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

Telephone No. (91-374) 2808793
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Tender No. & Date: **SDG 2436P17/07 dated: 09.09.2016**

Tender Fee : **INR 30,000.00** OR **USD 500.00**
Bid Security Amount : **INR 1,180,450.00** OR **USD 17,360.00**

Bidding Type : **SINGLE STAGE TWO BID SYSTEM**

Period of Sale of Bid Documents : **From 15.09.2016 to 19.10.2016 ; 15:30 Hrs(IST)**

Bid Closing on : **26.10.2016 (at 11.00 Hrs. IST)**

Bid Opening on : **26.10.2016 (at 14.00 Hrs. IST)**

Bid Validity : Bid Should be valid for **120 days** from bid closing date.
Bid Bond Validity : Bid Bond Should be valid up to **26.05.2017**

Performance Guarantee : **Applicable @ 10% of Order value**
Integrity Pact : **Applicable**

OIL INDIA LIMITED invites Global Tenders for items detailed below:

Item No.	MATERIAL DESCRIPTION	QTY.	UOM
10	SCOPE : SUPPLY, INSTALLATION AND COMMISSIONING OF DISC BRAKE FOR E-3000 HP DRAW-WORKS. QUANTITY: 1 No. Friction Type Disc Brake Package complete with mounting arrangement, Control & Brake water Cooling System for Retrofiitment in NATIONAL OILWELL E-3000 Draw-works as a replacement of existing ECB-7838 Eddy Current Brake : Application Data: NATIONAL OILWELL E-3000 Drawworks for Sizing of the Brake a) Input H.P rating: 3000 HP b) Maximum hook load (lbs) : 1224400 c) Number of Lines (Pulleys) : 12 d) Available Air Pressure (psi): 120 e) Wire Rope Diameter (in): 1.1/2 f) Bare Drum Diameter (in): 36 g) Drum Length (in) : 62	01	No.

h) Number of Brakes: 1
i) Ratio Between Brake & Drum : 1
j) Cooling Fluid Type: Fresh Water
l) Desired Temperature Rise (degrees F): 50
m) Existing Hydromatic Brake which is to be replaced by Disc Brake: ECB-7838
n) Band Brake Cooling Water Flow (GPM) and Head (Meter): 65 GPM/27 M

SECTION - I

PURPOSE, SCOPE, APPLICATION AND GENERAL REQUIREMENTS.

1.0 PURPOSE : To mount one number of friction type Disc Brake in place of existing ECB 7838 Eddy Current Brake in NATIONAL OILWELL E-3000 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 one number of NATIONAL OILWELL E-3000 Draw-works as a replacement of existing ECB 7838 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 NATIONAL OILWELL E-3000 Draw-works as per specification/ application data given in this enquiry, as a replacement of existing ECB 7838 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 7838 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 7838 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 conductive 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 REQUIREMENT :

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

a) Interfacing between the NATIONAL OILWELL E-3000 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 Bidder shall confirm that offered friction type Disc brake can be installed without any major modification in the existing Draw-works.

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

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

4.5 Bidder 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 Bidder shall supply one set of operation, maintenance & repair manual indicating all components with schematic drawings, piping diagrams etc for each unit along with the supply. Additionally they will supply one soft copy of operation, maintenance & repair manuals along with the supply.

SECTION - II

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 7838 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 NATIONAL OILWELL E-3000 Draw-works replacing existing ECB 7838 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 7838 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. Specification of Tank Tank Material : Carbon Steel Tank volume , gallon (cubic meter) : Minimum 1050 GPM , 4.0 Cubic meter Tank fill up connection: : 2 inch female NPT Tank vent : 3 inch Tank drain connection: 2 inch Pump Suction: 4 inch 150#ANSI B16.5 Flange 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. Bidder to mention the make , model and discharge of the centrifugal pumps 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. Payment for such equipment / items shall be released after completion of field trial and obtaining DGMS approval.

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 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 Bidder shall consider mounting height of draw-works at 30 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) 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		

(A) GENERAL NOTES FOR E- TENDER:

1. 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. Bid must be submitted electronically only through OIL's e-procurement portal. Bid submitted in any other form will be rejected.

3. 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 along with duplicate copies of Bid Security.**

   b) **Any other document which have been specified to be submitted in original.**

4. 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" shall contain all technical and commercial details except the prices which shall be kept blank. Details of prices as per Bid format / Commercial bid to be uploaded as attachment in the Attachment Tab "Notes and Attachments".

   Any offer not complying with above submission procedure will be rejected as per Bid Rejection Criteria mentioned in the tender.

5. 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"

6. PRICED BIDS OF ONLY THOSE BIDDERS WILL BE OPENED WHOSE OFFERS ARE FOUND TO BE TECHNO-COMMERCIALLY ACCEPTABLE.

7. 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.

8. 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.

9. 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. However, Indian bidders will not be issued Recommendatory Letter.

10. 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.

11. 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. 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. **If any bidder refuses to sign Integrity Pact or declines to submit Integrity Pact with the offer, their bid shall be rejected straightway.**

    OIL's Independent External Monitor at present is as under:

    SHRI RAJIV MATHUR, IPS (Retd.),
    Former Director (IB) Govt. of India
    e-Mail ID : rajivmathur23@gmail.com

    &

    SHRI SATYANANDA MISHRA, IAS(Retd.)
    Former Chief Information Commissioner of India &
    Ex-Secretary, DOPT, Govt. of India
    e-Mail ID : satyanandamishra@hotmail.com

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(B) General Notes to Bidders:

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 .

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. The Prices of such spares should not change for next 2 years from the date quotation. (The cost of 2 years spares shall not be considered for evaluation.)

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 one set 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 one set 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 one soft copy of operation, maintenance & repair manuals along with the supply. Bidder has to confirm the same in the technical bid.

9.0 **INSTALLATION AND COMMISSIONING:** The bidder to quote for the Installation and Commissioning of the unit indicating the schedule of work. Installation and Commissioning will be done by bidder's personnel at Duliajan, Assam (India). Total numbers of days required for installation / commission the system should also be indicated by the bidder. The installation / commission 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 guest house 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 installation to the successful bidder.

9.1 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.

10.0 **PRE-DESPATCH INSPECTION:** 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.

10.1 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.

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

11.1 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 its guest house facility on chargeable basis subject to availability.

12.0 Bidder 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

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

14.0 Bidder shall submit all the certificates against the tests carried at bidder's work along with supply.

15.0 Any deviation(s) from the tender specification should be clearly highlighted specifying justification in support of deviation.

16.0 **Delivery Clause:** "Bidder should categorically confirm in the technical bid a delivery schedule within seven **(07) months**, FOB Port of dispatch, after establishment of letter of credit (in case of foreign bidder) or for dispatch of the equipment within seven (07) months after receipt of formal order (in case of indigenous bidder) **failing which their offer will be rejected**."

(C) Special Notes:

1. The item shall be brand new, unused & of prime quality. 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 the date of commissioning. The defective materials, if any, rejected by us shall be replaced by the supplier at their own expense. Bidders must confirm the same while quoting.

2. The items covered under this enquiry shall be entitled for Customs/Central Excise duty exemption in terms of Govt. notification No. 24/2007-(Sr No. 2) Customs dated 01/03/2007 and central Excise duty Exemption in terms of Govt. notification No. 16/2007-(Sr No. 2) central Excise dated 01.03.2007 as amended from time to time.

3. Bidder to sign and submit completely filled up Technical & Commercial Check-List and Technical Evaluation Matrix for Bid evaluation Criteria and Technical specification vide **Annexure- B** along with the offer.

4. To ascertain the substantial responsiveness of the bid OIL reserves the right to ask the bidder for clarification in respect of clauses covered under BRC also and such clarifications fulfilling the BRC clauses in to must be received on or before the deadline given by the company, failing which the offer will be summarily rejected.

5. To ascertain the substantial responsiveness of the bid OIL reserves the right to ask the bidder for clarification in respect of clauses covered under BRC also and such clarifications fulfilling the BRC clauses in toto must be received on or before the deadline given by OIL, failing which the offer will be summarily rejected.

6. Bidders to note that Govt. of India under Micro, Small and Medium Enterprises Development (MSMED) Act 2006, has proclaimed the Public Procurement Policy, 2012 with effect from 1st April, 2012 in respect of procurement of goods and services, produced and provided by micro and small enterprises, by its Ministries, Departments and Public Sector Undertakings for promotion and development of Micro and Small Enterprises. A new Clause on applicability of Public Procurement Policy for procurement of goods from Micro and Small Enterprises (MSE) in the tender is furnished vide Amendment to General Terms and Conditions for Global Tender (MM/GLOBAL/E-01/2005). Bidders are requested to take note of the same and to submit their offers accordingly.

7. 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.

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

BID REJECTION CRITERIA (BRC):

(A) TECHNICAL

Please find the ANNEXURE-B for the BEC/BRC, comply with the same and should be submitted along with the Technical Bid.

1.0 **Financial Criteria**:

1.0 **Annual Turnover** : The bidder shall have an annual financial turnover of minimum **US$. 4,56,103.00 or Rs. 3,10,15,000.00** during any of the preceding 03 (three) financial years reckoned from the original bid closing date of the tender.

1.1 Net worth of bidder must be positive for preceding financial/ accounting year.

2.0 Considering the time required for preparation of Financial Statements, if the last date of preceding financial / accounting year falls within the preceding six months reckoned from the original bid closing date and the Financial Statements of the preceding financial / accounting year are not available with the bidder, then the financial turnover of the previous three financial / accounting years excluding the preceding financial / accounting year will be considered. In such cases, the Net worth of the previous financial / accounting year excluding the preceding financial / accounting year will be considered. However, the bidder has to submit an affidavit/undertaking certifying that the balance sheet/Financial Statements for the financial year### (as the case may be) has actually not been audited so far.

Notes:

a) For proof of Annual Turnover & Net worth any one of the following document must be submitted along with the bid:

i) A certificate issued by a practicing Chartered/Cost Accountant (with Membership Number and Firm Registration Number), certifying the Annual turnover & Net worth as per format prescribed in ANNEXURE.

OR

ii) Audited Balance Sheet along with Profit & Loss account. In case of foreign bidders, self-attested/digitally signed printed published accounts are also acceptable.

b) In case the bidder is a Central Govt. Organization/PSU/State Govt. Organization/Semi-State Govt. Organization or any other Central/State Govt. Undertaking, where the auditor is appointed only after the approval of Comptroller and Auditor General of India and the Central Government, their certificates may be accepted even though FRN is not available. However, bidder to provide documentary evidence for the same.

3.0 In case the Audited Balance sheet and Profit Loss Account submitted along with the bid are in currencies other than INR or US$, the bidder shall have to convert the figures in equivalent INR or US$ considering the prevailing conversion rate on the date on which the Audited Balance Sheet and Profit & Loss Account is signed. A CA Certificate is to be submitted by the bidder regarding converted figures in equivalent INR or US$.

(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 $ 17,360.00 or Rs. 1,180,450.00** 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)).A bid shall be rejected straightway if Original Bid Security is not received within the stipulated date & time mentioned in the Tender and/or if the Bid Security validity is shorter than the validity indicated in Tender and/or if the Bid Security amount is lesser than the amount indicated in the Tender.

2.1) 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).

2.2) The Bank Guarantee towards Bid Security shall be valid upto **26.05.2017.**

3) Validity of the bid shall be **minimum 120 days** from Bid closing date. Bids with lesser validity will be straightway 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 receipt 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 18(eighteen) months from the date of despatch/shipment or 12(twelve) months from the date of receipt at site. Bidder must confirm the same in their Technical Bid. Offers not complying with this clause will be rejected

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

(i) <u>Price Bid Format (SUMMARY) for Foreign Bidders</u> :

(A) Total Material Value :
(B) Packing & FOB Charges :
(C) Total FOB 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 Chargesincluding Service Tax (if any) :
(H) Training Charges including Service Tax(if any) :
(I) Total Value,(F + G + H) :
(J) Grand Value in words :
(K) Gross Weight :
(L) Gross Volume :

(ii) <u>Price Bid Format (SUMMARY) for Indigenous Bidders:</u>

(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 including Service Tax (if any) :
(K) Training Charges including Service Tax (if any) :
(L) Total value, (I+J+K) above :
(M) Grand Value in words :
(N) Gross Weight :
(O) Gross Volume :

<u>NOTE:</u>

(i) Cost of individual items must be quoted separately.

7) 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.

8) 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.

9) Bids containing incorrect statement will be rejected.

10) Offers should be submitted with Integrity Pact duly signed by the authorized signatory of the bidder. If any bidder refuses to sign Integrity Pact or declined to submit Integrity Pact with the offer, their bid shall be rejected straightway.

(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:

(A) COMMERCIAL

1) The evaluation of bids will be done as per the Commercial Bid Format(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 Cost:
(B) Packing & FOB Charges :
(C) Total FOB Port of Shipment value, (A+B) above :
(D) Overseas Freight Charges upto Kolkata, India :
(E) Insurance Charges @1% of Total FOB Port of Shipment value vide (C) above
(F) Banking Charges @ 0.5% of Total FOB 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 Value will be loaded)
(G) Total CIF Kolkata value, (C+D+E+F) :
(H) Installation/Commissioning Charges including Service Tax, if any :
(I) Training Charges including Service Tax, if any :
(J) Total Value,(G+H+I) :

NOTE: Banking charges in the country of the foreign bidder shall be borne by the bidder.

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 estimatedas under:

(A) Total Material Cost,
(B) Packing and Forwarding Charges:
(C) Total Ex-works value, (A+B) above :
(D) Excise Duty :
(E) Sales Tax, (Please indicate applicable rate of Tax)
(F) Total FOR Despatching station price, (C+D+E) above
(G) Road Transportation charges to Duliajan

(H) Insurance Charges @0.5% of Total FOR Despatching StationValue (F) above
(I) Assam Entry Tax
(J) Total FOR Duliajan value, (F+G+H+I) above
(K) Installation/Commissioning Charges including Service Tax, if any :
(L) Training Charges including Service Tax, if any :
(M) Total value, (J+K+L) above :

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, Assam Entry Tax 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 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 enquiry shall be as per General Terms and Conditions for Global Tender. However, if any of the Clauses of the Bid Rejection Criteria/Bid Evaluation Criteria (BEC/BRC) mentioned here contradict the clauses in the General Terms & Conditions of Global Tender of the tender and/or elsewhere, those mentioned in this BEC/BRC shall prevail.

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Annexure-B

CHECK LIST

(A) COMMERCIAL CHECK-LIST

Sl. No.	PARAMETERS/REQUIREMENTS	BIDDER RESPONSE	REMARKS IF ANY
1.	Whether Original Signed quotation submitted?	YES/NO	
2.	Whether quoted as manufacturer?	YES/NO	
3.	Whether quoted as authorized dealer? [To Specify]	YES/NO	
4.	If quoted as authorized dealer,		
5.	(a)Whether submitted valid and proper authorization letter from manufacturer IN ORIGINAL confirming that bidder is their authorized dealer for the product offered?	YES/NO	
6.	(b)Whether manufacturer's back-up Warranty/Guarantee certificate submitted?	YES/NO	
7.	Whether bid submitted under single stage Two-Bid System?	YES/NO	
8.	Whether ORIGINAL Bid Bond (not copy of Bid Bond) enclosed with the offer? If YES, provide details	YES/NO	
	(a) Amount :		
	(b) Name of issuing Bank :		
	(c) Validity of Bid Bond :		
9.	Whether offered firm prices?	YES/NO	
10.	Whether quoted offer validity of 120 days from the date of closing of tender?	YES/NO	
11.	Whether quoted a firm delivery period?	YES/NO	
12.	Whether quoted as per NIT (without any deviations)?	YES/NO	
13.	Whether any deviation is there in the offer?	YES/NO	
14.	Whether deviation separately highlighted?	YES/NO	
15.	Whether agreed to the NIT Warranty clause?	YES/NO	
16.	Whether Price Bid submitted as per Price Schedule?	YES/NO	
17.	Whether indicated the country of origin for the items quoted?	YES/NO	
18.	Whether all the items of tender quoted?	YES/NO	
19.	Whether technical literature/catalogue/drawings enclosed?	YES/NO	
20.	For Foreign Bidders - Whether offered FOB/FCA port of dispatch including sea/air worthy packing & forwarding?	YES/NO	
21.	For Foreign Bidders – Whether port of shipment indicated? [To specify]	YES/NO	
22.	For Foreign Bidders only - Whether indicated ocean freight up to C&F Kolkata port (Excluding marine insurance)?	YES/NO	
23.	Whether Indian Agent applicable?	YES/NO	
	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?	YES/NO	
24.	Whether weight & volume of items offered indicated?	YES/NO	
25.	Whether confirmed to submit PBG as asked for in NIT?	YES/NO	
26.	Whether agreed to submit PBG within 30 days of placement of order?	YES/NO	
27.	For Indian bidders – Whether place of dispatch indicated in the offer? [To specify]	YES/NO	
28.	For Indian bidders – Whether road transportation charges up to Duliajan quoted?	YES/NO	
29.	For Indian Bidders only - Whether offered Ex-works price including packing/forwarding charges?	YES/NO	
30.	For Indian Bidders only - Whether offered Deemed Export prices?	YES/NO	
31.	Whether quoted prices are exclusive of Excise duty?	YES/NO	
32.	For Indian bidders only – whether import content indicated in the offer?	YES/NO	
33.	For Indian Bidders only - whether all Taxes have been indicated categorically?	YES/NO	
34.	Whether all BRC/BEC clauses accepted?	YES/NO	
35.	Whether confirm to accept all clauses of Integrity Pact?	YES/NO	
36.	Whether duly signed Integrity Pact enclosed?	YES/NO	

(B) TECHNICAL CHECK-LIST

Sl. No.	DESCRIPTIONS	REMARKS
1	Whether offered items meet all the tender requirement	Yes/ No
2	Whether bidder offered all the items as per our tender requirement?	Yes/ No
3	Whether bidder is an OEM	Yes/ No
4	Whether bidder is sole selling agent / distributor / dealer / supply house?	Yes/ No
5	Whether the items would be brand new, unused & of prime quality ?	Yes/ No
6	Whether the items would be free from all defects & fault in material, workmanship & manufacture and shall be in full conformity with ordered specifications?	Yes/ No
7	Whether warranty would be for 12 months from date of commissioning of the items ?	Yes/ No
8	Whether the defective items/ parts, if any, rejected by us will be replaced by you free of cost?	Yes/ No
9	Whether detailed technical catalogues, literature and drawings indicating exploded view and dimensions with part numbers for the offered items are forwarded along with the offer?	Yes/ No
10	Whether you have mentioned the name of manufacturer, country of origin and port of shipment?	Yes/ No
11	Whether Operation and maintenance manual for item would be provided along with the supply?	Yes/ No
12	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?	Yes/ No

TECHNICAL EVALUATION SHEET FOR BEC/BRC				
Sl NO	**Clause No of Tender Document/BEC/BRC**	**Description**	**Bidders Remarks Complied/ Not Complied/ Deviation**	**Complied/ Not Complied/ Deviation Bidder to indicate Relevant Page No of their Bid to support the remarks/ compliance**
	A) TECHNICAL:			
1	1.0	The Disc Brake should be Plate Style Friction Type water cooled with Pressure actuated and Spring released design with dual pressure piston actuation for finer controls on both Heavy & Light load encountered during deep drilling.		
2	2.0	Actuating Member for the Brake should be a metallic Piston, preferably made out of Aluminum to avoid corrosion.		
3	3.0	The Bidder in case of Manufacture must have the experience of successful execution of supply ,installation and commissioning of at least 3 (three) numbers Disc Brake to any E & P companies/Drilling Contractors /Drilling Service Providers in the last 5 years preceding the original bid closing date of this tender (either by themselves or through their sole selling agent /distributor/dealer /supply house)		

4	3.1	Documentary evidence to substantiate supply record should be submitted in the form of copies of relevant Purchase Orders along-with copies of any of the documents in respect of satisfactory execution of each of those purchase orders, such as: i) Satisfactory inspection report OR ii) Satisfactory supply completion / Installation report OR iii) Consignee receipt delivery Challan OR iv) Central excise gate pass / tax invoice issued under relevant rules of central excise / VAT OR v) Any other documentary evidence that can substantiate the satisfactory execution of each of the purchase order cited above		
5	3.2	Those Manufacturers which successfully supplied Disc Brake to OIL INDIA LTD (OIL) either by themself or through their sole selling agent /distributor/dealer /supply house in the past shall be considered to qualify the experience criteria as stated in the Clauses 3.0 & 3.1 provided they indicate in the bid itself the Purchase Order No. & Date, Quantity, Details of Disc Brake supplied to OIL in the past		
6	4.0	In case the bidder is sole selling agent / distributor / dealer / supply house, then bidder must furnish the following documents		
7	4.1	Authorization certificate cum warranty		

		backup from the manufacturer in original on manufacturer's letter head should be submitted along with the offer. This certificate valid at the time of bidding and should remain valid during the entire execution period of the order. The concerned manufacturer should also guarantee of supplying the items to the bidder in the event of an order on the bidder.		
8	4.2	The bidders quoting on behalf of the manufacturers must also submit undertaking in original from the manufacturer for back up guarantee, after sale services and uninterrupted supply of spares for at least 10 years.		
9	4.3	The bidders quoting on behalf of the manufacturers should additionally have the experience of successful execution of supply, installation & commissioning of at least 1 (one) number of Disc Brake in the last 5 (five) years preceding the original bid closing date of this tender.		
10	4.4	Documentary evidence to substantiate supply record should be submitted in the form of copies of relevant Purchase Orders along with copies of any of the documents in respect of satisfactory execution of each of those Purchase Orders, such as: (i) Satisfactory Inspection report (OR) (ii) Satisfactory supply completion/		

		Installation / Commissioning report (OR) (iii) Delivery challans received by Consignee (OR) (iv) Central Excise Gate Pass/ Tax Invoice issued under relevant rules of Central Excise/ VAT.		
11	4.5	The sole selling agent / distributor / dealer / supply house should quote for the supply Disc Brake from the manufacturers who meet the experience & other criteria as mentioned at clauses 3.0 , 3.1 & 3.2		
12	5.0	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		

TECHNICAL EVALUATION SHEET FOR SPECIFICATION OF DISC BRAKE				
Sl NO	**Clause No of Tender Document/ Technical Specification/ Scope of Work**	**Description**	**Bidders Remarks Complied/ Not Complied/ Deviation**	**Complied/ Not Complied/ Deviation Bidder to indicate Relevant Page No of their Bid to support the remarks/ compliance**
	SECTION – I **PURPOSE, SCOPE, APPLICATION AND GENERAL REQUIREMENTS**			
1	1.0	**PURPOSE**: To mount one number of friction type Disc Brake in place of existing ECB 7838 Eddy Current Brake in NATIONAL OILWELL E-3000 Draw-works as an auxiliary brake to control the speed of the traveling block with its (full) load during lowering and raising		
2	2.0	**SCOPE:** Supply, installation & commissioning of friction type disc brake system with mounting, control and brake cooling packages in one number of NATIONAL OILWELL E-3000 Draw-works as a replacement of existing ECB 7838 Eddy Current Brake. The supply shall include all the items but not limited to the following, sufficient/ required for installation & commissioning of the equipment		
3	2.1	Friction type Disc Brake suitably designed/sized for NATIONAL OILWELL E-3000 Draw-works as per specification/ application		

		data given in this enquiry, as a replacement of existing ECB 7838 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		
4	2.2	Suitable Mounting package to facilitate mounting of the selected brake into the existing Draw-works in the position of existing ECB 7838 Eddy Current Brake.		
5	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		
6	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			
7	a	Friction type Disc Brake will replace the existing ECB 7838 Eddy Current Brake to bring the operation of the band Brake to the bare minimum level (mostly for parking only).		
8	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.		
9	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.		
10	d	The noise level at the draw-works during braking operation will practically reduce to the minimal which will be very conductive to the health of work persons		
11	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 REQUIREMENT :			
12	4.1	Bidder shall confirm that interface between the Draw-works Drum shaft and offered friction type Disc Brake are possible. a) Interfacing between the NATIONAL OILWELL E-3000 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		
13	4.2	Bidder shall confirm that offered friction type Disc brake can be installed without any major modification in the existing Draw-works.		
14	4.3	Bidder shall visit Oil India Limited, if they feel, to collect more data. Any information required in this regard by the bidder from OIL shall be		

		informed duly.		
15	4.4	Bidder shall carry out interfacing of offered friction type Disc brake with the Twin stop.		
16	4.5	Bidder 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		
17	4.6	Bidder shall supply one set of operation, maintenance & repair manual indicating all components with schematic drawings, piping diagrams etc for each unit along with the supply. Additionally they will supply one soft copy of operation, maintenance & repair manuals along with the supply.		
	SECTION – II **TECHNICAL SPECIFICATION :** **A. - Technical Specification and terms for the Brake**			
18	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 7838 Eddy Current Brake		
19	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		
20	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		
21	A.4	It should have External Clamp Tube & Stud type design for ease of field Inspection, and in-situ Maintenance & Repair.		
22	A.5	Pressure plates within the Brake should be metallic and fiberglass pressure plates are not acceptable.		
23	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.		
24	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.		
25	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		
26	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.		
27	A.10	There should be provision of interfacing of offered friction type Disc brake with the Twin stop.		
28	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			
29	B.1	Brake Mounting Package should facilitate installation of the disc brake in NATIONAL OILWELL E-3000 Draw-works replacing existing ECB 7838 Eddy Current Brake with no major Engineering modification at site.		
30	B.2	Brake mounting cradle should provide physical support for the brake and shafting.		
31	B.3	Brake cradle must be designed to mimic the mounting arrangement of the existing ECB 7838 Eddy Current Brake in the respective draw-works		
32	B.4	Mounting Feet for the Cradle should be included, as applicable.		
33	B.5	The Mounting Package should also include removable protective cover to minimize exposure of the brake's Friction Couple from contamination.		
34	B.6	The complete set of spline clutch (dog clutch) need to be supplied along with the brake including required mounting.		
35	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.		
36	B.8	Inboard bearing is to be fixed in fabricated housing to assure correct shaft axial alignment		
37	B.9	Outboard bearing should be ideally with pillow block style design arranged for easy removal of the brake for maintenance.		
38	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.		
39	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:			
40	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		
41	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		
42	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		
43	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		
44	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:			
45	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. Specification of Tank Tank Material : Carbon Steel Tank volume , gallon (cubic meter) : Minimum 1050 GPM , 4.0 Cubic meter Tank fill up connection: : 2 inch female NPT Tank vent : 3 inch Tank drain connection: 2 inch Pump Suction: 4 inch 150#ANSI B16.5 Flange		
46	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. Bidder to mention the make , model and discharge of the centrifugal pumps		
47	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.		
48	D.4	Pumps & motor are to be mounted on their own independent base skid for easy maintenance.		
49	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		
50	D.5 (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.		
51	D.5 (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.		
52	D.5 (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.		
53	D.5 (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)		
54	D.5 (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		
55	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. Payment for such equipment / items shall be released after completion of field trial and obtaining DGMS approval. Bidder is thus advised to quote the prices for equipment / Items requiring DGMS approval separately.		
56	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.		
57	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.		
58	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		
59	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		
60	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 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		

61	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.		
62	D.13	Bidder shall consider mounting height of draw-works at 30 feet for design of brake water cooling system.		
63	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		
64	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		
65	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.		
66	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		
67	D.18	Following compulsory / mandatory electrical spares needs to be supplied as part of the whole package 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		
	SECTION – III **GENERAL NOTES FOR BIDDERS** : (Bidders should confirm to each & every points clearly. Deviations if any should be highlighted in the quotation.)			
68	1	All the items shall be brand new, unused & of prime quality.		
69	2	The bidder should quote (item wise) for all the items required for the system including cooling system		
70	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.		
71	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, which ever is earlier		
72	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. The Prices of such spares should not change for next 2 years from the date quotation. (The cost of 2 years spares shall not be considered for evaluation.)		
73	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		
74	7	The bidder to provide one set of technical literature for operation, maintenance & repair indicating all components with schematic drawings, piping diagrams, part number etc. for technical scrutiny purpose		
75	8	The bidder to supply one set 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 one soft copy of operation, maintenance & repair		

		manuals along with the supply. Bidder has to confirm the same in the technical bid.		
76	9	**INSTALLATION AND COMMISSIONING** : The bidder to quote for the Installation and Commissioning of the units indicating the schedule of work. Installation and Commissioning will be done by bidder's personnel at Duliajan, Assam (India). Total numbers of days required for installation / commission the system should also be indicated by the bidder. The installation / commission 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 guest house 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 installation to the successful bidder		
77	9.1	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		
78	10	**PRE-DESPATCH INSPECTION :** 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		
79	10.1	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 born by OIL. Bidders have to extend all assistance to OIL's Engineers during the period of inspection		
80	11	**TRAINING :** The successful bidder shall have to offer training to OIL's engineers/ field personnel on installation, operation and maintenance aspects of the system at a rig-site of Oil India Limited, Assam. Training shall be for a minimum period of one week . Bidder has to confirm the same in the technical bid.		
81	11.1	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 its guest house facility on chargeable basis subject to availability		
82	12	Bidder 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		

83	13	OIL's Purchase Order Number shall be embossed on each item.		
84	14	Bidder shall submit all the certificates against the tests carried at bidder's work along with supply		
85	15	Bidder shall submit the technical check list along with the offer.		

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