Name of Work:- Replacement of old oil with filtration of new oil, Inspection , maintenance and repair of power pack unit , Inspection , maintenance and repair of hudraulic cylinder unit , Inspection & cleanng of control panel , Supplying of New hydraulic cylinder and new power pack unit , By back rate for existing hydraulic oil.

Name of Project:- Goshikhurd National Project Wahi Paoni Distt.- Bhandara

Name of Site Incharge:- 1) Dy. Er. Shri M. F. Bhalave Contact No.- 9730714310

2)Astt. Er. Shri A. K. Zade Contact No.- 8600025598

	Description	Qty	Unit	Rate Rs./Unit	Amount
1	**Replacement of old oil with filtration of New Hyd. Oil from power pack reservoir.** **Rate is included with buy back rate for existing hudraulic oil of power pack unit having app.-99000 lit.** Details - i) SAE-68 mineral based Hyd. Oil ii) Standard Viscocity ranges .....20 to 100 mm2/sec iii) Temerature Ranges..... 0 to 80°C iv) NAS value range upto range .....6 to 7 v) Moisture Content Limit Upto .....500Mg/Kg vi) Total Number of Power Pack = 33 Nos vii) Total Number of Cylinders = 66 Nos. viii) One Power Pack Tank Capacity = 2400 Lit ix) One Hydraulic Cylinder = 300 Lit x) NAS Value Confirms ISO 4406 KL21/18/15 to class 9 of the standard NAS 1638. xi) This work includes repalcement of suction filter, return line filter, Air Breather, Magnetic Flot Switch and Pressure Switch with Pressure Gauges. a) Filter b) Return Filter c) Air Breather.....700mm Displacement, 40micron capacity hydax. d) Magnetic Float Switch - RIPA 50-09/L = 950 L = 850 A. e) Pressure Switch - I2 = 80A SDN = 102 f) Pressure Gauge = 0 to 400 Bar (RIPA 50 - 14/ LBPC) g) Level Indicator - 127/M10 - Viton.	99000 lit.	01 lit		

2	Inspection , Maintenance and Repair of Power Pack UnitComplete assembly of New power pack Unit having 3000 lit oil (SAE68) capacity with oil Details - i) Complete cleaning of Power Pack Unit. ii) Attending the Minor Leakages iii) Tightening of Fixtures, etc. iv) Inspection and maintenance of Motor pump , valves, measuring instruments and allied parts of Power pack System Unit.	33 Power pack	01 No.		
3	**Inspection , Maintenance and repair of Hydraulic Cylinder Unit** Details - i) Thoroghly inspection of hydrulic cylinder with necessary instuments and replacement of worn out consumable items. ii) Inspection of incoming and return pipeline of hydrulic cylinder system with necessary instruments. iii) attending minor leakages. iv) Titeghning and replacement of fixtures and hoses.	66 No.	01 No.		
4	Inspection & Thorough cleaning of control panel and its installed electrical equipment's like switches, power transformer, MCB'S, power ON/OFF indicators, push Buttons, Cables wiring	33 No	01 No.		
5	**Supplying of New hydraulic cylinder of hoisting capacity 140 MT** 1) Dia. Of cylinder-390 mm, stroke- 8640 mm 2) Operating pressure-180 bar. 3)Test pressure-270 bar from external source 4) Area of piston-1194.59 cm2 5) Area of rod-226.98 cm2 6) Force for Lifting-1400 KN/Cylinder 7) Force of Lowering- By own wt. 8) Velocity for Lifting-0.23 mtr/min 9) Velocity for lowering-0.19 mtr/min 10) Time for Lifting-38min 11) Time for Loweringing-46 min with oil	01	No		
6			01 No		

The sealed budgetary offer has to send by sealed envelope or to office email id before Dt. upto 22/6/2022 17 PM

(e-mail id – mechdivngp@rediffmail.com)

Office Adress:- Executive Engineer
Mechanical Division
Near Shitla Mata Mandir
Behind Sadar Police Station
Sadar Nagpur-440001

Ex. Engineer:- Shri A. L. Rajnekar
Contact No. :- 9405321565

Additional Technical Specification for theHydraulic Power Pack:

The following are the specification for the supply, at Gosikhurd Dam Project site. Lay out of Power Pack should be as per flow diagram of Power Pack.

The over-all dimensions of Hydraulic Power Pack assembly should be within **1750mm(length) X 1000(Width) X 1410(Height)** without handle and weight without Oil should be **less than 2000Kg.**

Specifications:

S.N.	Description	Quantity
1.	Tank: Material : MS Capacity: 3000Litre The tank shall have the following minimum requirements: a) A level gauge to show theoil level with high and low level marking.(three levels) b) An air breather mounted on top surface. c) Draining provision with an end cap/plug. d) Four Nos. of caster wheels with a long handle to move the tank in any direction. e) A plate showing the process an instruments drawing duly with tag Nos. of the devise fix on the tank at appropriate place show that it can referred while operating the system. f) Junction box for power supply to the motor and other instruments.	1 No.
2.	Electric Motor with starter having the following specification: Power(max) : 15KW-160L, F-IP55- RPM-1500 Voltage : 415V, 50HZ, 3Phase, AC ,Make - ABB.	1 No.
3.	Pump : Fixed Displacement Piston Pump with following specifications: a) Pressure upto- 200Bar b) Flow - 38 LPM min to 46 LPM max	1 No.
4.	Relief Valve with the following specifications:	1 No.

	Operating Pressure - 0 to 200 Bar Flow control valve with following specifications Pressure Rating - 200Bar Maximum Flow - 46 LPM Pressure Reducing Valve with following specifications Pressure setting range - 0 to 200 Kg/cm2 Flow - Minimum 3RLPM to Maximum 46LPM Filters with following specifications Pressure Rating - 200Kg/cm2 Maximum Flow - 46LPM Filteration Size - 10 micron (nominal)	1 No. 1 No.
8	Suction Strainer with following specifications : Maximum Flow - 46LPM Filteration Size - 125 Micron or less.	1 No.
9	Pressure Gauge with following specifications : Type - Bourdon tube Range - 0 to 400Kg/cm2 Design – EN 837-1 Mounting - Panel Mounting	1 No.
10	Ball Valves with following specifications : Pressure Rating - 200Bar Maximum Flow - 46 LPM. Material - Stainless Steel-304/316	As per the process diagram
11	Tubes: Material - Stainless Steel - 304/316 Series - Metric Size(12mm) Type - Seamless	As required
12	Manifold Block and Manual MVD Spring center (for 46LPM)	1 No.
13	Check Valve with following specifications Pressure Rating - 200Kg/cm2 Maximum Flow Rating - 46 LPM	As per the process diagram
14	Tube Fitting : Stainless Steel - 304/316	As per the process diagram
15	Castor Wheels: 2 Nos. Swivel type(for rotation) and 2 Nos fixed type Capacity - Minimum 1000Kg per wheel	4 Nos.
16	Air Breather with following specifications: FB-700-TP-40	1 No.
17	Magnetic Float Switch with following specifications: i)240V AC	1 No.

	ii)Current 1Amp iii) Maximum Pressure 200Bar	
18	Solenoid Valve with following specifications: 4/3 Way Directional Control Valve.	1 No.

Technical Specification for the Hydraulic Cylinder:

a) Size of Hydraulic Cylinder : Bore 390mm,Rod 170mm, Stroke 8640mm.

b) Type of Hydraulic Cylinder : Double Acting.

c) Model: CYCRRMT4/390/170/8640/B1CLGAWAM

c) Mounting - Trunion Mounting(MT-4).

d) Material of Hydraulic Cylinders Oil Seals :

'O' Ring - Nitrile Butadiene Rubber(NBR), or any other suitable reputed make.

Hydraulic Seal: Polyurethane Rubber, Bronze, Fabric + Phenolic Resin, Thermoplastic + Acetalic Material, or Any other suitable reputed material.

e) Data of Hydraulic Cylinder: At 200Bar and 46LPM flow for 1 cylinder

i) Velocity of movement: 0.19m/min for lowering from rod side and 0.23m/min for lifting from piston side.

ii) Total Weight of Cylinder : 5640Kg

iv) Lifting Time: 38Min

v)Lowering Time: 46Min.

vi)Oil Filled per Cylinder: 300Litre.

vii) Design Pressure: Rod Side - 15MPA,Bottom Side – 1MPA.

viii) Test Pressure: Rod Side - 24MPA,Bottom Side – 1.5MPA.

ix) Maximum Pulling Force - 1400N.

x) Energy to be Cushioned – Rod Side – T.B.D.

xi) Hydraulic Medium: Mineral Oil, ISO VG32.

xii) Maximum Angle Rod to horizontal(Refracted): -22.57 Degree.

xiii) Design Temperature: 0 to 70 Degree Celcius.

xiv) Surface Condition: Bore – Honed, Rod – Stainless Steel 2Cr13+Chromium.