

TENDER NO: SDG3949P15/07



Oil India Limited
(A Govt. of India Enterprise)
P.O. Duliajan – 786602,
Assam

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Tender No. : SDG3949P15/07

Tender Fee : INR 4,500.00 OR USD 100.00

Bid Security : Applicable

Bidding Type : SINGLE STAGE TWO BID SYSTEM

Bid Closing on : As mentioned in the Basic Data of the tender in OIL's e-portal.

Bid Opening on : As mentioned in the Basic Data of the tender in OIL's e-portal.

Performance Guarantee : Applicable

OIL INDIA LIMITED invites Global Tenders for items detailed below:

Item No. / Mat. Code	Material Description	QTY.	UOM
1	Supply and Installation & Commissioning of Disc Brake for E-1400 Drawworks as per the following a) Detailed specification – Annexure - I (Attached) b) Bid Rejection Criteria (BRC) and Bid Evaluation Criteria – Annexure-II. c) Technical and Commercial Check list - Annexure – III (Attached)	3	No

Special Notes:

- 1.0 The tender will be governed by "General Terms & Conditions" for e-Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders) including Amendments & Addendum to "General Terms & Conditions" for e-Procurement.
- 2.0 Technical and Commercial Check list is furnished vide **Annexure – III** (attached). Please ensure that the check list is properly filled up and uploaded along with Technical bid.
- 3.0 The item qualifies for Nil duty / Deemed Export benefits. For Deemed Export benefits please refer Addendum to the General terms and conditions for Global tender.

- 4.0 Please note that all tender forms and supporting documents are to be submitted through OIL's e-Procurement site only except following documents which are to be submitted manually in sealed envelope super scribed with tender no. and due date to The Head Materials, Materials Department, Oil India Limited, Duliajan- 786602, Assam on or before the Bid Closing Date and Time mentioned in the Tender.
- a) Original Bid Security.
 - b) Details Catalogue and any other document which have been specified to be submitted in original.
- 5.0 The tender is invited under SINGLE STAGE-TWO BID SYSTEM. The bidder has to submit both the "TECHNO-COMMERCIAL UNPRICED BID" and "PRICED BID" through electronic form in the OIL's e-Tender portal within the Bid Closing Date and Time stipulated in the e-Tender. The "TECHNO-COMMERCIAL UNPRICED BID" is to be submitted as per Scope of Work & Technical Specification of the tender and "PRICED BID" as per the **Online Priced Bid format**.
- 6.0 In Technical Bid opening, only Technical Rfx will be opened. Therefore, the bidder should ensure that "TECHNO-COMMERCIAL UNPRICED BID" should contain details as mentioned in the technical specifications as well as BEC/ BRC and upload the same in the Technical RFX Response-> User - > Technical Bid. **No price should be given in above Technical Rfx otherwise the offer will be rejected.** Please go through the help document in details before uploading the document and ensure uploading of technical bid in the Technical RFX Response-> User - > Technical Bid only. The "PRICE BID" must contain the price schedule and the bidder's commercial terms and conditions. Details of prices as per Bid format / Commercial bid can be uploaded as Attachment under the attachment option under "Notes & Attachments"
- 7.0 PRICED BIDS OF ONLY THOSE BIDDERS WILL BE OPENED WHOSE OFFERS ARE FOUND TO BE TECHNO-COMMERCIALLY ACCEPTABLE.
- 8.0 All the Bids must be Digitally Signed using "Class 3" digital certificate (*e-commerce application*) only as per Indian IT Act obtained from the licensed Certifying Authorities operating under the Root Certifying Authority of India (RCAI), Controller of Certifying Authorities (CCA) of India. The bid signed using other than "Class 3" digital certificate, will be liable for rejection.
- 9.0 Bidders are requested to examine all instructions, forms, terms and specifications in the bid. Failure to furnish all information required as per the bid or submission of offers not substantially responsive to the bid in every respect will be at the bidders risk and may result in the rejection of its offer without seeking any clarifications.
- 10.0 **The Integrity Pact is applicable against this tender.** OIL shall be entering into an Integrity Pact with the bidders as per format enclosed vide Annexure XII of the tender document. This Integrity Pact proforma has been duly signed digitally by OIL's competent signatory. The proforma has to be returned by the bidder (along with the technical bid) duly signed (digitally) by the same signatory who signed the bid, i.e., who is duly authorized to sign the bid. Any bid not accompanied by Integrity Pact Proforma duly signed (digitally) by the bidder shall be rejected straightway. Uploading the Integrity Pact with digital signature will be construed that all pages of the Integrity Pact has been signed by the bidder's authorized signatory who sign the Bid.

OIL's Independent External Monitors at present are as under:

- (I) **SHRI N. GOPALASWAMI, I.A.S (Retd) ,**
Former Chief Election Commissioner of India
E-mail Id : gopalaswamin@gmail.com
- (II) **SHRI RAMESH CHANDRA AGARWAL , IPS(Retd)**
Former Director General of Police
E-mail Id : rcagarwal@rediffmail.com

General Notes for Bidders.

(Bidders should confirm each & every point clearly. Deviations, if any, should be highlighted in the quotation.)

- 1.0 Bids are invited under Single Stage Two Bid System. Bidders shall quote accordingly under Single Stage Two Bid System. Any offer not complying with the above will be rejected straightway.
- 2.0 Bid Rejection Criteria (BRC) and Bid Evaluation Criteria (BEC) vide **Annexure - II** shall be applicable to this Tender.
- 3.0 Technical and Commercial Check-list vide **Annexure – III**(attached) should be filled-up and submitted along with the offer.
- 4.0 The quotation must be submitted online and accompany detailed specifications of the offered product, forwarding relevant catalogue with drawings & literature with their quotation.
- 5.0 The items shall be brand new, unused & of prime quality with serial number and date of manufacture. Bidder shall warrant (in the event of an order) that the product supplied will be free from all defects & fault in material, workmanship & manufacture and shall be in full conformity with ordered specifications. This clause shall be valid for 12 months from date of successful commissioning or 18 months from the date of receipt of technically acceptable material at site, whichever is earlier
- 6.0 Bidder is to mention the name of manufacturer, country of origin and port of shipment.
- 7.0 Bidder, if not a manufacturer, must submit a letter of authorization along with the quotation to sell their products to OIL INDIA LIMITED from the original manufacturer with warranty back-up. The OEM should give a written undertaking that they will be responsible for providing the warranty as per the clauses mentioned in the tender, even if there is a change in the authorized distributor of the manufacturer. The undertaking from OEM should also include that, if in future, OEM does not have any authorized distributor, the service will be provided directly by the service engineer of the OEM without any extra charge.
- 8.0 **Installation & Commissioning**
 - a) Installation, Commissioning of the complete equipment shall be carried out by the supplier at, Duliajan, Assam, India. The supplier shall depute their competent personnel to Duliajan for this purpose.
 - b) During installation and commissioning of the unit, the commissioning personnel shall have to provide complete demonstration of the instrument to OIL personnel on operation, general maintenance, troubleshooting of different components of the unit.
 - c) Installation and Commissioning charges, if any, must be quoted separately on lump sum basis which shall be considered for evaluation of the offer. Offers without indicating the Installation/Commissioning shall be treated as incomplete and non-responsive. Bidders shall confirm about the installation, commissioning while quoting. Any, pre-installation requirements are to be clearly indicated in the offer
 - d) While quoting installation and commissioning charges, bidder should take into account all charges including to and fro fares, boarding/lodging, and other daily expenses of the commissioning personnel. OIL may provide accommodation on chargeable basis subject to availability. Income, Service, Corporate Taxes etc., if any, towards Installation/Commissioning will be to supplier's account and will be deducted at source.

- e) Offers without indicating the Installation/Commissioning charges shall be loaded with the maximum installation/commissioning charges received against this tender for evaluation purpose.
- f) Moreover, if Income/Service taxes are not categorically mentioned in their offer, then such offers shall be loaded with the applicable rate of taxes for evaluation purpose.

9.0 Payment: Payment shall be released as follows

a) Equipment supplied with valid DGMS Approval.

- i) 80% of the order value shall be paid against proof of dispatch/shipment of the goods and submission of valid DGMS certificate.
- ii) Remaining 20% of the order value shall be paid after successful installation and commissioning and acceptance of the unit by OIL.
- iii) OIL may also consider making 100 % payment towards supply of the items against proof of dispatch, provided bidders agree to pay interest @ 1% above the prevailing Bank Rate (CC rate) of State Bank of India for 20% of the order value and also submit Bank Guarantee for the amount equivalent to 20% of the order value plus interest valid till successful commissioning at site. This is in addition to the 10% of the order value towards Performance Security as per tender requirement.
- iv) Payment towards Installation/Commissioning/Training (if any) shall be released on successful completion of the Installation/Commissioning/Training

b) Equipment supplied without DGMS approval, but with Field Trial Permissions only.

- i) 50% of the order value shall be paid against proof of dispatch/shipment of the goods.
- ii) 30% of the order value upon submission of DGMS approval only.
- iii) Remaining 20% of the order value shall be paid after successful installation and commissioning and acceptance of the unit by OIL.
- iv) Payment towards Installation/Commissioning/Training (if any) shall be released on successful completion of the Installation/Commissioning/Training.

Note:

- i) In case DGMS approval is not available, the same shall be supplied with DGMS field trial permission certification. Details of obtaining DGMS field trial permission are available at the web site of DGMS. The field trial may be carried in any E&P Company operating in India or during the commissioning of the project for it is procured.
- ii) The price of each electronics/electrical equipment/instrument wherever DGMS approval is required as per technical specifications shall be quoted separately.
- iii) A system shall be considered as successfully commissioned only after obtaining valid DGMS approval for all the constituent/instruments of the system.

- 10.0** The items covered by this enquiry shall be used by Oil India Limited in the PEL/ML areas which are issued/ renewed after 01/04/99 and hence Nil Customs Duty during import will be applicable. Indigenous bidder shall be eligible for Deemed Export Benefit against this purchase. Details of Deemed Export are furnished vide Addendum to MM/GLOBAL/E-01/2005 attached.

ANNEXURE – II

BID REJECTION CRITERIA (BRC)/BID EVALUATION CRITERIA (BEC)

(I) Bid Rejection Criteria:

(A) TECHNICAL

- 1.0 The bid must conform to the specifications, terms and conditions given in the tender. Bid shall be rejected in case the equipments/components thereof along with their peripherals, accessories offered do not conform to the required minimum/maximum parameters stipulated in the technical specifications and to the respective international/national standards where ever stipulated/applicable.

(B) COMMERCIAL:

Commercial Bid Rejection Criteria will be as per Section D of General Terms & Conditions of Global Tender (MM/GLOBAL/E-01/2005) with following Special Bid Rejection Criteria.

- 1) Bids are invited under **Single Stage Two Bid System**. Bidders shall quote accordingly under Single Stage Two Bid System. **Please note that no price details should be furnished in the Technical (i.e. Unpriced) bid.** The "Unpriced Bid" shall contain all techno-commercial details except the prices, which shall be kept blank. The "Price Bid" must contain the price schedule and the bidder's commercial terms and conditions. Bidder not complying with above submission procedure will be rejected.
- 2) **Bid security of US \$ 3,660.00 or Rs. 1, 64,700.00** shall be furnished as a part of the TECHNICAL BID (refer Clause Nos.9.0 & 12.0 (Section A) of "General Terms & Conditions" for e-Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders)). **Any bid not accompanied by a proper bid security in ORIGINAL will be rejected without any further consideration.** For exemption for submission of Bid Security, please refer Clause No. 9.8 (Section A) of "General Terms & Conditions" for e-Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders). Bank Guarantee towards Bid Security shall remain valid till **14.10.2015**
- 3) Validity of the bid shall be minimum 180 days from the date of Bid Closing Date. Bids with lesser validity will be rejected.
- 4) Bidders must confirm that Goods, materials or plant(s) to be supplied shall be new of recent make and of the best quality and workmanship and shall be guaranteed for a period of 12(twelve) months from the date of installation and commissioning or 18 (eighteen) months from the date of receipt of technically acceptable material at site against any defects arising from faulty materials, workmanship or design. Defective goods/materials or parts rejected by OIL shall be replaced immediately by the supplier at the supplier's expenses at no extra cost to OIL.
- 5) Successful bidder will be required to furnish a Performance Bank Guarantee @10% of the order value. The Performance Bank Guarantee must be valid for 1(one) year from the date of successful commissioning of the items. Bidder must confirm the same in their Technical Bid. Offers not complying with this clause will be rejected

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- 6) Bidders are required to submit the summary of the prices in their price bids as per bid format (Summary), given below :

(i) **Price Bid Format (SUMMARY) for Foreign Bidders :**

- (A) Total Material Value :
- (B) Packing & FOB/FCA Charges :
- (C) Total FOB/FCA Port of Shipment value, (A + B) above :
- (D) Overseas Freight Charges upto Kolkata, India :
- (E) Insurance Charges :
- (F) Total CIF Kolkata value, (C + D + E) :
- (G) Installation/Commissioning Charges (if any) :
- (H) Training Charges (if any) :
- (I) Inspection Charges (if any)
- (J) Grand Total Value,(F + G + H + I) :
- (K) Grand Total Value in words :
- (L) Gross Weight :
- (M) Gross Volume :

(ii) **Price Bid Format (SUMMARY) for Indigenous Bidders:**

- (A) Total Material Value :
- (B) Packing and Forwarding Charges:
- (C) Total Ex-works value, (A + B) above :
- (D) Sales Tax, (Please indicate applicable rate of Tax)
- (E) Total FOR Despatching station price, (C + D) above
- (F) Road Transportation charges to Duliajan
- (G) Insurance Charges
- (H) Assam Entry Tax
- (I) Total FOR Duliajan value, (E + F + G + H) above
- (J) Installation/Commissioning Charges (if any):
- (K) Training Charges (if any) :
- (L) Inspection Charges (if any):
- (M) Grand Total Value, (I+J+K+L) above :
- (N) Grand Total Value in words :
- (O) Gross Weight :
- (P) Gross Volume :

NOTE:

1. The items covered under this enquiry shall be used by OIL in the PEL/ML areas issued/renewed after 01/04/99 and hence, applicable Customs Duty for import of goods shall be ZERO .Indigenous bidders must quote Deemed Export prices. Excise Duty under Deemed Export exempted.
2. Banking charges in the country of the foreign bidder shall be borne by the bidder

- 7) Offers received without Integrity Pact duly signed by the authorized signatory of the bidder will be rejected.

- 8) Installation/Commissioning/Training charges (if any) should be quoted separately on lumpsum basis which shall

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be considered for evaluation of the offers. These charges should include amongst others to and fro fares, boarding/lodging, local transport at Duliajan and other expenses of supplier's personnel during their stay at Duliajan, Assam (India).

Bidders must categorically indicate the above charges in their Price Bid and must confirm the same in their Technical Bids.

- 9) The prices offered will have to be firm through delivery and not subject to variation on any account. A bid submitted with an adjustable price will be treated as non-responsive and rejected.
- 10) Bids received after the bid closing date and time will be rejected. Similarly, modifications to bids received after the bid closing date & time will not be considered.
- 11) Bids containing incorrect statement will be rejected.

(II) BID EVALUATION CRITERIA (BEC) :

Bids conforming to the specifications, terms and conditions stipulated in the tender and considered to be responsive after subjecting to the Bid Rejection Criteria will be considered for further evaluation as per the Bid Evaluation Criteria given below:

- 1) The evaluation of bids will be done as per the Priced Schedule (summary) detailed vide para (6) of BRC (Commercial).
- 2) If there is any discrepancy between the unit price and total price, the unit price will prevail and the total price shall be corrected. Similarly, if there is any discrepancy between words and figure, the amounts in words shall prevail and will be adopted for evaluation.
- 3) For conversion of foreign currency into Indian currency, B.C. selling (Market) rate declared by State Bank of India, one day prior to the date of price bid opening shall be considered. However, if the time lag between the opening of the bids and final decision exceed 3(three) months, then B.C. Selling(Market) rate of exchange declared by SBI on the date prior to the date of final decision shall be adopted for conversion and evaluation.
- 4) To ascertain the inter-se-ranking, the comparison of the responsive bids will be made as under, subject to corrections / adjustments given herein.

4.1) When only foreign bidders are involved:

Comparison of bids will be done on the basis of "Grand Total Value" which is estimated as under:

- (A) Total Material Value :
- (B) Packing & FOB/FCA Charges :
- (C) Total FOB/FCA Port of Shipment value, (A + B) above :
- (D) Overseas Freight Charges upto Kolkata, India :
- (E) Insurance Charges @1% of Total FOB/FCA Port of Shipment value vide (C) above
- (F) Banking Charges @ 0.5% of Total FOB/FCA Value (C) above in case of payment through Letter of Credit (If confirmed L/C at buyer's account is required, 1.5% of Total FOB/FCA Value will be loaded)
- (G) Total CIF Kolkata value, (C + D + E + F) :
- (H) Installation/Commissioning Charges, if any :
- (I) Training Charges, if any :
- (J) Inspection Charges, if any
- (K) Grand Total Value,(G + H + I + J) :

- 4.2) When only domestic bidders are involved or when more than one domestic bidders are in contention in case of mixed response:

Comparison of bids will be done on the basis of "Grand Total Value" which is estimated as under:

- (A) Total Material Value :
- (B) Packing and Forwarding Charges:
- (C) Total Ex-works value, (A + B) above :
- (D) Sales Tax, (Please indicate applicable rate of Tax)
- (E) Total FOR Despatching station price, (C + D) above
- (F) Road Transportation charges to Duliajan
- (G) Insurance Charges
- (H) Assam Entry Tax
- (I) Total FOR Duliajan value, (E + F + G + H) above
- (J) Installation/Commissioning Charges, if any :
- (K) Training Charges, if any :
- (L) Inspection Charges if any :
- (M) Grand Total value, (I+J+K+L) :

NOTE: Excise Duty in case of the indigenous bidder is EXEMPTED

- 4.3) When both foreign and domestic bidders are involved:

The Grand Total Value of domestic bidder (inclusive of customs duty on imported raw material and components etc, and applicable terminal excise duty on the finished products and Sales Tax) excluding inland transportation to destination and Insurance charges worked out as per Para 4.2 above and Grand Total Value of the foreign bidder worked out as per Para 4.1 above (with customs duty as applicable on the bid closing date) excluding inland transportation to destination will be compared. No price preference will be allowed to indigenous bidders except that for capital goods, the domestic manufacturers would be accorded a price preference to offset CST to the extent of 4 % or actuals, which ever is less subject to 30 % local content norms as stipulated for World Bank Funded project to the satisfaction of OIL. When more than one domestic bidders fall within price preference range, inter-se-ranking will be done on Grand Total Value basis.

Note: If the Government of India revises these evaluation criteria the same as applicable on the bid closing date will be adopted for evaluation of the offers.

- 5) Other terms and conditions of the tender shall be as per "General Terms & Conditions" for e-Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders). However, if any of the Clauses of the Bid Rejection Criteria (BRC) / Bid Evaluation Criteria (BEC) mentioned here contradict the Clauses in the "General Terms & Conditions" for e-Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders) of the tender and/or elsewhere, those mentioned in this BEC / BRC shall prevail

TECHNICAL SPECIFICATION

Friction Type Disc Brake Package complete with mounting arrangement, Control & Brake Cooling System for Retro fitment in BHEL E-1400 Draw-works as a replacement of existing ECB-6032 Eddy Current Brake. Quantity 3 (three) sets.

Application Data: E-1400 BHEL Draw-works for Sizing of the Brake

- a) Empty Hook Load (lbs): 15,000
- b) Maximum Full Load (lbs): 770,000
- c) Number of Lines (Pulleys): 12
- d) Available Air Pressure (psi): 110
- e) Wire Rope Diameter (in): 1.375
- f) Bare Drum Diameter (in): 28
- g) Drum Shaft Diameter (in): 10
- h) Number of Brakes: 1
- i) Maximum Hook Speed Allowed [Empty] (fpm): 360
- j) Maximum Hook Speed [Allowed Full Load] (fpm): 90
- k) Ratio Between Brake & Drum: 1
- l) Cooling Fluid Type: Fresh Water
- m) Desired Temperature Rise (degrees F): 50
- n) Existing Hydromatic Brake which is to be replaced by Disc Brake: ECB-6032
- o) Band Brake Cooling Water Flow (GPM) and Head (Meter): 65GPM/27M

For detailed specifications refer undernoted Annexures given below

- Annexure- 1 : Scope, Application.
- Annexure- 2 : Technical Specification.
- Annexure- 3 : General Notes for Bidders.
- Annexure- 4 : Reference Drawings.

Annexure - 1 : Purpose, Scope, Application and General.

1.0 Purpose: To mount one number of friction type Disc Brake in place of existing ECB 6032 Eddy Current Brake in BHEL E-1400 Draw-works as an auxiliary brake to control the speed of the traveling block with its (full) load during lowering and raising.

2.0 SCOPE: Supply, installation & commissioning of friction type disc brake system with mounting, control and brake cooling packages in three numbers of BHEL E-1400 Draw-works as a replacement of existing ECB 6032 Eddy Current Brake.

The supply shall include all the items but not limited to the following, sufficient/ required for installation & commissioning of the equipment:

2.1) Friction type Disc Brake suitably designed/sized for BHEL E-1400 Draw-works as per specification/ application data given in this enquiry, as a replacement of existing ECB 6032 Eddy Current Brake complete with spline clutch/ hub mounted on the shaft and mounting package including required gauges and valves for successful operation of the brake.

2.2) Suitable Mounting package to facilitate mounting of the selected brake into the existing draw-works in the position of existing ECB 6032 Eddy Current Brake.

2.3) The Brake package should also include an engineered closed loop Cooling System designed specifically for the Brake offered, as per the general specification given elsewhere in this enquiry. Cooling Package should include Explosion Proof Motors, Starters and Alarm panel as detailed in the subsequent pages in this enquiry specification.

2.4) For controlling the Dual Piston Brake, suitable pneumatically operated Control Package needs to be offered with single lever design as per the general specification given elsewhere in this enquiry.

3.0 Application:

a) Friction type Disc Brake will replace the existing ECB 6032 Eddy Current Brake to bring the operation of the band Brake to the bare minimum level (mostly for parking only).

b) Disc Brakes operation will be throughout the Drilling Cycle in place of Band Brakes for Holding, controlling and Stopping the draw-works main drum movement.

c) To positively enhance the lives of the band Brakes in the field. Consequently, there will be cost savings due to higher uptime and less maintenance of the Band Brakes.

d) The noise level at the draw-works during braking operation will practically reduce to the minimal which will be very conducive to the health of work persons.

e) To facilitate the operator/work person in controlling and Stopping the draw-works main drum movement without physical stresses using user friendly Disc brakes control system.

4.0 General requirements:

4.1 Vendor shall confirm that interface between the Draw-works Drum shaft and offered friction type Disc Brake are possible.

a) Interfacing between the BHEL E-1400 Draw-works Drum shaft and offered friction type Disc Brake to be completed with existing auxiliary brake coupling mounted on the Drum shaft and Female spline.

4.2 Vendor shall confirm that offered friction type Disc brake can be installed without any major modification in the existing Draw works.

4.3 Vendor shall visit Oil India Limited, if they feel, to collect more data. Any information required in this regard by the vendor from OIL shall be informed duly.

4.4 Vendor shall carry out interfacing of offered friction type Disc brake with the Twin stop.

4.5 Vendor shall confirm that Air supply to the Off Driller-side drum clutch is feasible without any changes in the existing setup. In case of deviation vendor shall supply connecting equipment to facilitate supply of air to the Hi-side clutch.

4.6 Vendor shall supply 3 copies of O & M manuals along with two soft copies to OIL.

Annexure -2: Technical Specification.

A. - Technical Specification and terms for the Brake

A.1 Friction type Disc Brake should be suitably designed / sized for specified Draw-works as per specification/application data given elsewhere, as a replacement of existing ECB 6032 Eddy Current Brake.

A.2 The Brake should be Plate Style Friction Type water cooled Disc Brake with Pressure actuated and Spring released design with dual pressure piston actuation for finer controls on both Heavy & Light Load encountered during deep drilling. The brake shall be designed to absorb & dissipate thermal loads associated with severe brake application for continuous slip service.

A.3 The Brake should have Friction Material chosen with Co-efficient of Dynamic Friction close to the Co-efficient of Static Friction so that very smooth tensioning/slippage takes place completely eliminating stick-slip characteristics of normal friction material.

A.4 It should have External Clamp Tube & Stud type design for ease of field Inspection, and in-situ Maintenance & Repair.

A.5 Pressure plates within the Brake should be metallic and fiberglass pressure plates are not acceptable.

A.6 Actuating Member for the Brake should be a metallic Piston, preferably made out of Aluminum to avoid corrosion. Rubber tube is not acceptable as an actuating member.

A.7 Brake should have Copper Plates on both sides of Friction Disc to facilitate quickest heat transfer. The copper plate should be mounted with Leak-Free metallic bolts- ideally made with the same material.

A.8 Package should include high strength Steel shaft mounted on bearings to transmit power from the draw-works. The Shaft is to be bored to facilitate installation of water / air spear and rotating seal, as applicable.

A.9 To ensure proper cooling, Inlet ports must be located at the bottom position of the Brake and the outlet ports should be located at 180 Deg with the Inlet Ports.

A.10 There should be provision of interfacing of offered friction type Disc brake with the Twin stop.

A.11 Air supply to the Off Driller-side drum clutch must be feasible without any major changes in the existing setup.

B. - Technical Specification & terms of the Brake Mounting Package

B.1 Brake Mounting Package should facilitate installation of the disc brake in BHEL E-1400 Draw-works replacing existing ECB 6032 Eddy Current Brake with no major Engineering modification at site.

B.2 Brake mounting cradle should provide physical support for the brake and shafting.

B.3 Brake cradle must be designed to mimic the mounting arrangement of the existing ECB 6032 Eddy Current Brake in the respective draw-works.

B.4 Mounting Feet for the Cradle should be included, as applicable.

B.5 The Mounting Package should also include removable protective cover to minimize exposure of the brake's Friction Couple from contamination.

B.6 The complete set of spline clutch (dog clutch) need to be supplied along with the brake including required mounting.

B.7 Mounting Package should include high strength Steel shaft mounted on bearings to transmit power from the draw-works. The Shaft is to be bored to facilitate installation of water / air spear and rotating seal, as applicable.

B.8 Inboard bearing is to be fixed in fabricated housing to assure correct shaft axial alignment.

B.9 Outboard bearing should be ideally with pillow block style design arranged for easy removal of the brake for maintenance.

B.10 Inlet & Outlet Water manifolds are to be integrated into the cradle structure and water hoses is to be pre-plumbed from the manifolds to the brake.

B.11 The mounting package should include externally accessible points for periodic lubrication/greasing.

C. - Technical Specification & terms of Pneumatic Dual Piston Brake Control System

Pneumatic brake control system to provide Control for dual actuator/dual piston brakes consisting (but not limited) of the following components:

C.1 One specially designed, Cam operated air control valve with single lever type spring return handle for graduated control of brake for the normal hoisting operations/tripping mode.

C.2 One Air control valve with twist knob type handle that hold in set position for vernier type control of brake for the feed off type/Drilling Mode operations.

C.3 One Selector valve and shuttle valves to allow selection of control of the small brake actuator of the brake only or control of both the large and small actuators of the Disc brake simultaneously. This has to work in conjunction with the Air Control Valve as stated above.

C.4 Brake cradle Air Control system should be equipped with of Pilot operated Relay Valves, Quick Release Valves and Air Filter to insure rapid response of the brake to air control signals to apply or release the brake from the air control valves at the Driller's Console.

C.5 It should also include all necessary air fittings and air hoses to facilitate installation of brake cradle air control group on the Brake Cradle and the body of the Brake.

D. - Technical Specification & terms of Closed Loop Brake Water Cooling System:

Closed loop Brake water-cooling system is to be designed to meet the heat dissipation requirements of the Disc brake (to be supplied) & Band brake (existing).

The Cooling package should be consisting of the followings:

D.1 The system must include a suitably sized rectangular closed steel tank of sufficient capacity with Reservoir Fill connection, water level indicator connections for standard Level gauge, top air vent and bottom drain. The top of the tank should have suitably sized flange fill connection, atmospheric vent, flange return connection and a manhole. The tank interior needs to be sand blasted, primed and coated with epoxy.

D.2 The Cooling Package should be Complete with two centrifugal pump packages- one each installed as Working & Stand-By. Each set shall independently be capable of meeting the cooling water requirement at full load . Pump should be suitably equipped with impeller; tungsten carbide mechanical seal or eliminating leakage at the packing box, with additional back-up graphite coated packing rings

D.3 The Pumps are to be mounted on a horizontal oilfield skid #complete with earth grounding point; flexible coupling and OSHA style coupling guard.

D.4 Pumps & motor are to be mounted on their own independent base skid for easy maintenance.

D.5 The pumps should be driven by suitably rated individual Electric Motor directly coupled to the pump.

The following shall be supplied each Disc Brake System

i) Motor Specification: (Qty - 2)

Electrical Supply - 415VAC, 50 Hz, 3 Phase,
Speed - 1500RPM

Duty - Continuous (S1)

Power (HP / kW) - To be indicated by bidder

Starting - suitable for Y/D (Star-Delta) starting.

Insulation Class - "F"

Enclosure - Weatherproof (IP 55) and Flameproof (Ex-d)

Terminal Box - FLP, featuring double compression cable glands for cable entry.

Make - CG / Kirloskar / LHP

Earthing - Motor to have adequate provision for connection of the body with earth.

ii) Motor Starter specification: (Qty 2)

Each motor should be started by its own, on-skid starter panel / cubicle

Type - Star-Delta

Incoming device - MCCB

Protection - OLR

Fascia - Start/Stop/Overload reset buttons, and Hand-Off-Auto selector switch (if applicable by design)to be provided on front face of starter.

HP - Matched with Motor

Enclosure - Flameproof (Ex-d) Enclosure

All Non-used cable entry ports should be plugged with brass plugs.

All cable entry holes to feature double compression metallic glands.

Earthing - Starter to have adequate provision for connection of the body with earth.

iii) Push-Button Stations (If required by design): (Qty 2)

Each motor - Starter shall have its own dedicated PBS.

Each PBS shall be made on LM-6 / Cast Iron metal

Buttons - Each PBS shall feature one Start button, and one stop button. PBS shall be fitted on a metallic stand at suitable height, and provided with a rain protection canopy.

Enclosure - Flameproof (Ex-d) Enclosure

All Non-used cable entry ports should be plugged with brass plugs.

All cable entry holes to feature double compression metallic glands.

Earthing - PBS to have adequate provision for connection of the body with earth.

iv) Cable Specification: (Qty - 100 metres /Disc Brake.)

This cable is required to draw power from main power source to cooling skid & other brake devices, and is in scope of supply by bidder.

Size - 16 sq.mm, 4 core, stranded, tinned Copper conductor,

Insulation - EPR insulated and HOFR CSP sheathed, 1000V graded, metallic screened / braided.

Cable has to be DGMS approved.

Standard - Should conform generally to latest iteration of IS: 9968.

Make - United Cables/ Radiant/ Equivalent (carrying DGMS approval)

v) Other power and control wiring - The following shall be in scope of bidder:

a) All on-skid power and control wiring / connections

b) All inter-device power and control wiring / connections

c) All transformers / devices required to transform power from 415VAC, 3 Phase, 50 Hz to levels used at various equipment and devices of the braking system

D.6 DGMS Requirement - The motors/starters/PBS/Junction boxes/Cables supplied with brake water cooling system shall be flame proof and suitable for Group 1, IIA, IIB gases. Motor shall be supplied with flame proof type push button station and double compression type cable glands of suitable size conforming to the above environmental condition. All the electrical items used in the system should be certified by CIMFR - Central Institute of Mining and Fuel Research, (earlier CMRI -Central Mining Research Institute) of India OR internationally accepted/recognized equivalent authority of country of origin to use in "Hazardous area Zone 1 and 2", suitable for Group 1, IIA, IIB gases, and approved by DGMS (India) for use in oilfields, in the said hazardous zones and gas groups. Copies of DGMS approvals for all applicable equipment / device to be made available to Oil India before or during Pre-despatch Inspection, failing which despatch clearance shall not be given.

All equipment / items requiring DGMS approvals shall have valid DGMS approval certificates, pertaining to the item/equipment offered, as on date of supply. In case bidder is unable to provide a valid DGMS approval, he may obtain permission for field trial from DGMS, and supply the equipment/items.

Bidder is thus advised to quote the prices for equipment / Items requiring DGMS approval separately.

D.7 The Cooling Package should include two heat exchangers (one each installed as Working & Stand-By) .Heat exchanger should be of Shell and tube cross flow type. This Heat Exchanger must be specifically designed and guaranteed to meet the site condition in Assam within India.

D.8 Interface piping: Piping shall be designed in such a way that switchover from one pump to other pump and one heat exchanger to other heat exchanger are possible. The same (pump, heat exchanger) can be taken out for repair and maintenance without affecting the normal rig operation. Piping within the Package needs to be provided with Carbon Steel Pipe, Bronze Disc Butterfly Valves, Carbon Steel hardware and standard Analog Instrumentation. A common raw water inlet, raw water

outlet and Brake water outlet manifold are to be provided to connect the heat exchanger arrangement at the end user's piping.

D.9 The Cooling Package should include necessary Pipe fittings and suitable inlet and outlet hoses. Distance of the cooling Package will be approximately 35 m. from well centre.

D.10 The standard analog instrumentation should be provided locally to allow a complete system troubleshooting, should it ever be required.

Following Instrumentations need to be included in the Cooling Package:

- i) Analog Pump Discharge Pressure Gauge at the Pump Discharges
- ii) Analog Brake water Outlet temperature gauge located in the Brake water manifold
- iii) Analog Pressure gauges at the inlet and outlet of the raw water Manifolds
- iv) Provision of Brake water flow switch out of the Heat Exchanger
- v) Provision for Raw Water Flow Switch out of the Heat Exchanger

D.11 Additionally, the Cooling Package is to be provided with Explosion proof Local Alarm System mounted on the Skid Structure and consisting of the following:

- i) 1 no. Explosion Proof Local Alarm Panel
- ii) 1 no. Tank Level Switch
- iii) 1 no. Tank Water Temperature switch
- iv) Brake Water Flow Switch
- v) Raw Water Flow Switch
- vi) Audio Alarm/Horn

Note:

- a). Supplier should provide one complete set of alarm annunciation system with sensors, switches, electronics card etc., except housing, as spare for three no. of Disk brake system.
- b). Provision should be kept at Alarm annunciation system for future extension of audio alarm to Driller's cabin.
- c). All instrumentation gauges and switches should have isolation valve as per standard

D.12 This Local Panel should be designed for 120V AC, single phase, AC supply (Bidder has to arrange for voltage transformation to required levels and phases from 415VAC, 3 Phase, 50Hz supply). The panel should have sets of Red & Green status Lights to indicate the status of each cooling Alarm channel.

Bidder to note that all electrical components should be provided inside FLP enclosures only.

D.13 Vendor shall consider mounting height of draw-works at 25 feet for design of brake water cooling system.

D.14 Explosion Proof Starter for the Motors, Motor Push Button Station with double compression type Cable Glands and cables of suitable size should be included in the Package.

D.15 The Cooling Package should be mounted on Oilfield Skid designed and Fabricated as per applicable Code of Constructions followed in India or USA. The skid should be fabricated with steel wide flange beam designed and constructed to carry the load of the Brake Water Cooling System both

empty and full of coolant. (4) Four Lifting Eyes are to be provided for easy lifting, handling and Transportation Purposes.

D.16 The Skid and Tank exterior are to be sandblasted, coated with the Primer and complete system is to be delivered with a final paint coat.

D.17 Electrical Drawings:

- a) Bidder should supply preliminary electrical schematic drawings of the proposed system along with the bid.
- b) The successful bidder shall have to provide final electrical schematic drawings for Oil India's approval before construction/assembly.

D.18 Following compulsory / mandatory electrical spares needs to be supplied as part of the whole package (i.e for 3 nos Disc Brake system)

- i) Motor Starter, of identical rating as provided on Cooling skid, fitted with all control components, and pre-wired – Qty: One no
- ii) Electrical Motor, of same rating as fitted on cooling skid – Qty: One no
- iii) Control fuses (at least 10 fuses of each rating used) – Qty: 1 Set

Annexure -3: General Notes for Bidders.

GENERAL NOTES:

(Bidders should confirm to each & every points clearly. Deviations if any should be highlighted in the quotation.)

1. All the items shall be brand new, unused & of prime quality.
2. The bidder should quote (item wise) for all the items required for the system including cooling system.
3. Any such item not mentioned in our enquiry but required to install/commission and working of the system at site and also required for maintenance shall also be quoted.
4. All the items quoted are to be covered with warranty for a period of at least 12 months from the date of installation and commissioning or 18 months from the date of receipt of technically acceptable material at site, whichever is earlier.
5. The bidder should provide a list of recommended spares for 2 year operation indicating item description, part number, quantity and price along with the quotation. However the prices of these spares will not be considered for bid evaluation. The Prices of such spares should not change for next 2 years from the date quotation.
6. The bidder to enclose undertaking to make spares available and provide after sale service/support for the system for next 10 years. Original Equipment Manufacturer's undertaking must be forwarded for the items not manufactured by the bidder.
7. The bidder to provide three sets of technical literature for operation, maintenance & repair indicating all components with schematic drawings, piping diagrams, part number etc. for technical scrutiny purpose.
8. The bidder to supply three sets of operation, maintenance & repair manuals indicating all components with schematic drawings, piping diagrams etc for each unit along with the supply.

Additionally they will supply two soft copies of operation, maintenance & repair manuals for each unit along with the supply. Bidder has to confirm the same in the technical bid.

9. The bidder to quote for the Installation and Commissioning of the units indicating the schedule of work. Installation and Commissioning will be done in phased manner requiring maximum three visits by bidder's personnel at Duliajan, Assam (India). Total numbers of days required for installation / commissioning of each system should also be indicated by the bidders. The installation / commissioning charges should include amongst others all to and fro fares, boarding / lodging and other expenses of their Engineer(S) during their stay at Duliajan. OIL may consider providing its accommodation facility on chargeable basis subject to availability. Installation & commissioning charges shall be considered for evaluation of the offers. OIL will give 14 days advance notice prior to each installation phase to the successful bidder.

10. Inspection of the units in fully assembled condition will be carried out by a team of OIL engineers at supplier's works prior to dispatch / shipment of the material. Bidder has to confirm the same in the technical bid.

Inspection charges, if any, should be quoted separately which shall be considered for evaluation of the offers. All to and fro fares, boarding / lodging expenses of OIL's Engineers shall be borne by OIL. Bidders have to extend all assistance to OIL's Engineers during the period of inspection.

11. The successful bidder will have to offer training to OIL's engineers/ field personnel on installation, operation and maintenance aspects of the system at supplier's works and at a rig-site of Oil India Limited, Assam. Training shall be for a minimum period of one week in both cases. Bidder has to confirm the same in the technical bid.

Training charges shall be quoted separately which shall be considered for evaluation of the offers. The Training charges should include all to and fro fares, boarding / lodging and other expenses of their Engineer(s) during their stay at Duliajan. OIL may consider providing accommodation on chargeable basis subject to availability.

All to and fro fares, boarding / lodging expenses of OIL's Engineers during training at manufacturer's/supplier's works shall be borne by OIL.

12. In the event of an order the supplier should provide all the associated spares and consumables required for installation and commission the system at site including special tools.

13. Vendor shall supply the equipment with the name plate carrying the following information.

- i. OEM name
- ii. Country of origin
- iii. Year of manufacture
- iv. Rated capacity
- v. Lubrication schedule

14. OIL's Purchase Order Number shall be embossed on each item.

15. Vendor shall submit all the certificates against the tests carried at vendor's work along with supply.

16. All materials as indicated in the Indent should be offered. If any of the items not offered by the bidder the offer will not be considered for evaluation.

17. Bidders are required to forward original company catalogues, literature, drawings indicating exploded view and dimensions with part numbers of each component for the offered items along with quotation.
18. The bids received without undertaking to make spares available for the item quoted for next 10 years will be considered as non-responsive and rejected.
19. The bids received without warranty / guarantee and confirmation for replacement of defective materials free of cost will be considered as non-responsive and rejected.
20. The bids received without warranty / guarantee and confirmation for replacement of defective materials free of cost will be considered as non-responsive and rejected.

Annexure - 4 : Reference Drawings. (PI find attached)

[illegible]

CHECKLIST

THE CHECK LIST MUST BE COMPLETED AND RETURNED WITH YOUR OFFER. PLEASE ENSURE THAT ALL THESE POINTS ARE COVERED IN YOUR OFFER. THESE WILL ENSURE THAT YOUR OFFER IS PROPERLY EVALUATED. PLEASE TICK "YES" OR "NO" TO THE FOLLOWING QUESTIONS IN THE RIGHT HAND COLUMN.

(A) COMMERCIAL CHECKLIST

SI No.	REQUIREMENT	COMPLIANCE	REMARKS(IF ANY)
1.0	Whether bid submitted under Single Stage Two Bid System?		
2.0	Whether quoted as manufacturer?		
2.1	Whether quoted as Supply House/Distributor. To Specify		
2.2	If quoted as Supply House/ Distributor.		
	(a) Whether submitted valid and proper authorization letter from manufacturer confirming that bidder is their authorized Supply House for the product offered?		
	(b) Whether manufacturer's back-up Warranty/Guarantee certificate submitted?		
3.0	Whether ORIGINAL Bid Bond (not copy of Bid Bond) sent separately? If YES, provide details.		
	(a) Amount :		
	(b) Name of Issuing Bank :		
	(c) Validity of Bid Bond :		
	(d) Whether Bid Bond submitted as per Revised Format		
3.1	Whether offered firm prices?		
3.2	Whether quoted offer validity of Six months from the date of closing of Tenders?		
3.3	Whether quoted a firm delivery period?		
3.4	Whether agreed to the NIT Warranty Clause?		
3.5	Whether confirmed to submit PBG as asked for in NIT?		
3.51	Whether agreed to submit PBG within 30 days of placement of order?		
3.6	Whether Price submitted as per Price Schedule (refer Para vi of BRC vide Annexure –II)		
3.7	Whether quoted as per NIT (without any deviations)?		
3.71	Whether quoted any deviation?		
3.72	Whether deviation separately highlighted?		
3.8	Whether indicated the country of origin for the items quoted?		
3.81	Whether technical literature/catalogue enclosed?		
3.82	Whether weight & volume of items offered indicated?		

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4.0	For Foreign Bidders – Whether offered FOB/FCA port of dispatch including sea / air worthy packing & forwarding?		
4.1	For Foreign Bidders – Whether port of Shipment indicated. To specify?		
4.2	Whether Indian Agent applicable?		
	If YES, whether following details of Indian Agent provided?		
	(a) Name & address of the agent in India – To indicate		
	(b) Amount of agency commission – To indicate		
	(c) Whether agency commission included in quoted material value ?		
5.0	For Indian bidders – Whether indicated the place from where the goods will be dispatched. To Specify :		
5.1	For Indian Bidders – Whether road transportation charges up to Dullajan quoted?		
5.2	For Indian Bidders Only – Whether offered Ex- Works price including packing/forwarding charges?		
5.3	For Indian Bidders only – Whether indicated import content in the offer ?		
5.4	For Indian Bidders Only – Whether offered Deemed Export prices ?		
5.5	For Indian Bidders only – Whether all applicable Taxes & Duties have been quoted ?		
6.0	Whether all BRC/BEC clauses accepted ?		

(B) TECHNICAL CHECKLIST

SI No.	REQUIREMENT	COMPLIANCE	REMARKS (IF ANY)
1	Whether the items would be brand new, unused & of prime quality?		
2	Whether the item would be free from all defects & fault in material, workmanship & manufacture and shall be in full conformity with ordered specifications?		
3	Whether warranty would be for 18 months from date of receipt or 12 months from date of commissioning of the items?		
4	Whether the defective item/ parts, if any, rejected by us will be replaced by you free of cost?		
5	Whether detailed technical catalogues, literature and drawings indicating exploded view and dimensions with part numbers for the offered items are forwarded?		
6	Whether list of recommended spare parts for 10 years trouble free operation with unit price and part numbers of each and every item (year wise) along with the quotation are forwarded?		
7	Whether you have mentioned the name of manufacturer, country of origin and port of shipment?		
8	Whether purchase order number and manufacturer's names would be die stamped on the items?		
9	Whether you have quoted as manufacturer?		
10	Whether Operation and maintenance manual for item would be provided along with the supply?		
11	Whether services manual and part list book with exploded view for the item would be provided along with the supply?		