

|                    |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                       |
|--------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| Domain :           | bhel.abcpurchase.com |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                       |
| Parent department: | BHEL Trichy          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                       |
| Unit name          | :                    | BHEL Trichy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                       |
| Purchase group     | :                    | FB Sub-Dely(Mech).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | RFQ/NIT/Enquiry Officer : RAMALINGAMP |
| Event ID           | :                    | 42832                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | RFQ/NIT/Enquiry no. : 1802000250      |
| Enquiry Date       | :                    | 21/04/2020 05:30:00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                       |
| Tender Description | :                    | LDO Pump & Spares                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                       |
| Terms & Conditions | :                    | <p>01. The tender will be operated on two part bid basis and you are requested to submit Techno-commercial details and price details seperately thro EPS.</p> <p>02. Pre-Qualification criteria for this enquiry is furnished in Annexure-A. Potential suppliers meeting the PQR has to submit the supporting documents for same in the technical bid for evaluation.</p> <p>03. The supply shall be as per our specifications<br/>Pump Specification: TOS:1800/1728/REV 01.Your offer shall accompany with details of Data Sheet &amp; Drawings,<br/>unit weight and other documents mentioned Cl.11 of Spec TOS:1800. Your pointwise confirmation to our specification is to be submitted for evaluation.<br/>Incomplete offer may lead to rejection, Please be noted.</p> <p>04. The items covered in the enquiry are required for Panki(Cust No:1728)Project.</p> <p>05. Spares Items SL No: 20 - 130 shall be suitable for main item LFO Pump and set details for same shall be indicated in the technical bid. Evaluation &amp; ordering will be on single package basis.</p> <p>06. The item sl no 10 to 130 are to be despatched to BHEL Trichy Stores on FOR/Destination basis after BHEL/TPI Inspection and our specific clearance. Vendors are requested to quote the rates accordingly.</p> <p>07. Delivery term:<br/>A. For Indigenous Suppliers: The quote shall be as per sl no 06. Packing &amp; forwarding, Freight to your account. Transit Insurance is on BHEL scope.<br/>Ex-Works Contracts will not be entertained.<br/>B. For Import Suppliers: Bidders should submit their offer on CFR Chennai Seaport basis with freight break up details. Pls. indicate the freight breakup details. Transit insurance is on BHEL scope. BHEL reserves the right to order on FOB or CFR basis.</p> <p>08.Kindly refer Commercial terms and conditions which is to be filled in Part -C Techno-commercial offer for evaluation.</p> <p>09. Please take note of loading factors in Part-C (Enquiry commercial terms). The same will be applicable for evaluation of</p> |                                       |

net cost to BHEL basis.

10. Please take note of for Special provision clause for Micro and Small Enterprises and required documents are to be submitted for availing the same.

11. For this procurement, public procurement clause no 13 of Enquiry terms (Preference to make in India), order 2017 dated 15.06.2017 and 28.05.2018 and subsequent orders issued by the respective Nodal Ministry shall be applicable as per the Commercial terms and tender terms.

12. Tender terms and conditions to be signed and submitted along with Techno-commercial offer for evaluation.

13. End customer approval is applicable for this tender. Vendor's price bid will be considered only if the offer is technically suitable and vendor gets approved by our customer.

14. Painting as per respective Painting schedule to be followed.

15. A Performance Bank Guarantee of 10% Order Value covering the Guarantee period is applicable. PBG shall be in BHEL Format enclosed with the Enquiry.

|                                   |   |                     |                                                  |                                     |
|-----------------------------------|---|---------------------|--------------------------------------------------|-------------------------------------|
| Product / service / work keywords | : | pump,               |                                                  |                                     |
| No. of Bid Parts                  | : | Multiple            | Envelope                                         | : Techno-commercial bid , Price bid |
| Type of contract                  | : | Goods               | Project duration / delivery or completion period | : 12 weeks                          |
| Download document                 | : | Before login        | RFQ floated under the policy                     | : PP-PURCHASE POLICY                |
| Estimated Category                | : | G                   | Delivery/Location At                             | :                                   |
| Delivery Date                     | : | 26/07/2020 05:30:00 | Inspection by Agency                             | : BHEL /TPI/Supplier                |
| Inspection Location               | : |                     | Min. bid required                                | : 1                                 |

## Bid submission configuration

|                    |   |                     |                |               |
|--------------------|---|---------------------|----------------|---------------|
| Bid evaluation     | : | Grand Total Package | Bidding access | : Open Tender |
| Base currency      | : | INR                 | Bidding type   | : ICB/Global  |
| Bidding currencies | : | YEN,EURO,USD,INR    |                |               |

## Key configuration

|                 |   |             |
|-----------------|---|-------------|
| Pre-bid meeting | : | Don't allow |
|-----------------|---|-------------|

## Dates configuration

|                                 |   |                     |                               |   |                     |
|---------------------------------|---|---------------------|-------------------------------|---|---------------------|
| Document downloading start date | : | 24/04/2020 11:45:00 | Document downloading end date | : | 02/06/2020 14:00:00 |
| Bid submission start date       | : | 24/04/2020 11:45:00 | Bid submission end date       | : | 02/06/2020 14:00:00 |

|                                                    |                                          |          |                     |
|----------------------------------------------------|------------------------------------------|----------|---------------------|
| Bid opening date : 02/06/2020 14:05:00             |                                          |          |                     |
| <b>Document / EMD / Security fee detail</b>        |                                          |          |                     |
| Document fees : Not required EMD : Not required    |                                          |          |                     |
| <b>Bidding forms</b>                               |                                          |          |                     |
| PART - II - PRICE BID                              |                                          |          |                     |
| Price Bid 1                                        |                                          |          |                     |
|                                                    |                                          |          |                     |
| MATERIAL CODE                                      | MATERIAL NAME                            | QUANTITY | UNIT OF MEASUREMENT |
| A172814201002001                                   | LFO SCREW PUMP                           | 2.00     | NO                  |
| L1728S4299701001                                   | COMPLETE PUMP ASSEMBLY                   | 1.00     | NO                  |
| L1728S4299701002                                   | COMPLETE CARTRIDGE ASSEMBLY              | 2.00     | SET                 |
| L1728S4299701003                                   | BEARINGS FOR LFO PUMP                    | 2.00     | SET                 |
| L1728S4299701004                                   | MECHANICAL SEALS                         | 2.00     | SET                 |
| L1728S4299701005                                   | SET OF O-RING & SEALS                    | 2.00     | SET                 |
| L1728S4299701006                                   | SET OF ALL TYPE OF BUSHES & SLEEVES      | 2.00     | SET                 |
| L1728S4299701007                                   | SET OF GASKETS                           | 2.00     | SET                 |
| L1728S4299701008                                   | OIL PUMP RELEIEF VALVE COMPLETE WITH ACC | 1.00     | NO                  |
| L1728S4299701009                                   | VALVE SPINDLE&DISC FOR OIL PUMP RLF VLV  | 1.00     | NO                  |
| L1728S4299701010                                   | SET OF GASKET FOR OIL PUMP RELIEF VALVE  | 2.00     | SET                 |
| L1728S4299701011                                   | SEALING RING FOR OIL PUMP RELIEF VALVE   | 1.00     | SET                 |
| L1728S4299701012                                   | SPRINGS FOR OIL PUMP RELIEF VALVE        | 1.00     | SET                 |
| Price Bid 2                                        |                                          |          |                     |
|                                                    |                                          |          |                     |
| ITEM NAME                                          |                                          |          | SL NO               |
| Pl. refer Table for item details                   |                                          |          | 1                   |
| <b>Corrigendum details</b>                         |                                          |          |                     |
| <b>Corrigendum / Amendment No :4 (Published)</b>   |                                          |          |                     |
| Types of corrigendum : 1) Basic 2) Dates 3) Others |                                          |          |                     |
| Corrigendum Text :                                 |                                          |          |                     |

## Due Date Extension

| Field name         | Old value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | New value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Terms & Conditions | <p>01. The tender will be operated on two part bid basis and you are requested to submit Techno-commercial details and price details seperately thro EPS.</p> <p>02. Pre-Qualification criteria for this enquiry is furnished in Annexure-A. Potential suppliers meeting the PQR has to submit the supporting documents for same in the technical bid for evaluation.</p> <p>03. The supply shall be as per our specifications</p> <p>Pump Specification: TOS:1800/1728/REV 00.Your offer shall accompany with details of Data Sheet &amp; Drawings, unit weight and other documents mentioned Cl.11 of Spec TOS:1800. Your pointwise confirmation to our specification is to be submitted for evaluation.</p> <p>Incomplete offer may lead to rejection, Please be noted.</p> <p>04. The items covered in the enquiry are required for Panki(Cust No:1728)Project.</p> <p>05. Spares Items SL No: 20 - 130 shall be suitable for main item LFO</p> <p>Pump and set details for same shall be indicated in the technical bid.</p> <p>Evaluation &amp; ordering will be on single package basis.</p> <p>06. The item sl no 10 to 130 are to be</p> | <p>01. The tender will be operated on two part bid basis and you are requested to submit Techno-commercial details and price details seperately thro EPS.</p> <p>02. Pre-Qualification criteria for this enquiry is furnished in Annexure-A. Potential suppliers meeting the PQR has to submit the supporting documents for same in the technical bid for evaluation.</p> <p>03. The supply shall be as per our specifications</p> <p>Pump Specification: TOS:1800/1728/REV 01.Your offer shall accompany with details of Data Sheet &amp; Drawings, unit weight and other documents mentioned Cl.11 of Spec TOS:1800. Your pointwise confirmation to our specification is to be submitted for evaluation.</p> <p>Incomplete offer may lead to rejection, Please be noted.</p> <p>04. The items covered in the enquiry are required for Panki(Cust No:1728)Project.</p> <p>05. Spares Items SL No: 20 - 130 shall be suitable for main item LFO</p> <p>Pump and set details for same shall be indicated in the technical bid.</p> <p>Evaluation &amp; ordering will be on single package basis.</p> <p>06. The item sl no 10 to 130 are to be</p> |

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on FOR/Destination basis after BHEL/TPI  
Inspection and our specific

clearance. Vendors are requested to quote  
the rates accordingly.

07. Delivery term:

A. For Indigenous Suppliers: The quote shall  
be as per sl no 06. Packing

& forwarding, Freight to your account.  
Transit Insurance is on

BHEL scope.

Ex-Works Contracts will not be entertained.

B. For Import Suppliers: Bidders should  
submit their offer on CFR

Chennai Seaport basis with freight break up  
details. Pls. indicate the

freight breakup details. Transit insurance is  
on BHEL scope. BHEL

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basis.

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be filled in Part -C Techno-commercial offer  
for evaluation.

09. Please take note of loading factors in  
Part-C (Enquiry commercial

terms). The same will be applicable for  
evaluation of

net cost to BHEL basis.

10. Please take note of for Special provision  
clause for Micro and

Small Enterprises and required documents  
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11. For this procurement, public  
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|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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| Document downloading end date                    | 26/05/2020 14:00:00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 02/06/2020 14:00:00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Bid submission end date                          | 26/05/2020 14:00:00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 02/06/2020 14:00:00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Bid opening date                                 | 26/05/2020 14:05:00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 02/06/2020 14:05:00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Specifications.pdf                               | Approved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Cancel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TOS 1800 1728Rev 01.pdf                          | Pending                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Reject                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TOS1800 1728Rev 01.pdf                           | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Approved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Corrigendum / Amendment No :3 (Published)</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Types of corrigendum :                           | 1) Dates                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Corrigendum Text :                               | Due Date Extension                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Field name                                       | Old value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | New value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Document downloading end date                    | 19/05/2020 14:00:00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 26/05/2020 14:00:00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        |                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------|
| Bid submission end date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 19/05/2020 14:00:00    | 26/05/2020 14:00:00 |
| Bid opening date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 19/05/2020 14:05:00    | 26/05/2020 14:05:00 |
| <b>Corrigendum / Amendment No :2 (Published)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                        |                     |
| Types of corrigendum :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1) Dates               |                     |
| Corrigendum Text :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2nd Due Date Extension |                     |
| Field name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Old value              | New value           |
| Document downloading end date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 12/05/2020 14:00:00    | 19/05/2020 14:00:00 |
| Bid submission end date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 12/05/2020 14:00:00    | 19/05/2020 14:00:00 |
| Bid opening date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 12/05/2020 14:05:00    | 19/05/2020 14:05:00 |
| <b>Corrigendum / Amendment No :1 (Published)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                        |                     |
| Types of corrigendum :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1) Dates               |                     |
| Corrigendum Text :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Due Date Extension     |                     |
| Field name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Old value              | New value           |
| Document downloading end date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 05/05/2020 14:00:00    | 12/05/2020 14:00:00 |
| Bid submission end date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 05/05/2020 14:00:00    | 12/05/2020 14:00:00 |
| Bid opening date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 05/05/2020 14:05:00    | 12/05/2020 14:05:00 |
| <b>Information for Online Participation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                        |                     |
| <p>Bidder who wish to participate in this tender needs to procure Digital Certificate as per Information Technology Act-2000 using that they can digitaly sign their electronic bids. Bidders can procure the same from any or the CCA approved certifying agencies, or they may contact e-Procurement Technologies Ltd. at below mentioned address and they will assist them in procuring the same. Bidders who already have a valid digital Certificate need not to procure the same. In case bidders need any clarification regarding online participation, they can contact,</p> <p><b><u>e-Procurement Technologies Ltd.</u></b><br/> <b>Corporate Office:</b><br/> Address : A-201/208, Wall Street - 2, Opp. Orient Club,<br/> Nr. Gujarat College, Ellis Bridge,<br/> Ahmedabad - 380006, Gujarat(INDIA)</p> |                        |                     |
| <b>Digital Certificate Contacts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                        |                     |
| Contact Person : Mr. Himalay Vaishnav<br>Cell : +91-9099090830<br>Phone Nos. : +91-9099090830<br>Fax No :<br>e-Mail : info@abcProcure.com                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |                     |

## Support Team Contacts

Contact Person : BHEL Support Team Ahmedabad  
Cell : +91-9265562819  
Phone Nos. : +91-79-68136872/823/850/871  
Fax No :  
e-Mail : Bhel.Support@abcProcure.com

Bidder who wish to participate in e-Tender need to fill data in predefined forms of Price bid available in respective tender only. After filling data in predefined forms bidders need to click on final submission link to submit their encrypted bid. Bidder need to submit Document Fees, EMD & Reference Documents in hard copy if such instruction are given by tendering authority. As Per the new Inter-operability guidelines released by Controller of Certifying Authorities(CCA), the Secured Socket Layer(SSL) certificate for a e-procurement application is generated on a new algorithm, SHA2.

Also, the Digital Certificates that will be applicable for these platforms have to be SHA2 algorithm complaint. For the same, the users have to ensure that they have Windows XP(SP3)/Windows Vista/Windows7 installed in their respective PC/Laptop. In case of Windows XP Service pack - 3, if you get any issue you can install the SSL patch, which is available at our download section of our e-Tender/e-Auction Portal and also at our corporate website [www.abcprocure.com](http://www.abcprocure.com) just below the label of "Knowledge section".

## Fraud Prevention

Bidder along with its associate/collaborators/sub-contractors/sub-vendors/consultants/service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.

## Preference to Make in India

For this procurement, Public Procurement (Preference to Make in India), order 2017 dated 15.06.2017 & 28.05.2018 and subsequent orders issued by the respective Nodal ministry shall be applicable even if issued after issue of this NIT but before finalization of contract/PO/WO against this NIT. In the event of any Nodal Ministry prescribing higher or lower percentage of purchase preference and/ or local content in respect of this procurement, same shall be applicable. Default margin of purchase preference shall be 20% to local suppliers with default minimum local content of 50%.





| PREPARED BY<br>Preetam Kumar S |                                                   | CHECKED BY:<br>Shankar Naik | APPROVED BY :<br>Arul Prabhu | DATE:<br>13.04.2017 |
|--------------------------------|---------------------------------------------------|-----------------------------|------------------------------|---------------------|
| REV No.                        | DETAILS                                           | REVISED BY                  | APPROVED BY                  | DATE                |
| 01                             | Special contract requirements (Sec. 5.0) updated. | Kare Ashok<br>Kumar         | Shankar Naik V               | 26.05.2020          |



## **Contents**

### **Scope**

#### **Standard Section**

- 1.0 General conditions
- 2.0 Technical requirements
- 3.0 Quality requirements

#### **Project specific section**

- 4.0 Project requirements
- 5.0 Special contract requirements



### **SCOPE OF SPECIFICATION**

The specification is bifurcated in two broad sections, one is the “standard section” another is “project specific section”.

Project specific section is the variable part of the specification. It contains all the requirements of a specific project over and above the requirements of the standard section.



**1.0 GENERAL:**

- 1.1 Sections 1.0, 2.0 and 3.0 are standard and Section 4.0 alone will be furnished along with enquiry to the vendors for their acceptance.
- 1.2 In case of any difference between the details given in Section 5.0 and other sections, Section 5.0 shall be considered as final and binding and the vendors shall meet the requirements for this project.
- 1.3 Two years recommended Spares list (vide Section 4.0) with price break up, if required, shall be enclosed.
- 1.4 If any special or non-standard tools are required for installation, operation or maintenance, the same shall be supplied along with the equipment.
- 1.5 Materials shall be dispatched on "Door Delivery with or without Consignee Copy attached basis to avoid demurrage at transporter's godown".
- 1.6 Since the vendors works alone is approved by BHEL, it is agreed the vendor will manufacture this item in their own works only and will not off-load the jobs to any other suppliers without the written approval by BHEL. All components shall be packed in such a way that they should not get damaged during transport.

**2.0 STANDARD TECHNICAL SPECIFICATIONS**

**2.1 SCOPE :**

To design, manufacture, test & supply of screw pump as per the specification.

This specification covers design, manufacture, inspection, testing, marking, identification, packing and supply of FUEL OIL SCREW PUMPS as per the specification that follows. Technical parameters for equipment design are furnished in Section-1 to 4. For quantity, scope of supply and special requirements refer Section-4&5.

This is a general specification dealing with technical requirements as specified under scope. Contract requirements and special requirements (if any) for a particular project are specified in Section-5.

The extent of supply stated herein is not necessarily exhaustive and shall not relieve the vendor from his responsibility to provide goods and services necessary to satisfy the performance criteria and guarantees specified.



## **2.2 APPLICABLE CODES & STANDARDS:** VDMA 24284 performance testing.

The equipment shall be designed to meet the governing standards as applicable and also meet with the local standards where the equipment is installed. In case of any information not specified in this technical delivery conditions these standards will be binding.

## **2.3 TECHNICAL REQUIREMENTS:**

- 2.3.1 The fuel oil pump procured for LFO application shall be suitable for LFO/LDO/HSD and other light fuel oils.
- 2.3.2 For performance data & others refer to project specific technical specification.
- 2.3.3 Triple screw, hydraulically balanced to eliminate end thrust; pulsation free discharge & low noise level.
- 2.3.4 Cartridge type elements for ease of maintenance & replacement.
- 2.3.5 All materials & construction shall be suitable for specified pumping temperature & to meet all the performance needs.
- 2.3.6 Horizontal execution - axial suction nozzle through the end cover & top vertical discharge nozzle - flanged to ANSI 150 lbs& 300 lbs respectively.
- 2.3.7 LFO pump shall be without steam jacketing.
- 2.3.8 Screws of nitride & hardened steel; inner casing & bushes of aluminum alloy for LFO; welded steel / cast steel body.
- 2.3.9 Two horizontal 50mm long 1 inch SCH 40 pipe stubs with taper plugs, one on suction side and another on the discharge side of the body, for pressure gauges.
- 2.3.10 Single acting mechanical seal, with Viton O-ring. Double acting mechanical seal preferred.
- 2.3.11 Externally mounted adequately sized bearing with grease nipple for lubrication.
- 2.3.12 Built - in safety valve - spring adjustable over a range of  $\pm 50\%$  of the specified discharge pressure - over pressure within 10% of set value for relieving pump's maximum capacity - mounted on left side of the pump body as seen from motor end.
- 2.3.13 Include adequately sized Pin Type Flexible coupling of single piece half of the coupling shall be supplied mounted onto the pump shaft; the other single piece half supplied loose in rough bore condition.
- 2.3.14 The pump body shall have enough clearance to allow free removal of selected coupling bolts.
- 2.3.15 All the gaskets used in the pump and accessories shall be of non-asbestos type.



**2.4 DRIVE MOTOR AND BASE FRAME ARE BY BHEL.**

**3.0 MARKING, PAINTING, PACKING, TESTING CERTIFICATES, AND INSPECTION,**

**3.1 MARKING:**

- 3.1.1 Stainless steel name plates with following boldly engraved shall be firmly fixed to the body: Maker's name & production serial number; Full pump designation; Flow, viscosity, minimum allowable suction pressure, discharge pressure and speed corresponding to the maximum operating viscosity; body rating and safety valve set pressure range.
- 3.1.2 Each spare shall be individually tagged with part name, makers name & spare code and BHEL code.

**3.2 PAINTING**

- 3.2.1 All interior surfaces applied with rust preventive oil, following hydraulic test, drying or performance test.
- 3.2.2 All exposed surfaces degreased, dressed and epoxy coated.
- 3.2.3 For contract specific painting shades, vendor to refer & follow the applicable painting schedule.

**3.3 PACKING**

- 3.3.1 All opening shall be firmly capped against ingress of water or dust.
- 3.3.2 Shall be seaworthy packed in wooden boxes with water proof under cover for export jobs and road worthy packing for inland jobs.
- 3.3.3 Liberal packing material & struts shall be used to arrest rolling & to protect from transit damages.

**3.4 TEST CERTIFICATES:**

Following Works TC's shall be submitted along with the supplies; Refer to column on special contract requirements for any Third Party witnessing requirements.

- 3.6.1 Body hydraulic test done at 1.5 times the relief Valve Set pressure.
- 3.6.2 Performance test on each of pump and spare cartridge assy. on standard oil over the entire operating range, with the curves extrapolated for the specified oil.
- 3.6.3 Material certificate for body, inner casing & Screws.
- 3.6.4 As inspected data on hardness and clearances between screws and inner casing.
- 3.6.5 Dimensional certificate for overall dimensions and all terminal connections.
- 3.6.6 The following tests should be carried out.
  - i) Over all dimension & orientation
  - ii) Mechanical run/ performance test as per VDMA 24284
  - iii) Leak check



- iv) Noise level
- v) Vibration level
- vi) Relief valve test (as per 3.4.7)

3.6.7 Pump relief valve test for set pressure and over pressure to be performed. Relief valve shall start opening at set pressure and completely relieve the pumps max. capacity by the time discharge pressure reaches over pressure. There shall not any pressure rise beyond over pressure for minimum test duration of 7 minutes at accumulating pressure of temperature reaching 90°C whichever is earlier.

3.6.8 Also refer applicable quality plan

**3.5 INWARD INSPECTION:**

- 3.6.1 Verify the works test certificates, marking particulars and the scope of supply.
- 3.6.2 Watch for damages.
- 3.6.3 Perform random check on all mounting dimensions and terminal connections and coupling details.

**3.6 OPERATING & INSTRUCTIONAL MANUALS:**

- 3.6.1 Minimum of 3 sets comprising of documents listed under 3.7 & 3.8 below, shall be furnished within 1 month from the date of purchase order.
- 3.6.2 Soft copy of operation manual shall be furnished.

**3.7 DOCUMENTS TO BE SUBMITTED**

- 3.7.1 Compliance to the specification (specification number, as applicable, shall be confirmed).
- 3.7.2 Point wise compliance or deviations to the project specific requirements of section-4 of the specification.
- 3.7.3 Overall dimensional assembly drawing for the selected model.
- 3.7.4 Cartridge assembly and cross sectional drawing Mechanical seal with BOM.
- 3.7.5 Cross sectional drawing with parts and materials identified with pump assembly details.
- 3.7.6 Pressure. Vs Flow and Pressure Vs BHP curves at 2, 15.7, 20 and 25 cst for LFO/LDO/HSD oil pumps.
- 3.7.7 Speed and Torque calculations for the selected model.
- 3.7.8 Starting torque Vs Speed curves at each of the above viscosities for the selected model.
- 3.7.9 Full pump designation with description of the designation codes for the selected model.
- 3.7.10 Pump efficiency calculations for the selected model.



- 3.7.11 Coupling sizing and selection calculations for the selected model.
- 3.7.12 Coupling dimensional drawings for the selected model.
- 3.7.13 All documents referred under 'Reference Documents' part-of the project specific technical specification. (Over all dimensional drawing; performance curves; catalogues, drawings and O&M manuals of the pump cartridge and all mountings) for the selected model.
- 3.7.14 Lubricant grade , quantity per fill and frequency or filling for the bearings;
- 3.7.15 NPSH requirements of the pump at 2, 15.7,20 & 25 cst for LFO/LDO/HSD oil pumps for the selected model.
- 3.7.16 Relief valve capacity curve as Plotted against set pressure and over pressure for the selected models. Relief valve spring selection criteria shall be furnished by vendor.
- 3.7.17 Spares quotation for 3-year operation with clear description, part number, identification drawings break up price with 6 months validity.
- 3.7.18 Work instructions for painting of pumps.

**3.8 After Placement of Order / Along with the supply.**

Following documents shall be submitted along with the supplies.

- 3.8.1 O&M instruction in soft version
- 3.8.2 Dimensional drawing
- 3.8.3 Cross section drawing with material identification and pump assembly details and Data sheets

**3.9 Guarantee:**

Vendor shall guarantee for the indented performance and trouble free operation of the pump for a period of 24 months from the date of dispatch or 18 months from the date of commissioning, whichever is earlier.





# FUEL SYSTEMS PE (BOILERS )

TOS: 1800/ 1728/REV: 01

Sheet No. 9 of 10

## 4.0 LDO PUMP DATA SHEET

4.0.1 Project Name : PANKI TPS

4.0.3 LDO Pump Material code : A172814201002001

4.0.2 Customer No. : 1728

4.0.4 LDO Pump Model :

| A.PERFORMANCE DATA                      |                                                            |               | F. MECHANICAL SEAL                              |                                                      |
|-----------------------------------------|------------------------------------------------------------|---------------|-------------------------------------------------|------------------------------------------------------|
| 1. OIL GRADE                            | LDO/LFO per IS15770 & HSD per IS1460                       |               | 1.ACTION                                        | SINGLE OR DOUBLE                                     |
| 2. OIL POUR POINT                       | 12-21 °C                                                   |               | 2.MAKE                                          | *                                                    |
| 3. SP.GRAVITY AT 15°C                   | 0.83                                                       |               | 3.MODEL No.& SIZE                               | *                                                    |
| 4.PUMPING TEMP.                         | 40-50 °C                                                   |               | 4.O RING SPRING MATL.                           | *                                                    |
| 5. OIL VISCOSITY min/max                | 2 CST                                                      | 15.7 CST      | 5.ROTARY RING MATL.                             | *                                                    |
| 6.CAPACITY AT min.CST                   | 1140                                                       | LPM @ 2 CST   | 6.STATIONARY RING MATL.                         | *                                                    |
| 7.CAPACITY AT max. CST                  | *                                                          | LPM @ 20 CST  | 7.SUCTION PRESS. MAX.                           | +/- 0.5 Kg/Cm <sup>2</sup> (g)                       |
| 8.SUCTION PRESSURE                      | - 0.5 Kg/Cm <sup>2</sup> (g)                               |               |                                                 |                                                      |
| 9.DELIVERY PRESSURE                     | 25.0 Kg/Cm <sup>2</sup> (g)                                |               | G.SAFETY RELIEF VALVE - INTEGRAL                |                                                      |
| 10.NPSH REQUIRED                        | * <5 METERS WC AT MAX.CST                                  |               | 1.MAKE                                          | *                                                    |
| 11.RPM                                  | 2920                                                       |               | 2.MODEL No.& SIZE                               | *                                                    |
| 12.SENSE OF ROTATION                    | CW AS SEEN FROM MOTOR END                                  |               | 3.CAPACITY                                      | 100% or FULL                                         |
| 13.BHP AT min.CST                       | *                                                          | KW            | 4.SET PRESSURE                                  | 2.5 Kg/Cm <sup>2</sup> (g) above delivery press      |
| 14.BHP AT max. CST                      | *                                                          | KW            | 5.OVER PRESSURE                                 | * Kg/Cm <sup>2</sup> (g)                             |
| 15. PUMP EFFICIENCY (Vol/ Mech/Overall) | *                                                          | % @ MIN. cst. | 6.SPRING ADJUST RANGE                           | * Kg/Cm <sup>2</sup> (g) TO * Kg/Cm <sup>2</sup> (g) |
|                                         |                                                            |               | 7.RELIEF OUTLET                                 | INTERNAL                                             |
|                                         |                                                            |               | 8. RELIEF OUTLET CONN.                          | NOT APPLICABLE                                       |
|                                         |                                                            |               | 9.HANDWHEEL                                     | NOT APPLICABLE                                       |
|                                         |                                                            |               | H.STEAM JACKET                                  | Not Required                                         |
|                                         |                                                            |               | 1.STYLE                                         | End cover or full jacket                             |
|                                         |                                                            |               | 2. PRESSURE DESIGN/TEST                         | * Kg/Cm <sup>2</sup> (g) * Kg/Cm <sup>2</sup> (g)    |
|                                         |                                                            |               | 3.CONNECTION IN / OUT                           | * Inch npt(f) * Inch npt(f)                          |
|                                         |                                                            |               |                                                 |                                                      |
| C.PUMP CONSTRUCTION DETAILS             |                                                            |               | I.DRIVE MOTOR SCOPE (by BHEL)                   |                                                      |
| 1.MOUNTING                              | Horizontal                                                 |               | 1.MAKE OR FRAME SIZE                            | *                                                    |
| 2.PITCH & ROTOR DIA                     | * mm                                                       | * mm          | 2.KW,V,PHASE& HZ                                | * 415V AC, 3PH, 50 Hz                                |
| 3.PUMP GD <sup>2</sup>                  | * Kg.Cm <sup>2</sup>                                       |               | 3.DIMENSIONAL DRG.                              | -                                                    |
| 4.NOZZLES IN                            | * INCH 150LBS #WNRF                                        |               | 4.DATA SHEET REF.                               | -                                                    |
| 5.NOZZLES OUT                           | * INCH 300 LBS #WNRF                                       |               |                                                 |                                                      |
| 6.INLET NOZZLE POSITION                 | Horizontal axial thru end cover                            |               | J.PERFORMANCE GUARANTEE                         |                                                      |
| 7.OUTLET NOZZLE POSIT.                  | Vertical Top                                               |               | 1.PER VDMA 24284 GROUP-II                       |                                                      |
| 8.BODY& COVER MATL.                     | *                                                          |               | 2.EXCESSCAPACITY PERMITTED                      |                                                      |
| 9.INSERT MATL.                          | *                                                          |               |                                                 |                                                      |
| 10.ROTOR SHAFT MATL                     | * Nitrided Steel with Cage Depth 250µm                     |               | K.TEST CERTIFICATES & INSPECTION                |                                                      |
| 11.IDLERS MATL                          | * Nitrided Steel with Cage Depth 250µm                     |               | 1.BODY HYDRO TEST ; *                           |                                                      |
| 12.BEARING BUSH MATL.                   | *                                                          |               | 2.PERFORMANCE TEST ON EACH CATRIDGE: *          |                                                      |
| 13.BASE FRAME MATL                      | BHEL SCOPE                                                 |               | 3.RELIEF VALVE OVER PRESSURE TEST: *            |                                                      |
| 14.BODY DESIGN /TEST PR.                | Inlet * Kg/Cm <sup>2</sup> (g) / * Kg/Cm <sup>2</sup> (g)  |               | L. O & M REFF. DOCUMENTS ( fill compulsorily)   |                                                      |
|                                         | Outlet * Kg/Cm <sup>2</sup> (g) / * Kg/Cm <sup>2</sup> (g) |               | 1.PUMP DESIGNATION SHEET : *                    |                                                      |
|                                         |                                                            |               | 2.PERFORMANCE GRAPHS : AS UNDER SECTION - B     |                                                      |
|                                         |                                                            |               | 3.DIMENSIONAL DRAWINGS : *                      |                                                      |
|                                         |                                                            |               | PUMP - MOTOR ASSY.                              |                                                      |
| D.BEARINGS                              |                                                            |               | PUMP : *                                        | CARTRIDGE:*                                          |
| 1.TYPE AND NUMBER OFF                   | Ball bearing, 1 off                                        |               | RLF. VALVE : *                                  | COUPLING :*                                          |
| 2.POSITION                              | EXTERNAL                                                   |               | 4..SECTIONAL DRGS. WITH SPARES IDENTIFICATION : |                                                      |
| 3.ISO No. & CLEARANCE                   | *                                                          |               | PUMP BODY : *                                   | CARTRIDGE :*                                         |
| 4.LUBRICANT GRADE                       | *                                                          |               | RLF. VALVE :*                                   | SEAL :*                                              |
| 5.QTY. & FILLING FREQ.                  | *                                                          |               | 5. O&M INSTRUCTIONS :                           |                                                      |
|                                         |                                                            |               | PUMP ; *                                        |                                                      |
| E.COUPLING ( PIN - PUSH )               |                                                            |               | COUPLING : *                                    | SEAL :*                                              |
| 1.MAKE                                  | *                                                          |               | 6. PUMP WEIGHT                                  |                                                      |
| 2.MODEL No. & SIZE                      | *                                                          |               |                                                 |                                                      |
| 3.GD <sup>2</sup>                       | * Kg.Cm <sup>2</sup>                                       |               |                                                 |                                                      |
| 4.DOUBLE PIECE SIDE                     | Fitted onto pump shaft in flush                            |               |                                                 |                                                      |
| 5.SINGLE PIECE                          | To fit motor shaft in rough bore condition.                |               |                                                 |                                                      |
|                                         |                                                            |               |                                                 |                                                      |
| NOISE LEVEL                             | Noise < 85 dBA at 1 meter distance                         |               |                                                 |                                                      |
| VIBRATION LEVEL                         | <4.5 mm/sec as per VDI 2056/ISO:10816-1                    |               |                                                 |                                                      |

\*information shall be furnished by the vendor



**5.0 SPECIAL CONTRACT REQUIREMENTS 01**

| SPECIAL CONTRACT REQUIREMENT,IF ANY           |                                                           |                           |
|-----------------------------------------------|-----------------------------------------------------------|---------------------------|
|                                               | <p>1. Bearings offered shall be of antifriction type.</p> | <p>Vendor to confirm.</p> |
| (USE AN ANNEXURE IF THIS SPACE IS INDEQUATE ) |                                                           |                           |