

Annexure-‘A’**TENDER DOCUMENT (COVER-I)****NIT NO.- Mgr(P&S)/J/17-1055, dt.-04.02.2017 Due on 25.2.2017.**

Issued to M/S _____

(SPACE FOR REVENUE STAMPS)

TENDERS NOT AFFIXED WITH REQUISITE AMOUNT OF REVENUE
STAMPS SHALL BE REJECTEDACCEPTANCE TO THE TERMS AND CONDITIONS OF THE NIT

1. WE M/S _____
HAVE UNDERSTOOD THE TECHNICAL SPECIFICATIONS AND TERMS AND
CONDITIONS AS GIVEN IN THE TENDER DOCUMENT OF THE NIT No **Mgr
(P&S)/J/17-1055, Dt.- 04.02.2017 DUE ON 25.02.2017**
2. COPY OF TERMS AND CONDITIONS SIGNED AND STAMPED ON EACH PAGE IS
ENCLOSED.
3. WE ALSO CONFIRM THE ACCEPTANCE TO THE TECHNIAL SPECIFICATIONS FOR
DESIGN, MANUFACTURE AND SUPPLY OF HORIZONTAL CENTRIFUGAL PUMP
SET OF DIFFERENT PARAMETERS DRIVEN WITH DGMS APPROVED FLAME
PROOF MOTORS AS ENVISAGED IN THE NIT.
4. ATTESTED COPIES OF DGMS APPROVAL IN RESPECT OF FLP MOTORS &
OFFERED IN THE TENDER ARE ENCLOSED.
5. PARTICULARS OF EARNEST MONEY _____
6. COPY OF LATEST SALES TAX/VAT CLEARANCE CERTIFICATE DATED
_____ ENCLOSED.

Note:- Cost of tender document Rs1000 (Non-Refundable) in the shape of Demand draft drawn in favour of Director, finance, J&K Minerals Ltd. to be attached in cover-I, if the tender document is downloaded from website.

Dated :

Place :

Signatures with seal of the firm (Tenderer)

**TENDER DOCUMENT TO NIT FLOATED FOR PROCUREMENT OF
HORIZONTAL PUMP SETS REQUIRED AT COAL MINES, KALAKOT.
UNDER NO: Mgr (P&S)/J/17-1055, Dt.-04/02/2017**

(Terms and conditions)

1. The details of the items required are contained in Annexure-'B' forming part of this tender document.
2. **SUBMISSION OF TENDERS:**
 - i) The tenders affixed with revenue stamp worth Rs.5/- should be addressed to **The MANAGER (P&S), J&K Minerals Limited**, and should reach his office at **5th Floor, Jawahar Lal Nehru, Udhog Bhawan, Rail Head Complex, Jammu-180012** on or before **25.2.2017** by 4.00P.M. Tender(s) received late by hand or post or otherwise shall not be entertained, even if the rates quoted are lowest.
 - ii) The tenders shall be submitted under two cover system as cover 1st and cover 2nd as under:

Cover 1st shall contain:

- a) Cover note enclosed as Annexure 'A' affixed with Rs. 5/- Revenue Stamps duly filled in and signed with seal by the tenderer.
- b) Earnest Money deposit to the tune of Rs.20,000.00(Rupees twenty thousand) only in the shape of CDR/FDR/IBG Pledged to Director, Finance, J&K Minerals Limited & cost of tender document Rs.1000(Non-Refundable) in the shape of demand draft drawn in favour of Director, Finance, J&K Minerals Limited if the same is downloaded from the website of the corpn.
- c) Technical specifications as per enclosed Annexure 'B' & 'C', design/ drawings, characteristic / performance curves and any other technical literature.
- d) Authenticated copies of DGMS approval in respect of FLP motors.
- e) Acceptance to general terms and conditions of the NIT. The firms are required to put their signature with seal on each page of terms and conditions of the NIT and enclose the same with Cover-I.
- f) In case of local firms/dealers of the J&K State ,latest Sales Tax Clearance Certificate " issued by competent authority under provisions of J&K GST Act, 1962 and J&K VAT Act 2005 is also required to be enclosed in the first Cover.

Note:- All the above items are essential part of the cover-I of the tender, without any of which tender shall be liable to be rejected without seeking any further clarifications.

Cover 2nd shall contain the Price Bid as per enclosed Annexure 'D'.

Cover 2nd shall be opened only when the earnest money is found in order and after finalization of technical bid (Cover 1st) and only of those firms which qualify the requirement of 1st cover in respect of the technical specification and terms and conditions as envisaged in terms and conditions of the NIT. The firms should note that the cover-II shall contain only the price bid.

Tenders not furnished under two covers systems shall not be entertained even if rates offered are found lowest.

3. Marking of the covers :-

Each cover shall be clearly marked as "cover 1st" and "cover 2nd".

- i. Cover 1st shall be marked to indicate "Earnest Money, Technical Specifications and Terms and Conditions".
 - ii. Cover 2nd shall be marked to indicate "Price Bid".
4. The sealed envelope containing the tenders (all covers) should be superscribed as tender for Design, Manufacture and Supply of Horizontal Centrifugal Pump Set against NIT No Mgr(P&S)/J/17-1055, dt.-04/02/2017, Due on 25-02-2017.
 5. The rates should be clear and legible without any overwriting or erasion. However corrections or insertions other than the rates should be properly initialed. Tenders written in pencil partly typed or partly hand written or written in different inks shall be rejected. Tenders must be clearly written and all rates and costs written both in figures as well as in words. The tender document shall be signed and dated on each page by the firm.
 6. The offer should be valid for a period of 180 days from the date of opening of price bid. Such of the tenders which will not be valid for 180 days from the date of opening shall be rejected, even if the rates offered are lowest.
 7. The tender must be sent by registered post, speed post, registered courier or delivered personally in the office of the Managing Director, J&K Minerals Ltd. Jawahar Lal Nehru Udhog Bhawan, Jammu against receipt. Late tenders whether by hand or post shall not be entertained at all.
 8. Conditional tenders such as 'Subject to Market Fluctuations' or subject to goods remaining unsold etc. shall be rejected even if the rates offered are found to be lowest.

Tenders of the firms not accepting the terms and conditions of the NIT shall be outrightly rejected.

9. Inter-dependent Tender :

Firm(s) which are dependent upon the tenders of other shall not be entertained.

10. Expenses for Tender :

The firm(s) shall not be entitled to any claim towards expenses incurred on incidental at the time of submission of the tenders or subsequent evaluation/ clarifications thereof.

11. EARNEST MONEY / SECURITY DEPOSIT:

- i. Tender(s) should be accompanied with earnest money equivalent to the tune of Rs. 20000.00(Rupees twenty thousand) only in the form of CDR/FDR pledged to the Director, Finance, J&K Minerals Limited, or in the shape of irrevocable bank guarantee, from a nationalized/ scheduled bank encashable from the local branch at Jammu / Srinagar of the issuing Bank on non-judicial stamp, without which the tender(s) shall not be entertained.

- ii. Earnest money shall be refunded to the un-successful tenderer(s) only after, finalization of the tender and shall be retained in case of successful tender(s) which shall be treated as part of security deposit which will be 2 % of the value of order to be refunded after successful completion of supplies. In case of successful tender(s) having earnest money in the shape of Bank Guarantee, they shall have to extend the validity of the Bank Guarantee up to 12 months after delivery of material.
- iii. The Earnest Money/irrevocable Bank Guarantee of the successful tenders/ (s) who backs out or withdraw his tender or fails to abide by it after the acceptance is conveyed or posted to the addressee, shall be forfeited besides recourse to law in force in the State shall be taken to recover the extra cost, if involved in completion of work order through some other agency, at his risk and cost.

12. Prices:

The firm(s) are required to quote net landed rates per set of the equipment F.O.R delivery at Kalakot Mine Works. The firms are required to quote net landed rates inclusive of all taxes, levies (such as excise duty, CST & VAT etc), packing forwarding, freight and Transit insurance State Entry Tax & Toll Tax etc whichever are applicable as well as the charges for third party inspection by M/S RITES as may be specified by the corporation. The bills shall however be raised on standard billing forms depicting all taxes/levies and other charges applicable over and above the basic rates of the equipment as applicable. Documentary evidence if deemed necessary in support of taxes applicable/paid/included in the net landed rates as well as for the inspection charges paid to the third party for inspection, shall have to be produced by the successful tenderer.

The net landed rates quoted by the firm shall be considered to be inclusive of all such charges as mentioned above and no extra claim of the firm on this account shall be considered if found to be eligible for placement of supply order.

It is the responsibility of tenderer to verify about the taxes/duties applicable on the supplies during the period of tendering/supplies.

The Price Bid should be as per the Annexure 'D' enclosed.

***Note: - One set of the equipment means Horizontal Centrifugal Pump set comprising of Pump, Motor, Base plate, Coupling, and allied accessories.**

13. Opening Of Tenders:

- i. Tenders shall be opened by the Tender opening committee (TOC) on 28-02-2017 or any other subsequent date convenient to the TOC in presence of tender(s) who may wish to remain present at the time of opening of tenders.
- ii. The Managing Director, J&K Minerals Limited, reserves the right to accept or reject any / or all tender(s) in part or full.
- iii. The tender(s) should bear in mind that if it comes to the notice of J&K Mineral Limited that they have within the specified period offered lower rates to any other party within the territorial limits of J&K State, penalty clause would be applied and proceedings will be started for effecting recovery of the difference for entire contract besides action initiated to black list the party within the jurisdiction of J&K State.

- iv. The successful tenderer shall not assign or sublet his supply order or any substantial part thereof to any other agency.
- v. The supplies shall be of the standard quality and up to the standard specification and in strict accordance as per Annexure 'B' enclosed. The decision of the accepting authority shall be final as to the quality of the material and shall be binding upon the tenderer(s) and in case the Material supplied not being of prescribed standard or norms the same shall be liable to be rejected or replaced and any expenses or loss caused to the supplier as a result or rejection or replacement of same shall be entirely on the account of the supplier(s).
- vi. The rejected consignment must be removed by the tenderer from the destination (where it is) within 15 days of the date of information of rejection. The officials concerned will take reasonable care of consignment but in no case be responsible for any loss, shortage and damage that may occur to it while it is on their premises.
- vii. Any other term and condition as applicable under Financial norms shall be incorporated at the time of supply order.

14. Terms Of Payment :

95% (Ninety five percent) payment along with 100% Taxes if shall be paid against delivery at Kalakot Works preferably in one lot and verification thereof by the material receiving authority to the effect that the supplies are in conformity with the specifications and terms and conditions of the supply order.

Balance 5% (five percent) amount shall be made after satisfaction completion of supplies in full and verification thereof by the competent authority.

15. Delivery Period:

The Material complete in all respects shall be supplied by the firm within 120 days from the date of placement of Purchase order.

16. Performance Guarantee:

The approved supplier/successful firm shall be bound for a period of 18 months from the date of supply of Equipment for satisfactory performance and shall furnish a bank guarantee valid for 18 months equivalent to 5% value of total cost. The B.G. shall be furnished by the firm before release of 95% (Ninety five percent) payment to the firm. During the guarantee period if any defect is found in the equipment or any part thereof, which may have been caused by bad workmanship, use of inferior material or otherwise, or if in the opinion of the Government any repair or replacement are required to be made to the Department, the approved supplier shall be liable to remove defects/or conduct repairs at his own cost and expenses within period of 15 days of the receipt of the notice from the Department. In the event of the failure on the part of approved supplier to remove these defects are make repairs within the stipulated period the Department may get the defects removed or repairs made by any other agency and the cost thereof shall be recovered from the approved supplies.

17. Paying Authority:

Managing Director, J&K Minerals Ltd., 5th Floor, Jawaharlal Nehru, Udhog Bhawa, Jammu.

18. Penalty:

In the event of successful tenderer(s), failure, neglecting, declining or delaying the supplies or in the event of any damage occurring or being caused or in the event of any default or failure in complying with any of the terms & conditions

of the supply order, the Corporation shall with or without prejudice to any other remedy available to it under any law for the time being in force in the State.

- i. Terminate the supply order after 10 days notice, and / or
- ii. Recover the amount of loss caused by damage, failure or default including the consequential damage as may be determined by the Department and / or
- iii. Recover the extra cost, if any, involved in allotting the Purchase order to other party, and / or
- iv. Forfeiture of earnest money / security deposits .

19. Insurance:

The goods prior to dispatch shall have to be insured through a Nationalized Insurance Company upto its final destination, against all transit risks. The firm shall therefore have to take appropriate insurance policy in advance for covering the dispatch and transit of the goods, charges for which shall be borne by the successful firm and shall be included in the net laded quoted rates FOR works at Coal Mines Kalakote (J&K) as per clause 12 above. The department shall pay no extra charges on this account.

20. Documents to be furnished:

The supplier shall furnish to the consignee, the following documents along with the advance copy of dispatch documents

Test certificate of the manufacturer(s) along with drawings, instruction manual on installation, operation and maintenance of the equipment and spares parts catalogue.

The test certificates of the equipment in respect of inspection conducted by RITES.

A copy of original DGMS approval accompanied with its renewal letter issued by DGMS. in respect of the flame proof motors.

21. Inspection:

The equipment shall be inspected by the representative of the Department at the suppliers/manufactures work and or by third party inspection agency RITES as may be specified in the supply order by the Department for carrying out inspection. The inspection fee for 3rd party inspection at manufacturer's work shall be paid by the supplier in first instance which shall be reimbursed against submission of vouchers.

22. Mode of Dispatch:

The supplier shall dispatch the material through a reputed road transport agency direct from despatching station upto destination. The equipment shall be suitably packed in standard packings as may be conveniently transported for which the supplier shall take due care keeping in view the limitation for size and weight. Each packing shall carry a packing list and copy thereof shall be sent to the consignee both separately as well as with despatches.

23. Specifications of Material:

Detailed specifications of Equipment shall be clearly mentioned giving its make, and other constituent component and performance over whole range of operation and other relevant particulars as per **Annexures-'B' & 'C'**. Firms must quote for exact specifications as provided herein and there shall be no deviation as per **Annexures-'B' & 'C'**.

24. Illustrative literature and Drawings:

Each tender shall be accompanied with the detailed literature and drawings (line / dimensional drawings of each component of the equipment wherever asked for), performance charts/ curves duly authenticated by the original manufacturers in triplicate in respect of the equipment offered.

25. Clarifications:

In respect of any clarification of the conditions/technical provisions set forth in the tender documents the firm(s) shall address this office in writing ten or more days before the last date fixed for receipt of tenders.

26. Operation/Maintenance Manual & Parts Catalogue:-

The successful firm shall have to supply free of cost to the department three complete sets of operation and maintenance manual including spare parts catalogue for each set of equipment.

27. Indemnity Bond :

The firm shall furnish an indemnity bond on non-judicial stamped paper for the total value of the order valid for 18 calendar months from the date of receipt of last consignment towards the following:-

- a) Satisfactory completion of the order.
- b) Satisfactory working/performance of the equipment and
- c) To undertake to refund on demand whatsoever amount that may become refundable to the Government in respect of the said order on account of payment made for supply of the stores, not being in accordance with the specifications, terms and conditions of the order.

28. FORCE MAJURE:

Any failure or omission to carry out the provision(s) of the Purchase order shall not give rise to any claim by the Corporation or the tenderer against each other if such failure or omission arises from an "Act of God" which shall include all natural calamities such as fires, floods, earthquakes, hurricane, strikes, riots etc. beyond the control of the parties including war, whether declared or not, civil war or a state of insurrection.

29. ARBITRATION:

If at any time, dispute or differences, whatsoever, shall arise between the parties upon or in relation to or in connection with the tender, either of the parties may give the other, notice in writing of the existence of such question of dispute or difference and the same shall be referred for award to Managing Director, JKML, whose decision shall be final and binding upon the parties.

30. Agreement:

An agreement deed shall have to be executed by the firm with the corpn. within 10 (ten) days from the issue of this order. Any delay or failure on this account shall be construed as willful default inviting forfeiture of EMD.

Manager (P&S)

ANNEXURE 'B'

NIT NO.- Mgr(P&S)/J/17-1055, Dated: 04.02.2017 Due on 25-02-2017

REQUIREMENT AND TECHNICAL SPECIFICATIONS OF THE HORIZONTAL CENTRIFUGAL PUMPS AND ALLIED EQUIPMENTS

1. SCOPE :-

The scope of work covers the design, manufacture shop testing, packing, forwarding, insurance, transportation and delivery at Consignee's works Kalakot Mines.(J& K) of Horizontal Centrifugal Pump sets comprising of pumps ,DGMS approved Flame Proof 3-phase induction Motors, Base plates, Couplings, and allied accessories etc. as per requirement given below. Any item not mentioned in these specifications but considered necessary as an integral part of the equipment for its efficient working shall be included by the firms in their offer.

Each pump set is to supplied as an integral unit assembled on the base Plate (Foundation) pump and motor properly aligned and coupled and with sturdy packing.

Requirement;

Horizontal Centrifugal Pump sets for dewatering of underground coal mines at Kalakote, District Rajouri Jammu (J&K)

List of Horizontal Centrifugal Pumps Sets with duties (GPH x Mtrs.) required

Item No.	Duties (Discharge in LPSx Head in Mtrs.)	Tentative Qty.
1	7 x 50	07

Quantities mentioned above are liable to be increased or decreased at the time of placement of order.

Supply order shall be placed with the successful tenderer subject to and to the extent of availability of funds

Repeat supply orders can be placed with the successful tenderer to meet the requirement of the department and as per availability of funds/approval of competent authority , within the validity period of rates .

2. AMBIENT TEMPERATURE AT SITE :-

0°C TO 50°C.

3. ACCEPTABLE MAKES :-

- i. Pump: Kirloskar / Mather & Platt / Best & Crompton(Beacon Weir) / KSB / WPIL .
- ii. Motors: Kirloskar/Crompton Greaves / Marathon /BHEL/ Siemens/ABB.

PUMPS: - Horizontal Centrifugal Pumps, Electric driven conforming to IS: 5120 with latest amendments.

4. DUTY :-

Pumps should be designed for continuous duty.

5. MATERIAL OF CONSTRUCTION:-

A) (FOR CLEAR WATER APPLICATION) The pumps shall be generally bronze fitted as per IS: 5120 and as details given below:

1. Impeller : Bronze grade V of IS : 318.
2. Pump Shaft : Stainless steel AISI 410 heat treated to BHN 210 to 220.
3. Pump casing : Cast Iron conforming to IS 210 grade 25.
4. Stuffing Box : Cast Iron conforming to IS 210 grade 25.
5. Casing Linear Wearing Rings ; Bronze Grade V of IS: 318.
6. Gaskets : Wire reinforced rubber.
7. Bolts & Nuts : High Tensile Steel.
8. Gland : Bronze Grade V of IS : 318.
9. Base Plate :Mild Steel as per relevant IS code. Base plate to be designed by pump manufacturers.

The firm is required to furnish complete details of the material of construction used for Horizontal Centrifugal Pump sets (Clear water / Raw water application) on firm's letter head as per following format:-

S.No.	Name of the component	Material of construction	Reference to IS: Code

Note :- No deviation from prescribed material of construction shall be allowed. However any such deviation deemed necessary by the manufacturer, for improvement in the design and efficiency of the equipment shall have to be suitably justified by the firm for acceptance of the Department.

6. OTHER REQUIREMENTS FOR HORIZONTAL CENTRIFUGAL PUMPS :-

- i. The firms shall furnish characteristic curves (authenticated copy of original family curves) of the pumps quoted showing the head in mtrs. capacity curve, efficiency curve (%), BHP/KW curve and NPSHR curve in meters over the whole range with D.P. Shut off head and run out points clearly marked. The curves must be of pump manufacturer's duly authenticated under proper seal and signatures. No other curves shall be entertained and the offers without such authentic curves shall be rejected. The capacity curves shall be in GPH.
- ii. Construction Detail
- iii. Shut off head
- iv. NPSH Required by the pump at duty point.
- v. Guaranteed efficiency of the pump at duty point without negative tolerance (the pump maximum efficiency should be selected at duty point) while quoting the guarantee efficiency the word 'NEGATIVE TOLERANCE' must accompany the efficiency figure both in words as well as in figures.
- vi. Offers with efficiency not quoted in accordance with the above shall be out rightly rejected.
- vii. Quoted value of pump efficiency shall be subject to check in accordance with the specific speed of pump at duty point. Offers found having quoted wrong value of pump efficiency shall be out rightly rejected.

- viii. BHP absorbed by Pump set at duty point and power requirement at +10% and at -25% of duty head to be supported by calculations.
- ix. The firms shall indicate the minimum guaranteed overall pump efficiency and motor efficiency which shall not be subject to any tolerance and shall also furnish the guaranteed power input to the motor corresponding to these efficiencies. The firms shall submit authenticated pump efficiency and motor efficiency from the manufacturer.

7. ELECTRIC MOTOR :-

Horizontal , DGMS approved (flame proof for Gas Group-I) induction motors (with suitable protection for use in coal mines) , foot mounted as per IS: 325 to work on 3 phase $380 \pm 15\%$ volts, $50 \pm 3\%$ Hz AC supply class 'F' insulation rated for continuous duty.

Marking On The Motors:- Each motor shall carry conspicuously in permanent manner the identification mark to the effect of DGMS approval i.e DGMS APPROVAL NO:.....GROUP- OF 20....(renewed vide DGMS letter no...../EHQ Dated:.....In addition every unit shall carry permanent mark of DGMS approval. i.e the MONOGRAM of DGMS.

Authenticated copy of valid DGMS approval for each class and rating of motor offered shall be furnished by the tenderer in the first cover.

8. MOTOR SPEED :- 1450 rpm (Compatible with pumps' design speed)

9. POWER SUPPLY :-

AC 3 Phase $380 \pm 15\%$ volts and $50 \pm 3\%$ Hz. The Motor shall be suitable for specified power supply system.

10. DUTY :-

Continuous duty.

11. ENCLOSURE :-

Totally enclosed, air filled, with flame proof protection (For Gas Group-I), with suitable class of insulation and IP protection in accordance with relevant IS codes (IS: 4691, IS:2148 and IS: 13346).

12. REFERENCE TO IS :-

The motor shall conform to IS: 325, IS-2253, IS: 4691, IS: 2148 and IS: 4691.

13. PERFORMANCE :-

The motor and pump shall work satisfactorily as combined unit.

14. MOTOR RATING AND DUTY POINT VARIATION :-

- a) The power rating of the motor shall be selected at 32% above the power absorbed by the Pump which shall mean that the datum for working out the power reserve of 32% shall be based at power consumed by the pump at duty point.
- b) The motor should not get overloaded in their range at +10% and -25% of the specified pump Head calculations to be submitted with offer.
- c) The calculations of the motor HP recommended shall be submitted alongwith the offer.

The motor shall be capable of starting and accelerating to the rated speed alongwith the driven equipment without exceeding the acceptable winding temperature even when the supply voltage is at the lowest voltage condition. The temperature rise shall not exceed the permissible limit even in case of sustained overload of 20% at duty point at minimum to maximum volts power supply. The pump and motor shall be properly balanced to keep the vibrations under running conditions within limits.

15. FOLLOWING INFORMATION SHALL BE FURNISHED FOR MOTORS :-

- a) Motor characteristic curve showing speed, power factor and efficiency.
- b) Full load current of the motor.
- c) Current and power factor at Pump duty point.
- d) Guaranteed efficiency of the motor at pump duty point.
- e) Minimum guaranteed efficiency of motor at duty point at $\frac{1}{2}$ load, $\frac{3}{4}$ load and full load without negative tolerance.
- f) HP of the motor recommended.
- g) Frame size : the firm shall furnish frame sizes of motors supported with motor data sheets supplied by the Motor manufacturers duly authenticated under this proper seal and signatures only. There will not be any alteration in the frame size mentioned in the offer. The other parameters of motors like motor efficiency at Full Load, $\frac{3}{4}$ (Load), $\frac{1}{2}$ (Load) and duty point without negative tolerance, pull out and pull up torque, rated current and voltage, locked rotor torque, and current etc. should also be mentioned.
- h) DGMS approval for Motors for Gas Group-I.
- i) Each motor shall carry conspicuously in permanent manner the identification mark to the effect of DGMS approval i.e DGMS APPROVAL NO:.....GROUP- OF 20....(renewed vide DGMS letter no...../EHQ Dated:.....In addition every unit shall carry permanent mark of DGMS approval. i.e the Seal of DGMS.

16. BASE PLATE:-

The pump and motor shall be mounted on common Base Plate manufactured of MS Joists/channels and should be of sturdy design, adequate dimensions having true & machined surface and should be suitable to withstand the load and vibration of machine under full load conditions. It will have holes for foundation bolts. The base Plate should be designed / fabricated by pump manufacturers only and its drawing is to be furnished along with the technical bid.

17. COUPLING:-

The pump shall be directly driven by the motor through a heavy duty C.I./M.S Flexible coupling suitable to requirement. The coupling shall conform to the relevant IS code and shall be dynamically balanced and well machined.

18. CABLE GLANDS:-

Cable glands of the motors should be suitable for 35mm², 3-core copper conductor cable

19. SCOPE OF INSPECTION AND TESTING OF PUMPING MACHINERY AND ALLIED EQUIPMENTS:-

The pump shall be inspected/tested for duty point and at other ranges with work test performing as per IS: 9137-1978 and other tests as also prescribed in IS: 5120 of 1997 with upto date amendments at manufacturer's works.

Duty point efficiency shall be firm and no tolerance is permissible. Special emphasis shall be given to the testing of efficiency at duty point and shut off head. Test certificate for material of construction shall be furnished, in addition hydrostatic test in respect of components like casing shall be furnished.

Besides testing of equipment at duty point for best efficiency BHP absorbed, head discharge, characteristic the pumps shall be tested at (+) 10% and (-) 25% of duty head variation. The pump should not cease to function at +10% duty head and the prime mover should not get overloaded at -25% duty head.

The motor is required to be inspected/tested at manufacturer's works as per the supply order specifications as laid down in IS: 325-1970 with upto date amendments. The power factor of the motor shall also be tested at full load $\frac{3}{4}$ full load and $\frac{1}{2}$ full load and indicated in the inspection sheet/data sheet, each motor shall be tested for routine and performance tests and any two motors out of five shall be tested for type tests as per ISS:325 with latest amendments but at minimum to maximum voltage range.

Protection parameters of the motors are required to be inspected/tested in accordance with IS: 4691, IS:2148 and IS: 13346.

The pumps and motors shall be inspected by the third party inspection agency viz. M/S RITES at manufacturer's works as per the scope of inspection indicated above. The manufacturers of pump/motors shall provide all testing facilities to the inspection agency at no extra cost. The firm shall submit testing procedures for pumps, motors and other accessories. The successful firms shall make advance payment for testing to inspection agency as soon as the equipment is ready for inspection under intimation to the corporation. Testing charges although included in the net landed rates shall however be paid by the Department against documentary evidence & only after the receipt of the material and verification thereof. The supplier shall give an inspection call to RITES with copy to the Department as well at least 15 days in advance of date of inspection.

20. TECHNICAL/OPERATIONAL/PERFORMANCE DATA OF THE HORIZONTAL CENTRIFUGAL PUMP SETS:-

The firms are required to furnish all relevant technical/operational and performance data in respect of each duty under contract as per the prescribed format enclosed as **Annexure 'C'**.

- 21.** Any deviation from the prescribed specifications deemed necessary by the manufacturers for improvement in design, efficiency and performance of the equipment shall have to be suitably justified by the firm with supporting technical data.
- 22.** All the information and documentary evidence asked for conforming technical details is required to be necessarily furnished in the first cover of the NIT, failing which the tender shall be liable to be rejected.

MANAGER (P&S)

ANNEXURE 'C'

NIT No.- Mgr(P&S) /J/17- 1055, Dated-04.02.2017, Due On 25-02-2017

Name of the firm

S.No.	Particulars	Item 1
1.	Specification of pump: Discharge in LPS X Head in mtrs.	
2.	Pump make/model	
3.	Pump type (Multi stage/split casing)	
4.	No. of Stages	
5.	Suction/Delivery sizes (mm)	
6.	Speed of Pump (RPM)	
7.	Head in mtrs.	
8.	Discharge in LPS at	
9.	Pump efficiency without -ive tolerance at	
10.	BKW absorbed (KW) without -ve tolerance at	
11.	Motor Rating (KW)	
12.	Motor Rating 32% reserve at D.P. (KW)	
13.	Make of the FLAME PROOF motor	
14.	Reference to DGMS approval of the offered Motors	
15.	Motor Rating of motor selected (HP/KW)	
16.	RPM of Motor	
17.	Type of Enclosure/type of Motor	
18.	Voltage/frequency range of motor	
19.	Full load current of motor (Amps.)	
20.	Motor efficiency without -ive tolerance (%)	
21.	Overall efficiency without -ive tolerance at D.P. (%)	
22.	Power input to motor at D.P. (KW)	
23.	Shut off Head (Mtr)	
24.	Quoted Value of NPSHR	

Seal and signature of the firm

ANNEXURE-'D'**(FORMAT FOR PRICE BID) of NIT No.- Mgr(P&S)/J/17-1055,dt.-04/02/2017, Due on 25-02-2017**

Name of the firm:M/S _____

(The firms are advised to go through the technical specification and instructions before filling the price bid. Firms are required to quote their rates in this format. The firms are required to furnish complete information asked for, in the manner as prescribed below. Items which are beyond the scope of manufacture of the firm shall be written as "NOT QUOTED" NQ).

Tender for design, manufacture shop testing, packing, forwarding, insurance, transportation and delivery at Consignee's works at Coal Mines, Kalakot, for the Horizontal Centrifugal Pump sets comprising of Pumps, Motors, Base plates, Couplings and allied accessories as applicable in each case.

Item :1 Horizontal centrifugal pump sets of capacity:- 7 LPS x 50 Mtrs.

S No	Particulars of the components	Basic Rate/per unit	Excise Duty+ E.Cess on E.D.	C.S.T.	J&K Entry Tax/ VAT	Carrying/ Forwarding/ Freight/ Transit Insurance upto consignee's works	Toll Tax	Third Party Inspection Charges in Lumpsum	Net Landed Rate per unit of component F.O.R. Coal Mines, Kalakot, inclusive of all taxes, duties, carrying & forwarding, transit insurance, etc.
1.	Horizontal Centrifugal Pump (bare)								
2.	DGMS Approved Flame Proof Induction Motor								
3.	Base Plate with Foundation bolts / nuts etc.								
4.	Pump Motor Coupling								
5.	Other Accessories								
6.	Total								
Total Net Landed cost of each Horizontal Centrifugal Pump set (complete) comprising of Pump, Motor, Base plate, Coupling, and allied accessories etc FOR Coal Mines Kalakot (J&K) , inclusive of all taxes, duties, carrying & forwarding, transit insurance, and third party inspection charges etc.									

Signature and seal of the tenderer