

No.: PHE/MDNS/DB/ 1566-72
Dated: 14-06-2023

M/s Euro Light Enterprises
Down Town Sopore
GST No: 01AADFE7197D1ZP
Cell No: 7889975363

Adv. Cost:	Rs 42.438 Lacs
Allotted Cost:	Rs 41.590 Lacs

Subject: Various mechanical and electrical works to be carried out for commissioning of WSS Keegam 2nd under JJM.

- Reference:
1. This office e-NIT No.: e-NIT No. 45 of 2022-23, S. No. 04 issued under endorsement No.: PHE/MDNS/DB/6509-21, dated: 01-03-2023.
 2. Authorization awarded by District Development Commissioner, Kupwara through Minutes of Meeting issued vide No. DDCK/852-67, dated: 16-05-2023.
 3. This office Letter of Intent No. PHE/MDNS/DB/990-91, dated: 18-05-2023.

Dear Sir,

For and on behalf of Lt. Governor of J&K U.T contract for execution of "Various mechanical and electrical works to be carried out for commissioning of WSS Keegam 2nd under JJM" is hereby awarded to your firm on the quoted/negotiated rates, as per 'General Terms & Conditions' and 'Schedule of cost and quantities' annexed herewith as under.

Annexure A: General Terms & Conditions.

Annexure B: Schedule of cost and quantities.

Encl. leaves


Executive Engineer
Jal Shakti PHE Mechanical Division (North)
Sopore

Copy to the:

1. Chief Engineer Jal Shakti (PHE) Department Kashmir, Srinagar for favour of information.
2. District Development Commissioner BTA, for favour of information.
3. Superintending Engineer Jal Shakti (PHE) Mechanical Circle (North) Srinagar; for favour of information.
4. Superintending Engineer Jal Shakti (PHE) Hydraulic Circle BKup, HQ at Had, for favour of information.
5. Executive Engineer Jal Shakti (PHE) Division Had, for favour of information.
6. Provisional Head, TPIA JJM Kashmir, (WAPCOS Limited) Corporate Office 76-C Institutional area Sector-18 Gurugram-122015 (Haryana) for favour of information.
7. Assistant Executive Engineer Jal Shakti (PHE) Mechanical Sub-Division _____ for information & necessary action.
8. File concerned.

Annexure "B" Schedule of cost and quantities
to this office Allotment Order No: PHE/MDNS/DB/ 156672 dated: 14-06-2023

Name of work: Various mechanical and electrical works to be carried out for commissioning of WSS Keegam 2nd under JJM

S. No	Particulars	Unit	Qty	Rate (in Rs)	Amount (in Rs)
1.	<p>Mechanical Works Providing, Fitting, installation, testing and commissioning of submersible pumping units as per IS 8034 for pumping of water from sump to SR with following specifications :</p> <p>General Specifications: PUMP: Discharge = 4000 GPH Head = 85 M Efficiency = Not less than 50% Speed = 2900 Rpm Type of fluid to be handled = Clear Water Type of pump=Mixed flow.</p> <p>MATERIAL OF CONSTRUCTION: Impeller = Stainless Steel Pump Shaft = Stainless Steel SS 410. Pump Casing = Cast Iron/Stainless steel</p> <p>IMPELLER: Impeller is of the enclosed or semi – enclosed type and properly balanced. Enclosed Impellers equipped with seal rings on their hubs.</p> <p>COUPLING: A suitable coupling arrangement provided with pump set.</p> <p>MOTOR : Rating = Suitable for above parameter . Method of starting = Star - Delta/Soft/DOL Start Speed = 2900 (Syn).</p>	Job	02	1,14,212.00	2,28,424.00
	<p>Voltage = 415 +6-10% -15 %, 03 phase Frequency = 50 ± 3 % Hz Efficiency = Not less than 90% Class of insulation = F/Suitable for above parameters</p> <p>Submersible motor should be water filled water lubricated squirrel cage type having capacity for above pumping parameters and working on 3 phase; AC supply ranging from 380 to 415 volts, 50Hz. The motor should be sealed by radial rings to avoid mixing of well water with motor filled water.</p> <p>a) The job includes providing and fitting of interlocking arrangement against any failure of coupling. It must be fabricated out of MS strips of suitable size and length.</p> <p>b) The job includes providing and fitting of appropriate size MS nipple 2 feet long threaded on one end and welded to same size MS flange of thickness (as per Table-17) at another end for column pipe as per site requirement. The threaded portion should be as per size of pumping out let for proper fixing.</p> <p>The job includes providing and fitting of R. I. cloth joints/rubber washers with nuts, bolts and washers for all joints of column pipe. The job also includes lowering of pumping unit in the well then proper testing and commissioning of pumping unit on full load at site.</p> <p>Note: Providing of test certificate & Characteristic Curve of pumping equipment is compulsory and pumping unit is to be approved from the concerned Sub Divisional office before procuring.</p>				

S. No	Particulars	Unit	Qty	Rate (in Rs)	Amount (in Rs)
2.	Fabrication, providing, fitting and lowering of B Class column pipe conforming to IS: 1239 each of 3.048M length (10 Rft) into the 200/ 250/300 mm casing dia. production well up to the desired depth; The job includes Providing and welding of flanges conforming to IS: 6392, Table-17 and PN 16 to these pipes and welding of flanges in two layers to make the flanged joint strong and leak proof. The pipe of 10 ft length is to be weld on both sides with flanges using welding rod of reputed make. The job includes all types of skilled labours, arrangement of power supply/ diesel Generator set etc required for the job including P/F of suitable size nuts bolts and R.I Gasket in the flanged joints of column pipes. The job further includes cutting of 2 no. rectangular cable slots in each flange.	Meter	50	1,650.00	82,500.00
3.	Providing/supplying and fitting of 80mm G.I flanged Rising Main at site. The Pipe shall be hot dip Galvanized, class B confirming to IS 1239. The job includes providing and fitting of M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16). The flanges shall be double welded both from inside and outside of the pipe using standard electrode of reputed make. Flanges (as per IS 6392/1997 Table:17) Thickness shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using reputed make electrodes to form strong welding joint. Welding Electrode DC Arc Welding using welding electrode having diameter not less than 4mm. Nuts and Bolts Nuts and Bolts (conforming to IS:1363 Part 1st) Rubber Insertion Gaskets Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints.	Meter	550	1,251.00	6,88,050.00
4.	Fabrication, providing and fitting of 80mm dia 90-120 degree bend/elbow to be fabricated out of Class B GI pipe, 1 m length and flanged on both ends and to make it leak proof. The flanges shall be M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) and welded on both sides. The job includes nuts, bolts, gaskets etc. as per site requirement.	No	05	2,797.00	13,985.00
5.	Providing and fitting of 80 mm Dia. Ductile Iron double flanged, non-rising spindle soft seated glandless gate/ sluice valves as per IS14846 for regulating the water supply outside the pumping units. The body and bonnet of the valve shall be of ductile iron, wedge with fully vulcanized EPDM rubber(Approved for drinking water) and NBR seal. The Gate/Sluice valve shall be compatible for buried applications and shall be safe to install in both horizontal and vertical positions It shall have electrostatic epoxy coating(approved for drinking water) both inside and outside of the valve. The valve shall be supplied along with hand wheel. Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work. The job includes providing and fitting of 02 nos. M.S flanges (Table flanges) perfectly adaptable to the inbuilt flanges of the valve which shall be fitted with rising main of the pumping unit at appropriate spots as per site requirement. The job includes the cost on account of P/F of nuts, bolts and gasket required for the job.	Job	02	15,497.00	30,994.00

S. No	Particulars	Unit	Qty	Rate (in Rs)	Amount (in Rs)
6.	<p>Providing and fitting of 80 mm Dia Ductile Iron double flanged, Slanted seat swing check valve(NRV) as per IS 5312. The body shall be of ductile cast iron with fully encapsulated vulcanized EPDM rubber(Approved for drinking water).</p> <p>The valve shall be compatible for buried applications and shall be safe to install in both horizontal and vertical positions.</p> <p>It shall have electrostatic epoxy coating (approved for drinking water) both inside and outside of the valve.</p> <p>Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work.</p> <p>The job includes providing and fitting of 02 nos. M.S flanges (Table flanges) perfectly adaptable to the inbuilt flanges of the valve which shall be fitted with Rising main of the pumping unit at appropriate spots as per site requirement. The job includes the cost on account of P/F of nuts, bolts and gasket required for the job.</p>	Job	02	17,480.00	34,960.00
7.	<p>Cutting of hot dip galvanized G.I, B - Class pipe across the section by dint of pipe cutter/ gas cutter. The job also includes Providing and welding of M.S flanges to the two ends of pipe. The Thickness of flange shall conform to IS 6392 Part 1st Table-17.</p> <p>The flange welding shall be carried out in double layers using Advani/Esab/L&T- SS Bond make electrodes to form strong welding joint by dint of DC arc welding. The job further includes Providing and Fitting of nuts and bolts (conforming to IS:1363 Part 1st) and Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints</p>	Job	10	1,340.00	13,400.00
8.	<p>Providing, fitting, testing and commissioning of ARV (Air Release valve) as per IS 14845 to be fitted to G.I rising Main. The ARV Shall have the following specifications: -</p> <p>i.Valve type - single chamber, single/double orifice.</p> <p>ii.End connection - flanged ends to IS 1538</p> <p>iii.Working temperature - 45 °C to (-) 15°C</p> <p>iv.Test pressure - body / seat 2.5 x PN</p> <p>v.Sealing ring - EPDM</p> <p>vi.Construction -ductile iron with stainless steel floats</p> <p>vii.Coating - epoxy with corrosion resistance</p> <p>Besides the above works, The job also cost on account of P/F R.I gasket, GI Pipe, nuts and bolts required for installation of ARV and arrangement of gas cutter/ welding set at site.</p>	Job	01	19,394.00	19,394.00
9.	<p>Fabrication, providing and fitting of 65 mm split type MS clamps 10 mm thick, 2 ft long and 3 inch wide for lowering and holding of pumping unit fitted. The job includes the cost of required size of nuts and bolts.</p>	Job	02	1,499.00	2,998.00
10.	<p>Fabrication, providing, fitting of 80 mm dia . T - junction out of 1mtr of pipe with length of 1ft each arm .The job includes all types of skilled labours, arrangement of power supply/ diesel Generator set etc required for the job including P/F of suitable size nuts bolts and R.I Gasket in the flanged joints conforming to BIS 6392/1997 Table 17 (Rating PN16) fastened with weld joints on three ends.</p>	Job	01	4,050.00	4,050.00



S. No	Particulars	Unit	Qty	Rate (in Rs)	Amount (in Rs)
11.	<p>Supply, Installation and testing of 2 MT motorized chain hoist with hook suspension along travelling trolley of proper specifications having following features The chain hoist shall also have the following characteristics :- Motor: The basic drive of the hoist be provided with 3 phase squired cage totally enclosed induction motor having a high starting torque with class "F" insulation. Capacity : 2 ton Hoisting speed : 2.4 M/Min Hoist motor H.P : As per requirement No. Of chain falls : 4 Min. Height of lift : 6 M The chain hoist shall also have the following characteristics:- Motor: The basic drive of the hoist be provided with 3 phase squired cage totally enclosed induction motor having a high starting torque with class "F" insulation. The make of the motor be conforming to IS : 325 (RPM-1500) Brake: The hoist shall have instant action, Fail to safe electromagnetic disc brake mounted on the end of the motor to ensure minimum safety and reliability when the load is held in its position as soon as the supply to the motor is switched off internally or accidentally. The adjustment & maintenance of break shall be quick and simple.</p>				
	<p>Gears: The hoist shall have precision cut super and helical gears made of alloy steel mounted on bearings and housed in a dust proof gear box. The lubrication of gears be of high viscosity and temperature for longer life of gears. Load Chain: The load chain be made of high tensile alloy steel having wear resistance and greatest mobility. The chain should be accurately collaborated, tested and have adequate in built factor of safety for safer operation. Load chain wheel: Specially designed, perfectly machined wheel providing correct grip of load chain made of malleable cast iron makes the hoist most safe and reliable against any failure. Lifting Hook: The lifting hook shall be forged with provision for free swiveling. Limit Switch: The limit switch shall have snap action, shunt type prevent over hoisting or over lowering to ensure maximum safety of operation. Control: The unit shall be controlled by heavy duty air break direction reversing type bidders and electrically inter – locked for safety. Contactors relay, fuses, low voltage transformer be fitted for control voltage and are to be housed in fabricated / pressed sheet steel box dust proof. Push button pendent: The contactors shall be operated by a pendent push button station suspended from hoist by a rope / dog chain to prevent any damage to the pendent cable and for easy operation.</p>	Job	01	1,61,700.00	1,61,700.00
	<p>Test: The hoist supplied is to be tested at 25% overload and the test certificate of the same be provided at the time of installation. The complete unit as specified above is required to be fitted / tested at site. Besides the above works the job Includes Providing and fitting 3-Core 6 sq. mm ,50 m submersible cable for providing power supply to motor of chain Hoist including P/F protection device of suitable capacity.</p>				

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S. No	Particulars	Unit	Qty	Rate (in Rs)	Amount (in Rs)
12.	<p><u>Electrical Items</u> Fabrication, Providing and fitting of Modular motor control panel of appropriate size fabricated out of 14 SWG sheet having required openings/vents and protection Class : IP-55 & fitted with accessories as under:</p> <p>a) Bus bar Chamber: The bus bar chamber shall be fitted at the top of the panel horizontally throughout the length. There shall be 3 Nos. of phase bus bar and 1 No neutral bus bar and 1 No earthing bus bar. The bus bars shall be air insulated and made-up of high conductivity COPPER with current density of suitable rating for 100/200 Ampere. All panel compartments shall be provided with suitable cable alley and vertical bus bar alley. Suitable segregation shall be provided in between bus bar chamber and adjoining compartments. The bus bar shall be PVC sleeved with color strips of red, yellow, blue and black and the same be arranged in accordance with IS-375 specs. Electrical clearances shall be maintained between phases, neutral and body as per standards.</p> <p>b) Main Circuit Breaker (Incomer MCCB): Qty.=02 No. of poles =4 Pole Current Rating = As per requirement. Rated operational voltage=415 V + 15 % Rated frequency=50+/-3%Hz Ambient temperature=40C°</p>				
	<p>Ultimate S.C Breaking Cap. at (415V AC, 50 Hz)=As per requirement Type of release=Thermal-Magnetic Overload protection=0.8 – 1×In adjustable Short-circuit protection=6-10×In adjustable. Current rating = As per requirement</p> <p>c) Change over Switch: Qty. = 01 No. Rating = As per requirement Type =Front operated, on load, 4 pole, 400 +15%V, 50 + 3%Hz.</p> <p>d) Motor Back-up Protection MCCB: Qty=2 No No. of poles =3P Current Rating =As per requirement Rated operational voltage = 415 V +15 % Rated frequency =50 + 3% Hz</p>	Job	01	1,88,581.00	1,88,581.00
	<p>Ambient temperature =40C° Ultimate S.C Breaking Cap. at (415V AC, 50 Hz) =As per requirement current rating = 200 A</p> <p>e.Submersible starters:-= Fully automatic star delta/DOL starters. Capacity = As per requirement Power Specs = 3 Φ, 415 + 15% V, 50 + 3 % Hz. Relay range = As per requirement. Coil Voltage = 380 v Protection = single phasing , phase Reversal, phase unbalance (55 ± 5 V) , Rated insulation voltage = 690V Terminal capacity = 120 Sq. mm with lug Or above Conformity to standard = IS/IES 60947-4-1 Qty) =2 No's</p>				

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	<p>f) Auxiliary MCCB for Heating/Lighting: Circuit Breaker=MCCB (Outgoing) Qty.=1 No. No. of poles=4P Current Rating =As per requirement. Rated operational voltage = 415 V + 15 % Ultimate S.C Breaking Cap. at (415V AC, 50 Hz) = As per requirement</p> <p>g) Motor Protection Relay: Digital Motor Protection Relay with LCD Display for 3-phase supply with following protections suitable for the Modular Control Panel:- Protections = Thermal Overload with pre-alarm, Short Circuit, Phase Loss, Unbalance, Phase reversal, Under Current, over current, Prolong starting, Locked Rotor, Under voltage, over voltage & Earth fault. h.M-power module for mobile starter for submersible motor 1P/3P 3 wire IVRS Languages – English , Hindi, Suitable Region- North India The panel shall be provided with phase indicators (03 NO) and digital ammeter of range 0-60 A, digital voltmeter of range 0-500 V, and digital frequency meter (01 No for each starter). The enclosure of the panel shall be of excellent fit and finish, corrosion resistant and powder coated gliding hinges for smooth and noiseless movement of windows and advanced locking arrangements.</p>				
	<p>MUG 20</p> <p>i) Bus bar size (10 mtr x .02 mtr x 0.003 mtr x) 8960 kg/m³ = 5.38 kgs @ 1000100A ii) D-sine MCCB 4 pole (DZ1 160N, 108-160, 50KA) iii) Change over switch 100A iv) D sine MCCB 3 pole DN0 100D, 80-100, 36KA) v) Mug (details as per estimate) x 2(Mug20, 20-32A Relay) vi) Auxiliary MCCB63Amp 4 Pole vii) MM 10 of L@T (Motor Protection) viii) Module for mobile starter ix) Meter,(Ammeter & voltmeter) 2No. each and Freq Meter x) Indicators LS xi) Over load and Under VoltageMinlec</p>				
13.	<p>Providing, fitting, testing and commissioning of 50 KVA capacity voltage stabilizer as per specifications below :</p> <p>Type of voltage controller : Manually operated copper wound, 3-phase, AC power supply multi step. Type of Regulator : Double plate type with electrolytic copper contacts . Input voltage : 250-400 volts.(3 phase) Output voltage : 400 ±10% volts. Frequency : 50 ±3 C/S. Windings : Electrolytic grade copper of adequate section, vacuum impregnated and Oven-dried. Insulation : Fiber glass insulations to tested parameters. Cooling :Naturally, Oil cooled Temp. Rise (Max):30°C above ambient Mounting :On Uni-directional wheels. Correction rate :30 volts per step Wave form distortion :virtually nil Duty cycle :100% continuous. Enclosure : MS sheet enclosure in pressed CGR Sheet powder coated with radiators.</p>	Job	02	1,07,401.00	2,14,802.00

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S. No	Particulars	Unit	Qty	Rate (in Rs)	Amount (in Rs)
	<p>Core laminates : High grade, low eddy loss, grain oriented silicon steel laminations. Load : Three phase induction motor load. Load Amperes (continuous) Overload in 24-hours operation: 10% above continuous Ampere rating. The voltage stabilizer shall have T-oil level Indicator gauge preferably glass type tube or otherwise visible to naked eye. The top of the container to have a display panel for housing 02 numbers Digital voltmeters (0-500V) along with 4-way selector switch and set of neon indicators for incoming and outgoing phases (06 No's). Insulating media (T. Oil) of 11 KVA grade to be provided and filled up to top level, with dielectric strength of 5 KV at 4m air gap. The T-Oil of specific grade should be provided in separate barrels and filled at site up to top level. The voltage Stabilizer shall be accepted with manufacturers dully stamped test certificate and shall have name plate with specifications.</p>				
14.	<p>Providing, installation, Testing & commissioning of 45 KVA capacity 415±10%V (output), 3 phase air cooled/water cooled Diesel Generator set as per IS 8528 (2018) and ISO 3046 (2002) for engine and IEC/IS 60034-1 for alternator suitably assembled and fitted in a pollution free acoustic enclosure I canopy of required size as per Ministry of Environment protection rule 1986 read with latest amendments. The DG Set is required to be fitted and tested on load at site The D.G Set shall have the following technical specification. Besides the above works the D.G set shall be provided with 12 V, 150 AH Lead acid battery of reputed make fitted inside the D.G set Canopy along with necessary accessories and battery charger of required capacity . The job also includes the cost on account of HSD and skilled operator required for operation of D.G set for a period of 10 hours continuously during its testing and commissioning of D.G set at site.</p>	Job	01	7,22,905.00	7,22,905.00
15.	<p>Providing and Fitting of 35 Sq. mm, 3.5 Core, XLPE 11KV Armored Aluminum Cable conforming to IS: 7098 part 1st as service line from the HT transformer to control panel including necessary thimbling, crimping, taping etc. NOTE:- The cable terminal ends for connection to switchgear at various requisite points shall be Al. Thimbles of reputed make and of appropriate size and connected by hydraulic crimp tool only.</p>	Meter	60	380.00	22,800.00
16.	<p>Providing and fitting of 10 sq mm 3-Core flat submersible copper cable conforming to IS: 694 (Part 1st) - 1964 & IS: 694 (Part 2nd) - 1964 for Submersible Pumping Unit and other electrical Equipment . The cable connections terminal shall be fitted with copper thimbles of required size.</p>	Meter	150	454.00	68,100.00
17.	<p>Providing and fitting of 25 Sq mm, capable to work up to 1.1 KV , XLPE insulated , galvanized steel strip armored copper cable conforming to IS : 7098(part -1) 1988 with latest amendments. The job includes providing and fitting of suitable rating copper thimbles duly crimped and taped at conductor ends by hydraulic crimping tool. The job includes earth work in excavation wherever required for laying of cable underground.</p>	Meter	60	394.00	23,640.00
18.	<p>Fabrication of overhead gantry mechanism, DG set shed by way of providing steel sections ,trusses and framed work, including cutting , hoisting ,fixing in position and applying a priming coat of approved steel primer followed by paint.</p>	Kg	2000	115.00	2,30,000.00

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S. No	Particulars	Unit	Qty	Rate (in Rs)	Amount (in Rs)
19.	Providing and fixing of SMP (CGI) coated sheets of Blue colour comprising 0.63 mm thick sheets fixed to all around fancing, door and gantry truss, DG set truss with hooks/ GI limpet and bituminous washers/ nuts/nails etc. including five percent overlap.	Sqm	100	969.00	96,900.00
20.	Providing, fabrication and fitting of welded MS wire mesh all around and above DG shed with fabrication of door (0.50 sq. inch and 2 mm wire dia. for Bird screening to the DG shed.	Sft	410	30.00	12,300.00
21.	Fabrication of gravel Hooper for proper feeding of gravels to the bore well and platform to bear the load of pumping unit, column pipes etc by way of providing and fitting of Steel work welded in built up sections/framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. The job involves following steel details : I. In stringers , treads , landings etc of stair cases including use of chequered plate wherever required , all complete	Kg	600	125.00	75,000.00
22 .	Painting of steel structure by way of providing and applying of metal primer Red oxide after surface cleaning by using emery paper of proper grade and grit size	SqM	100	71.00	7,100.00
23 .	Painting of steel structure by way of providing and applying of enamel paint of required shade and colour after surface cleaning by using emery paper of proper grade and grit size	SqM	100	151.00	15,100.00
24.	Earth work in excavation required for laying of Rising Main and associated works by manual means in trenches for foundation , drains ,pipes , cables (not exceeding 1.5 m in width) and for shafts , wells , cesspits and the like not exceeding 10 sqm on plan , including dressing of sides and reaming of bottom lift upto 1.5 m , including getting out excavated earth and disposal of surplus excavated earth as directed in all kinds of soil.	CuM	150	548.00	82,200.00
25 .	Providing and laying in position cement concrete of specified grade including curing but excluding the cost of centring and shuttering . all work upto plinth level with 1: 2 : 4 mix (1cement , 2 coarse sand , 4 graded stone aggregate 20 mm nominal size)	CuM	15	8,020.00	1,20,300.00
26 .	Centering and shuttering including strutting , propping etc. and removal of form work for Foundation ,footings , bases for columns .	SqM	30	415.00	12,450.00
27 .	Providing and laying 12mm Cement plaster of mix: 1: 4 (1cement : 4 coarse sand)	SqM	30	325.00	9,750.00
28 .	Carriage of material by mechanical transport including loading , unloading and staking.	CuM	40	215.00	8,600.00

S. No	Particulars	Unit	Qty	Rate (in Rs)	Amount (in Rs)
29.	<p>Electric Sub Station Supply, installation, commissioning and creation of pole mounted, outdoor type 63 KVA Electric Sub Station as per the technical specifications given here under - Specifications conforming to IS: 1180 (Part 1) 2014 with latest amendments Type : HT/LT Transformer Type of cooling: ONAN. Operating conditions: Input =11000 volts Output =433 volts AC supply in 3- phase. Terminals : Input=3 No. HT bush rods with insulators, washer, nuts etc. Output=4 No. LT bush rods switch insulators, washers, nuts etc. Core: The core shall be of high permeability to reduce core losses and the strips shall be of suitable size and gauge. Transformer Coils: Suitable number of HT and LT coils in each leg of the core. The transformer coils shall be fabricated out of superior quality aluminum wire/strips, properly wound. The HT transformer is completely filled with suitable grade transformer oil up to required level. The job includes carriage, and all leads and lifts involved.</p>	Job	01	1,71,963.00	1,71,963.00
	<p>The HT transformer shall be of reputed make from an ISO certified company as per relevant standards and a test certificate shall be provided before installation. The transformer shall also be provided with breather fill with silica jel crystals, conservator with oil level indicator, explosion vet and adequate radiator fins/ Tubes. The impedance of transformer shall be as per IS: 1180 (Part 1) 2014 with latest amendments. NOTE: The scope of the work shall include obtaining of necessary inspection/clearance certificate from the concerned department for all the required equipment. The testing and commissioning shall be completed only after obtaining above certificate.</p>				
30.	Transformer Bed: The Transformer has to be erected on a transformer bed of size 2000x2000mm fabricated by welding out of 04 No's of vertically grouted Mild Steel pipes of 100 MM diameter, Including providing and fitting of Channel section SMC-100,2000MM, resting of HT transformer.	Job	01	94,000.00	94,000.00
31.	Supply, Providing, installation, testing, and commissioning of LT 3-phase, 4 - wire, Prodigy meter of capacity 40-200 Ampere, 415 V, 50 HZ, preferably SECURE make with all accessories and fittings cabling required as per site requirement .	Job	01	29,000.00	29,000.00
32.	Providing and fitting G.I Channel /Angle/ Flat of sizes including clamps	kg	200	123.00	24,600.00
33.	Supply, Installation, Testing and commissioning of Polymeric Gang operated Air break switch, outdoor type, triple pole, suitable for vertical installation, single break provided with locking arrangement at both ON and OFF position consisting of HT post double insulator, copper or copper alloy high pressure heavy contact assembly, rod with bearings ,operating handle and 2 length of 32mm dia. GI pipe conforming to IS 1818 1961, 06 No. of insulators, rated voltage 11KV 200A complete as per IS specs.	job	01	11,730.00	11,730.00
34.	Supply, Installation, Testing and commissioning of 11KV polymer fuses Set Horn Gap 3-phase 200 A suitable for vertical installation	set	01	4,983.00	4,983.00
35	Supply, Installation, Test ing and commissioning of Gapless Surge arrestor station class, IOKA,9KV, LA With polymer housing,Station Type	set	01	7,754.00	7,754.00
36.	Supply and fitting of 11 KV polymeric composite pin insulator 12 KV, SKN, Lighting impulse 75KV Positive, and 80 KV Negative , creepage distance 320 mm	No	36	347.00	12,492.00

S. No	Particulars	Unit	Qty	Rate (in Rs)	Amount (in Rs)
37.	Supply, installation, erection of 9 mtrs long H.T pole of specifications ST- 410 (sp-33) . The job further includes drilling of holes for installation of various accessories .wherever required the job further includes G.I wire earthing of pole as per REC standard .	Job	12	20,686.00	2,48,232.00
38 .	P/F of Galvanized nuts, bolts of various sizes as per site requirement	kg	40	142.00	5,680.00
39 .	P/F Danger Plate with clamps	job	11	153.00	1,683.00
40.	Providing and fixing G.I Barbed wire for anti-climbing/ anti-climbing devices	kg	20	136.00	2,720.00
41.	Providing and fitting of PG clamps	NO	10	421.00	4,210.00
42 .	Providing and fitting of Galvanized stay set with 50 X 8 mm Stay Clamp ,Guy insulator (2no.), Anchor plate (200X200X6mm) , nuts and bolts, 2 No.- turn buckle , 1.8 m long , 16 mm diameter solid G.I stay rod & 7/3 . S mm dia . G.I stranded wire complete.	set	02	4,922.00	9,844.00
43 .	Painting of poles Red oxide	ltr	10	306.00	3,060.00
44.	Painting of poles Aluminum paint	ltr	10	510.00	5,100.00
45	Providing and fitting of ACSR as per IS 398 (part-2) 1996 for 50 Sq.mm ACSR (Galvanised steel reinforced) for fitment of various accessories	M	600	56.00	33,600.00
46 .	Providing and fitting of LT Distribution box for 63 KVA H.T transformer with MCCB For incomer and SFU for outgoing circuits.	Job	01	28,118.00	28,118.00
47 .	Providing, laying, construction of earthing station for electric substation, LT panel and stabilizer comprising of company fabricated earthing electrode as per IS: 3043. The job includes Auguring of bore of required dia/depth for installation of electrode along with backfill compound mixed with soil and all other items required thereof for achieving the best result. The job includes connecting of electric gadgets through GI strip as per relevant standards. Safe earthing electrode size : 80 mm dia Length : 2000 mm Back fill compound : 30 kg	Job	04	10,462.00	41,848.00
48 .	Supply, installation of 6 kg CO2 type fire extinguisher manufactured as per IS: 15683 of 2006 with IS mark and comply with DGMS (Approval). The co2 extinguisher should be suitable for class B & C fire and also for fire involving electrical equipment. The cylinder used for fire extinguisher shall be approved by petroleum and explosive safety organization (PESO) as per gas cylinder rules 2004 and as per IS: 7285 of 2004. The body should be made of seamless steel (manganese) confirming to IS: 7285 with IS mark and should be provided with squeeze grip nozzle and should be filled with CO2 confirming to IS: 15222 of 2002 with certificate . The extinguisher shall be provided with manufactures test certificate and hydraulic test certificate by BIS from PESO.	Job	01	6,447.00	6,447.00
49 .	Providing and Laying of ACSR conductor of size 0.03 as per the relevant IS standard.	Meter	30	37.00	1,110.00
50	Providing, Installation, Testing & Commissioning of complete switchgear unit for protection of D.G Set consisting of 200A MCCB 3- pole , 415 V, 50 KV breaking capacity housed properly in cubical enclosure made up of M.S SWG - 16 sheet steel (outdoor type) duly powder painted with anti-corrosive paint comprising of three compartments for incoming I outgoing circuits and MCCB. The panel should have adequate double locking Arrangement with Cu-. Bus Bar 12x40 mm with Bakelite insulation and LT Arrangement selector switches, phase indicators. The equipment should be installed at appropriate height in a stand consisting of 50 x 50 x 6 mm angle grouted in ground with appropriate cement bottoming as per the IS standard.	Job	01	39,422.00	39,422.00

S. No	Particulars	Unit	Qty	Rate (in Rs)	Amount (in Rs)
51	<p>Miscellaneous Items</p> <p>Illumination of Premises: Providing and erection of 9 Mtr long Hot Dip Galvanized octagonal pole (single Section) with bottom 150mm, top 75mm wide, thickness 3mm with 70 Microns Zinc coating having inside arrangement for providing of power connection along with following items. 1) 3 Way Terminal Connector 20 Amp. 2) 3 No MCB 8 Amp. The job includes fabrication, providing and fitting of three arm GI structure at the top having 120° angle between arms and each arm having 15° inclination with respect to horizontal plane. Each arm should be of 2' length and size and shape appropriate as per requirement of the luminary. The job also includes providing and fitting of required length of flexible multi strand 2 mm copper wire from each terminal connector to each holding arm. The pole is mounted on 1:2:4 Cement concreting of size not less than 2'x2'x6" (cost of concreting not included in the job) using 04 No anchor bolts of required size not less than 7" in length. The complete job includes earthing in GI Electrode as per relevant IS Code</p>	job	01	22,226.00	22,226.00
52	Providing, installation, testing and commissioning of area lighting 120 Watt LED (Street Light Type) on top of octagonal pole Having following specs: Input: 90-240 V 50 Hz Power Factor: >0.9 Colour Temperature: 4K - 6.5K Beam Angle: 120° - 170° Lumens: >12000 Operating Temperature: -20°C to 60°C The LED is pressure die cast aluminum housing with power coated finish and having Ingress Protection up to IP-68. The LED is properly fitted on the arm of the pole and connected to the copper wire as provided in the high mast pole	job	04	9,486.00	37,944.00
53	Providing and installation of Junction Box with DP 32 A MCB to serve as Main switch for LED Lighting. The job includes making of electric connection to the circuit.	job	1	2,227.00	2,227.00
54	Providing, Installation and testing of 2KVA fully automatic voltage stabilizer with input voltage 70-240 V and output 220 V . The stabilizer shall be installed and connected to the electric circuit as per location provided by site in charge.	JOB	1	8,154.00	8,154.00
55	Providing and Fitting of 10 Sq. mm, 2 Core, LT 1.1KV XLPE Armored Aluminum Cable conforming to IS: 7098 part 1st as service line from the HT transformer to control panel including necessary thimbling, crimping, taping etc. NOTE:- The cable terminal ends for connection to switchgear at various requisite points shall be Al. Thimbles of reputed make and of appropriate size and connected by hydraulic crimp tool only.	M	50	162.00	8,100.00

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S. No	Particulars	Unit	Qty	Rate (in Rs)	Amount (in Rs)
56	<p>Electrification of Pump house Including heating and lighting points involves:-</p> <p>a . Providing and Fitting of lighting points in I.S and 1sq mm multi strand pvc wire as conductor to be laid/ carried in pvc channels/conduit as per site requirement in kitchen, bathroom, machine room, operators room, store shed etc. The job includes providing and fitting of 6 Ampere switch buttons, Fan regulator switch, indicator switches, 3 pin flash type sockets etc. on the boards of ISI standard including 9 watt LED lamps. Make: Havells/Philips/ Anchor/Syska using Ceiling roses, square blocks, angle holders, PVC corner/ending points accessories, washers, star screws, cement nails , rawl plugs as per site requirement. Further Job includes providing I fitting of separate circuit in the pump house for each room involving 1mm square multistranded copper conductor from main auxiliary panel which includes 6-amp switch, socket separate modules for input and output circuits, wooden blocks, hylum sheets, 03 pin top, switches, 1and Y, inch pvc channels & all allied items to connect the inverter supply in the main electrification of pump house as per site requirement including inverter connection . (6 Jobs)</p>				
	<p>b. Providing and Fitting of heating points in 2.5 sq mm multi strand pvc wire as conducted to be laid/ carried in pvc channels/conduit as per site requirement . The job includes Providing and Fitting of 16 Ampere switch socket combine using, PVC corner/ending points accessories, washers, star screws, cement nails , rawl plugs as per site requirement . (02 Jobs)</p> <p>c. Providing and Fitting of distribution board SPN with 01 No. of incoming and outgoing 06 way (Regal Grey) DD QVE RG 12W . Make: - Havells/ Legrands/ Anchor/SSK fitted with MCB© series 6 A= 4 No. for lighting in pump house and 16 A= 2 No. for heating points, 32 A MCB(Mains)Havells/SSK/Lagrands Make. The job includes P/F of 4 sqmm multi strand copper conductor to be laid as service line. (30 Meters) (01 Comp. Job)</p> <p>d. Providing and fitting of high speed AC ceiling fan complete with all accessories like down rod, canopy etc. of 1200 mm sweep . Make Hevells/Bajaj.(01job)</p> <p>e. Providing and fitting of AC exhaust fan complete with plastic body, plastic blades, plastic self-opening louvers with sweep 250 mm of ISI marked. (02 job)</p>	Job	01	40,000.00	40,000.00
57.	Supply,installation,Testing & commissioning of 1000VA Full Sine wave power inverter including Providing I Installation of 12V, 180AH Tubular inverter Battery with trolley and cover . with 2-core 4 mm ² Cu (25 m) wiring as per site requirement along with other accessories like SS-Combine (02 No's), 3-pin plugs etc of reputed make for proper fitment and installation of the item.	job	1	34,053.00	34,053.00
58.	<p>Providing, laying & fixing with adhesive/bonding material of insulation rubber mats on the floor of the pump house,covering area around electro- mechanical machinery for safeguarding the life & limb of the workmen due to possible leakage of current & short circuit . The floor surface shall be made good & shall be free from dust,grease, foreign material & moisture free. The mats shall be as per IS 15652 :2006 & shall have the following specifications : - Composition : Rubber (synthetic mats for electrical purpose)</p> <p>Thickness : - 2.5mm Size: - M wide .</p> <p>The rubber mats shall be accepted with manufacturers test certificate.</p>	M	06	1,205.00	7,230.00

S. No	Particulars	Unit	Qty	Rate (in Rs)	Amount (in Rs)
59.	<p>TOOL KIT For Maintenance: - The Tool Kit for maintenance shall comprise of the following and all the items as mentioned below shall be of Providing of tool kit consists of following items</p> <p>i. Double ended Spanner (Chrome plated) 02 sets complete ii. Double ended Ring spanners chrome plated 02 sets complete iii. Allen key set black finish 02 sets complete iv. Combination Pliers insulated with thick C.A sleeve; size in mm 165, 210, 255 each - 02 No. v. Long nose plier insulated with thick C.A sleeve; size in mm 165, 205 each-02 No. vi. Side cutting plier insulated with thick C.A sleeve; size in mm 165,205 make -02 No. vii. Insulated screw Drivers Blade length in mm Blade dia . in mm Tip dimensions in mm Quantity 50 3 1.6 x 0.4 02 75 3 1.6 x0.4 02 100 3 3 x 0.4 02 125 3.5 3.5 x 0.5 02 150 3.5 3.5 x 0.5 02 200 4 4 x 0.6 02 300 5 5 x 0.8 02</p>	Job	1	28,840.00	28,840.00
	<p>viii. Hammer with handle weight -110 mg, 340 gm , 600 gm -each - No. . ix. Heavy duty pipe Wrench length in mm - 200, 300, 600 each - 01 No. x. Electric Multimeter=1No xi. Digital multimeter - No. xii. Digital Clamp tester capable to measure up to 400A - 1No. xiii. Hack saw frame with hack saw blade - 01 no. xiv . S-16 MXL,S- 16 H X L Socket Set (19 sockets + 6 Accessories) - 01 No.</p>				
60.	<p>a) Providing of good quality bedding for night stay/Shift consisting of: - i) Mattress with warm cover size 6'x3' (6Kg)- 02 No's ii) Quilt with warm cover size 5'x8' (6Kg)- 02 No's iii) Pillows with covers - 02 No's iv) Single bed warm blankets with one sided Fur- 02 No's The filling material for mattress, quilt and pillow shall be of good quality cotton b) The job also includes providing of pressure cooker Sltr 02 No's,Steel patella(utensil) Sltrs 02 No's,cooking heater 01 No., room heater 01 No., steel buckets 10 litre capacity 01 No., Plastic bucket 10 litre capacity with Mug 02 No's each, steel glasses 06 No's,steel Plates with large spoons and bowls 03 No's each, Cup and Saucer set (01 No. Set) and, Skg Gas cylinder with burner/ stove. The job also includes providing of thermo-cool 15'x12' along with excel matting of 15'x12' size. The job also includes providing of unbreakable Plastic Chair table set consisting of chairs 04 No's, extra heavy Table 01 No. The job also includes providing of good quality safety Door locks (03 No's) of Godrej, Link locks,</p>	Job	01	39,619.00	39,619.00
61.	<p>Fabrication of 6' x 8' angle iron bed by way of providing and fitting of Structural steel in built up sections ,trusses and framed work,including cutting , hoisting ,fixing in position and applying a priming coat of approved steel primer all complete welded</p>	Kg	70	115.00	8,050.00

S. No	Particulars	Unit	Qty	Rate (in Rs)	Amount (in Rs)
52.	Providing and fitting of 19 mm thick multi-layered ply sheet of size 6 x 4 feet , 2 no's including cutting ,fixing all complete including painting of the play sheet by one coat of primer and two coats of enamel paint	Sft	48	154.00	7,392.00
63 .	Providing of solar/electrical lantern chargeable on both solar & electrical 220v supply .	Job	1	1,911.00	1,911.00
64.	Providing of bamboo ladders 18 feet long along with 15 feet long.Link rods and HT Glove pair (01 No each)	Job	1	7,350.00	7,350.00
65 .	Providing of 1KW heat convector for operators for winter season	Job	1	1,205.00	1,205.00
66 .	Providing and fitting of 01 No. LED (scroll type) sign board fabricated out of stainless steel and metal showing the names of water supply scheme and the Department . Size: 6'x1'6" = 9 sft	Sft	1	3,998.00	3,998.00
67 .	Providing and fitting of 01 No. angle iron/sheet metal board duly painted showing various specifications of the mechanical and electrical equipment installed at site of appropriate sizes.	Sft	12	250.00	3,000.00
68 .	Fabrication of gravel pack watering mechanism involves. Providing, Fitting of 1/2" GI nipple pieces, bends, socket, union, Gate valve etc. The job also includes flashing of desired hole in rising main at proper location and flushing of small holes in sprouting nipple pieces connecting with the well casing below the chequered sheet covering in the gravel trench. The above job executed at site by Shifting of desired tools, tackles & done by skilled labour.	Job	1	4,000.00	4,000.00
Total	Total advertised cost:				42,43,878.00
	Percentage quoted by L1 {-2%}				84,877.56
	Total allotted amount:				41,59,000.00

Rupees Forty One Lakh(s) Fifty Nine Thousand Only


Executive Engineer
Jal Shakti (PHE) Mechanical Division (North)
Sopore