

Bid Document

Bid Details	
Bid End Date/Time	17-01-2023 14:00:00
Bid Opening Date/Time	17-01-2023 14:30:00
Bid Offer Validity (From End Date)	80 (Days)
Ministry/State Name	Ministry Of Heavy Industries And Public Enterprises
Department Name	Department Of Heavy Industry
Organisation Name	Bharat Heavy Electricals Limited (bhel)
Office Name	10250020-pem, Noida
Total Quantity	28
Item Category	BASKET TYPE STRAINERS -800 NB and 1800 cubic meter per hour , BASKET TYPE STRAINERS -800 NB and 2450 cubic meter per hour , GLOBE PATTERN Y-TYPE STRAINERS -200 NB , GLOBE PATTERN Y-TYPE STRAINERS -80 NB
BOQ Title	Simplex Strainer
Years of Past Experience Required for same/similar service	1 Year (s)
MSE Exemption for Years of Experience and Turnover	No
Startup Exemption for Years of Experience and Turnover	No
Document required from seller	Experience Criteria,Past Performance,Additional Doc 1 (Requested in ATC),Compliance of BoQ specification and supporting document *In case any bidder is seeking exemption from Experience / Turnover Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer
Past Performance	10 %
Bid to RA enabled	Yes
RA Qualification Rule	H1-Highest Priced Bid Elimination
Type of Bid	Two Packet Bid
Primary product category	BASKET TYPE STRAINERS -800 NB and 1800 cubic meter per hour
Time allowed for Technical Clarifications during technical evaluation	7 Days
Payment Timelines	Payments shall be made to the Seller within 90 days of issue of consignee receipt-cum-acceptance certificate (CRAC) and on-line submission of bills (This is in supersession of 10 days time as provided in clause 12 of GeM GTC)

Bid Details**Evaluation Method**

Total value wise evaluation

EMD Detail

Required

No

ePBG Detail

Advisory Bank

State Bank of India

ePBG Percentage(%)

3.00

Duration of ePBG required (Months).

26

(a). EMD & Performance security should be in favour of Beneficiary, wherever it is applicable.

Beneficiary:

Branch CAG II New Delhi

10250020-PEM, Noida, Department of Heavy Industry, Bharat Heavy Electricals Limited (BHEL), Ministry of Heavy Industries and Public Enterprises

(A/c No. 39922687394 Ifsc Sbin0017313)

Splitting

Bid splitting not applied.

MSE Purchase Preference

MSE Purchase Preference

No

Details of the Competent Authority for MSE

Name of Competent Authority

SANJAY KUAMR DUBEY

Designation of Competent Authority

SDGM

Office / Department / Division of Competent Authority

CA Approval Number

Competent Authority Approval Date

06-01-2023

Brief Description of the Approval Granted by Competent Authority

As per unit policy, for non-divisible case, MSE preference shall not be given.

Competent Authority Approval for not opting Micro and Small Enterprises Preference : [View Document](#)**Reserved for Make In India products**

Reserved for Make In India products

Yes

1. Experience Criteria: In respect of the filter applied for experience criteria, the Bidder or its OEM {themselves or through reseller(s)} should have regularly, manufactured and supplied same or similar Category Products to any Central / State Govt Organization / PSU / Public Listed Company for number of Financial years as indicated above in the bid document before the bid opening date. Copies of relevant contracts to be submitted along with bid in support of having supplied some quantity during each of the Financial year. In case of bunch bids, the category of primary product having highest value should meet this criterion.

2. Bid reserved for Make In India products: : Procurement under this bid is reserved for purchase from Class 1 local supplier as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products. However, eligible micro and small enterprises will be allowed to participate. The minimum local content to qualify as a class 1 local supplier is denoted in the bid document. All bidders must upload a certificate from the OEM regarding the percentage of the local content and the details of locations at which the local value addition is made along with their bid, failing which the bid is liable to be rejected. In case the bid value is more than Rs 10 Crore, the declaration relating to percentage of local content shall be certified by the statutory auditor or cost auditor, if the OEM is a company and by a practicing cost accountant or a chartered accountant for OEMs other than companies as per the Public Procurement (preference to Make-in -India) order 2017 dated 04.06.2020 . In case Buyer has selected Purchase preference to Micro and Small Enterprises clause in the bid, the same will get precedence over this clause.

3. Estimated Bid Value indicated above is being declared solely for the purpose of guidance on EMD amount and for determining the Eligibility Criteria related to Turn Over, Past Performance and Project / Past Experience etc. This has no relevance or bearing on the price to be quoted by the bidders and is also not going to have any impact on bid participation. Also this is not going to be used as a criteria in determining reasonableness of quoted prices which would be determined by the buyer based on its own assessment of reasonableness and based on competitive prices received in Bid / RA process.

4. Past Performance: The Bidder or its OEM {themselves or through re-seller(s)} should have supplied same or similar Category Products for 10% of bid quantity, in at least one of the last three Financial years before the bid opening date to any Central / State Govt Organization / PSU / Public Listed Company. Copies of relevant contracts (proving supply of cumulative order quantity in any one financial year) to be submitted along with bid in support of quantity supplied in the relevant Financial year. In case of bunch bids, the category related to primary product having highest bid value should meet this criterion.

5. Reverse Auction would be conducted amongst all the technically qualified bidders except the Highest quoting bidder. The technically qualified Highest Quoting bidder will not be allowed to participate in RA. However, H-1 will also be allowed to participate in RA in following cases:

- i. If number of technically qualified bidders are only 2 or 3.
- ii. If Buyer has chosen to split the bid amongst N sellers, and H1 bid is coming within N.
- iii. In case Primary product of only one OEM is left in contention for participation in RA on elimination of H-1.
- iv. If L-1 is non-MSE and H-1 is eligible MSE and H-1 price is coming within price band of 15% of Non-MSE L-1
- v. If L-1 is non-MII and H-1 is eligible MII and H-1 price is coming within price band of 20% of Non-MII L-1

BASKET TYPE STRAINERS -800 NB And 1800 Cubic Meter Per Hour

(Minimum 50% Local Content required for qualifying as Class 1 Local Supplier)

Brand Type	Unbranded
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Technical Specifications

Specification Document	View File
BOQ Detail Document	View File

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer and Quantity

S.No.	Consignee/Reporting Officer	Address	Quantity	Delivery Days
1	Deepraj Singh	627106,BHEL Site Office, Kudankulam Nuclear Power Plant - Unit # 3 & 4 Nuclear Power Corporation of India Ltd Kudankulam P.O. Radhapuram Taluk Tirunelveli Dist.Tamilnadu 627 106	6	999

BASKET TYPE STRAINERS -800 NB And 2450 Cubic Meter Per Hour**(Minimum 50% Local Content required for qualifying as Class 1 Local Supplier)**

Brand Type	Unbranded
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Technical Specifications

Specification Document	View File
BOQ Detail Document	View File

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer and Quantity

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GLOBE PATTERN Y-TYPE STRAINERS -200 NB**(Minimum 50% Local Content required for qualifying as Class 1 Local Supplier)**

Brand Type	Unbranded
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Technical Specifications

Specification Document	View File
BOQ Detail Document	View File

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer and Quantity

S.No.	Consignee/Reporting Officer	Address	Quantity	Delivery Days
1	Deepraj Singh	627106,BHEL Site Office, Kudankulam Nuclear Power Plant - Unit # 3 & 4 Nuclear Power Corporation of India Ltd Kudankulam P.O. Radhapuram Taluk Tirunelveli Dist.Tamilnadu 627 106	10	999

GLOBE PATTERN Y-TYPE STRAINERS -80 NB

(Minimum 50% Local Content required for qualifying as Class 1 Local Supplier)

Brand Type	Unbranded
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Technical Specifications

Specification Document	View File
BOQ Detail Document	View File

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer and Quantity

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Buyer Added Bid Specific Terms and Conditions

1. Generic

OPTION CLAUSE: The Purchaser reserves the right to increase or decrease the quantity to be ordered up to 25 percent of bid quantity at the time of placement of contract. The purchaser also reserves the right to increase the ordered quantity by up to 25% of the contracted quantity during the currency of the contract at the contracted rates. Bidders are bound to accept the orders accordingly.

2. Generic

Bidders are advised to check applicable GST on their own before quoting. Buyer will not take any responsibility in this regards. GST reimbursement will be as per actuals or as per applicable rates (whichever is lower), subject to the maximum of quoted GST %.

3. Generic

Data Sheet of the product(s) offered in the bid, are to be uploaded along with the bid documents. Buyers can match and verify the Data Sheet with the product specifications offered. In case of any unexplained mismatch of technical parameters, the bid is liable for rejection.

4. Generic

While generating invoice in GeM portal, the seller must upload scanned copy of GST invoice and the screenshot of GST portal confirming payment of GST.

5. Certificates

The bidder is required to upload, along with the bid, all relevant certificates such as BIS licence, type test certificate, approval certificates and other certificates as prescribed in the Product Specification given in the bid document.

6. Inspection

Nominated Inspection Agency: On behalf of the Buyer organization, any one of the following Inspection Agency would be conducting inspection of stores before acceptance:

Pre-dispatch Inspection at Seller Premises (applicable only if pre-dispatch inspection clause has been selected in ATC): Vendors Works

Post Receipt Inspection at consignee site before acceptance of stores: NA

7. Certificates

Bidder's offer is liable to be rejected if they don't upload any of the certificates / documents sought in the Bid document, ATC and Corrigendum if any.

8. Buyer Added Bid Specific ATC

Buyer uploaded ATC document [Click here to view the file.](#)

Disclaimer

The additional terms and conditions have been incorporated by the Buyer after approval of the Competent Authority in Buyer Organization, whereby Buyer organization is solely responsible for the impact of these clauses on the bidding process, its outcome, and consequences thereof including any eccentricity / restriction arising in the bidding process due to these ATCs and due to modification of technical specifications and / or terms and conditions governing the bid. Any clause(s) incorporated by the Buyer regarding following shall be treated as null and void and would not be considered as part of bid:-

1. Definition of Class I and Class II suppliers in the bid not in line with the extant Order / Office Memorandum issued by DPIIT in this regard.
2. Seeking EMD submission from bidder(s), including via Additional Terms & Conditions, in contravention to exemption provided to such sellers under GeM GTC.
3. Publishing Custom / BOQ bids for items for which regular GeM categories are available without any Category item bunched with it.
4. Creating BoQ bid for single item.
5. Mentioning specific Brand or Make or Model or Manufacturer or Dealer name.
6. Mandating submission of documents in physical form as a pre-requisite to qualify bidders.
7. Floating / creation of work contracts as Custom Bids in Services.
8. Seeking sample with bid or approval of samples during bid evaluation process.
9. Mandating foreign / international certifications even in case of existence of Indian Standards without specifying equivalent Indian Certification / standards.
10. Seeking experience from specific organization / department / institute only or from foreign / export experience.
11. Creating bid for items from irrelevant categories.
12. Incorporating any clause against the MSME policy and Preference to Make in India Policy.
13. Reference of conditions published on any external site or reference to external documents/clauses.
14. Asking for any Tender fee / Bid Participation fee / Auction fee in case of Bids / Forward Auction, as the case may be.

Further, if any seller has any objection/grievance against these additional clauses or otherwise on any aspect of this bid, they can raise their representation against the same by using the Representation window provided in the bid details field in Seller dashboard after logging in as a seller within 4 days of bid publication on GeM. Buyer is duty bound to reply to all such representations and would not be allowed to open bids if he fails to reply to such representations.

[This Bid is also governed by the General Terms and Conditions](#)

In terms of GeM GTC clause 26 regarding Restrictions on procurement from a bidder of a country which shares a land border with India, any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. While participating in bid, Bidder has to undertake compliance of this and any false declaration and non-compliance of this would be a ground for immediate termination of the contract and further legal action in accordance with the laws.

---Thank You---

Index of Annexures

GeM Tender Enquiry for Simplex Strainer for 2x 1000 MWe Kudankulam NPP

Sl. No.	Description	Annexures
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3.	Delivery Schedule	Annexure III
4.	Land border certificate	Annexure IV
5.	Certificate for local Content	Annexure V
6.	Technical PQR	-
7.	Technical Specification	-
8.	NPCIL vendor approval format	-

**ANNEXURE –I (Simplex Strainer)
Additional Terms and Conditions (ATC)**

Additional Terms and Conditions for subject Tender Enquiry to be complied by Bidders for Consideration in this tender:

1. Dispatch Markings: -

Each box shall be marked with Capital Letters in “Red” indicating the PEM supply (Main Supply/ Commissioning spare/ Mandatory Spare) for TG Erection Package for Kudankulam Unit 3 & 4. Each package delivered under the Contract shall be marked by Supplier and such marking must be distinct and in English Language (all previous irrelevant markings being carefully obliterated). Such marking shall show the description and quantity of contents, the name and address of consignee, the Gross weight and Net weight of the package, the name of the Supplier, PEM P.O. reference number, with a distinctive number of mark sufficient for purposes of identification. Besides above necessary, packing shall bear a special marking `TOP`, `BOTTOM`, `DO NOT TURN OVER`, “KEEP DRY”, “HANDLE WITH CARE”, etc.

IMPORTANT

- Two copies of respective standard manufacturer’s erection instruction/operation instruction manual shall be kept in each package / container for immediate reference by BHEL site and same shall be reflected in packing slip also
- The Packing list details for the consignment must be put inside the Box/Boxes.

Commissioning Spares: - The commissioning spares shall be properly packed separately in separate box and each spare shall be properly tagged giving details i.e. dispatch (to match the description given in the packing slip) to facilitate their proper identification. One Copy of Packing list must be put inside the Box.

Note:- Main Supply items and items for comm. spares must be packed separately.

2. Liquidated Damages: -

a) **Main Supply:-** Purchaser reserves the right to recover from the Seller/ Contractor, as agreed liquidated damages and not by way of penalty, a sum equivalent to half (½) percent and applicable GST thereon, of the total main supply & commissioning spares contract price excluding GST per week or part thereof, subject to a maximum of ten(10) percent of the total main supply & commissioning Spares contract price excluding GST, if the Seller/ Contractor fails to deliver any part of the ordered goods/stores within the period stipulated in the Order/ Contract.

NOTE:

i. LR/RR date for indigenous supplies (Bill of Lading/AWB for Foreign supplies) shall be treated as the date of dispatch for levying LD. However, if receipted LR date for indigenous supply is beyond 30 days for FTL/ 45 days for PTL from the date of LR (PTL to be clearly mentioned in LR), such excess period shall be considered for LD purpose irrespective of dispatch date. Import General Manifest (IGM)/Bill of entry date (whichever is earlier), for foreign supplies, is beyond 90 days from the date of Bill of Lading/AWB, such excess period shall be considered for LD purpose irrespective of dispatch date.

ii. In case of any amendment/ revision, LD shall be linked to the amended/ revised contract value and delivery date(s).

ANNEXURE –I (Simplex Strainer)
Additional Terms and Conditions (ATC)

iii. If Order/ Contract involves two or more Units/ Sets/ Lots/ Stages, then Liquidated Damages shall be levied on order/ contract value excluding GST of the delayed Unit/ Set/ Lot/ Stage, provided delivery stipulated in the Order/ Contract is Unit/ Set/ Lot/Stage wise, however total LD amount shall be limited to 10% of total order/ amended order value excluding GST of delayed Unit/ Set/ Lot/Stage. Any subsequent lot released (not envisaged in original contract) due to increase in quantity within permissible quantity variation shall be treated as separate lot for the purpose of LD.

iv. The sum specified above is not a penalty but a genuine pre-estimate of the loss/ damage which will be suffered by purchaser on account of delay on the part of the Contractor/Seller and the said amount will be deductible without proof of actual loss or damage caused by such delay.

3. Risk & Cost Purchase

BHEL reserves the right to terminate the contract or withdraw portion of work and get it done through other agency, at the risk and cost of the contractor after due notice of a period of 14 days' by BHEL in any of the following cases:

i) If the Seller/Contractor fails to deliver the goods or materials or any instalment thereof within the period(s) fixed for such delivery or the Seller's poor progress of the supply/ services vis-à-vis delivery/execution timeline as stipulated in the Contract, backlog attributable to seller including unexecuted portion of supply does not appear to be executable within balance available period;

ii) Delivers goods or materials not of the contracted quality and failing to adhere to the contract specifications;

iii) Withdrawal from or repudiation/ abandonment of the supply/ services by Seller before completion as per contract or if the Seller refuses or is unable to supply goods or materials covered by the Order/Contract either in whole or in part or otherwise fails to perform the Order/Contract;

iv) Non-supply by the Seller within scheduled completion/delivery period as per Contract or as extended from time to time, for the reasons attributable to the Seller;

v) Termination of Contract on account of any other reason (s) attributable to Seller.

vi) Assignment, transfer, subletting of Contract without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.

vii) If the Seller be an individual or a sole proprietorship Firm, in the event of the death or insanity of the Seller;

viii) If the Seller/Contractor being an individual or if a firm on a partnership thereof, shall at any time, be adjudged insolvent or shall have a receiving order for administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any assignment of the Order/Contract or enter into any arrangement or composition with his creditors or suspend payment or if the firm dissolved under the Partnership Act;

ix) If the Seller/Contractor being a company is wound up voluntarily or by order of a Court or a Receiver, Liquidator or Manager on behalf of the debenture holders and creditors is appointed or circumstances

**ANNEXURE –I (Simplex Strainer)
Additional Terms and Conditions (ATC)**

shall have arisen which entitles the Court of debenture holder and creditors to appoint a receiver, liquidator or manager;

x) Non-compliance to any contractual condition or any other default attributable to Seller.

Such defaulting vendor/Seller shall not be eligible to participate in re-tendering conducted on account of risk purchase made due to fault of such vendor/Seller.

3.1 Risk & Cost Amount against Balance Work:

Risk & Cost amount against balance work shall be calculated as follows:

$$\text{Risk \& Cost Amount} = [(A-B) + (A \times H/100)]$$

Where,

A= Value of Balance scope of Work (*) as per rates of new contract

B= Value of Balance scope of Work (*) as per rates of old contract being paid to the contractor at the time of termination of contract i.e. inclusive of PVC & ORC, if any.

H = Overhead Factor to be taken as 5

In case (A-B) is less than 0 (zero), value of (A-B) shall be taken as 0 (zero).

3.2 * Balance scope of work (in case of termination of contract):

Difference of Contract Quantities and Executed Quantities as on the date of issue of Letter for 'Termination of Contract', shall be taken as balance scope of Work for calculating risk & cost amount.

Contract quantities are the quantities as per original contract. If, Contract has been amended, quantities as per amended Contract shall be considered as Contract Quantities.

Items for which total quantities to be executed have exceeded the Contract Quantities based on drawings issued to contractor from time to time till issue of Termination letter, then for these items total Quantities as per issued drawings would be deemed to be contract quantities.

Substitute/ extra items whose rates have already been approved would form part of contract quantities for this purpose.

Substitute/ extra items which have been executed but rates have not been approved, would also form part of contract quantities for this purpose and rates of such items shall be determined in line with contractual provisions.

However, increase in quantities on account of additional scope in new tender shall not be considered for this purpose.

NOTE: In case portion of work is being withdrawn at risk & cost of contractor instead of termination of contract, contract

quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work' for calculating Risk & Cost amount.

**ANNEXURE –I (Simplex Strainer)
Additional Terms and Conditions (ATC)**

3.3 LD against delay in executed work in case of Termination of Contract:

LD against delay in executed work shall be calculated in line with above LD clause, for the delay attributable to contractor. For limiting the maximum value of LD, contract value shall be taken as Executed Value of work till termination of contract.

Method for calculation of LD against delay in executed work in case of termination of contract” is given below.

i. Let the time period from scheduled date of start of work till termination of contract excluding the period of

Hold (if any) not attributable to contractor = T1

ii. Let the value of executed work till the time of termination of contract = X

iii. Let the Total Executable Value of work for which inputs/fronts were made available to contractor and were

planned for execution till termination of contract = Y

iv. Delay in executed work attributable to contractor i.e. $T2 = [1-(X/Y)] \times T1$

v. LD shall be calculated in line with LD clause (clause 16) of the Contract for the delay attributable to contractor taking “X” as Contract Value and “T2” as period of delay attributable to contractor.

3.4 Recoveries arising out of Risk & Cost and LD or any other recoveries due from Contractor

Without prejudice to the other means of recovery of such dues from the Seller recoveries from the Seller on whom risk & cost has been invoked shall be made from the following:

a) Dues available in the form of Bills payable to seller, SD, BGs against the same contract.

b) Dues payable to seller against other contracts in the same Region/Unit/ Division of BHEL.

c) Dues payable to seller against other contracts in the different Region/Unit/ division of BHEL.

In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against contractor.

4. For recognition of dispatch, vendor to submit following documents to BHEL by e-mail/ fax immediately on dispatch: - GST compliant invoice, LR (indicating Invoice No., no. of boxes, PTL (if applicable) etc.), Packing List (Must be indicating No. of boxes, Packing size, Gross weight and net weight of each package, Contents of the package with cross reference to BoM item code no. or item serial no. and Quantity of each item separately), Insurance Intimation to underwriter through email/fax, Dispatch Clearance.

B. Following ATC available in GEM is also part of NIT: -

i. Bidder's offer is liable to be rejected if they don't upload any of the certificates / documents sought in the Bid document, ATC and Corrigendum if any.

ANNEXURE –I (Simplex Strainer)
Additional Terms and Conditions (ATC)

- ii.** Bidders are advised to check applicable GST on their own before quoting. Buyer will not take any responsibility in this regards. GST reimbursement will be as per actuals or as per applicable rates (whichever is lower), subject to the maximum of quoted GST %.
- iii.** Data Sheet of the product(s) offered in the bid, are to be uploaded along with the bid documents. Buyers can match and verify the Data Sheet with the product specifications offered. In case of any unexplained mismatch of technical parameters, the bid is liable for rejection.
- iv.** The bidder is required to upload, along with the bid, all relevant certificates such as BIS license, type test certificate, approval certificates and other certificates as prescribed in the Product Specification given in the bid document.
- v.** While generating invoice in GeM portal, the seller must upload scanned copy of GST invoice and the screenshot of GST portal confirming payment of GST.

ANNEXURE –I (Simplex Strainer)
Additional Terms and Conditions (ATC)

Additional Terms and Conditions for subject Tender Enquiry to be complied by bidders for consideration in this tender:

- A.** Bidders to ensure that Third party/Customer issued certificates being submitted as proof of PQR qualification should have verifiable details of document/certificate issuing authority such as name & designation of Issuing Authority and its organization contact number and E-mail Id. In case the same is found not available, BHEL has the right to reject such document from evaluation.
- B.** "This item /package/system falls under the list of items defined in para 3 of ministry of finance guideline date 20.09.16 (procurement of items related to public safety, health, critical security operations and Equipment's etc.) & hence criteria of prior experience /turnover shall be same for all bidders including start up /MSME".
- C. Guarantee & Warrantee** shall be as per Cl. No. 10 of GTC on GeM for the bid. However, Guarantee & Warrantee time period shall be 18 months from the date of last supply in the contract.
- D.** Evaluation shall be on the basis of total all inclusive, landed price at consignee destination (Refer Cl. No. 6 of GTC on GEM).
- E. Terms of Delivery:** FOR Dispatch Station Basis. However, Transit insurance shall be in the scope of seller and unloading of items (at delivery point) shall be in buyer scope. Further, w.r.t. Transit Insurance supplier has to inform the details of dispatches (such as Policy No., Consignee Name, Consignment Packing details, Project Name, Purchase Order No., LR No. & date, Invoice No. & date, Dispatch Origin & destination details etc.) to policy underwriter under intimation to BHEL.
- F.** PQR criteria uploaded with Buyer uploaded Bid Specific document shall prevail value of Experience criteria and Past performance parameter mentioned in GeM bid.
- G.** "Due to COVID-19 pandemic condition prevailing in the country BHEL/PEM may go for Remote Inspection of Offered items if required. Vendors are requested to be equipped with the facilities/gadgets as indicated in the guidelines available at : <https://pem.bhel.com/Documents/VendorSection/Vendor/Guidelines.pdf> to take up the inspection remotely.
- H. Inspection call to be raised by bidder on BHEL CQIR portal** (details shall be shared at the of execution of order) and Inspection agency shall attend at the inspection within seven (07) days of the date on which the material is notified as being ready. In case of delay in witnessing of inspection beyond stipulated time (i.e. 7 days from the date on which the material is notified as being ready), by BHEL arising due to reasons not attributable to vendor, BHEL will extend the delivery period for such delay in carrying out inspection. If BHEL is not able to witness inspection up to 15 days then in addition to delay beyond stipulated period, extension in delivery time of 07 days for arranging fresh inspection will be given.

When the tests have been satisfactorily completed at Seller/ Contractor's works, the Inspection Agency shall issue an inspection report that effect within seven (07) days after completion of the tests, but if the tests were not witnessed by the Inspection Agency or his representative, the material acceptance report would be issued within seven (07) days after receipt of the test certificates by the Purchaser.

Purchaser will issue MDCC to the Seller/ Contractor within 7 days based on inspection report/ test certificates/Certificate of Conformance as applicable. In case of delay in issuance of MDCC beyond 7 days stipulated time (i.e. from the date of successful inspection report), by BHEL arising due to reasons not attributable to vendor, BHEL will extend the delivery period for such delay in issuing

**ANNEXURE –I (Simplex Strainer)
Additional Terms and Conditions (ATC)**

MDCC. If BHEL is not able to issue MDCC up to 15 days then in addition to delay beyond stipulated period, 7 days' additional time shall be given to vendor to facilitate the vendor for arranging logistics arrangements.

- I. All Bidders shall be required to submit applicable Freight % & GST % included in their prices during clarification stage of Tender.
- J. Performance Bank Guarantee: shall be as per Cl. No. 7 of GTC of GeM. Performance Security amount shall be @3% of the value of contract value.
- K. **Payment Terms:** As per clause no. 12 (i) of GTC on GeM. Payments shall be made to the Seller within 90 days (45 days for seller qualified and registered as Micro or small and 60 days for Medium enterprises as per MSMED Act.) of issue of consignee receipt-cum-acceptance certificate (CRAC) and on-line submission of bills (This is in supersession of 10 days' time as provided in clause 12 of GeM GTC).

Supplier has to provide Original Tax Invoice + 1 copy of Tax invoice, Packing List, LR/RR or AWB, CRAC, Insurance intimation, Guarantee Certificate, E-way bill (as applicable) for payment.

Further bidder to submit the final documents (O&M manual, final drgs & Inspection document) in 12 no.s of hard copies and 04 no.s of CD along with Invoice.

Provision of offline payment in GeM shall be utilized.

- L. **Bid reserved for Make in India products:** - Procurement under this bid is reserved for purchase from Class 1 local suppliers as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products. The minimum local content to qualify as a class 1 local supplier is denoted in the bid document as 50%. All bidders must upload a certificate from the OEM regarding the percentage of the local content and the details of locations at which the local value addition is made along with their bid, failing which the bid is liable to be rejected.

Regarding verification of local content, the local supplier at the time of tender, bidding or solicitation shall be required to provide certification (as per enclosed **Annexure-V**) as per para 9 of PP-MII order revision dated 16.09.2020.

- M. **This is conditional tender enquiry. Financial bid opening (Part-II) of a bidder shall be subjected to following:** -

- (i) Approval of vendor by end customer i.e. M/s NPCIL
- (ii) Techno-Commercial evaluation/recommendation by BHEL.
- (iii) Qualification of Technical PQR
- (iv) Offered item should mandatorily conform to PP-MII order provisions.

- N. **Consignee Details** (for PRC - Provisional Receipt Certificate & CRAC - Consignee's Receipt cum Acceptance Certificate, as applicable) shall be as per Project Site official details.

- O. The Bidder has to declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/guidelines.

- P. **Bidders to ensure the following:** -

- Ensure compliance to Ministry of Power (MoP) Order No. 11/05/2018-Coord. dt. 28/07/2020, if applicable.

ANNEXURE –I (Simplex Strainer)
Additional Terms and Conditions (ATC)

- Ensure compliance of Ministry of Finance (MoF) Order (Public Procurement No. 1 & 2) F. No. 6/18/2019/PPD dt. 23/07/2020.
 - to submit “Model Certificate for Tenders” as per **Annexure-IV** of Ministry of Finance (MoF) Order (Public Procurement No. 1 & 2) F. No. 6/18/2019/PPD dt. 23/07/2020, 08/02/21 & 06/09/22. Bidder to submit the following undertaking on their letter head duly signed from the highest competent authority at your end (i.e Owner, partner, CMD, Director etc.)
- Q. Delivery Period:** As per attached Annexure-III. Delivery period for sake of GeM bid shall be chosen as 999 days from PO date. However, this period shall not be considered for Delivery and Delay analysis purpose.
- R.** For registration in BHEL PEM- Online registration portal is operational, Non-registered Vendors who wish to apply for registration in BHEL-PEM can apply through Online Registration Portal available at www.pem.bhel.com - vendor section - Online Supplier Registration. All credentials and/or documents duly signed and stamped related to registration can be uploaded on the website and submit the application for registration. However, registration of suppliers is not mandatory in case of open tender.
- S.** Quantity Variation clause of +/- 5% of GeM ATC shall be utilized using option clause.
- T.** CIF is not applicable for subject tender.
- U.** PVC shall not be applicable.
- V.** Integrity pact not applicable.
- W.** MSE Preference: - Being subject package is not divisible, MSE preference shall not be applicable.
- X.** Bidder who are not approved with end customer needs to submit the credentials as per NPCIL vendor approval format (enclosed).
- Y.** Bidder to note the following: -
- A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of Procuring Entity's interests. The bidder found to have a conflict of interest shall be disqualified. A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:
- they have controlling partner (s) in common;' or
 - they receive or have received any direct or indirect subsidy/ financial stake from any of them; or
 - they have the same legal representative/agent for purposes of this bid; or
 - they have relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder; or
 - Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all bids in which the parties are involved. However, this does not limit the inclusion of the components/ sub-assembly/ Assemblies from one bidding manufacturer in more than one bid, or
 - In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. One manufacturer can also authorize only one agent/dealer. There can be only one bid from the following:
 1. The principal manufacturer directly or through one Indian agent on his behalf; and
 2. Indian/foreign agent on behalf of only one principal,'or
 - A Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid, or

ANNEXURE –I (Simplex Strainer)
Additional Terms and Conditions (ATC)

- In case of a holding company having more than one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies. Bidders must proactively declare such sister/ common business/ management units in same/ similar line of business. "

- Z.** All other terms & conditions shall be as per GeM bid, selected Additional Terms & Conditions from GeM library and GTC on GeM 4.0 (version 1.16) available on GeM Portal on enquiry floating date shall be applicable.



2x1000 Mwe Kudankulam NPP

ANNEUXRE II TO BOQ FOR SIMPLEX STRAINERS - MAIN SUPPLY

SL NO	ITEM DESCRIPTION	UOM	TOTAL QTY
A	Total price for design, manufacture, assembly, inspection and testing at manufacturer's and / or his sub contractor's works, properly packed and painted for transportation and delivery of Twenty eight (28) nos. Simplex Strainers complete with all accessories, commissioning spares (if any), counter flanges with nuts bolts, gaskets and coatings (wherever necessary), including special tools & tackles (if any), mandatory spares (if applicable) etc., as specified in bidder's scope of supply as per Technical Specification PE-TS-456-100-N001 (Rev-00) including all taxes & duties.	LOT	1
A.1	BASKET TYPE STRAINERS (800 NB and 1800 m3/hr)	Nos	6
A.2	BASKET TYPE STRAINERS (800 NB and 2450 m3/hr)	Nos	6
A.3	GLOBE PATTERN Y-TYPE STRAINERS (200 NB)	Nos	10
A.4	GLOBE PATTERN Y-TYPE STRAINERS (80 NB)	Nos	6
A.5	TOTAL LUMP SUM PRICE (A.1 TO A.4) SHOULD BE SAME AS QUOTED AT SL.NO.'A' ABOVE		

NOTES:

- 1 Unit price quoted by bidder, as above, shall be binding for any quantity variation, which is at the discretion of purchaser.
- 2 Price of commissioning & erection spares and other accessories not listed above shall be included in the price of equipment & shall be supplied with the equipment.
- 3 Price break up for items not asked are deemed to be included A.

**Project: 2x 1000 Mwe Kudankulam NPP
Package: Simplex Strainer
Anneuxre III to Delivery Schedule**

Sl. No.	BHEL Drawing No	Drawing Title	Primary/Secondary	Drg Sch for Vendors	Delivery Terms for Supply Portion
1	PE-V10-456-165-N001	GA DRAWING	Primary	R-0 within 21 days from PO & subsequent revisions incorporating all the BHEL comments within 10 days of comments received from BHEL. BHEL shall furnish comments / approval on each submission within 18 days from receipt.	Within Four (04) months from date of CAT-1 approval of Primary drawing/documents or BHEL manufacturing clearance whichever is later subjected to drawing/document submission/re-submission schedule as stipulated, in case of any delay in submission/re-submission of Primary drawing/documents, then same shall be reduced from the given delivery period.
2	PE-V10-456-165-N003	QUALITY PLAN	Primary		
3	PE-V10-456-165-N005	O & M manual	Secondary	within 30 days of issuance of MDCC.	

Notes:-

- (i) The end period specified is for completion of the deliveries. Deliveries to start progressively so as to meet the completion schedule.
- (ii) The delivery conditions specified are for contractual LD purposes, however BHEL may ask for early deliveries without any compensation thereof.
- (iii) Non-applicable drawings shall be decided during bid evaluation of the package.
- (iv) Wherever schedule of drawings/documents submission / re-submission is stipulated in the Technical Specifications, same shall be superseded by delivery specified in NIT.
- (v) Vendor to start manufacturing activities only after obtaining specific manufacturing clearance from BHEL Purchase group.
- (vi) In case BHEL manufacturing clearance date is later than the date of Cat-1 approval of Primary drawing/documents, then the contractual delivery period will be calculated by setting off the time gap between Cat-1 approval date of Primary drawing/documents and the manufacturing clearance date, from any delay by vendor in submission/re-submission of Primary drawing/documents

Annexure IV

An undertaking regarding Model Clauses on company letter head only

(To be provided along with bid)

Reference: NIT No.-

Package: - Simplex Strainer

Project: 2x 1000 MWe NPCIL KKNPP -3 &4

TO WHOM SO IT MAY CONCERN

This is with reference to Ministry of Finance circular dated 23.07.20, 08.02.21 & 06.09.22 reg. restriction under rule 144 (xi) of GFR.

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India. I hereby certify that M/s (bidder name) is not from such a country and is eligible to be considered/participate in tender enquiry for against aforesaid tender enquiry.

Sign & Signature (Not below Director/owner of the company)

Date:

Place:

ANNEXURE V
2x 1000 MWe NPCIL KKNPP -3 &4
Simplex Strainer
Letter head of Company

Ref.....

Date.....

To,
Bharat Heavy Electricals Limited
PEM, PPEI Building, Plot No 25,
Sector -16A, Noida (U.P) -201301

Subject: - Certification regarding local content

Reference: Tender Enquiry No.....

Name of Package: Simplex Strainer

Dear Sir,

We hereby certify that items offered by us of Simplex Strainer for 2x1000 MWe NPCIL KKNPP -3 &4(minimum % of local content) meets the requirement of minimum local content in line with applicable clause of Make In India and the Public Procurement (Preference to Make in India), Order 2017 dated-15.06.2017, 28.05.2018 & 29.05.2019, 04.06.20, 16.09.20 and subsequent order dated 16.11.21.


We further confirm that details of location at which the local value addition is made will be our registered works at(address of the works)

Yours very truly


..... (authorized signatory of company)

..... (firm name)

authorized signatory
of company

	PRE-QUALIFYING REQUIREMENTS (TECHNICAL) – SIMPLEX STRAINER	DOCUMENT NO: PE-TS-XXX-165-N004 (PQR)
		REVISION NO: 02 DATE: 11/04/2022
		SHEET: 1 of 2
FORM NO. PEM 6100-0	ENQUIRY NO.:	
	PROJECT: 2X1000 MWe KUDANKULAM NPP	
	PACKAGE: Simplex Strainer	
	<p>1. The bidder should have designed, manufactured, tested, inspected & supplied the Simplex Strainer (or similar item like Duplex Strainer/ Self Cleaning Strainer) with minimum flow of 900 M3/HR the normal flow rate through Simplex Strainer as mentioned in the Technical datasheet-A of Technical specification, which have been successfully in use for at least 1 year in thermal power plant or similar industry/ application and bidder is in business of Simplex Strainer (or similar item like Duplex Strainer/ Self Cleaning Strainer) on continuous basis.</p> <p>2. The Bidders shall furnish following support documents for assessment of Bidder w.r.t. PQR as indicated at Sl. No. 1 above:</p> <p>A. Bidder's Experience list of Simplex Strainer (or similar item like Duplex Strainer/ Self Cleaning Strainer) for last 5 years (as on the enquiry/NIT date) for assessment of bidder for supplying the SIMPLEX STRAINER on regular basis for establishing business continuity in enclosed format- Annexure-1.</p> <p>Bidder shall furnish the PO copy of at least one executed Contract as indicated in the experience list.</p> <p>B. Bidder shall furnish any one from below in support of successful performance of SIMPLEX STRAINER for one year:</p> <p>i. Satisfactory Performance feedback certificates from End Customer (Owner) (in English) for at least one successfully executed contract which has been in use for atleast One year indicating salient features like year of installation/ commissioning of SIMPLEX STRAINER (or similar item like Duplex Strainer/ Self Cleaning Strainer) , rating of project, Size of Strainer, project name etc., date of issue of certificate and name/ designation of the certificate issuer for power plant/similar application industry. The date of satisfactory performance feedback certificate should not be later than the date of subject enquiry/NIT.</p> <p style="text-align: center;">OR</p> <p>ii. The bidder has been awarded One repeat contract for SIMPLEX STRAINER (or similar item like Duplex Strainer/ Self Cleaning Strainer) from End Customer (Owner) / Purchaser (in English) for power plant/similar application industry. Repeat contract shall be considered when the second contract is given by the same purchaser/ owner after lapse of minimum 1 year from execution (viz. supply) of first contract. Supporting documents for execution of the first contract like dispatch ^{N2} details or commissioning report or PG test report along with the PO Copy to be furnished, if bidder intends to submit the documents for Repeat Contracts. The date of repeat contract order should not be later than the date of subject enquiry/NIT.</p> <p>Notes:-</p> <p>N1 - Purchase order copy, supporting drgs/technical data sheets etc. are to be</p>	

PREPARED BY:	REVIEWED BY:	APPROVED BY:
NAME:	NAME:	NAME:
DESIGNATION / DEPT.:	DESIGNATION / DEPT.:	DESIGNATION / DEPT.:

	PRE-QUALIFYING REQUIREMENTS (TECHNICAL) – SIMPLEX STRAINER	DOCUMENT NO: PE-TS-XXX-165-N004 (PQR)
		REVISION NO: 02 DATE: 11/04/2022
		SHEET: 2 of 2

<p>submitted along with the bid for which the bidder intends to furnish the performance feedbacks / repeat contracts for reference purpose only.</p> <p>N2 - Dispatch details shall include any one of the following documents:</p> <ol style="list-style-type: none"> Tax Invoice. Site receipt/Receipted LR. Customer's material dispatch clearance certificate <p>Any additional document required in support of above documents to establish the correlation between the above documents and the supplied item shall be provided by the bidder.</p>
<p>3. Bidder to submit all supporting documents in English, If documents submitted by bidder are in language other than English, a self-attested English translated document should also be submitted.</p>
<p>4. Notwithstanding anything stated above, BHEL reserves the right to assess the capabilities and capacity of the bidder/collaborators to perform the contract, should the circumstances warrant such assessment in the overall interest of BHEL.</p>
<p>5. After satisfactory fulfilment of all the above criteria/ requirement, offer shall be considered for further evaluation as per NIT and all the other terms of the tender.</p>

PREPARED BY:	REVIEWED BY:	APPROVED BY:
NAME:	NAME:	NAME:
DESIGNATION / DEPT.:	DESIGNATION / DEPT.:	DESIGNATION / DEPT.:

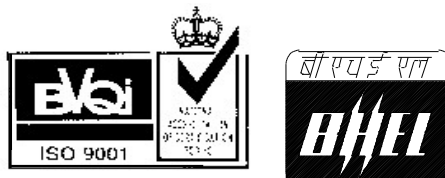
NUCLEAR POWER CORPORATION OF INDIA LTD

**2X1000 MWe KUDANKULAM NUCLEAR POWER
PROJECT**

TECHNICAL SPECIFICATION FOR

SIMPLEX STRAINER

Specification No.: PE-TS- 456-100-N001 (REV. 00)



BHARAT HEAVY ELECTRICALS LIMITED
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
PPEI BLDG., SEC-16A, PLOT NO. 25
NOIDA – 201301 (UP)

	TECHNICAL SPECIFICATION SIMPLEX STRAINER	SPEC. NO.: PE-TS-465-100-N001
		SECTION: I
		SUB-SECTION:
		REV. NO. 0 DATE 21-12-2022
SHEET 1 OF 1		

INDEX

THIS TECHNICAL SPECIFICATION CONSISTS OF FOLLOWING SECTIONS:

CONTENTS

SECTION	TITLE
I	Specific Requirements
IA	Specific Technical Requirements
IB	Data Sheet – A
II	Standard Requirements
IIA	Standard Technical Requirements
IIB	Standard Quality Plan
III	Documents to be submitted by Bidder
IIIA	Guarantee Schedule (To be submitted along with the Bid by all Bidders)
IIIB	Compliance Certificate (To be submitted along with the Bid by all Bidders)
IIIC	Deviation Schedule (As per NIT Format)

Notes:

1) For detailed list of documents to be submitted by bidder in their technical offer, please refer cl. no. 9.0 of Section-IA.

2) For detailed list of documents to be submitted by vendor after award of contract, please refer cl. no. 8.0 of Section-IA.

3) In case there is conflict in different clauses of specification, most stringent clause (as decided by BHEL / end customer) shall be followed, if no specific deviation is taken by bidder and accepted by BHEL during tender stage in that regard.

1219732/2022/PS-PEM-MSE



**TECHNICAL SPECIFICATION
SIMPLEX STRAINER**

SPEC. NO.: **PE-TS-465-100-N001**

SECTION: I

SUB-SECTION:

REV. NO. **0** DATE 21-12-2022


SHEET 1 OF 1

SECTION - I

SPECIFIC TECHNICAL REQUIREMENTS

SUB-SECTION IA – Specific Technical Requirements

SUB-SECTION IB – Datasheet - A

	TECHNICAL SPECIFICATION SIMPLEX STRAINER	SPEC. NO.: PE-TS-465-100-N001
		SECTION: I
		SUB-SECTION: IA
		REV. NO. 0 DATE 21-12-2022
SPECIFIC TECHNICAL REQUIREMENTS		SHEET 1 OF 3

1.0 GENERAL:

- 1.1 This specification covers the design, manufacture, assembly, inspection, and testing at vendor's works and/or his sub-contractor's works with proper packing (sea worthy packing for export jobs) for delivery along with mandatory spares (if applicable), erection and commissioning spares (as applicable) complete with all accessories as per the requirements specified in the specification for 2x1000 MWe Kudankulam NPP.


Note:

Simplex strainers have been detailed in Data Sheet-A, Section-1B. The bidder shall include complete supplies in his scope. Part supplies offered shall disqualify the bidder's offer. Evaluation shall be combined and further details shall be indicated in NIT.

2.0 SCOPE OF SUPPLY:

This specification is intended to cover the design, manufacture, inspection/ testing at manufacturer's works, properly packed for transportation / delivery to site of Simplex Strainers for various types/sizes as specified in Datasheet-A.

- 2.1 The sizes, technical parameters, Material of Construction etc. of Simplex Strainers are covered in Data sheet-A.
- 2.2 The Simplex Strainers with removable strainer element shall be supplied complete with following accessories:
- Quick opening/closing mechanism for easy withdrawal / insertion of strainer elements as per bidder's proven practice.
 - Outer shell/housing with Counter flanges for inlet/ outlet nozzles along with fixing nuts, bolts & gaskets.
 - Supporting legs for supporting the strainers on the floor.
 - Foundation bolts, nuts etc.
 - Removable strainer element.
 - Drain & Vent Valves
 - Final Painting and packing.
- 2.3 Bidder's scope of supply & services also includes the following:
- Spares for Erection & Commissioning on as required basis, if any.
 - Set of special tools & tackles, if any.
 - Drawings, data, calculations, test reports/ certificates, O&M Manuals, As-built drawings, etc. as specified and as necessary.

	TECHNICAL SPECIFICATION SIMPLEX STRAINER	SPEC. NO.: PE-TS-465-100-N001
		SECTION: I
		SUB-SECTION: IA
		REV. NO. 0 DATE 21-12-2022
		SHEET 2 OF 3
SPECIFIC TECHNICAL REQUIREMENTS		

2.4 The pressure drop across strainer shall be measured by BHEL / customer at site after installation/commissioning. If the pressure drop across strainer exceeds the guaranteed value as specified in the technical specification, the bidder shall carry out modifications in the strainer without any price implication.

2.5 WORKS EXCLUDED FROM BIDDER'S SCOPE:

- a) Civil foundation.
- b) Site Erection & Commissioning.
- c) Differential Pressure Instruments.

3.0 The Quality Plan enclosed in the specification is for bidder's guidance only. The bidder shall Comply with these and other minimum requirements specified in the specification and shall furnish his own quality plan in the event of order based on guidance given in above, for Purchaser's approval

4.0 The Strainer shall meet the technical requirement of this Sub-Section as well as Datasheet A.

5.0 It is mandatory for the bidder to submit along with the bid, the deviations if any – whether major or minor in the schedule of deviations only. In the absence of deviations listed in the "Schedule of Deviations", the offer shall be deemed to be in full conformity with the specification, "Not-with-standing" anything else stated elsewhere in the bidder's offer, datasheets, etc. The bidder's deviations or implied/ indirect deviations in data sheets, etc. shall not be binding on the purchaser.

6.0 The bidder shall guarantee the performance of the strainers along with the accessories for the duty conditions specified in the specification.

7.0 DRAWINGS/ DOCUMENTS DISTRIBUTION SCHEDULE:


Document submission schedule as per NIT. MDL shall be as follows

Primary Documents linked with manufacturing	
DRG TITLE	BHEL DRG NO
GA DRAWING	PE-V10-465-165-N001
QUALITY PLAN	PE-V10-465-165-N003
Secondary Documents NOT affecting manufacturing	
O&M MANUAL	PE-V10-465-165-N005

Drawings submitted shall be complete in all respects with revised drawing submitted incorporating all comments. Any incomplete drawing submitted shall be treated as non-submission with delays to bidder's account. For any clarification/ discussion required to complete the drawings, the bidder shall himself depute his personal to BHEL for across the table discussions/ finalizations/ submissions of drawings.

8.0 DRAWING/ DOCUMENTS TO BE SUBMITTED WITH THE BID:

- a) Compliance certificate (duly signed and stamped).
- b) Guarantee Schedule (duly signed and stamped).

	TECHNICAL SPECIFICATION SIMPLEX STRAINER	SPEC. NO.: PE-TS-465-100-N001
		SECTION: I
		SUB-SECTION: IA
		REV. NO. 0 DATE 21-12-2022
SPECIFIC TECHNICAL REQUIREMENTS		SHEET 3 OF 3

- c) GA & Cross-sectional drawings of Simplex Strainers with following: (shall be only for reference purpose, same shall be subject to approval during contract stage only).
- Bill of Material with material of construction
 - Strainer details as per Datasheet A
 - Stiffeners details (Nos., sizes etc)
 - Empty Weights of Strainers
 - Filled-up Weights of Strainers
- d) Schedule of Deviation (As per NIT).

Apart from above no other drgs. /docs. /data sheets etc. are required to be submitted at bid stage and even if furnished shall not be taken cognizance of.

9.0 BIDDER TO COMPLY FOLLOWING AFTER PLACEMENT OF PO :

1. Supplier to submit detailed ' Bill of Material ' (BOM) at the time of drawing/document submission after placement of PO. Each item of the BOM to be uniquely identified with item code no. or item serial no.
2. Supplier to ensure that all items which will find separate mention in the packing list are covered in this detailed BOM.
3. Supplier to also give the following undertaking in the BOM :

*“ The BOM provided herewith completes the scope (in content and intent) of material supply under PO No., dated
Any additional material which may become necessary for the intended application of the supplied item(s)/package will be supplied free of cost in most reasonable time. ”*

SPECIFICATION NO.: PE-TS-456-100-N005		2X1000 Mwe Kudankulam NPP Unit#3&4				
REV. NO.: 00. DATE : 21/12/2022		DATA SHEET - A				
SECTION : I. SUB-SECTION : ID		SIMPLEX STRAINERS				
Y-TYPE STRAINERS		BASKET TYPE STRAINERS				
SL NO	DESCRIPTION	UNITS	TYPE - 1	TYPE-2	TYPE - 3	TYPE - 4
1	No. of Strainers required	Nos.	Six (6) nos	Six (6) nos	Ten (10) nos	Six (6) nos
2	Type of Strainers Required		Basket Type	Basket Type	Globe Pattern Y-Type	Globe Pattern Y-Type
3	Capacity	cu.m/hr	1800	2450	-	-
4	Connecting Inlet/Outlet Pipe Size, NB	mm	800	800	200	80
5	Design Pressure	kg/cm2 (g)	2	2	16.5	16.5
6	Design Temperature	Deg. C	75	120	85	65
7	Perforation/Mesh size		80 mesh X 0.2 mm dia wire	80 mesh X 0.2 mm dia wire	60 mesh	40 mesh
8	Details of supporting perforated plate		2.0 mm thick perforated plate with 8mm dia. hole.	2.0 mm thick perforated plate with 8mm dia. hole.	1.0 mm thick perforated plate with 6.0 mm diahole X 12 holes/square inch.	1.0 mm thick perforated plate with 6.0 mm dia hole X12 holes/square inch
9	Maximum Permissible Pressure Drop under Clean condition	MWC	1	1	-	-
10	Location		-	-	-	-
11	Quality of Water Handled		-	-	-	-
12	Ratio of Clear Flow Area vis-a-vis Pipe Inlet Area		1.2	1.2	1.2	1.2
13	Inlet/outlet pipe size (OD & thickness)	mm	OD=820 mm, Thickness = 9.0 mm	OD=820 mm, Thickness = 9.0 mm	OD=219.1mm, Thickness = 7.0 mm	OD=89.5mm, Thickness = 3.5 mm
14	End Connection		Flanged	Flanged	Flanged	Flanged
MATERIALS OF CONSTRUCTION						
15.1	Strainer Body		IS 2062 Gr. BR/80	IS 2062 Gr. BR/80	ASTM A351 GR CF3M (SS316L)	ASTM A351 GR CF3M (SS316L)
15.2	Strainer Element		SS-304	SS-304	SS 316L	SS 316L
15.3	Body Flange		IS 2062 Gr. BR/80	IS 2062 Gr. BR/80	SS 316L	SS 316L
15.4	Counter flange		IS 2062 Gr. BR/80	IS 2062 Gr. BR/80	SS 316L	SS 316L
15.5	Wire mesh		SS-304	SS-304	SS 316L	SS 316L
15.6	Perforated sheet		SS-304	SS-304	SS 316L	SS 316L
15.7	Stiffener		SS-304	SS-304	SS 316L	SS 316L
15.8	Gaskets		CAF gaskets	CAF gaskets	Spiral wound gasket / Nitrile rubber / non-asbestos gasket	Spiral wound gasket / Nitrile rubber / non-asbestos.gasket
15.9	Name Plate		SS	SS	SS	SS
15.10	Foundation bolt		MS	MS	MS	MS
Painting Details						
The surfaces of stainless steel and non-metallic components shall not be applied with any painting. Surface Preparation: The steel surface to be applied with painting shall be thoroughly cleaned before applying painting by brushing, shot-blasting etc. Primer Coat: One coat of chlorinated rubber based zinc phosphate primer of minimum thickness DFT of 50 microns followed up with undercoat of chlorinated rubber paint of minimum DFT of 50 microns. Intermediate Coat: One coat of chlorinated rubber based paint pigmented with Titanium di-oxide with minimum DFT of 50 microns. Final Coat: Two coats of chlorinated rubber paint of approved shade and color with glossy finish and DFT of 100 microns. Total thickness shall be min 200 microns.						
16	Flange/Counter Flange Standard		AWWA class - C-207/ANSI B.16.47, series B	AWWA class - C-207/ANSI B.16.47, series B	ANSI B16.5 class 150	ANSI B16.5 class 150
17	Min. Required Thickness of Strainer Housing/Body	mm	9	9	7	3.5
18	Platform to be provided all round (with hand railings) at strainers top (with ladder) for attending basket elements for cleaning be operator	(Y/N)	N	N	N	N
19	Width of all round platform	mm			Not Applicable	
20	Two adjacent strainers of one unit, inter-connecting platform required (layouts enclosed)?	(Y/N)	N	N	N	N
21	Mandatory Spares (Enclosed)	(Y/N)	N	N	Not Applicable	N
22	Water Analysis (Enclosed)	(Y/N)	N	N	N	N
23	Hydro Test Pressure		1.5 x Design pressure	1.5 x Design pressure	1.5 x Design pressure	1.5 x Design pressure



**TECHNICAL SPECIFICATION
SIMPLEX STRAINER**


STANDARD TECHNICAL REQUIREMENTS

SPEC. NO.: PE-TS-465-100-N002	
SECTION: II	
SUB-SECTION: IIA	
REV. NO. 0	DATE 21-12-2022
SHEET 1	OF 7

SECTION - II

STANDARD TECHNICAL REQUIREMENTS

- SUB-SECTION IIA** – Standard Technical Requirements
- SUB-SECTION IIB** – Standard Quality Plan

	TECHNICAL SPECIFICATION SIMPLEX STRAINER	SPEC. NO.: PE-TS-465-100-N002
		SECTION: II
		SUB-SECTION: IIA
		REV. NO. 0 DATE 21-12-2022
STANDARD TECHNICAL REQUIREMENTS		SHEET 2 OF 7

1.0 GENERAL:

1.1 This specification covers the design, manufacture, assembly, inspection and testing at vendor's works and/or his sub-contractor's works with proper packing (sea worthy packing for export jobs) for delivery along with mandatory spares(if applicable), erection and commissioning spares(as applicable) complete with all accessories as per the requirements specified in the specification. Subsequent sections presents the general guidelines and details of Simplex Strainers to be procured under the scope of this package.

2.0 CODES AND STANDARDS:

2.1 The design, manufacture, performance & testing of the Simplex Strainers complete with all accessories shall conform to the latest editions of the following relevant codes and standards.

- **IS/BS/DIN/US:** Standards regarding pressure vessels, pipes, flanges & others as necessary.
- **IS/BS/DIN/ASTM:** Standards for material specification & testing procedures.

2.2 In case of any conflict between the above codes/standards and this specification, the later shall prevail & in case of any further conflict in the matter, the interpretation of the specification by the BHEL engineer shall be final and binding.

3.0 DESIGN REQUIREMENTS:

3.1 Unless specified in the specification, necessary manufacturer's standard & proven models of the strainers shall be supplied.

3.2 The strainer shall be designed for streamlined flow with minimum pressure drop.

3.3 The strainer shall be horizontally mounted with in-line flange connection.

3.4 The strainer body shall be of robust construction and shall incorporate integral pads.

3.5 The Strainer element shall be made from perforated sheet with sheet thickness not less than 1.5 mm.

Adequate numbers of stiffeners of material each with minimum thickness 3mm and minimum width 20 mm to be provided to support the perforated sheet against the fluid pressure and impact of debris.


For any additional or alternative details of Strainer Elements, please refer Datasheet-A.

3.6 The strainer shall be provided with drain/blow off, air vent connection. Strainer shall be hydraulically tested to 1.5 times the design pressure.

3.7 Flanges shall conform to the standard indicated in the design data sheet. Undrilled flanges shall not be acceptable.

3.8 The welding procedure shall be as per the approved quality plan enclosed herewith.

3.9 The strainer shall be complete for safe, proper, & continuous operation. Mechanical stresses shall be kept within the allowable limits specified by relevant codes/standards.

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		SECTION: II
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- 3.10 In design, special attention shall be given to ease of maintenance, repair & cleaning.
- 3.11 Suitable corrosion allowances shall be provided where ever necessary.
- 3.12 Unless otherwise stated in Datasheet-A, the inlet & outlet of strainer shall be coaxial without any offset between the center lines of inlet and outlet pipes.


4.0 MATERIAL:


- 4.1 The material of construction of strainer and other components shall be as specified in Datasheet-A.
- 4.2 The materials of construction for various components specified in Data sheet-A are the minimum requirements and materials of construction not specified shall be similarly selected by the bidder for the intended duty which shall be further subject to purchaser's approval.
- 4.3 All materials used for manufacture of the "Simplex" strainer and its components shall be of tested quality. Relevant test certificates shall be made available to the purchaser before taking up fabrication work. In the absence of such certificates, the vendor shall arrange to carry out necessary tests required by the code at his cost.

5.0 CONSTRUCTIONAL FEATURES:

- 5.1 The strainers shall be floor mounted supplied with foundation bolts, nuts etc.
- 5.2 The strainers shall be provided with cover for providing access to the strainer cage for removal for cleaning. The opening/closing of the covers shall be suitable for easy operation by one operator alone without any lifting / handling device. Each strainer chamber shall be provided with vent and drain connection. The above shall be reviewed during drawing approval in the event of the order and shall be subject to BHEL approval. Further, same shall be demonstrated by the Bidder at site also after erection.
- 5.3 Strainer body shall be of robust construction designed to withstand the pressure as mentioned under data sheet – A. The body should be provided with pedestal / pads suitable for floor mounting. The body shall be provided with amply sized drain connection with drain valve to allow cleaning of the collected debris.
- 5.4 The strainer baskets shall be provided with handles for easy removal of the baskets. Design of strainer shall incorporate the strengthening stiffeners on the basket.
- 5.5 The strainer body shall be provided with suitable lifting lugs, eye bolts etc. to facilitate erection and maintenance.
- 5.6 Each strainer shall be enclosed in a protective cover to protect it from damage during shipping and installation.

6.0 WELDING:


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STANDARD TECHNICAL REQUIREMENTS		SHEET 4	OF 7
6.1	Continuous welding is to be done at joints for perforated sheet, Retainer ring (Top ring/plate) and Bottom Disc. The minimum overlap for continuous welding for perforated sheet shall be minimum 10 mm.		
6.2	Only TIG Welding is to be done and no arc welding is to be used for fabrication of Strainer Element.		
7.0	CLEANING PROTECTION AND PAINTING REQUIREMENTS:		
7.1	Pickling and passivation of SS parts is to be done after welding and dressing work.		
7.2	Hydraulic tested equipment shall not be packed till the inside surface becomes dry.		
7.3	PAINTING:		
7.3.1	The surfaces of stainless steel, Gunmetal, brass, bronze and non-metallic components shall not be applied with any painting.		
7.3.2	The steel surface to be applied with painting shall be thoroughly cleaned before applying painting by brushing, shot blasting etc as per the agreed procedure.		
7.3.3	Internal surfaces shall be given a protective coating of coal tar based epoxy paint with a dry film thickness of minimum 200 microns.		
7.3.4	For all the steel surfaces exposed to (outdoor installation) atmosphere, a coat of chlorinated rubber based zinc phosphate primer of minimum thickness DFT of 50 microns followed up with undercoat of chlorinated rubber paint of minimum DFT of 50 microns shall be applied. Then, intermediate coat consisting of one coat of chlorinated rubber based paint pigmented with Titanium di-oxide with minimum DFT of 50 microns and topcoat consisting of two coats of chlorinated rubber paint of approved shade and colour with glossy finish and DFT of 100 microns shall be provided. Total DFT of paint system shall not be less than 200 microns.		
7.3.5	For all the steel surfaces inside the (indoor installation) building, a coat of red oxide primer of minimum thickness of 50 microns followed up with undercoat of synthetic enamel paint of minimum thickness of 50 microns shall be applied. The top coat shall consist of two coats each of minimum thickness of 50 microns of synthetic enamel paint and thus total thickness shall be minimum 200 microns		
7.4	Particular care shall be taken to ensure that all sand and loose material is properly removed by fettling.		
7.5	Ends shall be protected from external damage and sealed against the ingress of dirt.		
7.6	A thin sheet steel circular blanking plate of a diameter 1/4" less than the bolt holes inner PCD shall be firmly fixed to the flange faces by the application of adhesive after first ensuring that the flange faces have been thoroughly degreased.		
7.7	A thin coat of Evostick 613 adhesive shall be applied to the flange face and the blanking plate and then allowed to dry for 15-20 minutes. The coated face of the blanking plate should then be offered up to the face of the flange taking care that the plate is concentric with the flange. Firm pressure shall be applied to ensure intimate contact between plate and flange. One coat of carbon yellow slush shall then be applied over the face of the flange and blanking plate.		

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- 7.8 A wooden block should then be bolted to the flange using a minimum of four bolts.
- 7.9 In addition to the specified method for sealing the equipment, alternative method may be offered. These may be used subject to prior approval from BHEL.
- 7.10 Packing shall be sturdy and adequate to protect assemblies, components, and accessories from injury by corrosion, dampness, heavy rains, breakage and vibration encountered during transportation, handling and storage at the plant site.

8.0 INSPECTION & TESTING:

- 8.1 The manufacture shall provide inspection to establish and maintain the quality of workmanship in his works and that of his sub-contractors to ensure the mechanical accuracy of each component. He shall conduct all tests required to ensure that the equipment furnished shall conform to the requirements of applicable codes. All tests and test procedures proposed by the manufacturer shall be submitted to BHEL on the enclosed quality plan.
- 8.2 BHEL and/or customer's representative shall have access to inspect during manufacturing and at various stages of inspection. The final inspection shall be made by BHEL and/ or customer's representative to visit the supplier's work for final inspection. No material shall be dispatched unless inspected and/or approved by BHEL.
- 8.3 The following minimum tests shall be carried over on the finished strainers but not limited to-
- a) Identification of material with test certificates as per Data Sheet-A.
 - b) Verification of dimensional ratings etc. as per the approved specifications and drawings/ catalogues including proof of marking.
 - c) Penetrant testing on all welds seams and exposed surfaces. The test procedures shall conform to the requirements of ASTM E 165. Acceptance criteria shall be as per clause 14.1.2 of latest edition of EJMA. For exposed surfaces there shall be no visible defects.
 - d) All castings and forgings shall be free from blowholes, porosity, shrinkage defects, cracks or other defects. They have to be smooth and well cleaned.
 - e) Any defect which will not machine out during the final machining of casting / forging will be gauged out and repaired using an approved repair procedure and inspected to see that the defect is fully removed. Any indication of any defect in casting/ or forging which proved to penetrate deeper than 2 ½ % of the finished thickness of the forgings/ casting shall be reported to BHEL, giving location, length, width and depth and acceptability of the repair to be established before any rectification work is put in hand.
 - f) All ends shall be free from all burrs. Butt-welded or socket welded ends should be prepared by grinding as per standards and codes. Unacceptable defects for butt-welded and socket weld ends shall be removed by chipping and grinding to suit approved qualified welding procedure.

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- g) Hydraulic test shall be at 1.5 times the operating pressure.
- h) Measurement of perforation size & sheet thickness shall be carried out before taking the strainer for assembly.
- i) Qualification of relevant welding procedures and welders qualification as per ASTM sec. IX.
- j) Examination of radiography including radiographic techniques, radiographic examination of the longitudinal seam. The test procedures shall be as per ASME sec. V.
- k) Examination and approval of stress relieving charts/process is required.
- l) Production of necessary certificates of actual test for the proven design as per the requirement for pressure drop and micron rating test.
- m) A pre dispatch inspection will be carried out for all material/ component/ equipment/assemblies.
- n) Verification of completeness and acceptance of all previous test, inspection and check performed and satisfactory documentation of the same.
- o) Check for appearance and cleanliness.
- p) Check for identification, painting, preservation and packing.

9.0 Packing procedure before dispatch

The purpose of this procedure is to outline the requirements and procedures for protecting the equipment's during shipment and preserving during the storage.

9.1 Preparation for Packing:

- After hydro testing, operation, all fluids e.g. water etc., shall be completely drained from all Strainer's parts, and the equipment blown dry.
- All material shall be cleaned internally and externally to remove, scale, rust fillings and any other foreign material.
- The Strainer shall be placed on a strong wooden base & bolted to the wooden base using the foundation holes for further transportation up to site.

9.2 Protection of parts:

- Strainer shall be packed in properly in high grad bubble plastic wrap for transportation, and long storage at site.
- All finished (or) machined (External C.S. Surfaces shall be protected against corrosion with corrosion resisting coating, which is easily removable (Compound shall be such that it will remain on the surface at temperature normally encountered during shipping & storage).
- All machined surfaces shall be protected from mechanical damage. All external unfinished carbon steel surfaces shall be sand blasted & shall be coated with rust preventive primer.

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- Flanged opening if any shall be covered with blank flanges sealed with blank gasket of natural rubber or equivalent. Butt welded opening shall be closed with temporary closing covers. Internal threads shall be protected with metal plug sealed with Teflon tape (if applicable). External thread shall be protected with PVC sleeve.
- All the equipment shall be protected for entire period of dispatch, storage and erection against corrosion, incidental damage due to vermin, sunlight, rain, high temperature, humid atmosphere, rough handling in transit and storage. All MS parts which are not painted shall be provided with coating of grease.
- Clay Desiccant or such other moisture absorbing material in small cotton bags shall be placed and tied at various points on the equipment, wherever necessary.

9.3 Preservation

The equipment's shall be stored under closed/open space in packed condition until installation. The packages containing loose plates and gaskets are to be protected from extreme climatic conditions.

9.4 Photographs


Bidder to take photographs of all parts and sent to engineering deptt along with all inspection reports before final dispatch.

	STANDARD QUALITY PLAN		SPEC. NO : PE-TS-XXX-165-N005	DATE: XX.XX.XXXX
	CUSTOMER :		QP NO.: PE-QP-999-165-N004	DATE: 28.12.2020
	PROJECT:		PO NO.:	DATE:
	ITEM: SIMPLEX/DUPLEX STRAINER		SYSTEM: ACW/DMCW	SECTION:

S. No.	COMPONENT / OPERATION	CHARACTERISTIC CHECKED	CLASS	TYPE OF CHECK	EXTENT OF CHECK		REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C/N			M	C	N			
1	2	3	4	5	6	7	8	9	D	10			11	

2.2	FOR FABRICATED BODY												
	WELDING PROCEDURE SPECIFICATION	CORRECTNESS	MA	SCRUTINY	100%	IS:7307/ASME IX	IS:7307/ASME IX	FORMAT OF ASME	✓	P	V	-	
	PROCEDURE & WELDER QUALIFICATION	WELD SOUNDNESS	MA	PHYSICAL TEST/RT	IS:7307/IS:7301/ASME IX	IS:7310/ASME IX	IS:7310/ASME IX	FORMAT OF ASME	✓	P	V	-	
	WELD FIT - UPS	DIMENSION, ALIGNMENT, ORIENTATION	MA	MEASUREM ENT. VISUAL	100%	WPS, APPROVED DRGS	WPS, APPROVED DRGS	IR	✓	P	V	-	
	WELDING PROCEDURE SPECIFICATION	CORRECTNESS	CR	SCRUTINY	100%	ASME SEC IX	ASME SEC IX	OW 482 OF ASME SEC IX	✓	P	W/V	-	
	WELDING PROCEDURE QUALIFICATION	WELD SOUNDNESS	CR	PHYS. TEST	100%	ASME SEC IX	ASME SEC IX	OW 483 OF ASME SEC IX	✓	P	W/V	-	NOTE 1
WELDER PERFORMANCE QUALIFICATION	WELD SOUNDNESS	CR	RADIOGRA PHY	100%	ASME SEC IX	ASME SEC IX	OW 484 OF ASME SEC IX	✓	P	V	-		


BHEL				BIDDER / SUPPLIER				FOR CUSTOMER REVIEW & APPROVAL			
ENGINEERING		QUALITY		SIGN & DATE		SIGN & DATE		SIGN & DATE		SIGN & DATE	
Prepared by:	Sign & Date	Name	Checked by:	Sign & Date	Name	Reviewed by:	Sign & Date	Name	Seal	Approved by:	Seal
NISHANT SHERKAR		P. AGARWAL/ N. SHEKHAR	Ashish Panigrahi		ASHISH PANIGRAHI						
Vishal Kumar Yadav		VISHAL KR. YADAV	RITESH KUMAR JAISWAL		RK JAISWAL						

	STANDARD QUALITY PLAN		SPEC. NO : PE-TS-XXX-165-N005	DATE: XX.XX.XXXX
	CUSTOMER :		QP NO.: PE-QP-999-165-N004	DATE: 28.12.2020
	PROJECT:		PO NO.:	DATE:
	ITEM: SIMPLEX/DUPLEX STRAINER		SYSTEM: ACW/DMCW	SECTION:

S. No.	COMPONENT / OPERATION	CHARACTERISTIC CHECKED	CLASS	TYPE OF CHECK	EXTENT OF CHECK		REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORD			AGENCY			REMARKS
					M	C/N			M	C	N	M	C	N	
1	2	3	4	5	6		7	8	9	D	10			11	

	FIT-UP BUTT WELD	ALIGNMENT AND DIMENSIONS	MA	VISUAL	100%		APPD. WPS AND MANUFACTURING DRG.	APPD. WPS AND MANUFACTURING DRG.	MFR. LOG BOOK	✓	P	V	-	
	FIT-UP OF SHELL FLANGE AND NOZZLE ASSEMBLY TO SHELL	ORIENTATION, ALIGNMENT AND DIMENSION	MA	VISUAL	100%		MFG. DRG	MFG. DRG	MFR LOG BOOK	✓	P	V	-	
WELD QUALITY (ALL WELDMENTS INCLUDING SCREEN ASSEMBLY)														
	ROOT RUN	SURFACE DEFECTS	MA	DPT	100%		ASME SEC. VIII DIV. I	ASME SEC. VIII DIV. I	IR	✓	P	V	-	
	COMPLETED BUTT WELDS	1) SURFACE DEFECTS	MA	DPT	100%	100%	ASME SEC. VIII DIV. I	ASME SEC VIII DIV. I	IR	✓	P	V	-	
		2) INTERNAL DEFECTS	CR	RADIOGRAPHY TEST	10%		ASME SEC. VIII DIV. I	ASME SEC VIII DIV. I	RADIOGRAPHS/IR	✓	P	W/V	-	*RADIOGRAPHS TO BE REVIEWED BY BHEL


BHEL				BIDDER/ SUPPLIER				FOR CUSTOMER REVIEW & APPROVAL			
ENGINEERING		QUALITY		SIGN & DATE		SIGN & DATE		SIGN & DATE		SIGN & DATE	
Prepared by:	Prashant NISHANT SHEKHAR	Name	P. AGARWAL/ N. SHEKHAR	Checked by:	Ashish Panigrahi	Sign & Date		Reviewed by:		Sign & Date	
Reviewed by:	Vishal Kumar Yadav	Name	VISHAL KR. YADAV	Checked by:	RITESH KUMAR JAISWAL	Sign & Date		Approved by:		Sign & Date	

	STANDARD QUALITY PLAN		SPEC. NO : PE-TS-XXX-165-N005	DATE: XX.XX.XXXX
	CUSTOMER :		QP NO.: PE-QP-999-165-N004	DATE: 28.12.2020
	PROJECT:		PO NO.:	DATE:
	ITEM: SIMPLEX/DUPLEX STRAINER		SYSTEM: ACW/DMCW	SECTION:

S. No.	COMPONENT / OPERATION	CHARACTERISTIC CHECKED	CLASS	TYPE OF CHECK	EXTENT OF CHECK		REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORD			AGENCY			REMARKS
					M	C/N			M	C	N	M	C	N	
1	2	3	4	5	6	7	8	9	D	10				11	

	COMPLETED FILLET WELDS	SURFACE DEFECTS	MA	DPT	100%	100%	ASME SEC VIII DIV. I	ASME SEC VIII DIV. I	IR	✓	P	W	-	
	WELD QUALITY (FABRICATED MAIN FLANGES & COUNTER FLANGES)	SURFACE DEFECTS OF WELDMENTS	MA	DPT	100%	100%	ASME SEC VIII DIV. I	ASME SEC. VIII DIV I	IR	✓	P	W	-	
		INTERNAL DEFECTS OF WELDMENTS	CR	RADIOGRA PHY TEST	10%		ASME SEC VIII DIV. I	ASME SEC VIII DIV. I	RADIOGRA PHS/IR	✓	P	V	-	*RADIOGRAPHS TO BE VIEWED BY BHEL
		DIMENSIONS	MA	MEAS.	100%	100%	MFG. DRG/ APPD DRG.	MFG. DRG./APPD. DRG	STAGE INSPN. FLOW SHEET	✓	P	W	-	
		STRESS RELIEVING	MA	SR	100%		ASME SEC IX	ASME SEC IX	IR	✓	P	V	-	
2.3	CASING	DIMENSIONS INCLUDING QUALITY	MA	MEAS.	100%		MFG. DRG./APPD DRG.	ASME SEC. VIII DIV I	MFR. LOG BOOK	✓	P	V	-	


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ENGINEERING		QUALITY		SIGN & DATE		SIGN & DATE		SIGN & DATE		SIGN & DATE		SIGN & DATE	
Prepared by:	Prashant NISHANT SHEKHAR Vishal Kumar YADAV	Name	P. AGARWAL/ N. SHEKHAR VISHAL KR. YADAV	Checked by:	Ashish PANIGRAHI RITESH KUMAR JAISWAL	Name	ASHISH PANIGRAHI RK JAISWAL	Reviewed by:		Name		Seal	
Reviewed by:		Reviewed by:		Reviewed by:		Reviewed by:		Approved by:		Approved by:		Seal	

	STANDARD QUALITY PLAN		SPEC. NO : PE-TS-XXX-165-N005	DATE: XX.XX.XXXX
	CUSTOMER :		QP NO.: PE-QP-999-165-N004	DATE: 28.12.2020
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S. No.	COMPONENT / OPERATION	CHARACTERISTIC CHECKED	CLASS	TYPE OF CHECK	EXTENT OF CHECK		REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORD			AGENCY			REMARKS
					M	C/N			M	C	N	M	C	N	
1	2	3	4	5	6		7	8	9	D	10			11	

3	ASSEMBLY OF INTERNAL FITTINGS CARTRIDGE REINFORCEMENT	ORIENTATION, LOCATION OF TAPPING POINTS & FIXING OF INTERNALS	MA	VISUAL AND MEASUREMENT	100%		APPROVED DRAWING	APPROVED DRAWING	IR	✓	P	V	-	
4	FINAL ASSEMBLY													
4.1	FINAL INSPECTION	COMPLETENESS, CLEANLINESS, DIMENSIONS	MA	VISUAL AND MEASUREMENT	100%	100%	APPROVED DRAWING	APPROVED DRAWING	IR	✓	P	W	-	
		LEAK TIGHTNESS	CR	HYDRO TEST AT 1.5 DESIGN PRESSURE FOR 30 MINS.	100%	100%	TECHNICAL SPEC.	TECHNICAL SPEC.	IR	✓	P	W	-	
		3)PICKLING & PASSIVATION	MA	VISUAL	100%		MFR STD PROCEDURE	APPD. PROCEDURE	TC	✓	P	V	-	


BHEL				BIDDER/ SUPPLIER				FOR CUSTOMER REVIEW & APPROVAL					
ENGINEERING		QUALITY		Sign & Date		Sign & Date		Doc No:		Sign & Date		Seal	
Prepared by:	Prashant NISHANT	Name	P. AGARWAL/	Checked by:	Ashish Panigrahi	Name	ASHISH PANIGRAHI	Reviewed by:	Ritesh Kumar	Name	RK JAISWAL	Seal	
Reviewed by:	Vishal Kumar	Name	VISHAL KR. YADAV	Reviewed by:	Ritesh Kumar	Name	RK JAISWAL	Approved by:		Name			

	STANDARD QUALITY PLAN		SPEC. NO : PE-TS-XXX-165-N005	DATE: XX.XX.XXXX
	CUSTOMER :		QP NO.: PE-QP-999-165-N004	DATE: 28.12.2020
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	ITEM: SIMPLEX/DUPLEX STRAINER		SYSTEM: ACW/DMCW	SECTION: SHEET 6 of 7

S. No.	COMPONENT / OPERATION	CHARACTERISTIC CHECKED	CLASS	TYPE OF CHECK	EXTENT OF CHECK		REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORD			AGENCY			REMARKS
					M	C/N			M	C	N	M	C	N	
1	2	3	4	5	6		7	8	9	D	10			11	

		4)CAPACITY TEST FOR WET LOAD	MA	PHYSICAL	10%		REFER REMARKS	NO BREAKAGE / DAMAGE	TC	✓	P	W	-	DRY SAND TO FULL VOLUME TO BE PUT IN STRAINER BASKET SHALL BE WETTED BY WATER TILL WATER STARTS SEEPING & LIFTING IT WITH REMOVABLE BAR/HANDLE FOR 5 MINUTES.
4.2	PAINTINGS	1) UNIFORMITY. 2) SHADE	MI	VISUAL	100%		APPD. DRGS/ DATASHEET	APPD. DRGS/ DATASHEET	IR	✓	P	V	-	
4.3	PACKING	PACKING QUALITY	MA	VISUAL	100%		BHEL TECHNICAL SPEC./ PACKING PROCEDURE	BHEL TECHNICAL SPEC./ PACKING PROCEDURE	IR	✓	P	W	-	

BHEL				BIDDER/ SUPPLIER				FOR CUSTOMER REVIEW & APPROVAL					
ENGINEERING		QUALITY		SIGN & DATE		SIGN & DATE		SIGN & DATE		SIGN & DATE		SIGN & DATE	
Prepared by:	Prashant NISHANT SHERKHAR	Name	P. AGARWAL/ N. SHEKHAR	Checked by:	Ashish Panigrahi	Name	ASHISH PANIGRAHI	Reviewed by:	RITESH KUMAR	Name	RK JAISWAL	Seal	
Reviewed by:	Vishal Kumar	Name	VISHAL KR. YADAV	Reviewed by:	RITESH KUMAR JAISWAL	Name	RK JAISWAL	Approved by:		Name		Seal	

	STANDARD QUALITY PLAN		SPEC. NO : PE-TS-XXX-165-N005	DATE: XX.XX.XXXX
	CUSTOMER :		QP NO.: PE-QP-999-165-N004	DATE: 28.12.2020
	PROJECT:		PO NO.:	DATE:
	ITEM: SIMPLEX/DUPLEX STRAINER		SYSTEM: ACW/DMCW	SECTION: SHEET 7 of 7

S. No.	COMPONENT / OPERATION	CHARACTERISTIC CHECKED	CLASS	TYPE OF CHECK	EXTENT OF CHECK		REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORD			REMARKS
					M	C/N			M	C	N	
1	2	3	4	5	6		7	8	9	D	10	11

LEGEND : M-VENDOR/SUB-VENDOR, C- BHEL OR BHEL NOMINATED THIRD PARTY, N-END CUSTOMER OF BHEL.
P- PERFORM, W- WITNESS, V-VERIFICATION.
MTC -Mill Test Certificate, TC-Test Certificate, IR: Inspection Report MA-Major, MI-Minor, CR-Critical.
*Records, identified with "TICK"(V) shall be essentially included by supplier in QA Documentation.

NOTES:


1. Verification by BHEL/BHEL Nominated agency where WPS. WPQ & PQR are approved by BHEL/NTPC or Third party inspection agency (Lloyds, TUV, EIL, Intertek or equivalent).
Witness by BHEL/BHEL Nominated agency where WPS. WPQ & PQR are not approved by BHEL/NTPC or Third party inspection agency (Lloyds, TUV, EIL, Intertek or equivalent)
2. BHEL reserves the right for conducting repeat test, if required.
3. In case of foreign supplier, all test certificates shall be furnished by the supplier, duly witnessed/ verified by supplier's TPI.
4. Project specific Quality Plan to be developed based on customer requirement.
5. Material shall be packed suitably in order to avoid damage during transit and also during storage at site in tropical climate conditions.
6. For export job, packing shall be as per BHEL seaworthy packing specification.
7. Photographs of items duly placed inside the box just before the final packing and Photographs of the box just before dispatch to be sent to BHEL purchase group for review before issuing MDCC.
8. Latest revision/ year of issue of all the standards (IS/ ASME/ IEC etc.) Indicated in QP shall be referred.

BHEL			
ENGINEERING		QUALITY	
Sign & Date	Name	Sign & Date	Name
Prepared by: Prashant NISHANT SHERKAR	P. AGARWAL/ N. SHEKHAR/ VISHAL KR. YADAV	Checked by: Ashish Panigrahi	ASHISH PANIGRAHI
Reviewed by: Vishal Kumar		Reviewed by: RITESH KUMAR JAISWAL	RK JAISWAL

BIDDER/ SUPPLIER			
Sign & Date	Seal	Sign & Date	Seal

FOR CUSTOMER REVIEW & APPROVAL			
Doc No:	Sign & Date	Name	Seal
Reviewed by:			
Approved by:			

1219732/2022/PS-PEM-MSE

	TECHNICAL SPECIFICATION SIMPLEX STRAINER	SPEC. NO.: PE-TS-465-100-N005
		SECTION: III
		SUB-SECTION:
		REV. NO. 0 DATE 21-12-2022
DOCUMENT TO BE SUBMITTED BY BIDDER	SHEET 1 OF 1	

SECTION - III


SCHEDULES

SUB-SECTION IIIA - GUARANTEE SCHEDULE

SUB-SECTION IIIB - COMPLIANCE CERTIFICATE

SUB-SECTION IIIC – DEVIATION SCHEDULE (AS PER NIT FORMAT)

1219732/2022/PS-PEM-MSE

	TECHNICAL SPECIFICATION SIMPLEX STRAINER SCHEDULE OF PERFORMANCE GUARANTEES	SPEC. NO.: PE-TS-465-100-N001
		SECTION: III
		SUB-SECTION:
		REV. NO. 0 DATE 21-12-2022
		SHEET 1 OF 1

S.NO.	DESCRIPTION	UNIT	VALUE
Pressure drop across the Strainer (i.e. between inlet & outlet nozzle) under clean condition and Normal flow condition in MWC			
1.	Type-1 (800 NB Basket strainer)	MWC	
2.	Type-2 (800 NB Basket strainer)	MWC	

1219732/2022/PS-PEM-MSE

	TITLE:	SPEC. NO.: PE-TS-465-100-N001
	TECHNICAL SPECIFICATION SIMPLEX STRAINER	SECTION: III
		SUB-SECTION:
	COMPLIANCE CERTIFICATE	REV. NO. 0 DATE 21-12-2022
		SHEET 1 OF 1

The bidder shall confirm compliance with following by signing/ stamping this compliance certificate and furnish same with the offer.

- a) The scope of supply, technical details, construction features, design parameters etc. shall be as per technical specification & there are no exclusions/ deviations with regard to same.
- b) QP/ test procedures shall be submitted in the event of order based on the guidelines given in the specification & QP enclosed therein.
- c) QP will be subject to BHEL/Customer approval in the event of order & customer hold points for inspection/ testing shall be marked in the QP at the contract stage. Inspection/ testing shall be witnessed as per same apart from review of various test certificates/ Inspection records etc.
- d) All drawings/data – sheets etc. to be submitted during contract shall be subject to BHEL/ Customer approval.
- e) There are no other deviations with respect to specification other than those furnished in the 'Schedule of Deviations'.
- f) The offered materials should be either equivalent or superior to those specified. Also for components where material is not specified it shall be suitable for intended duty. All materials shall be subject to approval in the event of order.
- g) The commissioning spares (if any) are supplied on 'As Required Basis' & prices for same included in the base price (If bidders reply to this is "No commissioning spares are required" and if some spares are actually required during commissioning same shall be supplied by bidder without any cost to BHEL).
- h) All sub vendors shall be as per BHEL/ Customer approved list.
- i) Any special tools & tackles, if required, shall be in bidder's scope.

Annexure-1

Checklist No. QA.PC.WD011/1-R-1

CHECKLIST FOR EVALUATION OF VENDORS*[to be filled and submitted by the contractor]*

Contractor:		W.O.Number	
Package:			
Item:		BOQ/WD No	

PART 1: VENDOR DETAILS			
Registered Company Name:			
Registered Address:			
Phone:		E-Mail:	
Fax:		Website:	
Details of item/Services proposed to be supplied:			
Number of years in business:			
Employee Strength: (Please attach the Organization Chart of the Company)			
Key persons to be contacted:			
Top management:			
Quality Assurance:			
Marketing:			
Does the vendor have several plants/branches?			Yes/No
If Yes, please provide details:			

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Company Name:	Location:	Field of Activity:

PART 2: CONTRACTS MANAGEMENT SYSTEM				
Part 2	Contracts Management	Yes	No	Comments
2.1	Do you have a procedure on Contract review processes?			
	<ul style="list-style-type: none"> Are interface mechanisms (point of contacts for each discipline) between contractor and vendor are clear? Are the QA requirements clearly understood? Whether NPCIL jobs executed earlier? 			
2.2	Recognition details if any (code stamps like U1, U2 or certification like ISO etc. verify the records)			
2.3	Is the Company a Limited Liability, Partnership, Sole Trader, Public ltd., Other? Please specify:			
2.4	What was the company's turnover for last 3 years?			
	What is the combined value of orders received over the last 3 years?			
2.5	Floor space availability for present activities			
	Level of House Keeping			
	General delivery Schedule			
2.6	Major customers preferably Govt/PSU to whom you have supplied similar items in last 3 years(List can be attached)			
	Company Name	Order Details with delivery schedule		Address

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PART 3: QUALITY MANAGEMENT SYSTEM				
Part 3	Quality Management System	Yes	No	Comments
3.0	Do you have valid ISO: 9001 certification?			Enclose copy
3.1	Do you have a Quality Manual?			
3.2	Do you have an internal and external audit programme in place?			
3.3	Do you have a staff training programme in place?			
3.4	Purchasing Process: <ul style="list-style-type: none"> Do you have a controlled list of approved suppliers? Are your suppliers assessed and monitored? Are order quality requirements clearly defined? 			
3.5	Inspection Process: <ul style="list-style-type: none"> Are there documented procedures for the inspection and testing of items? Are there documented procedures for inward, in-process and final inspection? Are incoming items and raw material inspected upon receipt? Is acceptance/rejection criteria defined? Are rejected items identified and segregated? Are process cards used for monitoring product inspection and test activities at each stage? Are QA stamps/stickers used and controlled? 			
3.6	Are QA records pertaining to item maintained?			
3.7	Are monitoring and measuring devices controlled, calibrated and records available?			
3.8	Records of NDE qualification of QC personnel available?			
3.9	Do you have full/partial identification and traceability of item? Please specify: [full traceability required for QA1,QA2 and QA3 category items]			

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3.10	Product Handling Process:			
	<ul style="list-style-type: none"> Do you have a procedure on handling and storage of items? Are shelf life items controlled and monitored? 			
3.11	Do you have a procedure for controlling customer property?			
3.12	Do you have a procedure to confirm customer documents are of latest revision before being issued for use?			
3.13	Do you have a procedure for controlling deviations to customer specification?			
3.14	Control of records (process cards, test results, etc.). How long do you retain quality records?			
3.15	Is non-conforming material clearly identified?			
3.16	Is there a documented NC control procedure?			
3.17	Do you have a documented customer complaint procedure?			
3.18	Are there documented procedures for corrective actions?			
3.19	Would you permit access to NPCIL personnel for QS/audit of your Quality Management System and processes as per approved QPs, without additional charges?			

Specific to item to be supplied	
Understanding of scope of supply	
Availability and understanding of related standards.	
Capacity of the vendor to inspect/test the item	
Understanding of special Examination/testing (e.g Ultrasonic Examination/Helium Leak testing etc. as applicable)	

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Availability of special facilities required for the item	
Availability of trained personnel specific to item to be supplied	
Availability of inspection/test facilities	
Availability of QP and procedures	
Independence of Head of QA/QC group	
Availability of test reports for the item/items for the past 1 year	

Submitted by (Vendor)	Signature,(with name, designation and date)
Assessed and forwarded to NPCIL (Contractor: Head QA & PE)	Signature,(with name, designation and date)

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