawn in favor of Odisha Power Generation Corporation Ltd. in the manner prescribed above towards the Earnest Money Deposit (EMD) and Tender Cost without which the tender will be summarily rejected.
- Bidder must clearly specify whether they have quoted or Not Quoted & also indicate the make/ brand quoted against each item unpriced bid format enclosed in the tender document.
- Bidder must submit all the supporting documents as mentioned in the Qualification Criteria.
- Acceptance of Reverse Auction as mentioned in the Qualification Criteria.
- GST Certificate copy.
- PAN Certificate copy.
- MSME/NSIC copy of certificate (if applicable).

Note: if required additional sheet may be used to furnish all above information but in the format provided in general conditions of contract.

The Techno-Commercial Unpriced Bid with all its enclosures as mentioned should be put in an envelope, sealed & super scribed as “Techno-Commercial Unpriced Bid”. This envelope must contain name of the work, NIT No., Due Date of Opening and Name & Address of the Bidder on bottom left-hand corner of the cover.

PART-II: COMMERCIAL PRICED BID

Bidder must submit the Commercial Priced Bid in a different envelope as mentioned in the table (Price Bid Format).

Price Bids of only those bidders will be opened who meet as per qualification criteria given below. The Owner shall not entertain any correspondence with any Bidder in relation to the acceptance or rejection of any Price Bid.

QUALIFICATION CRITERIA

The bidders must meet the following Qualifying Requirements with respect to the below.

1. The bidder shall be manufacturer/fabricator of fire / foam/ Multipurpose fire tender. The vendor should have their own manufacturing/ Body shop and test bench facilities. Declaration and Details of proof of having required Design, manufacturing, testing and Service facilities and resources for the offered items shall be submitted along with the bid.

AND

2. The bidder must have supplied **Fire Fighting Heavy Vehicles with facilities for service as**' Multi-purpose Fire Tenders/ Foam tender/Water tender / DCP tender to any PSU / Govt. organization / State govt./Reputed Private manufacturing plant /Organisation in last five years prior to NIT date. Relevant order copies to be submitted along with the bid.

AND

3. Average Annual financial turnover during the last three Financial Years should be at least Rs. 16.00 Lakh or more. Audited Balance Sheet and profit & Loss A/C must be submitted along with the Techno-commercial Bid.

AND

4. Must not have been disqualified/blacklisted in any public/Govt sector during the last 05(five) years for the similar nature of job. (Self-Certification)

The firm shall submit the list of major customers, Fire Tender Purchase Orders with their date of supply during last five years to access the commitment towards delivery schedule. OPGC reserves the right to do due diligence and take customer feedback in order to verify the document submitted by the bidders

Note: - Documentary evidence in support of the above must be submitted. Sufficient documentary proof in support of the above must be submitted along with the Techno commercial Bid. Photocopies of supporting documents must be submitted along with Techno commercial Bid.

GM- (Purchase)

PRICE BID FORMAT					
SLN	**MATERIAL DETAILS**	**QTY. (A)**	**UOM**	**UNIT BASIC PRICE in Rs. (B)**	**TOTAL AMOUNT in Rs. (A X B)**
10	Multipurpose Fire Tender The Multipurpose Fire Tender including accessories shall be designed & manufactured as per BIS 10460: 1983 & as per the specification doc. provided along with tender notice. Scope of include purchase of the chasis & febrication of the superstructure over it & installing accesories .Fabricated over on 18 to19 ton TATA / Ashok Layland Chasis (175-200 hp engine poswer) (BS VI Chassis with power steering) .The Body frame work as Fire tender with hing lockers with hose rack & equipment racks for storing the equipment as per the annexure. Mounted pumping system High & Low Pressure type having discharge capacity of at least 2000 LPM @ 7 Bar & Min 300 LPM @ 35 Bar at suction lift of 3 m. With Hydrofoam mnitor at roof top, delivery outlet, 2 high pressure hose reel & 1 normal hose reel & Round the pump foam proportinator with varible propotinating arrangment. mounted water tank of 3500 lit & foam tank of 1000 lit capacity. Mounted over it DCP system of 1000 kg. pressure vessel with 2 hose reels with pistol grip nozzle, with main & stand-by bank of cylinders.Mounted CO2 extinguigher (22.5 kg. x 4) with 30 meter hose reel Mounted Trush type alumnium extension ladder on the roof top. Equipments as per the Annexure. Terms & Condition, Specification of the assesories & material of construction will be as per the Scope & specification doc.	1	NO		
				Total Basic Price	

Applicable GST %:
HSN Code:
Other commercial conditions if any shall be clearly indicated.

Note: Bidder has to use the above Price Bid Format failing which Bid will be rejected.

Technical Specification, Special Terms and Conditions and other details

Following Documents must be submitted with the offer

a. Declaration for line by line confirmation of specifications. Full set of literature / leaflets shall be submitted. Documents as mentioned Under the documentation shall be submitted along with the Bid.
b. Details of Chassis, Pump & PTO such as its make & model, supported with cert./catalogs/brochures/etc.
c. Details of monitor, hose reels such as its make & model, capacity, operating pressure etc.
d. Details of Ladder such as make & model, supported with catalogs, brochures, etc.
e. Catalogues of all other bought out items.
f. Details of DCP system & hose reels.

SCOPE OF WORK:

- The Multipurpose Fire Tender including accessories shall be designed & manufactured as per BIS 10460: 1983 as up-to dated & sound engineering practice. All equipment & accessories shall be fixed on appliance in a compact & neat/ aesthetic manner, & are easily accessible. The fire tender shall be with water tank, foam tank ,. DCP System, 10.5 m truss type extension ladder with inbuilt pumping arrangement as per the technical specification " Fire Fighting System.
- Fabrication shall be done on **18 to19 ton TATA / Ashok Layland Chassis (Latest BS VI Chassis with power steering)** having detailed specifications as mentioned below and fabrication shall be done as per specification mentioned.
- The chassis shall be procured by the agency in the name of Odisha Power Generation Corporation Ltd. . **The supplier shall submit all statutory documents & documents possession for fabrication over it.** All the equipment's & accessories shall be fixed on the appliance in an aesthetically compact manner so that each part is easily & readily accessible for use and maintenance.
- Transportation charges for taking chassis till delivery of the finished Fire tender is in the scope of the vendor.
- Vendor shall arrange necessary temporary registration/permit and insurance till vehicle is delivered. All these expenses are in vendors scope.
- Registration fee, Insurance fee, Road Tax shall be paid by the vendor.
- Vehicle registration shall be done with RTO Jharsuguda is in the scope of the vendor.
- The fire tender shall be fabricated in a manner so as load distribution confirm to the chassis manufacturer recommendation. The Bidder/ Tenderer may suggest any improvement in design to make Optimum use of engine power and chassis capacity. Prior approval in writing for such improvement may be obtained from EIC (Engineer In-charge).
- **Welding and drilling on chassis frame is not allowed. Clamping to be done on the chassis through recommended clamps.**
- Imparting training to our personnel on operation & maintenance of Fire Tender shall be at our premises without any cost.
- The scope also includes the supply of equipment as mentioned in APPENDIX A & B. The cost of which shall be inclusive in the offer price.

- The vendor shall confirm that the chassis is suitable for the design & sufficient to accommodate all facilities listed in the specification. Shall rectify the finding in the interim inspections. After completion of fabrication work shall be able to meet the acceptance test as per the applicable IS code.
- All component parts and material shall be of reputed make. IS code certified where ever applicable & confirm to IS code.
- We may deploy 3rd party inspector for clearing the inspection which will be in scope of OPGC & will be handled separately & not covered in the scope of this tender.

SPECIAL TERMS & CONDITION:

- The successful bidder shall solely be responsible for the safe custody & proper maintenance of the chassis or any part there of till the fabrication work is completed & the unit is handed over safely to the ITPS , Banharpali Site with the entire satisfactory acceptance test.
- The chassis shall be covered with adequate insurance & indemnity bond and both shall be submitted by successful bidder before taking possession/ custody of chassis for fabrication work from OPGC, ITPS, Banharapali.
- Periodical renewal of insurance policy for the chassis including the value addition during the custody of the vehicle till the date of handing over the facility OPGC Site is the responsibility of the manufacturer.
- The successful bidder shall have to complete the fabrication work strictly as per the specification in every respect & put up for operation to use on road.
- Prior to fabrication the bidder shall submit the drawing pertaining to design of fabrication & obtain approval
- Termination of temporary registration & re-validation of validity should be the responsibility of the manufacturers to obtain necessary endorsement for termination of validity from the concerned Regional Transport Authorities immediately after the chassis enters their works.
- Re-validation: As soon as the fire tender is ready for delivery, necessary revalidation of temporary registration from the concerned RTO should be taken with a minimum validity period of 30 days from the date of re-validation.
- Registration of the Fire tender shall be done by the manufacturer at RTO Jharsuguda.

TECHNICAL SPECIFICATION FOR FABRICATION OF MULTI PURPOSE FIRE TENDER

1. CHASIS DETAILS & SUB-FRAME

Are as under: -

- TATA / AL- make 18-19 ton GVW chassis with following Specifications.
- Chassis frame: C-channel rolled section, re-enforcements and cross members made of high strength steel.
- ENGINE: Six-cylinder in-line diesel engine meeting Latest BS-VI emission standard with direct injection. Two valves per cylinder, Turbo charged and inter-cooled Oil cooler.
- GEARBOX: 5-6-speed synchronized range gearbox and reverse gears.
- STEERING: Power steering
- The chassis shall meet the functional capability of the fire tender as mentioned in “general requirements” of IS code.

The water & foam tanks shall be mounted on the vehicle on a sub frame using Rubber Metacones. This sub frame shall be made from Anti-Corrosive Treated MS 4" section and shall be bolted with the chassis using the high tensile bolts. 'U' Bolts shall not be used for mounting of tanks on vehicle. The rubber metacones shall facilitate to absorb the jerks and bending torsions in expansion as well as compression mode without high deflection. The manufacturer shall provide complete design data of metacones and sub frame including the load calculations and metacone quantity sufficiency. Tank shall be mounted on the chassis in a manner keeping in view the proper load distribution on the axles. The tank shall be mounted on two / three cross bearers to counteract stresses caused by chassis flexing. The Centre of Gravity shall be maintained as low as possible.

2. FIREFIGHTING SYSTEM ARRANGEMENT

-
- The Fire Tender shall incorporate a fire pump of High- & Low-Pressure type having discharge capacity of at least 2000 LPM @ 7 Bar & Min 300 LPM @ 35 Bar at suction lift of 3 m. with control arrangements for discharge of foam & water through two delivery lines & one monitor. With two high-pressure hose reels & one normal hose reels (floor mounting type)
- The water tank of capacity 3500 liters made of MS sheet. & Foam tank capacity 1000 liters made of SS 316L.
- It shall contain A DCP System with 1000 kg. vessel with 2 hose reels & one monitor.
- Two lockers for carrying 4 nos. of 22.5 kg CO2 fire extinguishers with hose reel (Each locker occupying two no. of CO2 extinguishers of capacity 22.5 kgs each).
- Truss Type double extension ladder to be provided on the roof of the ladder.
- The vehicle shall supply with equipment APPENDIX-A & APPENDIX-B. All equipment shall be suitably organized in lockers.
- The fire tender shall be capable of towing a trailer fire pump/ DCP vessel / Monitor. A heavy-duty towing hook shall be fixed on the rear end of the chassis near the foot board. Towing assembly shall be eyelet type with draw bolt/ bar so that any type of appliance can be towed without any difficulty.
- The vendor may be on technical ground on the basis of GVW of the chassis & CG position reduce the capacities of water tank, foam tank by 10% & DCP vessel by 20% with approval from EIC.

2.1 WATER PUMP

- PUMP (LOW AND HIGH PRESSURE): Pump shall be multy stage type capable of delivering minimum 2000 LPM at 7 bar pressure and high pressure 300 lpm at 35 bar with 3m suction lift.
- Details of pump such as its make & model, supported with catalogs / brochures / drawings etc. should be attached with offer. The discharge of the pump shall be routed to 2 outlets & monitor.
- Corrosion resisting materials like Bronze / GM / SS only. Wearing rings & other parts shall be renewable type. Sealing shall be self-adjusting type. The delivery outlets shall be of 63 mm with screw down delivery valves & female instantaneous couplings.

- A connection shall be taken from manifold to monitors with a suitably sized flanged connection. valves shall be provided in monitor line, one near discharge outlet & one near each monitor for emergency shut off . Hydro-foam nozzles shall be fitted suitably.
- **Water-ring type of Primer** shall be fitted to the fire tender . shall be capable of priming from 7 Mtrs. within 23 seconds. The primer shall have a separate water tank mounted near the pump.

A) The pump shall be centrifugal type, multi pressure (Combined High-Low Pressure) discharge facility, having output capacity of 2000 LPM at 10 kg/cm² and Min. 300 LPM at 35 - 40 Kgs/cm² at 3 Mtr. suction lift at NTP condition.

- The low-pressure side will be of single stage and the high-pressure side also with single stage having regenerative type impeller.
- The fire pump shall be of reputed make having National and International Standard Centrifugal type shall be **CE certified/ CE marked / UL listed/FM Approval or CE certified / UL listed/ FM approval**. Certificate of authorization with catalogue for specification shall be enclosed.
- The pump characteristic curve shall comply with the performance requirement of the firefighting pump .

B) SUCTION INLET & DELIVERY VALVES/OUTLETS: The pump shall have suction inlet having 100-150 mm standard suction connection as per IS-902 with internal strainer of SS & blank cap of gun metal on rear side. The strainer shall be retained firmly when in use but shall be easily removable. The pump shall be provided with two delivery valves/outlets at rear having 63 mm size having standard GM instantaneous female coupling as per IS-903 with screw down type delivery valves with blank caps. It shall have twist type lugs made of gun metal. The coupling shall be ISI marked.

2.2 WATER TANK:

A Water Tank shall be installed on the Fire Tender shall be MS construction & of oval shape.

- The tanks have the following parameters: Capacity Minimum 3500 Liters Material of Construction MS Bottom Plate Thickness 6 mm 5 mm Top Plate Thickness 5 mm Baffles Thickness 5 mm
- Top Manhole 1 x 450 mm and Cleaning Hole (Bottom of Tank) 1 x 250 mm
- Drain Pipe on Cleaning Hole of 50 mm
- Overflow Pipe Size 100 mm
- Tank Filling Line Size 80 mm Number of Tank Filling Connections 2 x 63 mm Tank to Pump
- The Water tank shall be of minimum 3500 Ltrs. capacity & shall be suitably mounted on the chassis in such a way that the weight distribution is optimized. In addition a 2% expansion space shall be made in the tank over & above the water capacity.
- The tank shall have baffles plates in transverse and longitudinal direction to avoid surge when the vehicle is braking, accelerating and cornering. All welding area shall be smoothening with the use of grinder.
- Tank shall be mounted on the chassis in a manner keeping in view the proper load distribution on the axles.

- The tank shall be suitably baffled to prevent surge when the vehicle is breaking, cornering or accelerating. The baffles shall be arranged in a manner to facilitate the passage of a man throughout the tank for cleaning purposes. Tank shall be mounted on three cross bearers to counteract stresses caused by chassis flexing and shall be so secured that it can be removed. Baffles shall be minimum 5mm thick. The bolting shall be so designed and mounted as to bring the center of Gravity of the appliance as low as possible.
- Tank shall be oval in shape & the mounting of the tank also shall be flexible type to prevent the tanks distortion due to the chassis flexion. The mounting shall permit full contents of the tank flow into the pump. The water tank shall be of welded construction and shall be suitably stiffened with angles / flats so as to avoid buckling and distortion.
- d) An inspection manhole of not less than 450mm size shall be provided on the top. The manhole shall have a hinged cover so that the manhole shall also act as a filing orifice. Cover shall be marked "WATER". Suitable eyes shall be provided on the tank to enable it to be lifted off the vehicle for repairs / replacement as necessary.
- e) A cleaning hole of 250 mm dia shall be provided at the bottom of the tank. The cleaning hole shall be fitted with a minimum 50 mm dia drain pipe with a valve & plug connection & shall be taken down to a point well below the chassis without reducing the effective ground clearance.
- f) The tank shall be fitted with a min. 100 mm bore overflow pipe taken down to a point well below the chassis without affecting the effective ground clearance when fully loaded and discharge away from the wheels.
- g) A 63mm instantaneous hydrant connection incorporating a strainer shall be provided close to the pump panel control for filling the tank through 80mm bore pipe work or feeding the hose reel equipment. An 100 mm pipeline shall be taken from the tank to the suction inlet of the pump incorporating an 100 mm quick action spherical type valve.
- On delivery side Separate valves for performing the function shall be provided to control the flow of water to the hose reel equipment. Drain plugs (material: SS 304) shall be provided.
- h) Visual WATER level gauge of the glass tube shall be provided at the control panel calibrated ¼, ½, ¾ and full and a dial gauge water level indicator shall be provided in driver's cab.
- The tank shall be connected with the pump and hose reel in such a manner that pressurization of water tank or water tank-pump connection is not possible when pumping water from an outside source of supply.
- The pumping between the pump and the hose reel shall have a clear unobstructed waterway of not less than 25mm throughout without any obstruction.

i) A water level indicator for the tank shall be provided at the control panel with valves at the tank & at the rear panel. Drain plug or drain cock shall be provided for ensuring the functioning .

ii) The following controls/connections shall be made:- • Hydrant to tank • Tank to pump to hose reel • Tank to pump to monitor • Delivery outlets • Flushing line .Hydrant to hose reel

iii) Other requirements to fulfill the functional requirements of the fire tender as per applicable Indian standard (IS) shall be provided.

2.3 FOAM TANK:

A Foam Tank (without supply of foam compound) shall be installed on the Fire Tender. The tanks have the following parameters:

- Capacity Minimum 1000 Liters Material of Construction SS 316L Bottom Plate Thickness 5 mm Side Plate Thickness (Die Pressed Stiffened on Two Sides) 4 mm Top Plate Thickness 4 mm
- Top Manhole 1 x 450 mm
- Numbers and Size of Filling Hole 1 x 150 mm
- Size of Sludge Trap (Bottom of Tank) 150 mm
- Drain Valve on Sludge Trap 25 mm
- Tank to Inductor Line Size 25 mm
- Capacity shall be fabricated out of min. 5 mm thick SS 316L plates for bottom & 4 mm plates for the sides & baffles.
- The tank shall be suitably baffled. In addition, a 2% of expansion space shall be made in the tank, over and above foam compound capacity.
- The cleaning hole of 250mm & drain pipe with a ball valve & plug incorporated in it to be provided. The filler orifice of 150mm dia. with a removable strainer (Material-Resistant to the attack of foam compound) will be provided.
- The filler cap shall be clearly marked "FOAM". The design of the tank shall incorporate a removable sump fitted with a drain valve.
- The foam compound draw off tube shall be positioned in the center of the sump in such a manner that foreign matter or sludge will not pass into the compound line.
- The draw off tube shall be fitted with a gauge strainer of suitable material, mesh, size & adequate straining area.
- Means shall be provided for automatic venting of the foam tank when the foam is being produced or the tank is being filled.
- The device employed shall be as simple as possible & shall not get clogged easily during normal use of the Appliance. Inspection hole of 450 mm with cover will be provided.
- Provision shall be made for drawing foam compound direct from an external source through a pick up tube while producing foam. The draw off tube shall be connected to the foam proportioner with NRV in addition to the main control valve..
- Visual level gauge of the glass / acrylic tube shall be provided at the control panel calibrated 1/4, 1/2, 3/4 and full (preferably calibrated in litres). Valves shall be provided both at the tank & near the gauge.
- Shall be provided with a breather valve .
- The foam tank to inductor line shall be fitted with a valve and NRV at the tank side . So that in no condition water shall enter inside the foam tank.

2.4 **WATRE MONITOR**:

Monitors The monitor shall be FM approval or UL LISTED. Makes of HD Fire / Newage / AAAG are allowed.

The complete details of the monitor such as its make & model, capacity, operating pressure etc. supported with catalogs/brochures/drawings etc. should be attached with offer

- Water Monitor of Minimum capacity of 1800 LPM @ 7.0 kg/cm² with an effective throw/ jet of minimum 60 mtrs in still air condition.
- Monitor shall be capable of rotating / traversing 360 degree horizontal plane and not less than +75 (degree) and -15 (degree) vertically, with a controlling valve near the pump.
- The complete monitor shall including the nozzle will be made MS water way with anticorrosive ling & hard anodized aluminum alloy nozzle with arrangement for foam induction, with water jet-spray without any restriction should be fitted on the top of vehicle at suitable location. Fome pick-up tube also to be provided with direct connection to tank.
- The monitor shall be capable of projecting the water/foam discharge to an effective distance of not less than 60 meters in still air conditions when operated at rated pressure.

2.5 **HOSE REEL:**

Two nos. of high-pressure hose reels to facilitate operation of the high-pressure section of the Fire Pump shall be provided and mounted on suitable location of the appliance. One hose reel on each side of fire tender shall be provided so as to use hose reel operation from each side
The hose shall be prevented from kink. Working pressure of hose shall not be less than 40 Kg/cm². The high-pressure hose reel shall hold 30 meter of hose in one length, terminating in a high-pressure fog gun (on each side). The couplings shall be of threaded type with the equipment.

- The fog guns shall be made of Aluminum alloy (Anodized) or stainless-steel SS 304 with pistol grip arrangement shall be provided.
- Plumbing between the pump and hose reel shall have clean and unobstructed water way of not less than 20mm throughout without any restriction
- The hose shall be light weight PVC nylon braided hose or equivalent with ISI marking. The inlet connection shall have a leak proof rotating type hose connector & the pipe connection shall be free from any bending of pipe.
- The guns shall be of constant flow type with a discharge capacity of 150 LPM approximately.
- Provision shall be made in the gun controls to achieve combat mode (straight jet) or a fog shield in split second. The gun shall have the ability to work on pressure from 20kg/cm² to 40kg/cm² without affecting discharge pattern.
- The weight of each gun assembly shall not be more than 3 kg to 4 kg.

2.6 **POWER TAKE OFF:**

A Heavy-duty PTO of a suitable ratio capable of transmitting the full power of engine to the pump should be fitted with a provision of separate lever in the cabin for engaging the PTO. Mention the type of make offered. The power takes off unit for water pump shall be of reputed make capable of transmitting required power for driving the Pump of Standard make with above features.

- The PTO shall be able to meet performance requirement of pump. Vendor must submit the selection criteria for pump PTO & shaft.
- The lever for engaging & disengaging PTO shall be provided in driver's cabin.
- The Vendor shall submit a sketch showing the arrangement & position of PTO Unit for taking power from main engine on chassis to water pump.

- The drive assembly components (shaft, couplings etc.) shall be designed for the power transfer (**Selection parameter & basis to be submitted**) dynamically balanced and vibration of any parts shall be minimum.
- Necessary support for PTO Unit, Propeller Shaft, Couplings, and Universal Joints etc. shall be provided.

Note: Details of PTO such as its make and model, supported with catalogs, brochures, drawing etc shall be attached with the offer.

2.7 FOAM PROPORTING SYSTEM:

Manually operated selector type **around the pump foam proportioning system** shall be provided at the rear of the pump.

- The Pump proportioner shall induct foam concentrate proportionately for production of foam at foam monitor and hand lines. The proportioner shall be calibrated to ensure the correct intake of air foam liquid to foam equipment.
- This shall have four different positions of selector valve i.e.0, 1, 2 & 3. Around the pump foam proportioning system shall be provided with three settings of metering device as 1%, 3% & 6%.
- Auxiliary foam pick-up tube arrangement from outside shall be provided.

2.8 CONTROL PANEL:

An adequately illuminated pump-operating panel with miniature schematic flow diagram of firefighting system and electrical drawing for maintenance & fault checking, Operating instruction all engrooved on SS plate shall be permanently fitted at the rear side of the appliance .

Rear side of the pump panel shall have open construction with following features:

- Auxiliary throttle control for the engine.
- Independent pressure gauge calibrated to 15 Kg/Cm² for pump discharge.
- Threaded suction inlet of water pump with blank cap.
- Control for using the auxiliary foam compound pick up tube.
- Quick opening main valve.
- Level Gauge for Foam &Water Tanks.
- Priming Valve for Water Pump.
- Compound Pressure gauge calibrated as per IS-951 for water suction.
- Foam On/off Valve and Foam Proportioning system
- Valve for hose reels.
- Operating instruction plate and flushing out instruction plate (Both itched on brass plates).
- Pump to Delivery Outlets,
- Pump to Monitor and Water Tank to Pump Butterfly Valve.
- Levels indicator shall be Pyrex Tube indicators shall be provided for showing the water & foam level ½ , ¾ levels.
- Each lever, switch, valve, gauge, outlet/inlet etc. shall have identifications made on metal plate and duly riveted.

In addition to the above, any other items that he may find essential for efficient operation shall be provided by the vendor at suitable locations

2.9 SUPPLEMENTARY EXTINGUISHING SYSTEM:

2.9.a **DRY POWDER SYSTEM:**

- 1000 kg. Dry chemical powder vessel
- Two hose reels (Parker make) on either side of the vehicle.
- Control panel for operation.
- Nitrogen Cylinder main bank& stand-by bank mounted on manifold for pressurization of the System.

DCP vessel of 1000 kg. DCP Vessel Design shall be as per standard ASME Code VIII. Vessel shall be marked with all data as per the pressure vessels rules applicable to factory.

Design Condition:

Operating pressure 14 bar & Design pressure 21 bar (Minimum)

Temperature Operating 45 deg C & Design 65 deg C.

Design Details:

Material of Construction SA 516 Gr & 0.

Corrosion Allowance 2mm.

Each vessel shall have following appurtenances

Manhole with Bolted Cover. Vessel shall be provided with filling aperture of 18"dia. With flanged cover at top and drain hole of 10"dia.

02 nozzles for entry of expellant gas located diagonally opposite.

02 nozzles for exit of DCP. (Flanged) located diagonally opposite.

02 Nozzle for safety relief valve. (Set pressure16 bar) each having capability to relief the system .

Nozzle for pressure gauge

Vent with valve

The flange shall be minimum ANSI 150# standard. All nozzles shall be adequately reinforced & shall have stiffeners. Suitable lifting lug shall be provided on the shell of the vessel to enable them to be lifted from the trailer in case of requirement to ensure proper fluidity of the powder appropriate high-pressure diffusor nozzles shall be suitably placed. 02 nos. per each injection nozzle on the vessel. Suitable arrangement shall be made to ensure that diffuser nozzles are not blocked under any circumstance. The diffuser nozzles shall be fitted with synthesized filter. Vessel shall be fitted with 02 no safety valves each sized for 100% capacity shall be as per ASME code. Safety valve shall be so sized to provide required relief in case of failure of pressure reducing device in expellant system. The Safety relief system shall comply the requirements of applicable pressure vessel rules. The set pressure of the vessel shall be 16 bar. Inside of the vessel shall be provided with anti-corrosion treatment by epoxy paint over the surface, which need to be suitably blasted to near white finish. The DFT shall be minimum 1.12 mm. The painting shall be done after Hydro testing job. The external surface shall be coated with two coats of zinc coated primer over well cleaned surface & two coat of finished fire red color paint after hydro test. Vessel shall be sized to have 10% free space after filling the specified grade of powder. DCP vessel, Manifold & System shall be Hydro tested to a pressure of 1.5 times of the rated pressure.

Expellant system. Nitrogen Gas shall be used for expelling medium for discharge of DCP powder. The expellant gas shall be stored in cylinders of suitable capacity between 50 to 68 litter WC as per the design requirement. The filling pressure of the cylinders shall be 120 to 150 bar. Battery of minimum 02 cylinders for operating the system. 02 no standby (spare) cylinders shall be provided. Nitrogen Cylinders shall be provided with quick operating type valve & valve guard Cylinder battery shall be suitably placed so that no part of the cylinder project beyond the vehicle. The valve shall be suitably guarded for preventing any damage from external strike. The Cylinder must be approved by PESO/ CCOE Nagpur. Certificate of the same shall be submitted.
The Cylinders shall be connected to a common manifold through flexible hose. On both side of which pressure regulator shall be fitted downstream to which the out let hoses are to be connected through a open close ball type valve. One Common pressure gauge need to be provided on the manifold for measuring the inlet pressure /Cylinder pressure. Both the pressure regulators shall be fitted with outlet pressure gauges. The arrangement shall allow measuring the cylinder pressures without removing the hose connections from the cylinder. Suitable flushing connection also shall be provided for the hose reel. The Pressure gauge shall be ESSAB high flow regulator model. The expellant system shall be designed for the working pressure of 14 bar downstream to regulator & at 1.5 times the maximum cylinder pressure at upstream of the pressure regulator. All flexible hoses shall be of required pressure rating as per the design data & shall be marked on the Body.

Hose reel: Two hose reels of 25mm size & 45-meter length of hose (Working pressure 30 bar) shall be fitted with capable of discharging the powder at 5 kg/sec. fitted with triggering type pistol grip nozzle. Hose shall be Parker make. The hose shall be wire breaded type non-kinking type without covering of rubber or suitable wear resistant material and shall be marked as per the requirements of International standard or ISI marked. Hose couplings shall be permanently attached-threaded-type.

Piping: All piping shall be Carbon Steel grade and seamless to A 106 Gr. B. Piping shall be designed to pressure as per the applicable pressure vessel rules. All lines to be hydraulically tested at 1.5 times the designed pressure & the pressure shall be hold for 2 hrs. However, in no case the line shall be tested below 25 bar pressures. All lines less than 1.5-inch NB can be socket welded to matching fitting. All line above 2-inch NB shall be butt welded with full penetration weld. All gasket shall be spiral wound with SS-304 asbestos fiber. All valve used in the circuit shall be full bore ball valve of

Powder Filled with 90% MAP powder, ISI Certified. Test and quality certificate from the manufacturer need to be submitted. Expansion space shall be provided above the Powder as per the standard requirement.

Technical Conditions. The Design calculation of the vessel, and technical catalog of the materials used (Hose reel, N2 Cylinder, Hose, Pressure regulator, Flexible hoses, Pressure relief valve) shall be submitted for approval prior to construction. Third party test certificate from competent agency to be done for the Vessel and manifold. The nitrogen Cylinder must be approved by PESO/ CCOE Nagpur. Certificate of the same shall be submitted. Demo test with suitable alternative powder to be conducted at Plant during Handover at our plant site or site agreed by EIC In the process all required consumables to be arranged by the vendor. The final powder filling will be done at ITPS premises after verification of the powder make quality. Test and quality certificate of the DCP Powder from the manufacturer need to be submitted. Test and quality certificate of the Hose reel to be submitted.

2.9.B **CO2 SYSTEM:**

A battery of two CO2 fire extinguishers of 22.5 kg capacity shall be provided on each side of the vehicle. Both the batteries shall have 30 m long high-pressure hose reel connected with a PVC horn with insulated handle. The above CO2 fire extinguishers of 22.5 kg x 4 Nos. with all accessories shall be provided for control discharge arrangement.

2.10 PIPING & VALVES FOR FIRE WATER AND FOAM SYSTEM:

Complete pipeline circuit on the vehicle including water lines & fittings shall be of MS as per the applicable standard. All piping should be sized so as to have min. pressure drop & achieve the required pressure & flow at various locations

- All pipe fitting and valves should be of anticorrosive material. All piping should be designed for 10% over the max. pressure encountered in the pipe.All piping shall be seamless type & ISI certified. The piping should be flanged for ease of maintenance. The vendor shall design the system so that individual component & pipes could be removed without requirement of hot work & removal of major components.
- All lines should be hydraulically tested at 1.5 times of the design pressure. Proper support should be provided for rigidity and avoid vibration of the lines.
- Lines less than 38 mm size should be socket welded and above 50mm size with butt welded with full penetration wells.
- All bolting and compete piping should be SS only.
- The draw off pipe position in such a way that the sludge should not pass on to foam piping.
- A flow chart & schematic diagram shall be made & submitted with the QAP for approval.
- Quality assurance test certificates for weld joints and hydro test shall be submitted at the time of PDI.

2.11 COOLING SYSTEM:

In addition to the radiator cooling, an **indirect cooling system of open circuit type** consisting of heat exchanger with good quality copper tubes inside & rubber hoses externally shall be provided to keep engine from overheating during extended use in tropical climates & when ambient temp is over 40o C. Cooling system should be designed that full power output of engine can be maintained during stationary running without overheating. The oil in the sump shall be prevented from overheating & the pump characteristics shall be chosen in a manner so that the engine does not run at its maximum speed for the required output.

The cooling water outlet pipe from P.T.O. & additional cooling tank shall be connected through a suitable diameter pipe. End of pipe shall terminate in a threaded connector. Note: All connecting rubber hoses in this system shall be high pressure jacketed hoses.

3. LADDER:

Ladder shall be **Double extension Trussed type of M/s Simplex or M/S King Mumbai make**. Of 10.5 meter full length. Shall be provided with the fire tender.

Note: Details of Ladder such as its make and model, supported with catalogs, brochures, drawing etc shall be attached with the offer.

Arrangement shall be provided on the roof of the vehicle to mount the ladder..

The aluminum two piece truss type extension ladders shall be mounted on suitable fitted on roller arrangement and designed to facilitate easy & quick removal of the ladder by two man from the rear of the appliance.

Note: Details of Ladder such as its make and model, supported with catalogs, brochures, drawing etc shall be attached with the offer.

4. BODYWORK:

Enclosed accommodation for driver, officer in charge & four crew members would be provided compartment drivers cab. For this the original cabin shall be modified if required. Vendor shall take prior concurrence from the chassis manufacturer if required. Vendor shall get design approved from client before commencing fabrication.

- The entire structure of appliance including that of drivers cabin would be welded structure made of 14/16 SWG SS pressed section, minimum 2 mm square tubes, angles and channels with aluminum paneling.
- Two front seats, one for officer and one for driver shall be provided in the cabin. One seat for 4 to 5 Crew members shall be provided on the back side (Inside the cabin). The seats shall be of good quality] with adjustment for Hight & distance from steering . Also good quality removable and washable seat covers shall be provided. Suitable hand hold shall be provided for the crew members while seating & walking. Seat belts shall be available with seat as per the RTO nerms.
- The cabin should have four doors (2 each side). The door shall open outwards. Cabin doors shall be provided with splinter proof safety glasses and shall also be provided with their movement mechanism.
- First aid box made of fibre glass shall be provided and fitted in the cabin at suitable location for 10 persons & contents as per The Factories Act.
- Non-slip type steps and rails shall be provided in the cabin to assist the crewmembers to get in and out.
- Provision shall be made to store two no. BA sets in the back side of the crew seat. Adequate fasteners with Velcro shall be provide to hold the cylinders. Top & bottom surface shall have sufficient cushion to avoid any damage to the equipment during driving jerks.
- Two numbers of large sun visors and rear-view mirrors shall be provided on each side
- Cabin shall have one roof light and two sidelights.
- The paneling of vehicle should be done from 16 SWG aluminum chequered plate. The top of floor /deck shall be provided with 2.5 mm thick aluminum chequered.
- The cabin & lockers shall be composite construction with sufficient rigidity, reinforcement & will be kept as light as possible. Pressed sections of sufficient strength will be used for the superstructure as above.
- Adequate Nos. of lockers shall be provided for stowage of all equipment. The height of the lockers from the bottom to the top of opening shall be not less than 600 mm & the depth not less than 600 mm. Flooring of lockers should be of aluminum 3 mm chequered sheet . The exact size of lockers will be designed and installed for accommodating equipment and accessories. Hose racks for storing 12 no Fire hoses shall be provided.
- All the compartments for stowage of equipment shall be **door hing-catch-lock type design**. The hinge position shall be always on the top. Arrangement shall be ther to hold the door rigidly in open position. All the space on sides of the vehicle, below the chassis frame level shall be utilized for storing equipment.
- Hose tunnels shall be provided to carry four 2.5 Meter lengths of suction hoses on convenient location on the roof. For four hoses on one side.

- **Suitable type of Hinged guard shall be provided on both side to prevent any fall. Which can be extended 1 feet above the ladder compartment on one side & hose compartment on other side.**
- Drain holes will be provided preferably at the bottom of the tunnel & hose stowage compartment.
- The internal paneling of suction hose tunnel should be plain aluminum sheet of 16 gauge thickness & the floor of 3 mm thickness.
- Two cat ladder made up of 1.0 inch GI pipes fitted at the rear steps of the cat ladder, it shall non skid type arrangement on the rungs and be painted with high visibility yellow color paint.

5. ELECTRICAL SYSTEM & ACCESORIES

The electrical system shall be of 12/24V both for lighting & starting circuits.
All electrical circuits related to fire fighting system and cabin & operating panel would have separate fuses suitably indicated & shall be grouped in to a common fuse box, located in an accessible position in driver cabin. This fues box shall be different from the fues box for vehicle operating lighting system. Provision shall be made for minimum 4 spare fuses in the box which shall be provided in driver's cabin. All the controls for electrical system shall be provided near the driver's seat.

- The wires shall be proper colour coding & leveled for identification The battery shall be placed in a totally enclosed box.
- All equipment's locker shall have individual lights with LED type bulbs & should be operated by means of a **master switch (two-way switch) on the dash board** in the driver's cabin.
- Light Bar: Emergency light bar shall be provided above driver's cabin. Light bar shall include two amber color rotating / flashing LED lights with halogen bulbs & a powerful electronic siren of output not less than 75 W with PA system. P.A. System shall have weatherproof speakers. The amplifier & microphone shall be fitted inside the driver cab in front of officer's seat at easy arm's length.
- 1 No. Electric Hooter /Siren of reputed Make only of 2 Km Range 1 No.

The vehicle shall be provided with the following accessories in addition to those normally fitted to the chassis.
All the accessories shall be suitably fixed in position or shall be kept in lockers or other suitable place on the ladder. Provide electrical diagram for accessories for doing maintenance work.

- Fog lamps 2 Nos. Reversing lights- Lamp suitable to assist reversing
- 1 Set Windscreen wipers (As provided with the Chassis)
- 1 Set Search light with 30 meters Cable Reel - Adjustable to give flood or beam light, mounted in convenient position
- 1 No. Spot light
- 1 No. Tail lamps- Two of combined stop and tail
- 1 Set Rear reflector 1 Set Reputed make Public address system and Two-Tone Siren

Other lights like dash board, Pump panel, Cabin, Control panel, lockers, fog lights, brake lights etc. shall be of good quality.

- All lockers & control panels shall be provided with lights, controlled by switches.
- New wiper motor assembly with new blade & arms shall be provided.

- Adjustable spotlights mounted in a convenient position to give floodlight or beam lights at outside rear of the driver cabin shall be provided.
- A trickle type battery charger shall be provided for recharging the battery in situ. Reverse lights with on-off buzzer, on either side shall be fixed suitably at the rear of the appliance with wire mesh in such a manner to prevent accidental damage.

Vehicle lighting arrangement shall contain following lighting system

- Cabin Light ,Head light, Wiper system, Fog light, Spot light, Search light, Reverse light, Dash board light

Electrical connection for the following facilities related to firefighting system provided in the vehicle shall be taken through a **separate fuse box**

- Locker lights for individual lockers., Pump panel lights at Pump Panel, 2 lights at DCP system ,Hooter sounder, Emergency light bar. Flood light connection.

6. TOOL KIT CONTAINER:

A specially fitted recessed tray for the normal kit of tools, carried on the appliance shall be provided.

7. WORKMANSHIP AND FINISH:

All parts of the appliances shall be of good workmanship and shall have streamlined finish.

- The GVW of appliance shall not cross the GVW of chassis manufacturer's specifications with all equipments & crew.
- The weight distribution diagram with position of Center of gravity shall be as per the requirement of vehicle chasis manufacturer & should be submitted for approval.
- The entire appliance shall be painted fire red on the outside.
- The company name shall be written on both sides with yellow colour and before final painting of fire tender two coats of anti corrosion and primer coat shall be applied.

8. PAINTING & MARKING:

- Vehicle and monitors should be painted with 2 (Two) coatings of zinc phosphate epoxy primer and two coats of polyurethane finished red paint.
- The water tank shall be coated internally & externally with 2 (Two) coatings of zinc phosphate epoxy primer.
- All the lockers/cabins shall be provided with stainless steel nameplates with letter itched on it boldly indicating the number. c) Water line should be painted red and foam line in yellow colour paint.
- Entire appliance shall be painted in fire red colour (shade no. 536 of BIS 5-1978) and paint conforming to BIS 2932-1974 and thickness of 0.12 to 0.2 mm using double coat spray painting on outside.
- The driving compartment and the inside lockers shall be painted in pale cream
- The owner's emblem in original colour together with name (in Hindi & English) shall be written in golden yellow / reflective white stickers / paint on both sides of the vehicle.
- The chassis frame shall be painted black and wheel arch shall be painted white.

- Under frame of chassis shall be painted with chlorinated rubber paint.
- All instrument control & valves shall be identified with properly itched metallic nameplates.
- An illuminated 'FIRE' (Officer Seat side) & 'ERIF' (Driver side) signage shall also be fitted to the outer sides of wind screen at front of the cab.
- The appliance shall have the following marks at suitable locations. • Manufacturer's name & trade mark. • Year of manufacture. • Pump serial number and capacity. • Capacities of foam and water tank. • Engine and chassis number.

9. ACCEPTANCE TESTS & INSPECTION:

The following acceptance test will have to be given before acceptance. The design of tender will be such that it will not effect the Chassis Characteristic as specified by the chassis manufacturer such as speed, turning circle, , acceleration etc.

The stability of the appliance will be such that when under fully equipped & laden condition, if the surface on which the appliance stands is titled to either side, the point at which over turning occurs is not passed at an angle of 27º from horizontal.

The rating of pump would be minimum 4 hrs. The priming will be tested as per condition described earlier.

All the piping will be subjected to hydraulic test pressure of 15.0 Kg/cm² for a period of minimum 10 minutes.

where applicable and as per following performance tests:-

a) Road test. b) Stability test. c) Pump test. d) Primer test. e) Water Foam Monitor, Handline, Hose Reel Performance Test. f) Equipment/ accessories test/inspection.

TESTS: - (i) Road test shall be given at 72 Km/hr to assure the performance of mounted equipment.

(ii) Tilting test/ stability test up to 30 degrees as per clause 4.10 of IS: 10460 of 1983/latest amendment shall be submitted.

(iii) The test certificate for pumps as per relevant IS shall be submitted.

Details of test shall be carried out is as under:-

a) The stability of the appliance shall be such that when under fully equipped & laden condition, if the surface on which the appliance stands is titled to either side, the point at which over turning occurs is not passed at an angle of 27º from horizontal. This test should be carried out at the vendor factory in front of all the inspecting officers.

b) The pump with its all fitments shall be subjected to Hydrostatic testing on a pressure of 21 Kgs/cm².

c) The pump shall be run dry for a period of minimum two minutes at 2000 RPM to check the integrity of mechanical carbon seal. After this test there shall not be any leakage of water through carbon seal.

d) The pump shall be subjected to Endurance test for a period of Four hours continuous running. The first Three hours the pump shall deliver rated output of 3000 LPM at 8 kg/cm² and next one hour shall be 250 LPM at 35 kg/cm².

e) During the endurance test the water shall not be replenished in the cooling system and the temperature of the cooling water and engine oil should not exceed the manufacturer's standard recommendations for the continuous operation and engine should not show any sign of stresses.

f) The other tests shall be as per detailed performance parameters given for chassis, superstructure, fire fighting system which include monitor output & throw, foam induction & expansion, load etc.

g) Accessories shall also be subjected to relevant tests as per the specification indicated above.
Note: - Finally shower test shall be carried out after fabrication work for whole vehicle as per the norms laid down under BIS. The appliance shall not show any sign of leakage. Supplier shall submit QAP before start of fabrication for approval.

INSPECTION: There shall be 3 stage inspections including final inspection carried out for fire tender.

- 1st Stage : Construction of under structure, Water tank, Foam tank Etc.
- 2nd Stage : Placement of tanks, fittings lockers & pump.
- 3rd / final Stage : Testing of equipments & systems.

We may deploy 3rd party inspector for clearing the inspection which will be in scope of OPGC & will be handled separately & not covered in the scope of this tender.

10. INSTRUCTION BOOK, ACCESSORIES AND EQUIPMENT:

Instruction Book or Books–Instruction book for the guidance of the user, including both operating and normal maintenance procedure shall be supplied. The book(s) shall include illustrated spare-parts giving reference numbers of all the wearing parts.

11. APPROVALS/ CERTIFICATES:

- All equipment being quoted by vendor shall confirm to the latest version of relevant Indian/ International standard.
- Vendor shall mentioned the relevant standard reference against each items governed by the Indian/ overseas international standard.
- Vendor shall agree to provide certificates in original of all necessary or mandatory approvals in respect of the fire Tender before dispatch.
- On placement of order, Fire Tender is to be delivered at Plant premises. Transit insurance shall be included in vendor's scope.
- Vendor shall agree to offer stage inspection of the fire tender in three stages. Third stage inspection shall be final pre-dispatch inspection.
- After supply vendor shall provide training in operation of their system free of cost to RR Site fire personnel. Certificate shall be submitted along with supply for providing such training or representative shall be deputed along with supply of fire tender for one day training.
- On final supply, operation & maintenance manual, any electrical system manual etc., shall be handed over to indenter of plant. All guarantee certificate for any/ all accessories installed on the fire tender shall be handed over to indenter of plant. Along with techno-commercial offer, vendor shall submit a separate sheet listing all items (Installed on Foam Tender) that shall be supplied. i.e. scope of supply shall be mentioned.

12. AVAILABILITY OF SPARE PARTS:

- The supplier shall guarantee in writing as part of his overall tender against this specification that all spare parts including the complete range of propriety parts shall remain available for purchase for a minimum period of ten years commencing from the date the unit is officially accepted by the department.

- The supplier shall produce a list of essential spare parts to maintain the Pump/s & ptofor an initial period of Ten (10) years.

13. PERFORMANCE GUARANTEE:

The manufacturer shall guarantee the design, material, workmanship & the performance of the complete unit for a period of 01 year from the date of supply of completed vehicle. Any mechanical defect, faulty workmanship or operational defects found during this period shall be rectified by the vendor at owner's premises/arrangement within reasonable time without any extra cost of OPGC.
The tank shall be warranted against leakage for a period of 01 years after supply in writing. Bidder shall guarantee fade resistance of minimum 01 years from date of supply even if the vehicles are kept in the open.

WARRANTY: On final supply, operation & maintenance manual, any electrical system manual etc., shall be handed over to indenter of plant. A warranty certificate of minimum 01 year shall be submitted along with supply. It shall be clearly mentioned in warranty certificate that if any equipment found defective for any manufacturer defect then defective equipment shall be replaced/ repaired free of cost with in warrantee period.

14. TRAINING:

Manufacturer shall arrange for imparting training on the appliance/equipment, free of charge, to fire staff at least in two batches. A training program will be prepared in consultation with the supplier after the receipt of the appliance. The training shall cover operations of equipment, trouble shooting & any other subject desired by the operator

15. GENERAL REQUIREMENT:

a) The vehicle shall conform in all respect of the provisions contained in the M.V. Act 1988 and M.V. Rules 1989 or to any other statute modifications or re-enactment's thereon from time to time. All the equipment necessary for R. T. O.'s clearance shall be provided on vehicles. b) The gross vehicle weight of appliance should not cross the GVW of chassis manufacturer's specification with all equipment & crew. c) The weight distribution diagram should be submitted to officer-in-charge for approval. d) Drawings & Quality Assurance Plan shall be approved by the OPGC , ITPS , Banharpali s Site. e) Stage inspections shall be carried out based on final approved drawings & final approved QAP only. Note: - The acceptance tests & inspection during PDI is as under and shall be as a part of PDI. Job shall not be started till manufacturer submits the QAP and approved by the competent authority.

Documents Required

DOCUMENTS REQUIRED AFTER PLACEMENT OF ORDER:

The following documents are required to be submitted & approved in 2 sets prior to fabrication excluding one soft copy):

- Flow diagram showing all piping tanks, pumps, valves etc.
- General Arrangement & cross-sectional drawings, characteristic curves etc for pump.
- Load distribution diagram over the chassis with position of CG
- Drawings of PTO Units & other technical details.
- Drawings for both PTO systems to drive pumps from engine.
- Detailed Drawing for foam-cum water monitor with variable flow as per specification
- Fabrication drawings & data for water & foam tanks.

- Drawings & data for auxiliary foam induction devices.
- Line diagram for electrical circuits.
- Drawings showing layout of all equipment, lockers, cabin etc.
- QAP incorporating the stipulated inspection & testing requirements.
- Suitability of respective PTO's for Pump.
- Torque calculation in support of the above.
- Fabrication drawings & data for water & foam tanks on the chassis. The complete design data of meta-cones & sub frame including the load calculations & meta-cone quantity sufficiency
- Details of electrodes to be used for welding of SS parts.

DOCUMENTS REQUIRED AFTER COMPLETION OF ORDER:

- The following documents shall be submitted in 3 sets.
- As built drawings of tender showing details of dimensions, storage, fittings
- As built drawings for water & foam tanks.
- Flow diagram showing all piping tanks, pumps, valves etc
- General Arrangement & cross sectional drawings, characteristic curves & other details for pumps.
- As built Drawings for Installation of PTO Units.
- As built Drawing for foam-cum water monitor with variable flow as per spec.
- As built Drawings & data for auxiliary foam induction device.
- As built Line diagram for electrical circuits.
- All inspection & testing records for tanks, pumps, PTO's, piping, valves, monitor etc.
- Operating & instruction manual for the tender.
- All drawings & literature shall be kept in Proper folders.
- All literature shall be on A-4 size paper.
- Each drawing shall be kept in separate pockets in folder.
- One set of Spare part kit for the pump containing Bearing , oil Seal, Mechanical seal & rubber parts shall be provided free of cost.

DELIVERY SCHEDULE:

a) The fabricator shall complete the fire tender within 6 months from receipt of P.O.

b) After fabrication & acceptance, the Fire Tender should be delivered at IB Thermal Power station, Banharpali, Jharsuguda Site, on manufacturers risk & expenditure.

33. OPERATION, MAINTENANCE & INSTRUCTION BOOK:

- The instruction book, inspection manuals for the guideline to the user including both operation & normal maintenance should be supplied (three copies of each).
- The books should include itemized & illustrated spare parts list giving reference numbers of all the wiring parts.
- Manufacturer should supply the catalogue/ manuals of the Pump, Foam proportionate & PTO etc. (three copies of each) along with the vehicle & shall specify preventive maintenance, annual maintenance etc.

- Manufacturer should also supply three copies of detail drawings with all dimension of Fire Tender at the time of delivery.
- Spare parts of pumps/ monitors list with approximate price should also to be supplied. APPE

Appendix-A

01 **Foam branch** -FMB-10X IS-2097-1982 with pickup tube 02 nos.

02**. Foam branch** -FMB-5X IS-2097-1982 with pickup tube 02 nos

04. **One Multipurpose Hand Held Nozzle with variable flow range (**flow ranges from 350 to 900 LPM) of reputed make.

Multipurpose Hand Held Nozzle shall be made of Light Alloy Extruded Construction As Per ISO 64430 WP Grade .It shall have twist type control for straight jet, spray and wide angle fog, shall have provision for change over to flush mode without shutting-off the flow. It shall have superior design of rubber grip, twist shut off from fog to stream and provision of teeth to provide dense fog. It shall have a Control Lever for ON-OFF Position and a 63 mm size inlet connection.

A pistol grip handle for better grip shall be provided. The nozzle shall be hard anodized to prevent corrosion and wear. The weight of the nozzle shall be suitable to be handled by one person. The nozzle shall have CE/FM/UL certification/approval. 01 no.

Multi Flow Hand Held Nozzle shall be made of Light Alloy Extruded Construction The nozzle shall be hard anodized to prevent corrosion & wear. It shall have a twist type control for Straight Jet, Spray And Wide-Angle Fog.

It shall have arrangement for selection of five flow ranges from 350 to 900 LPM by twist of a dial on the nozzle. The horizontal Jet Throw in still air shall be around 35 mtrs at 7 bar pressure. It shall have Pistol Grip handle to provide for superior grip control to the operator. It shall have provision for change over to flush mode without shutting-off the flow. It shall have a replaceable spinning teeth ring for generating a dense fog curtain, a ball valve type handle for shutting off the flow and a 63 mm Inlet connection as per IS: 903. The nozzle shall have CE/FM/UL certification/approval

05. **One cable reel with30** meter of cable of industrial grade length equipped with 3 pin plug of 1-Industrial connection & 1 normal connection MCB, RCCB.

06. One set of **Spares** oil seal & bearing & rubber parts , gasket for **Pump** & other wearing parts as marked in the catalog.

07 One set of **Spares** oil seal & bearing & rubber parts , gasket for **PTO** & other wearing parts as marked in the catalog.

APPENDIX-B

The following equipment shall be supplied on the appliance without any extra cost and shall be stowed at designated place properly in suitable fittings. (Instantaneous fittings where required)

Sl. No.	Description	Quantity
1	PVC/ Armored suction hose complete with round thread couplings to suit the pump inlet-2.5m long (IS : 902-1974)	04 length
2	Suction Strainer suitable for Item 2 as per IS:907-1984. With non-return valve	1 No
3	Basket Strainer suitable for Item 2 as per IS: 3582-1984	1 No
4	Dividing Breaching made of Light Alloy as per IS: 5131	2 No

5	Collecting Breaching made of Light Alloy as per IS: 905 -1980	2 No
6	Suction wrenches as per IS: 4643-1984	1 pair
7	Long line, 30 m long Polyurethane Rope , CE marked/ IS 3521. 23KN	2 length
8	Short Line, 15 m Polyurethane Rope , CE marked/ IS 3521. 23KN	2 length
9	Hose Bandage Rubberized as per IS : 5612 (Pt I) 1977)	12 no.s
10	63 mm male instantaneous. b) Adaptor double female instantaneous 63 mm c) Adaptor double male instantaneous 63 mm	02 no.s from each
11	Collecting head for attaching to pump suction inlet with 02 no. instantaneous male coupling	01 no.
12	Hand controlled branch (MOC Hard Anodized aluminum) with jet, Spray, shut-off arrangement with foam tube with pistol grip to hold the nozzle. ."AAAG make"	2 no.
13	Large Axe as per IS: 703-1966	1 no.
14	Pick Axe as per IS:273-1990	4 no.
15	Crow Bar as per IS:701-1966	1no.
16	Sledge Hammer – 6.5 Kgs as per IS:841-1983	1 no.
17	Carpenter's Saw – 60 cm as per IS:5098-1969	1 no.
18	Hydraulic Jack – 30 ton	1 no.
19	Fire Hook as per IS:927-1981	2 no.
20	Tool Box with Tools	1 set.
21	Fire bell: 250 mm dia fire bell shall be mounted externally and shall be capable of being operated from within driving compartment.	1 no.

Bank MANDATE FORM for e-payment
(To be submitted in Duplicate)

To,
Odisha Power Generation Corporation Ltd.,
Ib thermal power station,
Banharpali,
Odisha.

Dear Sir,

Sub: - Authorization for release of payment due from OPGC Ltd through e-mode facilities of RTGS / NEFT / Internet Banking.

We are the regular contractor/Supplier to your organization and are executing work /supplying materials under different Contracts/ Purchase Orders to OPGC Ltd. We request you to release the payment of the outstanding amount electronically i.e., through RTGS, NEFT, Fund Transfer or any other suitable way. The details of our bank account are as follows: -

(Please fill in the information in CAPITAL LETTE₹ Please TICK wherever it is applicable)

1.0 Name of the Party: ……..
2.0 Address of the Party ……
……
City ……. Pin Code ……..
E-mail ID ……
3.0 Permanent Account Number …….
4.0 Telephone/Cell No……..
5.0 Particulars of Bank:

Bank Name		Branch Name	
Branch Place		Branch City	
Pin code		Branch Code	
MICR No		IFSC Code	
Account Type	Savings:	Current:	Cash Credit:
Account No. (as appearing in the Cheque Book) :			
(9 Digits code number appearing on the MICR Bank of the cheque supplied by the Bank. Please attach Xerox copy of a chqeue of your bank for ensuring accuracy of the bank name, branch name & code and Account number)			

6.0 Date from which the mandate should be effective :

I hereby declare that the particulars given above are correct and complete. If any transaction is delayed or not effected for reasons of incomplete or incorrect information, I shall not hold Odisha Power Generation Corporation Ltd responsible. I also undertake to advise any change in the particulars of my account to facilitate updation of records for purpose of credit of amount through internet / RTGS / NEFT.

Place:

Date: Signature of the Party / Authorized Signatory

……

Certified that particulars furnished above are correct as per our records.

Bank's Stamp:

Date: (Signature of the Authorized Official from the Banks)

PROFORMA FOR BANK GUARANTEE IN LIEU OF DD FOR EARNEST MONEY

(On Non Judicial stamp paper of appropriate value)

Ref:
Date:
Bank Guarantee
No.

To,
Odisha Power Generation Corporation Ltd.,
Ib Thermal Power Station, At/Po- Banharpali,
Dist.-Jharsuguda - 768234.

Dear Sir,

In consideration of Odisha Power Generation Corporation having its Registered office at 7th.Floor, Zone – A, Fortune Towers, Chandrasekharpur, Bhubaneswar-751 023 (hereinafter called the "Owner" which expression shall unless repugnant to the subject or context include its successors and assigns) having issued Tender Specification Against NIT No. _____ Dated _____ to M/s. _____ having its Registered/ Head office at _____ (hereinafter called the Bidder) who wishes to participate in the said tender for and you, as a special favor, have agreed to accept an irrevocable and unconditional Bank Bid Guarantee for an amount of ₹_____ valid up to _____ On behalf of the Bidder, as a condition for participation in the said tender.

We, the _____ Bank incorporated under _____ law and having one of our branches at _____ and having our Registered office/Head office at _____ do here by unconditionally and irrevocably guarantee and undertake to pay to the "Owner" immediately on demand without any demur reservation, protest, contest and recourse to the extent of the said sum of ₹_____ (Rupees _____ only). Any such claim/ demand made by the said "Owner" on us shall be conclusive and binding on us irrespective of any dispute or differences raised by the Bidder. This guarantee shall be irrevocable and shall remain valid up to _____. If any further extension of this guarantee is required, the same shall be extended to such required period on receiving instructions from M/s. _____ on whose behalf this guarantee is issued.

We, the said Bank lastly undertake not to revoke this guarantee during its currency except with the previous consent of the owner in writing and agree that any change in the constitution of the said tenderer or the said Bank shall not discharge our liability. In witness where of the Bank, through its authorized officer, has set its hand and stamp on this _____ day of _____ 20_____.

Witness:	
(Signature)	(Signature)
_____	_____
Name	Name _____ (Designation with Bank stamp) Official Address Attorney as per Power of Attorney No._____ Date_____

PROFORMA OF BANK GUARANTEE FOR CONTRACT PERFORMANCE

(On Non-Judicial Stamp paper of Appropriate Value)

1.0 In consideration of OPGC Ltd. Having its registered office at Zone - A, 7th Floor, Fortune Tower, Chandrasekaharpur, Bhubaneswar - 751023, Odisha herein-in after called the "Owner" which expression shall unless repugnant to the subject or context include its successor & assignees) having awarded to M/s …… with its Registered/Head office at…….. here-in after referred to as the "Contractor" which expression shall unless repugnant to the subject or context include its successor, executors & assignees) a contract by issue of Owner's Letter of Intent No. …….. Dated …… and the same having been unequivocally accepted by the contractor resulting in a contract bearing No. …… dated …… valued at Rs…….. for …….. and the contractor having agreed to provide a contract performance (Scope of work) Guarantee for the faithful performance of the entire contract equivalent ₹ ……. 10% (ten percent) of the said value of the contract to the owner for satisfactory performance of the equipment/materials supplied (as detailed in the said agreement) during the Guarantee period (as detailed in the said agreement) and for the due fulfillment by the contractor(s) of the terms and conditions contained in the said agreement.

2.0 We …….. (here-in after referred to as "the bank" (Name & address of Bank) having its Head Office at …… do hereby guarantee and undertake to pay the owner, on demand any and all amount payable by the contractor not exceeding ₹…… (Rupees……) only as aforesaid at any time up to …….. (Days/Month/Year).

3.0 We …… do hereby (Name of Bank) undertake to pay the amounts due to and payable under this guarantee without any demur, reservation, contest, recourse or protest and/or without any reference to the contractor. Any such demand made by the owner on the Bank shall be conclusive and binding notwithstanding any difference between the owner and contractor or any dispute pending before any court, tribunal or any other authority. The bank undertakes not to revoke this guarantee during the currency without previous consent of the Owner and further agrees that the guarantee herein contained shall continue to be enforceable till the owner discharges this guarantee. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the contractor(s)/suppliers shall have no claim against us for making such payment.

4.0 We …… further agree that the (Name of Bank) guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all dues of OPGC have been fully paid and its claims satisfied or discharged until OPGC certifies that the terms & conditions of the said Agreement have been fully and properly carried out by the said contractor(s) and accordingly discharges this guarantee.

5.0 We …… further agree with the (Name of Bank) OPGC that OPGC have the fullest liberty without our consent and without affecting in any manner our obligations

hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the OPGC against the said contractor(s) and to for bear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, postponement or extension being granted to the said contractor(s) or for any forbearance, act or omission on the part of the OPGC or any indulgence by the OPGC to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

6.0 This guarantee will not be discharged due to the change in the name, style and constitution of the Bank or the contractor(s)/suppliers(s).

7.0 Notwithstanding anything contained herein:

a) Our liability under this bank guarantee shall not exceed Rs…….. (Rupees.....)
b) This bank guarantee shall be valid up to …….
c) We are liable to pay the guaranteed amount or any part thereof under this B.G only and only if the beneficiary/Govt. serves upon the bank a written claim or demand on or before …….

8.0 We …… lastly undertake not to revoke this (Name of Bank) guarantee during its currency except with the previous consent of the OPGC in writing. Dated the …… day of …… 20.....

9.0 Notwithstanding anything contained hereinabove our liability under this guarantee is restricted to Rs…… (Rupees …….. only) and this guarantee is valid up to ……. We shall be released and discharged from all liabilities hereunder unless a written claim for payment under this guarantee is lodged on us within three months from the date of expiry of the guarantee i.e. on or before ……. Irrespective of whether or not the original guarantee is returned to us. The confirmation of this Bank Guarantee is available within our controlling office. The beneficiary in his own interest should obtain such confirmation from the controlling office at the following address

For and on behalf of (the Bank)

WITNESS with address

1. …….

2. ……..

Signature……..
Name ……
Designation ……
Authorization No. ……
Seal of the Bank ……