

TENDER DOCUMENT FOR POTROOM AND CARBON MAINTENANCE

TENDER NO: POTROOM AND CARBON MAINTENANCE

Within 7 days from the date of EOI Publishing

To

Head Commercial
Bharat Aluminium Company Ltd.

Commercial Office

Admin Building

BALCO NAGAR

Korba – 495684

Tender.korba@vedanta.co.in

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1. INSTRUCTION OF BIDDERS

Vedanta Resources plc (“Vedanta”) is a LSE listed FTSE 100 Company with a market cap including that of its listed subsidiaries of about \$ 50 billion. We operate across the following core business sectors: Zinc-Lead-Silver, Copper, Aluminum, Iron Ore and Energy, with operation located in geographies spanning India, Australia, UAE, Zambia, South Africa, Namibia and Ireland. Over the past 5 years the group has displayed exemplary appetite for organic and inorganic growth-with an industry leading organic growth program of \$ 20 billion nearing completion.

Bharat Aluminium Company Limited (BALCO), a Member of Vedanta India is a fully integrated Aluminium producer with an installed capacity of 245 ktpa aluminium and 810 MW of power. We are currently implementing expansion projects, which includes a 650 ktpa capacity Aluminium smelter (1st phase 3.25 ktpa) and 1200 MW Power Plant. With the completion of these projects, BALCO will have a total installed metal capacity of 1 mtpa and 2010 MW of power. Our metal business currently produces 75 ktpa rolled products & 200 ktpa wire rods & with completion of 1st phase metal expansion, rolled products & wire rods capacity shall increase to 80 ktpa & 500 ktpa respectively. Our businesses also include a coal mines and operating Bauxite mines.

What BALCO is looking forward with this contract :

- High Level of Service quality.
- 100% adherence to all the deliverables.
- Zero accidents environment.
- 100% reporting of all the near miss incidents and corrective measures for all to ensure no accident due to the unsafe conditions.
- Increased availability of all the equipments and the total system to ensure better efficiency and higher levels of productivity.
- Ensuring higher productivity per man hour by introducing better Operating Procedures.
- Introduction of innovative ideas which can save in terms of time or money.

Information / Credential of Service Providers / Bidder

The following information is Compulsory and should be furnished completed in all aspects along with your offer.

1. Brief history of organization, along with organization chart, mentioning the Name,
Designation & Tel.Nos of the contact persons in your company holding all key positions.
2. **Client list, with copies Contracts of your Top 5 clients.***
3. Banker's name and your Company's annual audited report / Balance Sheet for last 2 years.
4. **The details of Machinery and Equipment available with you which are in working condition are to be furnished.***
5. **Last 3 Years P&L Statement***
6. If the space provided in the registration form is not sufficient, please attach separate. Sheets and give Annexure reference number on the attached sheet.
7. **GST SAC (Service Accounting Code) Code for registration & GST Tax % applicable.***
8. Registration Details
 - a. Registration No. and date
(Kindly attach a photocopy of registration certificate)
 - b. Membership to any body
 - c. Any other Statutory Registration.
 - d. Registration details with taxation authorities:
 - i) Permanent Income Tax A/c No.
 - ii) Service tax Registration

2) FORMAT FOR OFFER LETTER

To,
Head Commercial Contract Cell
Bharat Aluminium Company Ltd.
Commercial Office
Admin Building
BALCO NAGAR
Korba – 495684

Offer reference N.: /dt.2020

Sir,

1. We hereby undertake to perform the scope of work as defined in the condition of Bharat Aluminium Co. Ltd., Tender Ref no: _____, dated _____.2020 at the prices and within the period stated in the attached schedules & in conformity with all the conditions are included therein.

2. This offer is valid for a minimum period of 90 days.

3. We agree that any Contract placed as result of this offer will be in accordance with the terms & conditions in the said offer. We declare that any other terms or conditions of the contract or any general reservations which may be printed on any correspondence of documents emanating from us in connection with tender shall not form part of any resulting contract unless specifically agreed to by BALCO and included in this contract.

4. We also enclose herewith the following documents:

Schedule of compliance with
Acceptance of contract conditions.
Schedule of prices (Price Formats to be completed)
The offer should contain all the details like Service Tax Reg. No. etc.

Documents required by BALCO as mentioned in “Instructions to Bidders”.

M/s (Name and Address of the Company)

Signature of the authorized Signatories of the company.

SCOPE OF WORK:

Scope of work at Pot Room Area

Maintenance of entire Pot room Equipments including Electrolytic Cells, Pot Room Cranes, Pot Room FTP & Alumina Handling and Pot Controller System

Maintenance of Pot room includes maintenance of following (Potline-1) :

S.No	Equipment/Area of Scope	No. Of Equipments
1	Electrolytic cells	288 Nos
2	Pot Controller System	288 Nos
3	Anode jacking Frame	4 nos
4	Fume Treatment Plant & its Alumina Handling system	4 Nos
5	Pot Tending Machines (Special Purpose EOT cranes)	8 Nos
6	WMI Cranes (Fluoride Charging and Metal Tapping Cranes)	4 Nos
7	FAFECO Cranes (Crushed Bath Charging and Metal Tapping	2 Nos
8	WMI Crane at Ladle Cleaning Shop (General Purpose EOT 10 Ton Capacity))	1 No
9	WMI Cranes at Pot overhauling shop (General Purpose EOT 3 Ton Capacity)	2 Nos
10	Preventive Maintenance of Pot Overhaul Shop Equipments and Metal tapping Ladles	1 Set
11	Shop floor Lighting ,rail , & DSL maintenance IN POTROOM ,FTP& AL Handling ,lcs& pot repair shop	1 Set
12	Fabrication job of 50 tons per annum (excluding routine repair jobs) Fabrication and erection to be done as per site requirement without disturbing the job. If required, temporary additional persons may be deputed for the job with approval from the concerned authority.	50 tons
13	Supply of 12 T of long boom length(25 feet) Hydra as and when required for Load Shifting and Breakdowns Especially for changing the Compressor/Wheels in Cranes	1 No.
14	MCC Rooms (LT)	10 Nos
15	Motor Repair yearly limit.	Rs 500000
16	Earth Pit (testing/treatment & Periodic painting of the same)	27 Nos.

16	Manpower with minimum wages as an when required (SW)	3000 Mandays /yr
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Maintenance of Pot room includes maintenance of following (Potline-2):

S.No	Equipment/Area of Scope	No. Of Equipments
1	Electrolytic cells	336 Nos
2	Pot Controller System	336 Nos
3	Anode jacking Frame	02 nos
4	Fume Treatment Plant & its Alumina Handling system	2 Nos
5	Pot Tending Machines (Special Purpose EOT cranes)	12 Nos
6	WMI Cranes (10 MT/ 35 MT Capacity)	2 Nos
7	Petron Cranes (5 MT Capacity)	01 No
8	Ladle Cleaning Machine	01 No
9	Siphon Cleaning Machine	01 No
10	Preventive Maintenance of Pot Overhaul Shop Equipment and Metal tapping Ladles	1 Set
11	<u>SHOP FLOOR LIGHTING ,RAIL , & DSL MAINTENANCE IN POTROOM ,FTP& AL HANDLING ,LCS& POT REPAIR SHOP</u>	1 Set
12	Repair/ modification job (excluding routine repair jobs) by deployed manpower	As per requirement
13	Supply of pickups for material/ manpower movement (7 seater with cargo) Bolero camper	04 Nos (including utility and MRSDS)
14	MCC Rooms (LT)	09 Nos
15	Earth Pit (testing/treatment & Periodic painting of the same)	210 Nos.

Detailed Break up of Equipments :

ELECTROLYTIC CELLS:

Scope Includes Preventive Maintenance activities in the Electrolytic Cell as per the Standard checklist provided by Company to be carried out as per the maintenance Schedule decided by the Company Engineer in Charge. Pot Cell is GAMI China design consisting of 6 Crust Breakers ,6 Point feeder ,Screw Jack mechanism ,Pneumatic system and other accessories.

Scope will cover all breakdown activities in the running pot cell including Crust Breaker ,Feeder ,Entire Pneumatic System ,Solenoid Valves, Anode Screw Jacking Mechanism, Screw Jack Channels, Alumina Conveying System ,Air Slide Fabric Change,J Hook change, Flexible Bellow ,Insulating Pipe (Orange Pipe) ,Fume Duct Damper System and other accessories in the Pot , Riser-Shunt Insulation rectification and replacement ,Pot Bus bar insulation replacement ,Routine Online Web plate rectification ,

Maintenance of web plate means rectification of the damaged web plate, fixing of the web plate, removal of existing web plate from welding and fixing in bolting. Approx 400 nos of web plates are to be fitted per month as deliverable from the contractor. In case the contractor fails to comply the desired number,

penalty to be imposed 1.55 times of the contract value awarded to 2nd party for the same job. Contractor has to understand the job before quoting to avoid any conflict afterwards.

Plate welding to avoid leakages in the Pot as and when required as per the criticality of the Job. Online Pot Cut Out is a very critical activity and lies in the Scope of Maintenance, it becomes more critical during pot tap outs and Special care is to be taken. Collector bar bolts disconnection during high temperature is to be done on top priority. Failure in the Riser/Shunt will lie in the Scope and is to be repaired by Maintenance team.

Scope will not include Pot Shell and Superstructure repair during the Pot Start up and re lining activities, however under special circumstances support can be provided during this period also Hand railings repair to be carried out to ensure Safe working environment.

Scope will also include keeping all the repairable assemblies ready for Installation during the breakdown the list of same will be provided by Company In charge.

POT CONTROLLER SYSTEM

Scope Includes Preventive Maintenance activities in the Pot Controller as per the Standard checklist provided by Company to be carried out as per the maintenance Schedule decided by the Company Engineer in Charge.

Scope will cover all breakdown activities like Fault attending and resolution as per the Scenario, Since Pot Controller is a critical and important equipment overall supervision during breakdown will be done by Company Engineer ,however during Preventive Maintenance activities it is to be supervised by the Contract Supervisor.

Scope will cover all maintenance activities in the running pot cell including both the Anode Jacking motors, All Sensors, Supporting cables, mechanical counters, conduit pipes, AE Alarm box and Lamp Holder.

Maintenance of Blowers for Cleaning of Pot controllers, Thermocouple, Millimeters, Anode Reference Gauge, Weighing Machines, Sirens, Broadcasting System Including Speakers and Supporting Cables., Pot Voltage Cables along the Bus bar, Work station PC's maintenance in lounge rooms used for Pot Condition Monitoring.

Maintenance of Low tension MCC rooms 8 Nos. lies in the Scope of the contract.

Scope will also include keeping all the repairable assemblies ready for Installation during the breakdown the list of same will be provided by Company In charge.

ANODE JACKING FRAME

Scope Includes Preventive Maintenance activities in the Anode Jacking frame as per the Standard checklist provided by Company to be carried out as per the maintenance Schedule decided by the Company Engineer in Charge.

Scope will cover all breakdown activities online and Offline in the Anode Jacking frame like Diaphragm failures, Tie rod damages, PU Tubes Failures.

Scope will also include keeping all the repairable assemblies ready for Installation during the breakdown the list of same will be provided by Company In charge.

FUME TREATMENT PLANT & ALUMINA HANDLING SYSTEM

Scope Includes Preventive Maintenance activities in all the equipment as per the Standard checklist provided by Company to be carried out as per the maintenance Schedule decided by the Company Engineer in Charge.

Electrical, Mechanical and Instrumentation maintenance of following equipment including Complete Automation and Control of Mechanical equipment wherever applicable.

For movement of the manpower, e-rickshaw may be introduced to be environmental friendly.

For minor machining job at local workshop, scope is to be kept in contractors' scope for ease of maintenance

In case of requirement, APF should be arranged by the contractor on additional charge,

Potline-1:

Induced Draft Fans	16 Nos
Air Lift Blowers	8 Nos
Hopper Fluidization Blowers	8 Nos
Bag house Chambers	36 Nos
Hoist (Cap 2 tons)	8 Nos
Outlet dampers	36 Nos
Major Air Lift	4 Nos
Industrial Compressors	4 Nos
Rotary feeders	8 Nos
Re-circulation feeders	36 Nos
Air receiver Tanks	4 Nos
Pressure Vessels	10 Nos
Crushed bath Silos with De dusting Units	8 Nos
Fresh Alumina Silos	4 Nos
Enriched Alumina Silos	4 Nos
Storage Silos cap 8000 T	4 Nos
Alumina and Crushed Bath Conveying Pipe Lines with LR Bends and Diverters.	18 Nos
Unloading Stations with all the accessories	
Maintenance of vibrating Screens at Alumina Go down	4 Nos
BTAP Wagons Pneumatic Systems Including Piping and Valves	

Potline-2 :

ITEM DESCRIPTION	UNITS	QTY
Filter Cages	No's	14688
Inlet shut-off Reactor damper	No's	18
Outlet Plenum Regulation Damper with Actuator	No's	36
Air dilution Damper with Actuator	No's	2
Dual Orifice damper	No's	168
Exhaust Fan	No's	4
Fluidization fan for air slide	No's	2
Fluidization Fan for hopper bottom	No's	3
Blower for Airlift	No's	2

Blower for Main Fresh Silo Bottom	No's	3
HT Motor for Exhaust Fan	No's	4
Anti-Segregation filling system for Fluorinated Alumina	No's	1
Anti-Segregation filling system for Fresh Alumina	No's	1
Airlift for Fluorinated Alumina	No's	1
Venting Bag filter with Breather valve for Enriched Silo	No's	1
Level 1 & 2 PLC System	No's	1
Filter Head Casing with Tube Sheet	No's	18
Hopper Casing	No's	18
Fluidized Bottom	No's	18
Body Casing	No's	18
Reactor	No's	18
Compressed Air tank	No's	36
Filter outlet Half duct - inside GTC	No's	36
Outlet plenum duct	No's	1
Air Injection feed pipe	No's	864
Inlet & Outlet chutes for Vibrating screen	Lot	1
Fresh Alumina piping	Nos	18
By pass chute	Sets	2
Fluorinated alumina overflow chute	Nos	18
Air slides	Lot	1

BTAP Wagons Pneumatic Systems Including Piping and Valves

Scope will also include keeping all the repairable assemblies ready for Installation during the breakdown the list of same will be provided by Company In charge.

POT TENDING MACHINES (SPECIAL PURPOSE EOT CRANES)

Scope Includes Preventive Maintenance activities in the POT TENDING MACHINES as per the Standard checklist provided by Company to be carried out as per the maintenance Schedule decided by the Company Engineer in Charge.

PTM is a Special Purpose imported EOT Crane and is used for all the Operations in the Electrolytic Cells.

Scope will cover all breakdown activities online and Offline in the PTM which is to be attended on top priority .Since these Cranes are EOT Cranes special Care is to be taken while selecting the Manpower, No person working in this area should suffer from Height Phobia or a similar disease.

Scope will also include keeping all the repairable assemblies ready for Installation during the breakdown the list of same will be provided by Company In charge.

METAL TAPPING ,FLUORIDE CHARGING AND OTHER GENERAL PURPOSE CRANES

Scope Includes Preventive Maintenance activities in the below mentioned Cranes as per the Standard checklist provided by Company to be carried out as per the maintenance Schedule decided by the Company Engineer in Charge.

Scope will cover all breakdown activities online and Offline in the cranes to ensure smooth Operation.

MAINTENANCE OF POT OVERHAUL SHOP EQUIPMENTS AND METAL TAPPING LADLES

Scope Includes Preventive Maintenance activities in the Ladles and Other Equipments used in the Pot Start up activities as per the Standard checklist provided by Company to be carried out as per the maintenance Schedule decided by the Company Engineer in Charge.

Scope will also cover all mechanical and electrical breakdown activities online and Offline in these equipment to ensure smooth Operation.

Scope will not include Ladle Relining and Cleaning.

SHOP FLOOR LIGHTING ,RAIL& DSL MAINTENANCE

Scope Includes Preventive Checks and routine audits of the Crane Rails, DSL and Lighting System as per the Standard checklist provided by Company to be carried out as per the maintenance Schedule decided by the Company Engineer in Charge.

Area of Scope Includes Pot room, FTP & Alumina Handling, Pot Repair Shop and Ladle Cleaning shop.

Rail maintenance for Overhead Cranes Includes Clamps Fixing, Gaps Welding and Bolt tightening . All consumables are in the scope of the contractor. however complete rail alignment will not lie under the contract Scope.

In case of rail alignment, contractor has to do the same with additional cost. All consumables for the job are in contractors' scope.

Access Platform required for work at height will lie in Company's Scope; however tools and tackles required will be arranged by the Contractor.

However, if cases arises, contractor has to arrange the required Access Platform on chargeable basis.

MODIFICATION/REPAIR JOB

Scope Includes Fabrication Job consisting of Structures, New Assemblies made of Angles, Channels ,Plates, Beams etc for modifications and Improvements in the area and should not include routine repair activities.

All Steel Structures will be provided by Company; however Consumables like Welding Electrodes, Oxygen, Argon gas etc will lie in contractor's Scope.

OTHER SCOPES :POTROOM

1. Material transportation i.e. transporting material / spares from central stores to site stores & from site store to work place is the responsibility of contractor. **– If Truck Trailer is required, the same will be arranged by Contractor on chargeable basis.**
2. For shift maintenance, the people should be available for 24 hrs even in the case of shift change. Non-availability of manpower will be considered, as breach of contract and penalty shall be imposed. However consideration shall be given at the end of shift for changeover of dress & washing.
3. Contractor should have Comprehensive System for Six Monthly Skill Matrix Evaluation and a Six monthly training plan to enhance the skills of their employees and shall be acknowledged by COMPANY.
4. Skill Matrix Formats and Training plans to be approved by Company Engineer In charge.
5. For Multi skills development technicians and supervisors/engineers should be rotated with or without prior information as per requirements or guidelines by COMPANY.
6. Contractor should ensure that none of their work force works more than 16 hrs as per labour laws **any deviation will be dealt seriously and suitable Penalty will be imposed as per mutual discussion and finalization.**

7. Contractor has to carry out regular Condition Based Maintenance based on CBM plan approved by Company in charge. For this CBM Analyst has to be deputed monthly once for carrying out the CBM activities.
8. Scope will include all the equipment in Contractors Scope, Action Plan has to be made to rectify all the deficiencies found during the CBM and Corrective action has to be taken based upon the Severity.
9. Contractor is free to depute a separate Contractor for CBM Analysis to carry out these specialized activities. CBM Vibration Analyzer will also lie in the Scope of Contractor, to be noted that it is not to be substituted with Vibration Meter in which no analysis can be done.
10. Specialized jobs like Alignment, balancing to be carried out by Contractors team.
11. Maintenance of MCC LT system of Pot Room.
12. The maintenance shall be for on line maintenance and off line maintenance i.e. Planned Maintenance, shutdown maintenance, running maintenance, and Breakdown maintenance.
13. All consumables (Except lubricants, Spares), Tools and tackles, Rigging Equipments like Slings, Chain Blocks, are in contractor's scope. Normal fasteners will lie in scope of Contractor.
14. The contractor can use the lifting facility, hoists, cranes etc. installed and available at site / workshop. However if any facility is not available or out of order the contractor has to **arrange Hydra on chargeable basis. Other than Hydra (Like Crane, JCB, Dozer) is not in Contractor's Scope.** While using or carrying out any job if any equipment or installation is damaged by the contractor it will be repaired and made good at the risk and Cost of contractor **by mutual discussion and finalization. Driver for hydra will be in temporary gate pass basis and change of driver will be done accordingly.**
15. Pneumatic Impact Wrench & Torque Wrenches should be in Contractor's Scope, however Pot cut Out Wrench will be in Company's Scope.
16. . Contractor should keep all tools and tackles required to carry out maintenance at all the sites to reduce the response time to breakdowns.
17. Any improvement in the type of Tools used as suggested by Company to be implemented.
18. In Total 20 numbers of Gas Cutting Set Should be available with the Contractor with Trolley Arrangement and Castor Wheels Fixed on it.
19. In Total 20 Arc Welding Machines Should be available with the Contractor Castor Wheels Fixed on it for movement.
20. One MIG Welding Machine should be available full time for Aluminium welding.

21. The contractor shall be responsible for General housekeeping including Cleanliness and orderliness of the plant premises in and around equipments and the Office area provided by Company.
22. Immediately after job completion is over the area should be cleaned.
23. The cleaning of dust, Oil Spillages, Welding butts, Metal Scraps, used nut bolts & all other scrap removal shall be in contractor's scope.
24. Contractor shall ensure to discharge scrap only at designated place by his own resources.
25. All Statutory obligations, Approvals, Safety, Security & Storage of Contractor's own material will lie in the Contractor's Scope. Special care to be taken in LPG, Oxygen Cylinder, Flammable material like diesel, Petrol, etc and is to be Kept in minimum possible Inventory with all the Safety precautions. Store Keeper's to be available in 24 hrs basis to ensure all the above points are taken care off.
26. "Company's canteen facility and Portable Services for Snacks/Tea will be extended to the contract workers on Self payment basis.
27. The Contractor for its own employees shall arrange Uniform, PPE's ,Safety Items as per Company's rule .Contractor is liable to Generate all Maintenance Reports as required by Company and has to follow all the Standards followed by COMPANY like ISO,5S,etc.
28. Repair/ rewinding of motors upto 500000 INR per annum shall be in contractor's scope. Further expenses shall be borne by COMPANY. List of Motors to be provided by Company Area In charge so as it finalize the Repair cost of same as per the KW rating.
29. Bearing will be provided by Company for any Motor repair other consumables will be in Contractors.
30. Periodic testing/ painting & lettering of Earth Pits in the scope of contractors.
31. Contractor has to ensure the equipment availability of the critical equipment as mentioned by us in Annexure however any delay due to non-availability of spares shall not be to your account.
32. Handling of Scrap generated arises on account of maintenance activities or any kind of material handling will be in contractor's scope.
33. The contractor shall ensure all breakdown jobs are immediately attended or completed and shall depute any additional workmen **from existing manpower only**, if necessary, in any shift till the completion of job, as per COMPANY engineer-in-charge instruction with entire satisfaction. **No extra payment will be made against extra deployment of manpower**. PM should be completed within the stipulated time but as & when it is required the job has to be continued till the completion of job. This will be considered as part of contract & no extra claim for Overtime incurred will be accepted.
34. Any delay due to Operation problems or Spares non-availability will be considered for any delay in PM time.

35. Any failure in the work / job executed by the contractor due to bad workmanship shall be corrected free of cost. Failure to do the corrections shall attract penalty **by mutual discussion and finalization.**
36. The contract workmen shall strictly abide by the instructions / suggestions of COMPANY engineers with reference to discharging / carrying out the jobs and services and the time specifications for their execution within the scope of this contract and their decision regarding the same will be final.
37. Any in discipline will not be entertained and as per the Enquiry suitable Penalty to be imposed depending upon the seriousness of Indiscipline **if Contractor will not take action against indiscipline than only penalty will be applicable.**
38. During idle hours contract workmen/technicians may be utilized by COMPANY for similar nature jobs of their relevant areas of work within the premises.
39. Shift-in-charge / Shift supervisor should be readily available at site all times. Site-in-charge should be available during general shift hours, each for Pot Room & carbon plant, however during emergency situation like Pot Cut Outs Site In charge or his Deputy has to be present at Site.
40. In case of the Strike, Mishaps, **Site In-Charge (Contractor's)** has to be present at site within an hour to take care of the Situation.
41. The contractor should maintain labour license from inspector of factories, Muster roll form, Employment card form, wage register form, Attendance register, and register for Overtime. These register to be produced to COMPANY as and when demanded.
42. The contractor should maintain a logbook for the works carried out by them and gets the signature of the Shift-in-charge in the specified form given by COMPANY.
43. COMPANY shall provide water, electrical tapping point at a designated place, office space, free of cost.
44. The contractor should not engage any manpower without appointment letter. The same should be submitted to COMPANY in due course for the records.
45. Contractor's Shift supervisors and Site In charges has to be equipped with Mobile Phones preferably of the Certified Network provider.
46. Any recruitment for the Contract manpower has to be done under Company technical team presence only approved manpower will be allowed for joining.
47. Any other scope and terms mentioned in the contract, modifications thereof and mutually discussed and agreed upon will be jointly minute by the contractor and technical and commercial department, and will form the part of this scope of work.
48. Minor Modification or improvement required to improve the availability shall be covered by the contract and no extra claim shall be accepted.
49. Major Preventive maintenance activities like cables changing, motors changing, major assemblies replacement/refurbishment shall be carried out as per preventive maintenance plan and it shall be

considered as part of contract. Additional Manpower deployment shall be made by the contractor to control the above major jobs within stipulated time.

50. Contractor has to have a reward scheme for its employees based on the mutually agreed guidelines with the Head Maintenance.
51. Contractor has to ensure that No job is to be carried out without SMP/SOP duly certified by Company In charge and Signed copy of same has to be submitted back to Company after proper training on same to all employees. However any suggestions, improvements in the SOP/SMP can be suggested to the Area In charge and will be taken as an improvement.
52. Overtime against absenteeism will be the responsibility of Contractor. However all kind of overtime to be discourage.
53. Contractor has to promote the Culture and Policies followed by Company within its employees.
54. Contractor has to ensure production of proper test/ calibration certificates for all the Tools/ Tackles supplied under the contract (wherever applicable)
55. Contractor has to ensure the supply of good quality Tools/ Maintenance kits to the individual technician wherever applicable
56. Contractor has to ensure training, participation and involvement of its employees in various activities carried out by COMPANY from time to time.
57. Contractor has to ensure the quality of workmanship and take ownership of any observation on the same and rectify the issues related with workmanship/ skill set within an agreed timeframe.
- 58. Contractor has to promote Quality Circle Concepts amongst its employees to enhance the participation of Worker in Continual improvement.**

Emergency jobs to be carried out by the contractor on payment basis as per the mail correspondence

B. TIME SCHEDULE

Sl.	Description of Job	Frequency	Time Duration
1	PM OF BLOWERS (3)	Monthly	6 Hrs
2	PM OF PTM (one)	Monthly	8 Hrs
3	PM OF WMI (one)	Monthly	6 Hrs
4	PM OF POT CONTROLLER	Daily 12 Pots (2Hrs/Pot)	2 Hrs
5	Pot insulation and lifting mechanism	Daily 12 Pots (2Hrs/Pot)	2 Hrs
6	PTM and WMI Cleaning	Section rest Day	45 Mins.
7	Pot Crust breakers, feeders, gear boxes and air slides	Monthly (3 Hrs/Pot)	4 Hrs
8	PM of ID Fans	Monthly	6 Hrs
9	PM of WMI Cranes (2Nos.)	Every week	4 Hrs

I. PLANNED MAINTENANCE TIME SCHEDULE

Pot room

Sl. No.	Item Description	Time
1.a.	Shovels assembly including shaft dismantling and assembling with ready spares	8 Hrs.
1.b	Only shovels replacement including dismantling and assembling with ready spares	3 Hrs.
2.a	Wrench assembling complete with extracting device including dismantling and assembling with ready spares	8 Hrs.
2.b	Only Wrench assembling removal and fitting with ready spares	4 Hrs.
3.a	Tapping trolley, bottom wheel removal and fitting with ready spares	4 Hrs.
3.b	Top wheel with drive system including dismantling and assembling with ready spares	8 Hrs.
3.c	Idler with guide wheels including dismantling and assembling with ready spares	4 Hrs.
3.d	Only idler including dismantling and assembling with ready spares	2 Hrs.
4.a	PTM long travel wheel replacement for main drive wheel including dismantling and assembling with ready spares	8 Hrs.
4.e	PTM cross travel wheel replacement for main drive wheel including dismantling and assembling with ready spares	4 Hrs.
4.f	PTM long travel Idler including dismantling and assembling with ready spares	4 Hrs.
4.g	PTM cross travel wheel replacement for main drive wheel including dismantling and assembling with ready spares	4 Hrs.
4.h	PTM cross travel Idler including dismantling and assembling with ready spares	2 Hrs.
5.a	Breaker assembly complete including dismantling and assembling with ready spares	8 Hrs.
5.b	Only breaker assembly chisel replacement including dismantling and assembling with ready spares	1 Hrs.
6.a	16 MT hoist disassembling and assembling with spares hoist assembling	10 Hrs.
6.b	Only hoist disassembling	6 Hrs.
7.a	Tapping trolley rope changing with readily available spares	4 Hrs.
8	Compressor assembling and changing with readily available spares	5 Hrs.
9	Gear box assembling with drive system by readily available spares unit	8 Hrs.

QUALITY OF WORK

Sl. No.	Equipment	Deliverables
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1	Cranes	No misalignment of rails within 7 days
		No loose connections within 3 days
		No VFD Faults (Protocol to be signed for cleaning)
		No opening of panel doors
		No low level of oil in gear box
		No oil leakages from pipes/joints
		No air leakages
		No wastage left at site after PM.
		No tools/tackles left around the rail of cranes.
2	Pot crust breakers, feeders, gearboxes, airsides	No loose bolts/missing (within 3 days after tightening)
		No air leakages
		No oil leakages from gearboxes, FRL units (within 3 days after tightening)
		No low oil level/starvation of oil Pressure setting as per requirement
3	Pot controller	No loose connections
		No air leakages
		No dust inside Pot controller
4	Pot insulation and lifting mechanism	Proper insulation values
		No Misalignment of shaft
		No oil leakage
5	Wagons	No Air leakage in 2 Days
		Proper sealing of hatches
6	ID Fans	No abnormal vibration/temperature (within 15 days of PM)
		No abnormal noise (within 15 days of PM)
7	Blowers and Motors FTP	No abnormal vibration/temperature (within 15 days of PM)
		No abnormal noise (within 15 days of PM)
		No oil leakage (within 15 days of PM)
		Proper tightening of Belts and impellers (within 15 days of PM)
8	Jet Pulsing system	Proper tightening of bolts (within 15 days of PM)
		No air leakage (within 15 days of PM)
		No abnormal sound (within 15 days of PM)

Scope of work at PotRoom Utility Area

1. SCOPE OF SERVICE:

1. Maintenance/CBM of entire equipment's involved in Utility area comprising of Compressors, Pumps, Cooling towers, AVGF's, hoists/cranes and also pipelines of compressed air, water (drinking, process, fire), HFO, Steam line and any accessories/mountings used at Air Compressor House 1 & 2, Compressor pump house 1 & 2, Rectifier pump house 1 & 2, Fire protection pump house 1 & 2 and pressurizing pump house and rest of the Company Plant area where ever the department is either directly or indirectly associated with.

Maintenance of Utility includes maintenance of following:

UTILITY 1

S.No	Equipment/Area of Scope	QTY
1	Preventive Maintenance of Air Compressors, Secondary Compressor, Diesel Compressor	9 Nos
2	Preventive Maintenance of Pumps (including centrifugal, dewatering, sump, diesel, jockey)	37 Nos
3	AVGF/ACF/MGF (Filters)	8 nos
4	Hoists/Cranes/Chain pulley block (Max Capacity 10 MT)	5 Nos
5	Air Receiving Tank	1 No
6	Online/Offline Filter Change of Air Compressors and Equipment Cleaning	7 Nos
7	Break Down Maintenance of each and every equipment in associated with Utility directly/indirectly	1 AU
8	Any additives used or drain out from any equipment which comes under scope of the department Utility directly/indirectly (oil, chemicals, grease etc) to be properly shifted to the designated place.	1 AU
9	Maintenance of HFO/Steam/Compressed Air/Water related to Utility and Plant Level.	1 AU
10	Arrangements of consumables (nut, bolts, stud, screw, grease, diesel/kerosene, o-ring, eye bolts, puller, jack, measuring instruments as per use on site)	1 AU
11	Maintenance of Air Dryers	8 nos
12	Maintenance/Modification of any kind of pipe line: compressed air, process water, drinking water, fire water, steam and HFO.	1 AU

UTILITY 2

S.No	Equipment/Area of Scope	QTY
1	Preventive Maintenance of Air Compressors	8 Nos
2	Preventive Maintenance of Pumps (including centrifugal, dewatering, sump, diesel, jockey)	22 Nos
3	AVGF	4 nos
4	Hoists/Cranes/Chain pulley block (Max Capacity 10 MT)	4 Nos
5	Air Receiving Tank	1 No
6	Online/Offline Filter Change of Air Compressors and Equipment Cleaning	8 Nos
7	Break Down Maintenance of each and every equipment in associated with Utility directly/indirectly	1 AU
8	Any additives used or drain out from any equipment which comes under scope of the department Utility directly/indirectly (oil, chemicals, grease etc) to be properly shifted to the designated place.	1 AU
9	Maintenance of Compressed Air/Water related to Utility and Plant Level.	1 AU
10	Arrangements of consumables (nut, bolts, stud, screw, grease,	1 AU

	diesel/kerosene, o-ring, eye bolts, puller, jack, measuring instruments as per use on site)	
11	Maintenance of Air Dryers	16 nos
12	Maintenance/Modification of any kind of pipe line: compressed air, process water, drinking water, fire water.	1 AU

Detailed Break up of Equipment's:

AIR COMPRESSORS:

Scope Includes Preventive Maintenance activities in the Air Compressor as per the Standard checklist provided by Company to be carried out as per the maintenance Schedule decided by the Company Engineer in Charge.

Compressors are of IR & atalscopco design consisting of 3 Stages, 3 Heat Exchangers, 1 Oil Cooler, Suction Filter, Inlet and Bleed valve, Piping, Motor, Pneumatic system and other accessories.

Scope will cover all Condition based monitoring/breakdown/Online/PM activities in the running/standby Compressor.

Hand railings repair to be carried out to ensure Safe working environment.

Scope will also include keeping all the repairable assemblies ready for Installation during the breakdown the list of same will be provided by Company In charge.

AIR DRYER

Scope Includes Preventive Maintenance activities in the Air Dryer as per the Standard checklist provided by Company to be carried out as per the maintenance Schedule decided by the Company Engineer in Charge.

Scope will cover all condition based monitoring/breakdown/PM activities like Fault attending and solution as per the Scenario, Since Air Dryer is a critical and important equipment which removes moisture from the air which is to be supplied to the user. Overall supervision during breakdown will be done by Company Engineer, however during Preventive Maintenance activities it is to be supervised by the Contract Supervisor.

Scope will cover all maintenance activities in the running/standby dryers like:

Daily Maintenance involves:

- a) Checking of Condensate drain.
- b) Monitoring of all temperatures and pressure.

Weekly Maintenance involves:

- a) Inspection and cleaning of condensate drain system.
- b) Cleaning of Panel of the dryer.

Rest as per the given checklist provided by Company. Also spare parts to be repaired and maintenance to be done always.

Scope will also include keeping all the repairable assemblies ready for Installation during the breakdown the list of same will be provided by Company In charge.

PUMP HOUSE

Scope Includes CBM/Preventive/Breakdown maintenance activities in the Pump/Motor as per the Standard checklist provided by Company to be carried out as per the maintenance Schedule decided by the Company Engineer in Charge.

Scope will cover all CBM/PM/Breakdown activities online and Offline in the pump like Diaphragm failures, Tie rod damages, PU Tubes Failures.

All monthly, quarterly, half yearly and yearly maintenance of pump will be scope of contract. If any breakdown occurs within 48hr. Of running then a penalty payable by the contractor will be twice the amount which is paid by Company during the normal time with the respective equipment.

In pressurising pump house, water supplied all around the plant covered with drinking and process water. Technician should be done backwash two time on the day during the A and B shift as per standard checklist provided by Company in charge. In time of Backwash flow of water is to be not more than 200 m³/hr.

Scope will also include keeping all the repairable assemblies ready for Installation during the breakdown the list of same will be provided by Company In charge.

COOLING TOWER

Scope Includes CBM/Preventive/Breakdown maintenance activities in the Pump/Motor as per the Standard checklist provided by Company to be carried out as per the maintenance Schedule decided by the Company Engineer in Charge

Scope will cover all following

Induced Draft Fans (13 No.),
Gear reducer box (13 no)
Twin flex shaft (13 No.),
Cooling tower cell (13 no.)
Nozzle (1 AU)
Motor (13 no.),
Oil pipe line (1AU),
Cooling tower structure (4 No.),
Water circulation pipe line (1 AU),
Coupling alignment (13 No.),
Complete valves

Scope will also include keeping all the repairable assemblies ready for Installation during the breakdown the list of same will be provided by Company In charge.

MATERIAL:

The contractor shall be responsible to arrange and maintain all equipment, tools etc. and bear purchase, mobilization and demobilization's cost of such equipment, tools, machinery and apparatus as is necessary to render effectively the services required by COMPANY. An indicative list of consumables to be provided by the contractor is as per Annexure enclosed, but it is explicitly agreed that all consumables required to fulfill the maintenance work will be provided by the contractor.

You should maintain the requisite tools and tackles at individual sites. A list of such tools to be prepared and get approved by Company Site-In charges. In case the contractor could not arrange these tools within the given time, Company shall reserve the right to procure these tools and deduct the amount from their bills.

The contractor shall be responsible for the Periodic Statutory load testing of the lifting tools maintained by them.

Company shall reserve the right to procure these tools and deduct the amount from their bills.

WORKTIMINGS:

The Contractor shall ensure that no employee of the Contractor will enter to remain on COMPANY premises unless necessary for fulfilling Contractor's obligations under this contract. In order to maintain proper co-ordination at the plant the workmen deployed by the Contractor shall adhere to the work timings mutually agreed by the parties. These timings may change and when required by COMPANY.

Contractor has to adhere to Biometric Punch machine system for Attendance of Employees and has to install it, at its own Cost.

Timings for General Shift: 8:30 am to 5:30 pm

Shift Duty : 6:00 am to 2:00 pm/2:00 pm -10:00pm/ 10:00 pm to 6 :00 am

SAFETY:

"Contractor shall provide all necessary safety like Safety shoes, Goggles, Helmets, Masks, and Gloves etc. to his employees. The quality of PPE shall be certified by the COMPANY Safety Dept. Neither Contractor nor his employees will be permitted to enter factory premises without safety gadgets. The Contractor will ensure strict compliance of safety measure adopted by the Company. In case of any violation of safety measures by the Contractor or his employee will be taken seriously and in such situation, on non-compliance of safety PPE Company shall penalize the contractor as follows:

Rs 500/- First time

Rs 1000/- Second time

If contractor continue for failing to provide the safety & PPE Company reserves its right to cancel this contract.

"The contractor shall immediately upon knowing of any accident, damage or losses, in which he is involved on the site, should inform the area-in-charge.

"The contractor shall take all safety precautions and provide adequate supervision by competent persons in order to do the job safely and without damage to plant, personnel, equipment, and the environment.

No job to be carried out without proper SOP/SMP or Work Instructions ,Also refresher training to the technicians has to be given at regular intervals and Signature campaign is to be carried out upon revision of SMP/SOP.

HOUSE KEEPING:

The contractor shall ensure that its employees while on COMPANY premises or while carrying out their obligations under this contract, observe the standards of cleanliness, decorum and general discipline laid down by COMPANY shall be the sole judge as to whether or not, the contractor and or its employees have observed the same. The contractor shall also participate to achieve the 5-S standards along with COMPANY.

SKILL MATRIX

All personnel will be having prior experienced of maintenance:

For new person, the following will be applicable.

Engineers/Supervisor -Degree +3 yrs. Exp. Minimum Diploma with 6 yrs. Exp. Minimum.

Technicians (M.E.I) - Diploma/ITI with 5-8 yrs. Experience able to read Mechanical and Electrical Drawings, Technicians should have base knowledge in troubleshooting of hydraulics & pneumatic system, coupling alignment, gearbox overhauling, Thermit-welding of rails.

Semi-Skilled Workers - 10 +2 with experience In Plant environment

Semi-Skilled Workers - 10+2 with experience In plant environment

Any deviations to the above will be approved by COMPANY.

In case of persons with exceptional experience and skills the qualification criteria can be relaxed only with clearance from COMPANY.

In addition to it Six Monthly Skill matrix review to be followed strictly and TNI to be identified based on which Training Plan to be made for Six Months and Compliance to be monitored in Company's Supervision.

PERFORMANCE TRACKING & INVOLVEMENT:

Contractor shall take part in Asset Optimization activity of the department & produce / Carryout RCAs, Case Studies on unplanned maintenance activities exceeding 2.5 hrs.

Proper documentation of the month wise Asset performance, Calibration records, TNI& Training records is to be kept ready for production on demand.

MANPOWER DEPLOYMENT WITHOUT RESTRICTED PRACTICES

A Shift	B shift	C Shift	Total Shift	Day Shift	Total	AREA OF DEPLOYMENT	Supervisors	Electrical	Mech	Welder
0	0	0	0	20	20	Crane Preventive Maintenance	2	7	11	2
0	0	0	0	13	13	Fume Treatment Plant	1	3	9	1
0	0	0	0	19	19	Potroom Maintenance G shift	1	0	18	1
5	5	5	15	0	15	Pot Maintenance Shift	3	0	12	3
7	7	7	21	0	21	Crane Maintenance Shift		9	12	0
2	1	1	4		4	Pot Controller	0	4	0	0
0	0	0	0	4	4	Lighting DSL Maintenance	1	4	0	0
0	0	0	0	9	9	Aux Eqpmnt& Central Maint Team		2	6	1
14	13	13	40	65	105	OVERALL POTROOM	8	29	68	8
4	4	0	8	0	8	CRUST BREAKER REPAIR	0	0	8	0
2	2	2	6	9	15	UTILITIES	1		14	1
25	24	17	66	75	141	POTROOM SBU	10	42	90	9
							10	141		

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A Shift	B shift	C Shift	Total Shift	Day Shift	Total	AREA OF DEPLOYMENT	Super-visors	Elect rical	Mech	Welder
					0	Crane Preventive Maintenance				
				10	10	Fume Treatment Plant	1	1	8	1
				11	11	Potroom Maintenance G shift			10	1
5	5	5	15		15	Pot Maintenance Shift			12	3
7	7	7	21		21	Crane Maintenance Shift	3	9	12	
1	1	1	3		3	Pot Controller		3		
			0		0	Lighting DSL Maintenance				
13	13	13	39	21	60	OVERALL POTROOM	4	13	42	5
0	0		0	0	0	CRUST BREAKER REPAIR	0	0	0	0
			0	4	4	UTILITIES			4	
13	13	13	39	25	64	POTROOM SBU	4	13	46	5
							4	64		

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SUMMARY

Proposed Manpower PRM- without any restrictive practices

Technicians						
Area	Deployment	G shift	Shift	G shift reliever	Shift reliever	gate pass
Line 1	141	75	66	12	18	171
line2	64	25	39	3	11	78
Total-A	205	100	105	15	29	249
Supervisors						
Line- 1	10	7	3	1	1	12
Line-2	4	1	3	0	1	5
Total-B	14	8	6	1	2	17
Adminsritative staff						
	8	5	3	0	1	9
Grand Total	227	113	114	16	32	275
Net				-5		270

Manpower Deployment Potroom SBU With restricted practices

MANPOWER DEPLOYMENT FOR POTLINE-1

A Shift	B shift	C Shift	Total Shift	Day Shift	Total	AREA OF DEPLOYMENT	Supervisors	Electrical	Mech	Welder
0	0	0	0	16	16	Crane Preventive Maintenance	2	4	11	1
0	0	0	0	13	13	Fume Treatment Plant	1	3	9	1
0	0	0	0	22	22	Potroom Maintenance G shift	1	0	20	2
4	4	4	12	0	12	Pot Maintenance Shift	0	0	12	0
8	8	8	24	0	24	Crane Maintenance Shift	3	9	12	3
2	1	1	4		4	Pot Controller	0	4	0	0
4	0	0	4	0	4	Lighting DSL Maintenance	1	4	0	0
0	0	0	0		0	Aux Eqpmnt& Central Maint Team	0	0	0	
18	13	13	45	51	96	OVERALL	8	24	64	7

						POTROOM				
5	5	0	10	0	10	CRUST BREAKER REPAIR	0	0	10	0
										0
2	2	2	6	9	15	UTILITIES	1		14	1
30	25	17	73	61	133	POTROOM SBU	10	37	88	8
							10	133		

MANPOWER DEPLOYMENT FOR POTLINE-2

A Shift	B shift	C Shift	Total Shift	Day Shift	Total	AREA OF DEPLOYMENT	Supervisors	Electrical	Mech	We
			0	17	17	Crane Preventive Maintenance	2	6	10	
			0	14	14	Fume Treatment Plant	1	3	9	
			0	24	24	Potroom Maintenance G shift	1		23	
6	6	6	18		18	Pot Maintenance Shift	0		18	
8	8	8	24		24	Crane Maintenance Shift	3	9	12	
1	1	1	3		3	Pot Controller	0	3		
			0	4	4	Lighting DSL Maintenance	1	4		
15	15	15	45	59	104	OVERALL POTROOM	8	25	72	
2	2		4	0	4	CRUST BREAKER REPAIR	0	0	4	
1	1	1	3	1	4	UTILITIES			4	
18	18	16	52	60	112	POTROOM SBU	8	25	80	
							10	112		

Please refer the attached sheet of manpower for additional requirement against restricted manpower

Administrative Staff: 8 (4 in Gen Shift & 3 in Shifts with one Reliever)

ANNEXURE: DELIVERABLES /PENALTY/BONUS CLAUSE FOR UTILITIES

Parameter	Target	Penalty/Bonus Criteria
PM time Compliance	Compressor Maintenance=24/36/48 hours	
Compressor Availability (including PM time)	>98%	1 %< difference from accepted availability<2%: Rs 5000 deduction in monthly payment. 2 %< difference from accepted availability<3%: Rs 10000 deduction in monthly payment.
Dryer Availability(including PM time)	>98%	3 %< difference from accepted availability<4%: Rs 15000 deduction in monthly payment.
Pump & cooling tower Availability(including PM time)	>98%	4 %< difference from accepted availability<5%: Rs 20000 deduction in monthly payment. 5 %< difference from accepted availability<6%: Rs 25000 deduction in monthly payment. Bonus of Rs 7500 for every 1% increase in availability from the target value of All Equipment after maintaining it for consecutive 2 months
Tripping of any Equipment due to vibration/any abnormality	ZERO	Any tripping due to abnormal vibration or any leakage of air/water/oil will result in deduction of Rs 3000 in monthly payment from the invoice also there will be no provision for any bonus in this case
Manpower as per deployment on daily basis	100%	If the requisite manpower falls below 3% of the required strength then COMPANY will deduct the payment for the number of people found short .
Availability of Tools/Tackles during PM/BD jobs as per the list	100%	Penalty of Rs 2000 of monthly contract value will be imposed if the PM/BD time increased by 1 hours due to non availability of the tools/tackles as per the list

ANNEXURE: DELIVERABLES FOR POTROOM MAINTENANCE CONTRACT

PRIORITY	PARAMETER	Target Value	Penalty Bonus Clause
1	Monthly Average PTM Availability (Including PM time)	96.00%	Penalty Between 95.50-96.00 - 24000 INR monthly. Between 95.00-95.50- 32000 INR monthly. Between 94.50-95.00 - 40000 INR monthly. Between 94.00-94.50 - 48000 INR monthly. Below 94.0 - 72000 INR monthly. Bonus Between 96.00-96.50 - 24000 INR monthly. Between 96.50-97.00 - 32000 INR monthly. Between 97.50-98.00- 40000 INR monthly. Between 98.00-98.50 - 48000 INR monthly. Above 98.5 - 72000 INR monthly Limited to max of 72000 INR Penalty/bonus
2	Monthly Average WMI Availability (Including PM time)	98.00%	Penalty: Between 97.00-98.00 - 16000 INR monthly. Between 96.00-97.00 - 32000 INR monthly. Bonus Between 98.00-98.50 - 8000 INR monthly. Between 98.50-99.00 - 32000 INR monthly. Limited to max of 32000 INR Penalty/bonus
3	Contractor Performance Score Card (CPSC Scoring Criteria is subjected to Change without prior notice and is to be followed strictly)	85.00%	Penalty/Bonus Less/More than 1%of Target Value - 4000 INR deduction /addition in Monthly Payment ,Subjected to maximum of 32000 INR
4	AE Frequency in Potroom(per Pot/per Day)	0.10	Penalty/Bonus More than 0.20 per Pot/per day 10000 INR deduction in monthly payment . Less Than 0.10 per Pot/per day 10000 INR Addition in monthly payment . (AE During power Outage due to unavoidable circumstances will not be covered for Calculations for 2 days)
5	No. of Total Crust Breaker Changes Potroom	65	Penalty/Bonus More/Less than 5 No.s of Target Value - 5000 deduction/Addition in monthly payment . For every 5 No.s there of Cumulative addition /deduction of 5000 INR will be done.
6	Manpower as per deployment on daily basis (Technicians)	205	Penalty will be imposed if the Daily Deployed manpower is below 205 on daily basis. If the requisite manpower falls below 5% of the required strength, then Balco will deduct the payment for the number of people found short, as per following Normal Payment as per Actual manday rate as per Contract

ANNEXURE :TENTATIVE LIST OF HAND TOOLS /POTABLE TOOLS for Potroom

Standard Non magnetic tools are to be used in Potroom. Ordinary tools are not allowed to be used in Potroom area.

S.No.	Item Description	Unit	Qty
1	Pipe Wrench - 12" (300mm)	Nos	11
2	Pipe Wrench - 18" (450mm) (Taparia-1275)	Nos	4
3	Pipe Wrench - 24" (600mm) (Taparia-1276)	Nos	4
4	Pipe Wrench - 36" (900mm) (Taparia-1278)	Nos	10
5	Chain Pipe Wrench - 8"	Nos	10
6	Chain Pipe Wrench - 100 MM	Nos	10
7	(Adjustable) Slide Wrench - 6" (Taparia-1170-155mm)	Nos	5
8	(Adjustable) Slide Wrench - 8" (Taparia-1171- 205mm)	Nos	12
9	(Adjustable) Slide Wrench - 10" (Taparia-1172-265mm)	Nos	10
10	(Adjustable) Slide Wrench - 12" (Taparia-1173-305mm)	Nos	18
11	Screw Driver (Taparia) No- 824	Nos	7
12	Screw Driver (Taparia) No- 824 (Insulated)	Nos	9
13	Screw Driver (Taparia) No- 825	Nos	11
14	Screw Driver (Taparia) No- 826	Nos	14
15	Screw Driver (Taparia) No- 829	Nos	10
16	Screw Driver (Taparia) No- 930 - (16"-Langht)	Nos	8
17	Screw Driver (Taparia) No- 931 - (18"-Langht)	Nos	10
18	Screw Driver (Taparia) No- 833 (Insulated)	Nos	9
19	V.F.D. Screw Driver (taparia) No-911	Nos	8
20	V.F.D. Screw Driver (taparia) No-932	Nos	8
21	Screw Driver-Star had - 12" (Taparia-No- 862x300)	Nos	3
22	Screw Driver-Star had - 8" (Taparia-No- 862x200)	Nos	5
23	Screw Driver-Star had - 12" (Taparia-No- 863x300)	Nos	10
24	Screw Driver-Star had - 8" (Taparia-No- 863x200)	Nos	10
25	Screw Drive (Double side blade) - C-904-6" (Taparia)	Nos	5
26	Screw Driver Set-(five blade with extan.& handle)-(Taparia-840)	Set	4
27	Screw Driver Set-(Six blade with extan.& handle)-(PYE-595)	Set	40
28	Combination Plier - 6" (Taparia-No-1621-165mm)	Nos	4
29	Combination Plier - 8" (Taparia-No-1621-210mm)	Nos	7
30	Nose Plier (Long) - 6" (Taparia-No-1420/1430)	Nos	3
31	Nose Plier (Round) - 6"	Nos	20
32	Vice Grip Plier (Locking Plier) - 8"	Nos	4
33	(Monkey Plier)- Water Pump Plier - 10"	Nos	1
34	Sledge Hammer -1 Lbs (Tata)	Nos	7
35	Sledge Hammer - 2 Lbs (Tata)	Nos	4

36	Sledge Hammer - 3 Lbs (Tata)	Nos	3
37	Sledge Hammer - 4 Lbs (Tata)	Nos	4
38	Sledge Hammer - 8 Lbs (Tata)	Nos	4
39	Sledge Hammer -12 Lbs (Tata)	Nos	4
40	Sledge Hammer -16 Lbs (Tata)	Nos	4
41	Ball Pain Hammer - 1 Lbs (With Handle)	Nos	5
42	BRASS - ROD - 3 KG	Nos	1
43	Adopter for Socket Box spanner - 3/4" To 1"	Nos	1
44	Adopter for Socket Box spanner - 1/2" To 3/4"	Nos	1
45	(H.D.) 1" Drive Extension T- Handle - (D.H.S.)	Nos	1
46	(H.D.) 1" Drive Socket Box spanner - 30mm	Nos	4
47	(H.D.) 1" Drive Socket Box spanner - 32mm	Nos	4
48	(H.D.) 1" Drive Socket Box spanner - 36mm	Nos	1
49	(H.D.) 1" Drive Socket Box spanner - 46mm	Nos	1
50	(H.D.) 1" Drive Socket Box spanner - 55mm	Nos	1
51	(H.D.) 3/4" Drive Tee Handle - (Taparia- No-2739)	Nos	1
52	(H.D.) 3/4" Drive Angle Spanner - L-Type	Nos	1
53	(H.D.) 3/4" Drive Extension ROD - (Taparia-No-2763)	Nos	3
54	(H.D.) 3/4" Drive Socket Box spanner - 22mm	Nos	3
55	(H.D.) 3/4" Drive Socket Box spanner - 24mm	Nos	1
56	(H.D.) 3/4" Drive Socket Box spanner - 27mm	Nos	1
57	(H.D.) 3/4" Drive Socket Box spanner - 30mm	Nos	4
58	(H.D.) 3/4" Drive Socket Box spanner - 32mm	Nos	3
59	(H.D.) 3/4" Drive Socket Box spanner - 36mm	Nos	1
60	(H.D.) 3/4" Drive Socket Box spanner - 41mm	Nos	1
61	3-Way Screw Driver Bit&Socket Set (Dayton-SD-192-HS),41pcs	Set	1
62	1/2" Drive COMPLETE BOX Socket Set-(11to32)mm,S15M/CS11H	Set Box	1
63	1/2" Drive Ratchet Handle (Taparia - 1715)	Nos	3
64	1/2" Drive Extension ROD - 8" (Taparia-No-)	Nos	3
65	1/2" Drive Angle Spanner - (Taparia-No-)	Nos	4
66	1/2" Drive Socket Box Spanner - 16mm	Nos	4
67	1/2" Drive Socket Box Spanner - 17mm	Nos	4
68	1/2" Drive Socket Box Spanner - 18mm	Nos	5
69	1/2" Drive Socket Box Spanner - 19mm	Nos	5
70	1/2" Drive Socket Box Spanner - 22mm	Nos	4
71	1/2" Drive Socket Box Spanner - 24mm	Nos	1
72	1/2" Drive Socket Box Spanner - 27mm	Nos	4
73	1/2" Drive Socket Box Spanner - 30mm	Nos	4
74	1/2" Drive Socket Box Spanner - 32mm	Nos	1
75	1/2" Drive Socket Box Spanner - 34mm	Nos	1
76	Torque Wrench-Grip Hold - 3/4" drive (Model No-TM-500)	Nos	4

77	Torque Wrench-Grip Hold - 1" drive (Model-KANON-5800)	Nos	4
78	Jack Rod (for rotted on the jack) (Taparia)	Nos	4
79	Wire Rope Shelling (6mm x 2mtr)	Nos	4
80	Wire Rope Shelling (8mm x 2.5mtr)	Nos	12
81	Wire Rope Shelling (10mm x 2.5mtr)	Nos	8
82	Wire Rope Shelling (12mm x 2.5mtr)	Nos	10
83	Wire Rope Shelling (16mm x 3mtr)	Nos	4
84	Wire Rope Shelling (32mm x 8mtr)	Nos	4
85	Manila Rope Pulley - (Single Wheel)	Nos	4
86	Manila Rope Pulley - (Double Wheel)	Nos	1
87	Nylon Rope - 12 mm thickness	Mtr	40
88	Nylon Rope - 20 mm thickness	Mtr	40
89	Shim Sheet Cutter (Length- 12") - Taparia	Nos	1
90	Shim Sheet Cutter (Length- 18")	Nos	4
91	(Right Angle) Engineer Try Square - 10"	Nos	4
92	Number Punch Bit Set - (0 to 9)	Set	1
93	Later Punch Bit Set - (1/4" -27 No.)	Set	1
94	Later Punch Bit Set - (5/16" -27 No.)	Set	1
95	Measuring Tape - 3 mtr	Nos	4
96	Measuring Tape - 5 mtr	Nos	1
97	Measuring Tape - 30 mtr	Nos	1
98	Steel Scale (1 mtr)	Nos	4
99	Vanier Caliper - 12" (300mm) (made in china)	Nos	4
100	Sprit Level - 12" with water level	Nos	1
101	Filler Gauge - 4" , 13 blade (Make - Atul)	Nos	1
102	Filler Gauge - 6" , 13 blade (Make - Atul)	Nos	4
103	Filler Gauge - 9" , 13 blade (Make - Atul)	Nos	1
104	Filler Gauge - 12" , 13 blade (Make - Atul)	Nos	4
105	Thread Pitch Gauge (Screw gauge) (24-blade)	Set	1
106	Mitutoyo Dial Gauge (M-513404)	Nos	1
107	Magnetic Base stand for above (M-KM525)	Nos	1
108	Dial Gauge - Carbide Ball Point - 0.001 to 10mm	Nos	4
109	Magnetic Stand for Dial Gauge	Nos	4
110	Spring Divider - 8"	Nos	4
111	Spring Divider - 12"	Nos	1
112	Spring Divider - 18"	Nos	4
113	I -D - Spring Caliper 1/5 to 0/5 - 12"	Nos	1
114	I -D - Spring Caliper 1/5 to 0/5 - 8"	Nos	1
115	O -D - Spring Caliper 1/5 to 0/5 - 10"	Nos	1
116	O -D - Spring Caliper 1/5 to 0/5 - 8"	Nos	1
117	Circlip Plier - 12" (Outer side) - Big size	Nos	3
118	Circlip Plier - 9" (Inner side) - Magadis	Nos	4

119	Circlip Plier - 9" (Outer side) - Magadis	Nos	4
120	Circlip Plier - 8" (Inear side) - Magadis	Nos	4
121	Circlip Plier - 8" (Outer side) - Magadis	Nos	11
122	Circlip Plier - 7" (Inear side) - Magadis	Nos	7
123	Circlip Plier - 7" (Outer side) - Magadis	Nos	6
124	Hammering Spanner (Ring Type) - 24 mm	Nos	1
125	Hammering Spanner (Ring Type) - 27 mm	Nos	4
126	Hammering Spanner (Ring Type) - 30 mm	Nos	1
127	Hammering Spanner (Ring Type) - 34 mm	Nos	1
128	Hammering Spanner (Ring Type) - 36mm	Nos	4
129	Hammering Spanner (Ring Type) - 46 mm	Nos	1
130	Hammering Spanner (Ring Type) - 50 mm	Nos	1
131	Hammering Spanner (Ring Type) - 55 mm	Nos	4
132	Hammering Spanner (Ring Type) - 60 mm	Nos	1
133	Hammering Spanner (Ring Type) - 65 mm	Nos	1
134	Hammering Spanner (D-E Type) - 55 mm	Nos	1
135	Hammering Spanner (D-E Type) - 36 mm	Nos	4
136	Concrete High Speed Steel Drill Bit- 5 MM	Nos	1
137	Concrete High Speed Steel Drill Bit- 6 MM	Nos	3
138	Concrete High Speed Steel Drill Bit- 8 MM	Nos	3
139	Concrete High Speed Steel Drill Bit- 12 MM	Nos	1
140	Concrete High Speed Steel Drill Bit- 16 MM	Nos	1
141	Concrete High Speed Steel Drill Bit- 22 MM	Nos	1
142	High Speed Steel Drill Bit-P.S. 3 MM	Nos	1
143	High Speed Steel Drill Bit-P.S. 4 MM	Nos	3
144	High Speed Steel Drill Bit-P.S. 5 MM	Nos	16
145	High Speed Steel Drill Bit-P.S. 6 MM	Nos	12
146	High Speed Steel Drill Bit-P.S. 8 MM	Nos	9
147	High Speed Steel Drill Bit-P.S. 10 MM	Nos	6
148	High Speed Steel Drill Bit-P.S. 12 MM	Nos	4
149	High Speed Steel Drill Bit-P.S. 14 MM	Nos	1
150	High Speed Steel Drill Bit - Taper Shrink 10 MM	Nos	1
151	High Speed Steel Drill Bit - Taper Shrink 12 MM	Nos	1
152	High Speed Steel Drill Bit - Taper Shrink 14 MM	Nos	1
153	High Speed Steel Drill Bit - Taper Shrink 15 MM	Nos	1
154	High Speed Steel Drill Bit - Taper Shrink 16 MM	Nos	1
155	High Speed Steel Drill Bit - Taper Shrink 17.5 MM	Nos	1
156	High Speed Steel Drill Bit - Taper Shrink 18.5 MM	Nos	1
157	High Speed Steel Drill Bit - Taper Shrink 19.5 MM	Nos	1
158	High Speed Steel Drill Bit - Taper Shrink 20.5 MM	Nos	1
159	High Speed Steel Drill Bit - Taper Shrink 23 MM	Nos	1
160	High Speed Steel Drill Bit - Taper Shrink 24 MM	Nos	1

161	High Speed Steel Drill Bit - Taper Shrink 25 MM	Nos	1
162	High Speed Steel Drill Bit - Taper Shrink 26 MM	Nos	1
163	High Speed Steel Drill Bit - Taper Shrink 27 MM	Nos	1
164	High Speed Steel Drill Bit - Taper Shrink 28 MM	Nos	1
165	High Speed Steel Drill Bit - Taper Shrink 40 MM	Nos	1
166	Pistol Drill Machine -- (Bosch-GSB 10RE)	Nos	4
167	Drill Chuck 1/2" (for magnetic drill m/c) with Key	Nos	1
168	Drill Bit Sleeve (Socket) 1	Nos	1
169	Drill Bit Sleeve (Socket) 2	Nos	1
170	Drill Bit Sleeve (Socket) 3	Nos	4
171	Drill Bit Sleeve (Socket) 4	Nos	1
172	Pipe Die Set-(Frame with die-1.1/2",1.1/4",1.3/4",2")	Set	1
173	Pipe Die Set-(Frame with die-1/2",1/4",3/4",1")	Set	3
174	Pipe Die Bit - 1/2" BSP Thread	Bit Set	3
175	Pipe Vice - Pillar Type No- 4 (Make - INDER)	Nos	4
176	Banch Vice - 4" (Make-GVS)	Nos	1
177	TAP Handle - 3/8" (Small size)	Nos	1
178	TAP Handle - 1/2"	Nos	3
179	TAP Handle - Big No-02	Nos	1
180	Totem TAP Set - 4mm (each set 3 bit)	Set	3
181	Totem TAP Set - 5mm (each set 3 bit)	Set	4
182	Totem TAP Set - 6mm (each set 3 bit)	Set	3
183	Totem TAP Set - 8mm (each set 3 bit)	Set	5
184	Totem TAP Set - 10mm (each set 3 bit)	Set	5
185	Totem TAP Set - 12mm (each set 3 bit)	Set	4
186	Totem TAP Set - 14mm (each set 3 bit)	Set	4
187	Totem TAP Set - 16mm (each set 3 bit)	Set	4
188	Totem TAP Set - 18mm (each set 3 bit)	Set	4
189	Totem TAP Set - 20mm (each set 3 bit)	Set	4
190	Totem TAP Set - 1/2"BSW (each set 3 bit)	Set	4
191	Totem TAP Set - 1/4"BSW (each set 3 bit)	Set	4
192	Screw Extractor Set - (5 Pecs - 1 to 5 no) make-Dayton	Set	6
193	Cylindrical Cutter Bit - T.3 - 10x20mm	Nos	4
194	Conical Cutter Bit - 8mm	Nos	4
195	Rotary Brush - (Totem-C 5)	Nos	3
196	RemarA . 15 (1-1/2 to 1-3/16) (Adjustable)	Nos	1
197	RemarA . 15 (1-1/16 to 1-3/16) (Adjustable)	Nos	1
198	RemarA . 15 (1-3/16 to 1-11/32) (Adjustable)	Nos	1
199	Hole Saw Cutter - H.S.S - 12.7mm (3/16")	Nos	1
200	Hole Saw Cutter - H.S.S - 16mm (5/8")	Nos	1
201	Hole Saw Cutter - H.S.S - 19.5mm (1/4")	Nos	3

202	Hole Saw Cutter - H.S.S - 25.4mm (1")	Nos	3
203	Hole Saw Cutter - H.S.S - 50.8mm (2")	Nos	3
204	Round File - 8" (Smooth)	Nos	1
205	Round File - 12" (Rough)	Nos	4
206	Half Round File - 10" (Rough)	Nos	3
207	Half Round File - 12" (Rough)	Nos	1
208	FLAT File - 4" (Smooth)	Nos	1
209	FLAT File - 8" (Rough)	Nos	1
210	FLAT File - 10" (Rough)	Nos	4
211	FLAT File - 8" (Smooth)	Nos	4
212	FLAT File - 12" (Rough)	Nos	4
213	Triangular File Heavy Taper - 8" (Rough)	Nos	1
214	Triangular File Heavy Taper - 6" (Smooth)	Nos	1
215	(Jellwary Set) Precision Needle File Set - (9 paces each set)	Set	4
216	Chisel - 8" (Taparia-105)	Nos	6
217	Chisel - 10"	Nos	4
218	Center Punch - 6" (Taparia -1939)	Nos	3
219	Center Punch - 8" (Taparia -1986)	Nos	4
220	Bearing Puller (3 Lags) - 4"	Nos	4
221	Bearing Puller (3 Lags) - 10" H D	Nos	4
222	Bearing Puller (3 Lags) - 12" H D	Nos	1
223	Bearing Puller (3 Lags) - 18" H D	Nos	1
224	Oil Cane (250ml)	Nos	4
225	Barrel Pump (made- Asima)	Nos	1
226	Barrel Pump (Hand Pumping)	Nos	1
227	Grease Hand Gun Pump (capacity- 500gm)	Nos	4
228	Grease Pump Comp. (Capacity- 5 KG)	Nos	4
229	Grease Pump Comp. (Capecity-10 KG)	Nos	4
230	Pneumatic Grease Gun (capacity - 50 KG)	Nos	2
231	Crimping Tool Plier -(Crimping-1.5sqmm To10sqmm)-JOP 427	Nos	2
232	Crimping Tool Plier - 16" (Vikrant + 50)	Nos	1
233	Hand Blower - Single Phase (Make- KPT)	Nos	6
234	Digital Multi meter (make-Fluke-Model No-17-B)	Nos	4
235	Clamp Meter (Tong Taster) - (Fluke-TS-1000)	Nos	10
236	DIGITAL MEGGER (1000 volt)	Nos	10
237	Soldering Iron - 65 watt	Nos	4
238	Hand Torch Light -3 cell-1.5volt	Nos	4
239	Line Tester 500 volt , Taparia-814 / 813	Nos	5
240	Allen key Set -(MM) 1.5mm to 10mm	Set	12
241	Allen key - 2.5 mm	Nos	5
242	Allen key - 3 mm	Nos	13
243	Allen key - 4 mm	Nos	6

244	Allen key - 5 mm	Nos	7
245	Allen key - 6 mm	Nos	7
246	Allen key - 8 mm	Nos	9
247	Allen key - 10 mm	Nos	6
248	Allen key - 12 mm	Nos	3
249	Allen key - 14 mm	Nos	3
250	Allen key - (Inches) - 5/8" (but use To 16mm)	Nos	4
251	Allen key - 17 mm	Nos	4
252	Allen key - 19 mm	Nos	1
253	Allen key - 22 mm	Nos	1
254	Allen key Set - (Inches) - 1/16" to 3/8"	Set	20
255	Allen key - (Inches) - 3/8"	Nos	1
256	Allen key - (Inches) - 5/16"	Nos	1
257	Allen key - (Inches) - 1/4"	Nos	7
258	Allen key - (Inches) - 7/32"	Nos	4
259	Allen key - (Inches) - 3/16"	Nos	4
260	D-E Spanner - 6x7mm	Nos	10
261	D-E Spanner - 8x9mm	Nos	10
262	D-E Spanner - 10x11mm	Nos	13
263	D-E Spanner - 12x13mm	Nos	12
264	D-E Spanner - 14x15mm	Nos	19
265	D-E Spanner - 16x17mm	Nos	9
266	D-E Spanner - 18x19mm	Nos	23
267	D-E Spanner - 20x22mm	Nos	12
268	D-E Spanner - 21x23mm	Nos	8
269	D-E Spanner - 24x26mm	Nos	4
270	D-E Spanner - 24x27mm	Nos	15
271	D-E Spanner - 25x28mm	Nos	13
272	D-E Spanner - 30x32mm	Nos	10
273	D-E Spanner - 32x36mm	Nos	3
274	D-E Spanner - 34x36mm	Nos	4
275	D-E Spanner - 36x41mm	Nos	8
276	D-E Spanner - 41x46 mm	Nos	7
277	D-E Spanner 46x50mm	Nos	4
278	D-E Spanner 50x55mm	Nos	4
279	D-E (Single Ended) Spanner - 34mm	Nos	4
280	D-E (Single Ended) Spanner - 38mm	Nos	4
281	Ring Spanner - 6x7mm	Nos	16
282	Ring Spanner - 8x9mm	Nos	22
283	Ring Spanner - 10x11mm	Nos	27
284	Ring Spanner - 12x13mm	Nos	18
285	Ring Spanner - 14x15mm	Nos	25

286	Ring Spanner - 16x17mm	Nos	30
287	Ring Spanner - 18x19mm	Nos	21
288	Ring Spanner - 20x22mm	Nos	18
289	Ring Spanner - 21x23mm	Nos	11
290	Ring Spanner - 24x26mm	Nos	5
291	Ring Spanner - 24x27mm	Nos	15
292	Ring Spanner - 25x28mm	Nos	14
293	Ring Spanner - 30x32mm	Nos	16
294	Ring Spanner - 32x36 mm	Nos	14
295	Ring Spanner - 34x36 mm	Nos	4
296	Ring Spanner - 36x41mm	Nos	5
297	Ring Spanner - 41x46 mm	Nos	10
298	Tubular Spanner - 6x7mm	Nos	6
299	Tubular Spanner - 8x9mm	Nos	16
300	Tubular Spanner - 10x11mm	Nos	9
301	Tubular Spanner - 12x13mm	Nos	9
302	Tubular Spanner - 14x15mm	Nos	29
303	Tubular Spanner - 16x17mm	Nos	10
304	Tubular Spanner - 18x19mm	Nos	8
305	Tubular Spanner - 20x22mm	Nos	10
306	Hacksaw Frame - 12"	Nos	8
307	wood cutting saws	Nos	4
308	AG-4" - Angle Grinder (model no-G10SS) – Bosch	Set	8
309	AG-7" - Angle Grinder (model no-G-18SH2) – Hitachi	Set	4
310	Brazing Torch	Nos	2
311	Blow Lamp	Nos	2
312	Full Body Safety Belt (KARAM-3 / Uodyogi-25)	Nos	20
313	Leather Apron (safety guard for chest side)	Nos	20
314	Hand Sleeve (safety guard for hand)	Pair	27
315	Long GumBoots	Pair	5
316	Face Shield (safety guard for face side)	Nos	3
317	Vibration Meter (MCM-SL.No-0320)	Set	4
318	Tool Box (5 tray) Venus - heavy duty	Nos	9
319	Impact Spanner - (1-1/4" to 3")	Nos	4
320	Impact Spanner - (4-3/4" to 2")	Nos	4
321	Extension Board with Industrial Socket (Wooden)	Nos	5
322	Extension Board with Industrial Socket (P.V.C)	Nos	4
323	PolyestorWabbling Sling (Capacity-3 TON-75mmx4mtr)	Nos	6
324	PolyestorWabbling Sling (Capacity-2 TON-50mmx3mtr)	Nos	6
325	PolyestorWabbling Sling (Capacity-1 TON-30mmx2.5mtr)	Nos	6
326	Chain Pulley Block 1 Ton 20mtr.	Nos	2
327	Chain Pulley Block 2 Ton 3mtr.	Nos	2

328	Chain Pulley Block 3 Ton 20mtr.	Nos	2
329	Chain Pulley Block 3Ton 3mtr.	Nos	1
330	Sling 6mm-2.5mtr. 0.5 T	Nos	20
331	Sling 8mm-3mtr. 0.75 T	Nos	20
332	Sling 10mm-3mtr. 1 T	Nos	20
333	Sling 12mm-3mtr. 1.5 T	Nos	20
334	Sling 32mm-8mtr. 10ton	Nos	2
335	Polyester sling 50mm-3mtr. 2Ton	Nos	2
336	Polyester sling 75mm-4mtr. 3Ton	Nos	2
337	Manila rope pulley block, size 16mm groove x 125mm pulley dia. Single pulley Cap 200kg	Nos	2
338	Wire rope pulley block, size 18mm groove x 200mm pulley dia. Double sheave Cap 2 T	Nos	2
339	D-Shackle 16MM PIN DIA Cap: 1 T	Nos	12
340	D-Shackle 24MM PIN DIA Cap: 2 T	Nos	4
341	D-Shackle 36MM PIN DIA Cap:5T	Nos	4
342	D-Shackle 65MM PIN DIA Cap: 20 T	Nos	2
343	Hydraulic Jack -50 t Capacity (Small Stroke)	Nos	3
344	Hydraulic Jack -55 t Capacity (Large Stroke)	Nos	3
345	Screw Jack -50 T capacity	Nos	1
346	Cutting Set with Trolley	Nos	20
347	Arc Welding Machines (3 Ph- 415 Amps) with Plug	Nos	20
348	Arc Welding Machines (1 Ph - Portable)	Nos	2
349	Plasma Cutting Machine	Nos	1

ANNEXURE :TENTATIVE LIST OF CONSUMABLES for Potroom

S. N	Material Description	Unit	Qty
1	Rustoline	Ltr	20
2	Paint (White,Red,Yellow,Black,Blue,Green)	Ltr	01 Ltr Each
3	M.S Bolt & Nut & Washer 4x40mm	Nos	100
4	M.S Bolt & Nut & Washer 5x50mm	Nos	100
5	M.S Bolt & Nut & Washer 6x50mm	Nos	100
6	Nitrile Gloves	Pair	100
7	Cotton Waste	Kg	400
8	Markin Cloth	Mtr	120
9	Teflon Thread seal Tape	Roll	120
10	M-Seal (100 gm)	Pkt	80

11	W-D - 40	Nos	20
12	Jubilee(Hose) Clamp 1/2"	Nos	100
13	Jubilee (Hose) Clam 1" klipwell	Nos	100
14	Jubilee (Hose) Clam 1.5"klipwell	Nos	400
15	Jubilee (Hose) Clam 2"klipwell	Nos	200
16	Jubilee (Hose) Clam 3"klipwell	Nos	0
17	Grinding Wheel (A G -4)	Nos	20
18	Cutting Wheel (A G -4)	Nos	10
19	Barricading (Danger) Tape	Mtr	1000
20	Wire Rope Sling 6mmx2.5mtr	Nos	20
21	Electrode (6013) 4x450mm	Pkt	16
22	ELECTRD,AWS E-6013,3.15MM,350MM	Nos	24
23	Electrode (7018) 3.15x450mm	Pkt	24
24	P.V.C. Insulation Tape	Nos	300
25	Cable Tie 200mm	Nos	4000
26	Cable Tie 300mm	Nos	6000
27	Cable Tie 400 mm / 450 mm	Nos	400
28	Cotton Hand Gloves (Knitted)	Pair	400
29	Nitrile Hand Gloves	Pair	500
30	Nose Mask (venus-410-v)	Nos	400
31	Ear Plug (3M-1110/corded)	Nos	200
32	Goggles (Frontier-Clear-Hardy-ANSI Z87.1)	Nos	120
33	Rubber Adhesive (Dendrite/Fevicol/Hexon/Poligrip)	Ltr	6
34	Wire Brush	Nos	20
35	Paint Brush 2" (50mm)	Nos	10
36	Paint Brush 4" (100mm)	Nos	10
37	Hacksaw Blade (Normal 1/2"x12")	Nos	100
38	Hacksaw Blade (H.S.S.- 1/2"x12")	Nos	20
39	Thread Locker (Anabond-112) 200 ml	Nos	20
40	Silicon Gasket Maker (Anabond-610/666 T)	Nos	4
41	Hose Connector - 8mm (Brass)	Nos	20
42	Aluminium Lugs 95sqmm (Flat-Type)	Nos	40
43	RCCB/ ELCB (4 Pole-63 amp.)(30 mamps)	Nos	10
44	WRACHET AND SOCKET,HEXAGONAL HEAD	SET	4
45	DIESEL	Ltr	120
46	LPG Cylinder for Gas Cutting	Nos	10
47	Oxygen Cylinder for Gas Cutting	Nos	96
48	Adhesive 406 Loctite 20 gm	Nos	20
49	CARBON BRUSH FOR A.E HOOTER	Nos	12
50	CARBON BRUSH FOR HAND BLOWER	Nos	12
51	TOP & SCOKET (5 amp)	Nos	20
52	De-Soldering pump	Nos	1

53	Soldering Bit	Nos	2
54	Soldering Paste	Pac	2
55	Pad Lock(Medium)	Nos	4
56	Red Flag For Pot maintenance	Nos	20
57	Die Penetrant	Set	2
58	Aluminium/ Cu Lugs (0.75/1/1.5/2.5/6/8/10/12 sqmm) PIN type	Nos	30
59	Loctite-277, Glue	Nos	10
60	Pneumatic Fittings (elbow, reducer, hoses hank, T-connector, Male-female connector Etc.) 1/2- 1"	Nos.	20 each

ANNEXURE :TENTATIVE LIST OF CONSUMABLES for UTILITIES

Sn o	Name of Consumable	Sn o	Name of Consumable
1	Ana Bond	36	Holdite liquid sealants
2	Araldite	37	Hose clamps
3	Bnian Cloth	38	Jointing sheets
4	Battery (Pencil)	39	Insulation screws
5	Battery Torch cell	40	Insulation tape
6	Brush	41	Kerosene
7	Bulbs(60W/24V)	42	Lead wire
8	Chalk pieces	43	Lugs (Aluminum)
9	Coir rope	44	Loctite (Flange sealant, Thread sealant, Bearing retainer)
10	Conical grinding stone	45	M Seal
11	Cotton tape roll	46	MS stud & Fasteners lie Bolt/nut/washer
12	Cotton Waste	47	Welding electrodes(6013,7018 & SS electrode whenever required)& special electrode for under water welding. SS Electrode & Special Electrode will be supplied by M/s Company.
13	CRC 2-26	48	O Ring / Chord
14	CTC	49	PVC solution
15	Cutting Nozzle	50	Paintbrush
16	DA gas, Oxygen gas	51	Pendant holder
17	Drill Bits	52	Petrol, Diesel
18	Emery sheet (Coarse and fine)	53	Petroleum jelly
19	F. G. Tape varnished roll	54	Precision blue paste
20	Fevicol	55	Raval plugs

21	Fevifold	56	Rustolene
22	Fibre glass sheet	57	Sand paper
23	Fibre sleeve	58	Shellac
24	Gaada cloth	59	Shims
25	Gasket (rubber)	60	Soldering paste
26	Gasket oil sheets	61	Soldering rod
27	Gaskets	62	Spark Lighter
28	Gasket oil papers	63	Steam gasket sheets
29	Gland rope	64	Teflon tape
30	Gouch screws	65	Twine
31	Grinding paste (coarse and fine)	66	Varnish
32	Grinding wheel (cutting / buffing)	67	Welding (glasses / white)
33	Haksaw Blade	68	Welding holders
34	Hand Gloves (Leather/Cotton/Rubber/Asbestos)	69	Screws
35	Holdite Graphite compound	70	Wood brush

6. PPE Requirement

Safety Items/ PPEs	Frequency
Helmet	1 year
Leather Gloves	Fortnightly
Ear Plugs	Fortnightly
Goggles (Normal + Welding)	Bi-monthly
Safety Shoes (Nitrile Sole)	6 Monthly
Apron (Welder)	6 Monthly
Face Shield	Bi-monthly
Leg Guard	Bi-monthly
Under Guard	6 Monthly
Dust Mask	Fortnightly
Uniform	As per HR Policy

- Note – PPE distribution frequency mention is a change compulsion. In case, if it gets damage early, it is to be replaced immediately.
- PME of all workers to be done in every 6 months and form 21 to be submitted.
- PPE Brand for

Shoes - Udyogi, Midas, Bata or Favorite.

Helmet – HDPE material (Udyogi or Karm)

Dust Msk – Vinus

Goggles - (Udyogi or Karm)

Leather Gloves – Midas/Atlas

Half face piece with cartridge – 3M

Other PPE brand would as per the IR recommendation

8. Penalty Clauses

BONUS/PENALTY CALCULATION SHEET			
S.No.	Description	Target	Bonus/Penalty Clause
1	Non Availability of Consumables	100% availability	Any instant non availability of consumable item or Equipment like (Battery Charger, Hydraulics Jacks, and Grease gun) will attract penalty of Rs 1000/ Day
2	Contract In charge & Supervisor with required skills at site on regular deputation	Deviation in providing contract In charge/Supervisors with desired skills shall attract penalty	a) For S/No.1- 20000/month b) For S/No. 2, 3 - 15000/month c) For S/No. 4, 5, 6 - 10000/month. As per attached Annexure-3

5	Contractor Performance Score Card	85%	<85%	Less than 1% target Value—Rs 1000/-, Deduction to monthly payment, Subjected to maximum of Rs 10000/month
			>90%	More than 1% target Value—Rs 1000/-, addition to monthly payment, Subjected to maximum of Rs 10000/month
6	Quality Circle Involvement	1st Year	25%	Penalty of INR 10000/month if target not achieved
		2nd Year	35%	
		3rd Year	50%	
7	5s Score	80%	<80%	Less than 1% target Value—Rs 1000/-, Deduction to monthly payment, Subjected to maximum of Rs 10000/month
			>80%	More than 1% target Value—Rs 1000/-, addition to monthly payment, Subjected to maximum of Rs 10000/month

In case of any observed safety non-compliance, Penalty would be deducted as per thenCompany Policy.

NOTE

1. Shift roster, area and deployment of worker for above work can be changed as per requirement; instruction for this will be given by EIC.
2. Safety PPE's should be delivered within 15 days of work order awarded, also any replacement of PPE's should be within a day; contractor employee should comply toCOMPANY safety COC.
3. Contractor has to ensure that relieving system to be followed by all workers also duty reporting time (on work area) would not be exceeded more than 20 minutes from beginning of shift and would not leave work area before end of the shift. If any person is not available or not complete working hour penalty will be impose based upon actual hours of person.
4. For any delay or stoppage of work penalty will be imposed for RS.1000/hr – **Not accepted if reason for delay/stoppage of work not attributed to contrator but decision will takenbased on mutal consent.**
5. **Extra supply in case of special requirement-Contractor has to engage 20% additional manpower to meet exigency in the plant operation without any issue of extra gate passes. This can be continued for minimum 10 days at stretch and minimum 4 times in contract period.Decision will be taken based on mutal discussion and finalization.**
6. Contractor has to maintain discipline at work area. He has to keep the area neat and clean,

if contractor will not follow the 5S, penalty may be put by COMPANY @ Rs 5000/- per incidence.

7. PME to be done twice in a year as per COMPANY guidelines for all workers & supervisors.
8. Contractor has to ensure EOM distribution every month to 3 contractor employee in each SBU's. EOM function to be organized before 10th of every month. Non compliance would had to penalty of Rs. 5000/-.
9. Any modification or changes is welcomed at your end but it should be approved all the level before implementation. If any instruction for the modification, you have to fulfill the same in the contract.
10. For vehicles following documents to be maintained by contractor:
 - a) Valid driving license
 - b) PUC certificate
 - c) Vehicle registration certificate
 - d) Insurance
 - e) Load test certificate, if required

C. Scope of work at PotRoom Utility Area

1. SCOPE OF SERVICE:

1. Maintenance/CBM of entire equipments involved in Utility area comprising of Compressors, Pumps, Cooling towers, AVGF's, hoists/cranes and also pipelines of compressed air, water (drinking, process, fire), HFO, Steam line and any accessories/mountings used at Air Compressor House 1 & 2, Compressor pump house 1 & 2, Rectifier pump house 1 & 2, Fire protection pump house 1 & 2 and pressurizing pump house and rest of the Company Plant area where ever the department is either directly or indirectly associated with.

Maintenance of Utility includes maintenance of following:

UTILITY 1		
S.No	Equipment/Area of Scope	QTY
1	Preventive Maintenance of Air Compressors, Secondary	9 Nos

	Compressor, Diesel Compressor	
2	Preventive Maintenance of Pumps (including centrifugal, dewatering, sump, diesel, jockey)	37 Nos
3	AVGF/ACF/MGF (Filters)	8 nos
4	Hoists/Cranes/Chain pulley block (Max Capacity 10 MT)	5 Nos
5	Air Receiving Tank	1 No
6	Online/Offline Filter Change of Air Compressors and Equipment Cleaning	7 Nos
7	Break Down Maintenance of each and every equipment in associated with Utility directly/indirectly	1 AU
8	Any additives used or drain out from any equipment which comes under scope of the department Utility directly/indirectly (oil, chemicals, grease etc) to be properly shifted to the designated place.	1 AU
9	Maintenance of HFO/Steam/Compressed Air/Water related to Utility and Plant Level.	1 AU
10	Arrangements of consumables (nut, bolts, stud, screw, grease, diesel/kerosene, o-ring, eye bolts, puller, jack, measuring instruments as per use on site) – List of Fasteners to be provided by the Company.	1 AU
11	Maintenance of Air Dryers	8 nos
12	Maintenance/Modification of any kind of pipe line: compressed air, process water, drinking water, fire water, steam and HFO.	1 AU

UTILITY 2

S.No	Equipment/Area of Scope	QTY
1	Preventive Maintenance of Air Compressors	8 Nos
2	Preventive Maintenance of Pumps (including centrifugal, dewatering, sump, diesel, jockey)	22 Nos
3	AVGF	4 nos
4	Hoists/Cranes/Chain pulley block (Max Capacity 10 MT)	4 Nos
5	Air Receiving Tank	1 No
6	Online/Offline Filter Change of Air Compressors and Equipment Cleaning	8 Nos
7	Break Down Maintenance of each and every equipment in associated with Utility directly/indirectly	1 AU
8	Any additives used or drain out from any equipment which comes under scope of the department Utility directly/indirectly (oil, chemicals, grease etc) to be properly shifted to the designated place.	1 AU
9	Maintenance of Compressed Air/Water related to Utility and Plant Level.	1 AU
10	Arrangements of consumables (nut, bolts, stud, screw, grease, diesel/kerosene, o-ring, eye bolts, puller, jack, measuring instruments as per use on site)	1 AU

11	Maintenance of Air Dryers	16 nos
12	Maintenance/Modification of any kind of pipe line: compressed air, process water, drinking water, fire water.	1 AU

Detailed Break up of Equipments:

AIR COMPRESSORS:

Scope Includes Preventive Maintenance activities in the Air Compressor as per the Standard checklist provided by Company to be carried out as per the maintenance Schedule decided by the Company Engineer in Charge.

Compressors are of IR & atalscopco design consisting of 3 Stages, 3 Heat Exchangers, 1 Oil Cooler, Suction Filter, Inlet and Bleed valve, Piping, Motor, Pneumatic system and other accessories.

Scope will cover all Condition based monitoring/breakdown/Online/PM activities in the running/standby Compressor.

Hand railings repair to be carried out to ensure Safe working environment.

Scope will also include keeping all the repairable assemblies ready for Installation during the breakdown the list of same will be provided by Company In charge.

AIR DRYER

Scope Includes Preventive Maintenance activities in the Air Dryer as per the Standard checklist provided by Company to be carried out as per the maintenance Schedule decided by the Company Engineer in Charge.

Scope will cover all condition based monitoring/breakdown/PM activities like Fault attending and solution as per the Scenario, Since Air Dryer is a critical and important equipment which removes moisture from the air which is to be supplied to the user. Overall supervision during breakdown will be done by Company Engineer, however during Preventive Maintenance activities it is to be supervised by the Contract Supervisor.

Scope will cover all maintenance activities in the running/standby dryers like:

Daily Maintenance involves:

- c) Checking of Condensate drain.
- d) Monitoring of all temperatures and pressure.

Weekly Maintenance involves:

- c) Inspection and cleaning of condensate drain system.
- d) Cleaning of Panel of the dryer.

Rest as per the given checklist provided by Company. Also spare parts to be repaired and maintenance to be done always.

Scope will also include keeping all the repairable assemblies ready for Installation during the breakdown the list of same will be provided by Company In charge.

PUMP HOUSE

Scope Includes CBM/Preventive/Breakdown maintenance activities in the Pump/Motor as per the Standard checklist provided by Company to be carried out as per the maintenance Schedule decided by the Company Engineer in Charge.

Scope will cover all CBM/PM/Breakdown activities online and Offline in the pump like Diaphragm failures, Tie rod damages, PU Tubes Failures.

All monthly, quarterly, half yearly and yearly maintenance of pump will be scope of contract. If any breakdown occurs within 48hr. Of running then a penalty payable by the contractor will be twice the amount which is paid by Company during the normal time with the respective equipment.

In pressurising pump house, water supplied all around the plant covered with drinking and process water. Technician should be done backwash two time on the day during the A and B shift as per standard checklist provided by Company in charge. In time of Backwash flow of water is to be not more than 200 m³/hr.

Scope will also include keeping all the repairable assemblies ready for Installation during the breakdown the list of same will be provided by Company In charge.

COOLING TOWER

Scope Includes CBM/Preventive/Breakdown maintenance activities in the Pump/Motor as per the Standard checklist provided by Company to be carried out as per the maintenance Schedule decided by the Company Engineer in Charge

Scope will cover all following

Induced Draft Fans (13 No.),
Gear reducer box (13 no)
Twin flex shaft (13 No.),
Cooling tower cell (13 no.)
Nozzle (1 AU)
Motor (13 no.),
Oil pipe line (1AU),
Cooling tower structure (4 No.),
Water circulation pipe line (1 AU),
Coupling alignment (13 No.),
Complete valves

Scope will also include keeping all the repairable assemblies ready for Installation during the breakdown the list of same will be provided by Company In charge.

OTHER SCOPES: UTILITIES

1. For shift maintenance, the people should be available for 24 hrs even in the case of shift change. Non-availability of manpower will be considered, as breach of contract and penalty shall be imposed. However consideration shall be given at the end of shift for changeover of dress & washing.
2. Material transportation i.e. transporting material / spares from central stores to site stores & from site store to work place is the responsibility of contractor.
3. **Seperate Vehicle (mahindra bolero camper) should be required in G shift for movement of manpower, spare shifting for Utility1 to utility 2 & vice versa.**
4. Contractor should have Comprehensive System for Six Monthly Skill Matrix Evaluation and a Six monthly training plan to enhance the skills of their employees and shall be acknowledged by COMPANY.
5. Skill Matrix Formats and Training plans to be approved by Company Engineer In charge.
6. For Multi skills development technicians and supervisors/engineers should be rotated with or without prior information as per requirements or guidelines by COMPANY.
7. Contractor should ensure that none of their work force works more than 16 hrs as per labour laws any deviation will be dealt seriously and suitable Penalty will be imposed.
8. Specialized jobs like Alignment to be carried out by Contractors team.
9. The maintenance shall be for on line maintenance and off line maintenance i.e. Planned Maintenance, shutdown maintenance, running maintenance, and Breakdown maintenance.
10. All consumables (Except lubricants, Spares), Tools and tackles, Rigging Equipment's like Slings, Chain Blocks, are in contractor's scope. Normal fasteners, studs will lie in scope of Contractor.
11. The contractor can use the lifting facility, hoists, cranes etc. installed and available at site / workshop. However if any facility is not available or out of order the contractor has to **arrange Hydra on chargeable basis**. While using or carrying out any job if any equipment or installation is damaged by the contractor it will be **mutually discussed and finalized**.
12. Contractor should keep all tools and tackles required to carry out maintenance at all the sites to reduce the response time to breakdowns.
13. Any improvement in the type of Tools used as suggested by Company to be implemented.
14. In Total 2 numbers of Gas Cutting Set Should be available with the Contractor with Trolley Arrangement and Castor Wheels Fixed on it.
15. In Total 2 Arc Welding Machines & 1 portable welding machine Should be available with ELCB and plug top with the Contractor Castor Wheels Fixed on it for movement.(good running condition)
16. Maintenance of the same welding machine should be on contractor scope.

17. In case of any emergency cutting set and welding machine will be not working properly contract person will be responsible for arrangement quickly.
18. The contractor shall be responsible for General housekeeping including Cleanliness and orderliness of the plant premises in and around equipment's and the Office area provided by Company.
19. Immediately after job completion is over all the area should be cleaned.
20. The cleaning of dust, Oil Spillages, Welding butts, Metal Scraps, cottons, y gasket, paper gasket, used nut bolts & all other scrap removal to the designated place shall be in contractor's scope.
21. Contractor shall ensure to discharge scrap only at designated place by his own resources.
22. All Statutory obligations, Approvals, Safety, Security & Storage of Contractor's own material will lie in the Contractor's Scope. Special care to be taken in LPG, Oxygen Cylinder, Flammable material like diesel, Petrol, kerosene etc and is to be kept in minimum possible Inventory with all the Safety precautions. Shift technician to be available in 24 hrs basis to ensure all the above points are taken care off.
23. Company's canteen facility and Portable Services for Snacks/Tea will be extended to the contract workers on Self payment basis.
24. During the general shift 15 minutes time for tea break in 1st half and same for 2nd half.
25. Shift technician will not go anywhere without permission/information to shift in charge during the shift timing from ACH and RPH. If same will be not followed by any one of the contractor they will punish as per decided by Company.
26. The contractor shall be responsible for any misbehave by his employees. Contractor has to take serious action against that person with proper investigation.
27. The Contractor for its own employees shall arrange Uniform, PPE's ,Safety Items as per Company's rule .Contractor is liable to Generate all Maintenance Reports as required by Company and has to follow all the Standards followed by Company like ISO,5S,etc.
28. Contractor will be responsible for Winding of Electrical Motors up to 30 hp, Bearing will be provided by Company for any Motor repair other consumables will be in Contractors scope.
29. Handling of Scrap generated arises on account of maintenance activities or any kind of material handling will be in contractor's scope.
30. The contractor shall ensure all breakdown jobs are immediately attended or completed **by the existing manpower only**, if necessary, in any shift till the completion of job, as per Company engineer-in-charge instruction with entire satisfaction. PM should be completed within the stipulated time but as & when it is required the job has to be continued till the completion of job. This will be considered as part of contract & no extra claim for Overtime incurred will be accepted.

31. Any delay due to Operation problems or Spares non-availability will be considered for any delay in PM time.
32. Any failure in the work / job executed by the contractor due to bad workmanship shall be corrected free of cost. Failure to do the corrections shall attract penalty **which will mutually discussed and finalized.**
33. The contract workmen shall strictly abide by the instructions / suggestions of Company engineers with reference to discharging / carrying out the jobs and services and the time specifications for their execution within the scope of this contract and their decision regarding the same will be final.
34. Any indiscipline will not be entertained and as per the Enquiry suitable Penalty to be imposed depending upon the seriousness of Indiscipline – **If the contractor does not take any action against indiscipline, penalty will be applicable.**
35. During idle hours contract workmen/technicians may be utilized by COMPANY for similar nature jobs of their relevant areas of work within the plant premises irrespective of the area/SBU.
36. Shift-in-charge / Shift supervisor should be readily available at site all times. Site-in-charge should be available during general shift hours,
37. In case of the Strike, Mishaps, **Site In-Charge** has to be present at site within an hour to take care of the Situation.
38. The contractor should maintain labour license from inspector of factories, Muster roll form, Employment card form, wage register form, Attendance register, and register for Overtime. These register to be produced to COMPANY as and when demanded.
39. The contractor should maintain a logbook for the works carried out by them and gets the signature of the Shift-in-charge in the specified form given by COMPANY.
40. COMPANY shall provide water, electrical tapping point at a designated place, office space, free of cost.
41. The contractor should not engage any manpower without appointment letter. The same should be submitted to COMPANY in due course for the records.
42. Contractor's Shift supervisors and Site In charges has to be equipped with Mobile Phones preferably of the Certified Network provider.
43. Any recruitment for the Contract manpower has to be done under Company technical team presence only approved manpower will be allowed for joining.
44. Any other scope and terms mentioned in the contract, modifications thereof and mutually discussed and agreed upon will be jointly minute by the contractor and technical and commercial department, and will form the part of this scope of work.
45. Minor Modification or improvement required to improve the availability shall be covered by the contract and no extra claim shall be accepted.

46. Major Preventive maintenance activities like cables changing, motors changing, major assemblies changing shall be carried out as per preventive maintenance plan and it shall be considered as part of contract. **Manpower deployment from existing manpower** shall be made by the contractor to control the above major jobs within stipulated time.

47. Contractor has to have a Monthly reward scheme for its employees based on the mutually agreed guidelines with the Head Maintenance.

48. Contractor has to ensure that No job is to be carried out without SMP/SOP duly certified by Company In charge and Signed copy of same has to be submitted back to Company after proper training on same to all employees. However any suggestions, improvements in the SOP/SMP can be suggested to the Area In charge and will be taken as an improvement.

49. Contractor has to promote the Culture and Policies followed by Company within its employees.

50. It is imperative the requisite strength of manpower to carry out the maintenance activities effectively. In case the maintenance activities are found to suffer because of shortage of requisite number of manpower and the requisite manpower falls below 3% of the required strength, then Company will deduct the payment for the number of people found short.

Special Instructions

1. TYPE OF MAINTENANCE:

- a. Round the clock on line maintenance with minimum response time to Ensure production target for shift maintenance. People should be Available for 24 hrs even during shift change. Non-availability of Manpower will be considered, as breach of contract and penalty shall be imposed.
- b. Off line Planned maintenance to promote equipment health.
- c. Preventive maintenance in the form of regular PM schedule and annual Shutdown maintenance.
- d. Predictive maintenance based on Condition Monitoring.
- e. Overhauling and repairing of mechanical and Electrical components and assemblies (except CAPITAL equipments).
 - a. Calibration & maintenance of all instruments – **CBM not in Contractor's Scope.**

2. SPECIFIC MAINTENANCE:

- a.) DSL & Rail maintenance.
- b.) Maintenance of LT Panels & Motors in compressor House, Rectifier Pump House, Fire Fighting Pump House, Utilities etc.
- c.) Maintenance of all pumps and associated equipment including cooling Towers, Rectifier pump house, compressor pump house, Fire pump house and pressurizing pump house.
- d.) Maintenance of Transportation lines (Air, water, steam, HFO)

3. TOOLS AND TACKLES:

a. Contractor should keep sufficient number of tools and no delay in Maintenance will be allowed for non-availability of tools. List of min. tools required is attached as ANNEXURE-6.

4. MATERIALS & CONSUMABLES:

The contractor shall be responsible to arrange and maintain all equipments, tools etc and bear purchase, mobilization and demobilization cost of such equipments, tools, machineries and apparatus as is necessary to render effectively the services required by COMPANY. The Contractor will arrange all consumables except lubricants. The contractor can use the lifting facility, hoists, cranes etc installed and available at site / workshop. However if any facilities are not available / out of order, contractor has to make their own arrangement. While using and carrying out any job if any equipment / installation is damaged by contractor it will be made good at the risk and cost of contractor. Contractor should maintain one set of 6 Mtrs & 3 Mtrs. Height ladder each in Carbon & utilities. List of consumables shall be as per Annexure 3 enclosed but it is explicitly agreed that the contractor will provide all consumables required to fulfill the maintenance work.

5. MATERIAL HANDLING:

a. Shifting of all required spares, tools & tackles and machinery from stores and in side plant / work site will be in contractor scope.
b. Site store Management as per the instruction of Company.
c. Handling of Scrap generated arises on account of maintenance activities or any kind of material handling will be in contractor's scope. Contractor shall ensure to discharge scrap only at designated place.

6. CLEANING OF EQUIPMENTS:

Contractor has to keep the equipment clean. Any oil spillages, dusting, greasing, jamming of material (Jamming due to maintenance related issues like faulty trolley, improper sealing, improper packing or improper maintenance will be in the scope of contractor. Housekeeping of all Panels, Machines and Power packs etc will be in contractor scope. Removal of all unwanted material like cotton waste, spilled oil, used welding electrodes, nuts bolts, cables and welding / cutting debris after PM or breakdown activity will be done by Contractor.) in the equipments have to be cleaned by the contractor. COMPANY will supply spares on replacement basis and old damaged spares have to return to COMPANY engineer then only new spares will be provided to them.

7. TRAINING AND DEVELOPMENT:

a. Contractor should have comprehensive training plan to enhance the skills of their employees and shall be acknowledged by COMPANY. Yearly training calendar to be submitted by the contractor at the start of the FY.
b. The contractor shall ensure that his employees are suitably developed as per COMPANY's work requirement.
c. The contractor shall ensure that each employee is trained for 7 Man-days per year.
d. The training should incorporate the areas like the renowned faculties should conduct Hydraulics, Pneumatics, PLC, MCC, Motors, Gearboxes etc and the training programs

8. HOUSEKEEPING:

The contractor shall ensure that its employees while on COMPANY premises or while carrying out their obligations under this contract, observe the standards of cleanliness, decorum and general discipline laid down by COMPANY. The contractor will take initiatives in implementation of 5S and other improvements for better house-keeping. HFO spillage cleaning, jamming as defined at "Cleaning of Equipment" clause & Will be in the scope of contractor

B. TIME SCHEDULE

Sl.	Description of Job	Frequency	Time Duration(hrs)
1	PM OF COMPRESSOR	Quarterly, half yearly and yearly	24,36,48
2	PM OF DRYER	Quarterly, half yearly and yearly	4,8,16
3	PM OF SECENDARY COMPRESSOR AND DRYER	Quarterly, half yearly and yearly	4,8,8
4	PM OF EOT CRANE	Quarterly, half yearly and yearly	4,8,12
5	PM OF CENTRIFUGAL PUMPS AND MOTORS	Quarterly, half yearly and yearly	4,8,16
6	PM OF COOLING TOWER	Quarterly, half yearly and yearly	4,8,16
7	PM OF AVGF,ACF,MGF	half yearly and yearly	8,8
8	PM OF HOIST ASSEMBLY	Quarterly	8
9	PM OF DIESEL COMPRESSOR	half yearly and yearly	8,8
10	PM OF STEAMLINE, DRINKING LINE and HFO	Monthly	8,8,8

D. QUALITY OF WORK

Sl.No.	Equipment	Deliverables
1	Air Compressor	Alignment values for Motor as per OEM and accepted by Company In charge. Note- Only good quality measuring instrument are to be used and values of alignment as accepted by Company in charge. No loose bolting of coupling motor/MOP within 15 days No Repetitive jobs in Heat Exchangers (Y gasket damage during insertion of tube bundle) No Air/Water/Oil leakage from the Heat Exchanger/Pipe joints within 15 days of maintenance. Complete cleaning of Shell and tube bundle must be done All consumables(fasteners/studs) must be available at site prior to maintenance Stage Z-clearance as per OEM and accepted by Company In charge Through Cleaning of Compressor Body before/after starting of the Maintenance No wastage to be left at site after PM but to be shifted at a designated area. Complete motor end cover cleaning with air and diesel/kerosene No problem should be arise after 15 days of maintenance for Inlet valve, Bypass valve, thermo static valve

		Impeller cleaning of all stages to be done with mark in cloth and CRC/WD40
		Motor end cover cleaning must be done with air and cotton no no problem should be arise after 15 days of maintenance.
3	Pumps	Alignment: radial values ± 0.02 , axial value ± 0.01 (Only good quality measuring instrument are to be used and values of alignment as accepted by Company in charge)
		No problem should be arise after 3 days of maintenance
		No loose bolting
		No water leakages
4	Cooling Tower	Alignment: radial values ± 0.02 , axial value ± 0.01 (Only good quality measuring instrument are to be used and values of alignment as accepted by Company in charge)
		No problem should be arise after 3 days of maintenance
		No loose bolting

The contractor shall personally and exclusively supervise the work quality through qualified supervisors of its employees so as to ensure that the services rendered under this contract are carried out entirely to COMPANY's satisfaction Proper logging of the jobs carried out, day to day log sheet maintenance activities, spares consumption record, compliance and repairs record, staff daily attendance sheets are required to be maintained regularly wherever applicable.

Detailed Break up of Equipment:

Scope Includes Preventive maintenance, Routine Monitoring and maintenance of the equipments as per the Standard checklist provided by COMPANY, to be carried out as per the requirement decided by the COMPANY Engineer in Charge.

Access Platform required for work at height will lie in COMPANY's Scope; however all the tools and tackles and material required for maintenance activity to be arranged by the Contractor.

Liquidated Damages

COMPANY has adequately represented to the contractor that full co-operation from contractor's end to meet the desired production target of COMPANY is essence of this contract. Contractor is aware that in case of non-availability of and / or non-performance by contractor, COMPANY will suffer production losses and will have serious financial implications. For any non-satisfactory performance, contractor shall be liable for compensating COMPANY as per the following-

1. If contractor damages a part / equipments during the course of maintenance out of his carelessness, cost of the same will be recovered from contractor.

2. In case the equipment availability falls below the agreed levels COMPANY will deduct as stated below:

a.1 %< difference from accepted availability<2%: 1% deduction in monthly payment.

b.2 %< difference from accepted availability<3%: 2% deduction in monthly payment.

c.3 %< difference from accepted availability<4%: 3% deduction in monthly payment.

d.4 %< difference from accepted availability<5%: 4% deduction in monthly payment.

e.5 %< difference from accepted availability<6%: 5% deduction in monthly payment.

4. It is imperative that the requisite strength carry out the maintenance activities effectively. In case the maintenance activities are found to suffer because of shortage of requisite number of manpower and therequisite of the required strength, then COMPANY will deduct the payment for the number of people found short.

5. In case, maintenance activities are found to be suffering due to non performance by contractor's employees or job negligence, then suitable punitive action will be taken by COMPANY for the same.

6. In case of any safety violations especially in the use of PPE's found, suitable penalty will be imposed on the contractor as per the norms set by the COMPANY safety engineer.

Special Instructions

1. TYPE OF MAINTENANCE:

a. Round the clock on line maintenance with minimum response time to ensure production target for shift maintenance. People should be available for 24 hrs even during shift change. Non-availability of manpower will be considered, as breach of contract and penalty shall be imposed.

b. Off line Planned maintenance to promote equipment health.

c. Preventive maintenance in the form of regular PM schedule and annual Shutdown maintenance.

d. Predictive maintenance based on Condition Monitoring.

e. Overhauling and repairing of mechanical and Electrical components and assemblies.

f. Calibration, Repairing & maintenance of all instruments.

2. SPECIFIC MAINTENANCE:

a.)Maintenance and Repairingof Transformers & MCC HT,LT Panelsequipments associated with GAP, Bake oven, FTP, Rodding, GAP Smelter-3,Compressor House, Pot room MCC 11,12,21 & 22, Pot room FTP,ACH,RPH,FFPH,PPH etc.

b.)DSL maintenance OF CRANES.

c.)Maintenance of LT Panels & Motors in entire well as, Compressor House, Rectifier Pump House, FireFighting Pump House,Utilities, PPH, FFPH, CANTEEN, GARAGE, COMPREHENSIVE, LAB,STORES etc.

d.)Maintenance of all types of lights in all the areas under PLANT-2 including Street Lights, Boundary Lights, Pot room Ramp Lights, Offices Lighting, QA Lab equipments and CANTEEN,COMPREHSIVE,LAB,GARAGE,SECURITY HIGH MAST & FLOOD LIGHTS.

e.) Maintenance of EOT cranes in RPH, FFPH, ACH, and PPH AREA.

f.) Painting of the Transformer & EARTH PIT (Updating values and dates on board) to be done by the contractor based on the condition of the transformer, or as per Incharge instruction.(Transformers are lying outside and need not be painted mandatorily every year).If any painting required for Panel identification is to be done by contractor.

g) Maintenance & CBM of battery charger, Battery bank, UPS of MCC rooms.

h).Grinding, Panel Cutting, Welding for any job is done by contractor's scope.

i). HT /LT motor alignment& Rotor balancing is under the contractor's scope.

j).Any HT/LT cable laying, jointing, Dressing & termination will be under contractor scope, if any Additional manpower required for the same will be under contractor scope.

k)If any type of expert visit required for the PM or Breakdown maintenance of the mentioned equipment, it will be arrange by the contractor.

l)All earth pit resistance value related to mentionedequipments should be maintained as per IEC ruleand same will be updated in earth pit board.

m)Contractor should have comprehensive system for six monthly skill matrix evaluations and Yearly Training Calendar with six monthly training plan to enhance the skills of their employees and shall be acknowledged by COMPANY.

n)All consumables like cleaning agent/material, lubricants, Tools and tackles, Rigging Equipments like Slings, Chain Blocks, and measuring instruments are in contractor's scope. Normal fasteners will also lie in scope of Contractor.

o)All Statutory obligations, Approvals, Safety, Security & Storage of Contractor's own material will lie in the Contractor's Scope. Special care to be taken in LPG, Oxygen Cylinder, Flammable material like diesel, Petrol, etc and is to be kept in minimum possible Inventory with all the Safety precautions.

p) Any failure in the work / job executed by the contractor due to bad workmanship shall be corrected free of cost by the contractor. Failure to do the corrections shall attract penalty/recovery of cost **by mutual discussion and finalization.**

q) Failure analysis report & corrective action taken for all breakdowns in approved format of COMPANY will be under contractor scope within 48 hours of any breakdown.

r) P.M. schedule for the mentioned equipments will be prepared by the contractor & approved by the COMPANY EIC before starting of every month.

s) Rest room/changing room for the contract manpower to be arranged by contractor, only free space will be provided by COMPANY.

t) If in future any modification or addition of any equipment will be done within the battery limit area then it will be automatically covered in this contract.

u) Monthly consumable planning and monthly Vital & Insurance material audit will be done by contractor.

3. REPAIRING AND ADDITIONAL SERVICES:

A). Repairing, modification, machining work, Break coil repairing and motorrewinding (upto 200KW) are included in the contractor's scope as per submission of actual bill.

B). The contractor will do condition monitoring and breakdown analysis wherever applicable. The Contractor's should have his own condition-monitoring cell with vibration analyzer & they should ensure capacity to do balancing & alignment.

C). If any Repairing/rewinding job has to be done in workshop/ERS of any plant of COMPANY, Electrical & Mechanical manpower should be provided by contractor only.

4. TOOLS AND TACKLES:

A) Contractor should keep sufficient number of tools and no delay in maintenance will be allowed for non-availability of tools. List of min. tools required is attached as ANNEXURE.

5. MATERIALS & CONSUMABLES:

The contractor shall be responsible to arrange and maintain all equipments, tools etc and bear purchase, mobilization and demobilization cost of such equipments, tools, machineries and apparatus as is necessary to render effectively the services required by COMPANY.

The Contractor will arrange all consumables. The contractor can use the lifting facility, hoists, cranes etc installed and available at site / workshop. However, if any facilities are not available / out of order, contractor has to make their own

arrangement. While using and carrying out any job, if any equipment / installation is damaged by contractor it will be made good at the risk and cost of contractor **by mutual discussion and finalization.**

Contractor should maintain one set of 3,6,8,10,15 mtrs, Height ladder. List of consumables shall be as per Annexure enclosed but it is explicitly agreed that the contractor will provide all consumables required to fulfil the maintenance work.

6. MATERIAL HANDLING:

A) Lifting and Shifting of all required spares, tools & tackles and machinery from stores and inside plant / work site will be in contractor scope through your own vehicle (Pickup/Truck/Hydra/four wheelers). Four wheeler should be available all time whenever required.

B) Site store Management as per the instruction of COMPANY.

C) Handling of Scrap generated arises on account of maintenance activities or any kind of material handling will be in contractor's scope. Contractor shall ensure to discharge scrap only at designated place.

7. HOUSEKEEPING:

Housekeeping of all Panels, Machines/motors and Power packs etc will be in contractor's scope. Removal of all unwanted material like cotton waste, spilled oil, used welding electrodes, nuts bolts, cables and welding / cutting debris after PM or breakdown activity will be done by contractor & in the equipments have to be cleaned by the contractor. COMPANY will supply spares on replacement basis and old damage spares has to be return to COMPANY engineer then only new spares will be provided to them.

8. TRAINING AND DEVELOPMENT:

A) Contractor should have comprehensive training plan to enhance the skills of their employees and shall be acknowledged by COMPANY. Yearly training calendar to be submitted by the contractor at the start of the FY.

B) The contractor shall ensure that his employees are suitably developed as per COMPANY's work requirement.

C) The contractor shall ensure that each employee is trained.

D) The training should incorporate the areas like the renowned faculties should conduct MCC equipments, Motors, VCB, ACB, TRANSFORMERS, BATTERY, UPS training programs. One technical and one safety training is to be done once in a month. Every month meeting with site incharge to be done.

9. INSPECTION AND RECORDS:

The contractor shall personally and exclusively supervise the work through qualified supervisors of its employees so as to ensure that the services rendered under this contract are carried out entirely to COMPANY satisfaction Proper logging of the jobs carried out, day to day log sheet maintenance activities, spares consumption record, compliance and repairs record, staff daily attendance sheets are required to be maintained regularly wherever applicable.

10. MANPOWER DISTRIBUTION:

The distribution of manpower will be as decided by COMPANY.

12-Tech,1-Engineer.

The payment to the contractor will be made on the actual number of engineers and technicians man-days, utilized for carrying out the various maintenance works.

11. COMPETENCE CRITERIA:

To carry out the maintenance as per the scope of work mentioned above, Contractor should provide people who have requisite qualifications and prior experience of maintenance.

12. OTHER REQUISITES:

a.)Contract is comprehensive in nature. Scope of Company includes supply of spares and lubricants only. Plant floor cleaning and all other balance services, required for the maintenance activity, are in contractor's scope.

b.)The maintenance shall be system based; report and document generation shall be in the contractor's scope for which the contractor will arrange the necessary software and systems.

c.)The equipment availability of the critical equipments of each plant should be as mentioned. However any delay due to non-availability of spares shall not be in the contractor's scope. Quality of work should be up to the mark.

d.)Contractor will arrange to cover all risks insurance for all equipment and machinery brought by them for execution of this contract.

e.)The contractor shall ensure that all Breakdown/PM/Emergency Planned jobs are immediately attended and completed and shall depute any additional workmen, if necessary, in any shift till the completion of job, as per COMPANY engineer-in-charge instruction. No extra payment will be made against extra time and extra deployment of manpower by COMPANY, overtime is under the contractor's scope. PM should be completed within the stipulated time. When it is required the job has to be continued till the completion of job, this will be considered, as part of contract & no extra claim will be accepted. 100% PM compliance should be met by the contractor. Quality of PM should meet the requirement.

f.)Damage of equipments/electrical & electronics item due to poor workmen ship will be charged back to the contractor.

g.)Major Preventive maintenance activities like cables changing, motors changing, major assemblies changing shall be carried out as per preventive maintenance plan and it shall be considered as part of contract. Additional Manpower deployment shall be made by the contractor to control the above major jobs within stipulated time.

h.)The contract workmen will discharge their duties as per the advice of COMPANY engineers/in charges. They shall strictly abide by the instructions / suggestions of COMPANY engineers with reference to discharging / carrying out the jobs and services and the time specifications for their execution within the scope of contract and their decision regarding the same will be final.

i.)Contractor should ensure that none of their work force work more than the stipulated hours as per labour laws.

j.)The contractor shall arrange uniform/PPE/rain suit to their employees as per COMPANY's stipulation and the same has to be maintained by the employees.

kl.)The contractor should maintain Labour license from inspector of factories, License of Working in HT lines, Employment card form, wage register form, Attendance register etc. and the same shall be produced to COMPANY as and when demanded.

l.)Before engaging manpower, they will be interviewed by COMPANY and tested for competence and on selection will be allowed to work in COMPANY plant.

m.)The contractor should not engage any manpower without appointment letter. The same should be submitted to COMPANY in due course for the records.

n.)Contractor's site in charge & shift in-charge has to possess mobile phone at his own cost.

o.)The technicians and engineers should be rotated with or without prior information as per requirements or guidelines of COMPANY.

p.)During idle hours of plant, the contract work men may be utilized by COMPANY, for similar nature of jobs of their relevant areas of work within COMPANY premises.

q.)COMPANY shall provide water, electrical tapping point at a designated place, office space, free of cost.

r.)The various earth pit maintenance shall also be in contractor's scope.

13. WORK TIMINGS:

The Contractor shall ensure that no employee of the Contractor will enter to remain on COMPANY premises unless necessary for fulfilling Contractor's obligations under this contract. In order to maintain proper co-ordination at the plant the workmen deployed by the Contractor shall adhere to the work timings mutually agreed by the parties. These timings may change and when required by COMPANY.

14. GENERAL:

- b. For calculation of availability for any delay due to non-availability of spares shall not be to Contractor account. Contractor will be responsible for consumables only.
- c. The contractor will be independent contractor and not an employee or an associate of the COMPANY. Similarly persons employed by the Contractor to carry out work assigned to the contractor will be the employees of the contractor and will not have any employee/employer relations with COMPANY.
- d. The contractor shall be responsible and liable for payment of salaries, wages and other legal dues of the employees employed by the contractor for purpose of rendering the services required by COMPANY under this contract.
- e. The contractor's employee shall always be under contractor's direct control or supervision and the contractor shall be free to transfer its staff in accordance within its need provided that the contractor ensures the fulfilment of its obligations under this contract. The contractor shall as the employer, have the exclusive right to terminate the services of any of its staff.
- f. The contractor shall provide at his own expenses, facilities like transport, boarding and lodging, food, accommodation, medical, washing, conveyance etc. to all his employees working under his contract. All general medical care, hospital treatment/expenditure in case of any injury to the contract workmen arising during the course of employment would be borne by the contractor.

Any other scope and terms not mentioned in the contract, modifications thereof and mutually discussed and agreed upon, will be jointly minute by the contractor and Technical and commercial department of COMPANY, and will form the part of this scope of work. For any other

Consumables and Tools Tackles:

LIST OF TOOLS & TACKLES (POTROOM MAINT)

S/N	ITEMS	S/N	ITEMS
1	D SPANNER OF NONSTANDARD SIZE -LIKE 46,63,75,90, MAKE-TAPARIA	82	RING SPANNER ALL NON STANDARD SIZE- 36,42,50,65,75,90
2	ANGLE GRINDER AG4	83	OILCAN
3	ANGLE GRINDER AG7	84	BENCH WISE 18MM
4	CHAIN PULLEY BLOCK- 1TON, 2 TON ,5 TON EACH	85	PIPE WISE 18MM
5	HYDRAULIC JACK 20TON	86	HAMMER ALL SIZE

6	FILLER GAUGE	87	O RING KIT
7	SPRIT LEVEL (PRECISE)	88	TEFLON TAPE
8	TEFLON HAMMER	89	TORQUE WRENCH
9	BRASS BAR FOR BEARING FITTING	90	MEASURING TAPE (FREEMANS)
10	PIPE WRENCH ALL SIZE	91	MEASURING SCALE
11	ALLEN KEY SET BOTH (MM AND INCH)+ other size like 14MM, 24MM,32,18,19	92	VERNIER CALLIPER
12	BOX SPANNER SET (ALL SIZE)	93	SCREW GAUGE (INSIDE AND OUTSIDE)
13	GASKET CHAMPION	94	THREAD GAUGE
14	GLAND ROPE	95	ALL NUTS AND BOLTS UP TO 24MM SIZE
15	OIL PAPER	96	INSIDE CALLIPER
16	OIL FILLING PUMP(BARREL PUMP)	97	OUTSIDE CALLIPER
17	IMPACT WRENCH	98	NOSE PLIER
18	GLUE FOR O RING JOINING	99	CUTTING PLIER
19	CUTTING BLADE FOR O RING JOINING	100	LOCKTITE
20	WELDING MACHINE(2NO)WITH COPPER WELDING CABLE	101	THREAD LOCK (HOLE TIGHT)
21	GAS CUTTING SET WITH 50METRE LONG HOSE (2NOS)	102	SLINGS (1TON,2TON,3TON UP TO 10 TON)
22	DRILL MACHINE HAND	103	POLYSTER SLINGS
23	STRAIGHT GRINDER	104	LIFTING CHAIN
24	TOOL GRINDER	105	MANILA ROPE
25	ALL SIZE OF TAP SET (INCLUDING 36MM AND 1")	106	NYLON ROPE
26	DIE SET ALL STANDARD SIZE	107	SEAMS(BRASS) ALL SIZE
27	MANUAL PIPE BENDING MACHINE WITH DIE SET	108	SEAM CUTTER
28	ANCHOR DRILLING MACHINE	109	CHIESEL
29	DRILL BIT ALL STANDARD SIZE	110	VIBRATION MEASURING INSTRUMENT
30	OIL CAN	111	TEMPERATURE MEASURING INSTRUMENT
31	GREESE PUMP	112	DIAL GAUGE WITH MAGNETIC STAND
32	BRAZING MACHINE SET	113	CONTACT CLEANER
33	MARKENE CLOTH	114	SLIDE WRENCH
34	D SPANNER OF NONSTANDARD SIZE -LIKE 46,63,75,90, MAKE-TAPARIA	115	COMBINATION PLIER
35	ANGLE GRINDER AG4	116	SCREW DRIVER SET WITH 5 BLADES
36	ANGLE GRINDER AG7	117	HEXSAW
37	CHAIN PULLEY BLOCK- 1TON, 2 TON ,5 TON EACH	118	FILE(ROUND,FLAT,)
38	HYDRAULIC JACK 20TON	119	9v battery
39	INSULATED GLOVES	120	Torch
40	PVC TAPE	121	Hand lamps
41	TEFLON TAPE	122	Extension board
42	TORCH+SPARE BATTERY	123	Copper lugs up to 6 square mm

43	MULTI METER	124	Cable jointing kit up to 185 square mm
44	SOLDERING MACHINE	125	Bearing Puller
45	MEGGER	126	HYDRAULIC JACK 50 TON
46	CRIMPING TOOLS	127	Bearing Heater
47	TOUNGE TESTER	128	T4 HOOK CHOOK
48	INSULATED GLOVES	129	CANVASS SLING 10 TON
49	FILE(ROUND,FLAT,HALF ROUND)-4 Nos. each	130	Chicken Mesh (GI)
50	Torch --8 Nos. in working condition avialability	131	RCCB 30 mA
51	Bearing Puller OF 30MM,50MM,100MM, UPTO 300MM BORE DIA	132	5 Amps 3 pin Plug/ socket/ switch/ board
52	Bearing Heater OF 30MM,50MM,100MM, UPTO 300MM BORE DIA	133	Colin
53	Colin-20 BOTTLES IN A MONTH	134	Copper lug up to 95 MM2
54	Glass cleaning brush for cabin glass	135	Concrete drill machine
55	Reflective sheets of roll 50m for demarkation	136	Domestic capping-casing
56	Screw sets of all size from 2mm to 10mm	137	5/15 amp plug/switch/socket/board
57	Table Grinder	138	Megger-Tongue tester Probes
58	Ultrasonic cutting machine for shovel bucket plate cutting	139	Chinese screw driver set
59	Paint brush	140	Loctite 596
60	Yellow/Red/Black paint	141	High Voltage insulation tape
61	Rope grease-WD-40-50Kg/ Month	142	11KV gloves
62	Grouting bolts of M12 & M16,M24 size	143	Chicken mesh
63	Bearing fitting kit of make SKF upto 300mm dia	144	Allen Bolt up to 10mm
64	Lead wire of motor alignment	145	Crimping tool for small sizes lug
65	Piano wire for rail alignment	146	PU tube connectors
66	Hammer spanner of all size from M 16 to 56	147	Anchor fasteners for wall mounting fans
67	30 m Steel tape used for rail alignment	148	Heat gun
68	Load strecher for rail alignment	149	Burner-for copper cable
69	Consumable for DPT (NDT testing)	150	Wooden screws
70	Hand trolley for shifting of material--04 nos.	151	0.75-6mm2 Ring n Pin and Insulated pipe type lugs
71	Micrometer-2 nos.	152	Locks (Pad Locks)
72	Loctite-406	153	FRP Ladder with Platform & mobile trolley (19 Feet) (02 Nos.)
73	Sling & D-Sackle for load cellcalibration--25 T	154	FRP Ladder (10 feet) (01 No.)
74	circlip plier-4nos.	155	Pneumatic Wrenches (10 Nos.) with M-12 to M-32 sockets
75	SPLIT PIN OF M 6,8,10,12,14 OF LENGTH- 25,50,75,100 IN 50 NOS IN A MONTH		
76	Individual tool bag to all electricians & Mechanical technicians,Welders/Cutters.		
77	Individual tool kit for PM team		

78	Wire brush
79	Cleaning brush & Brooms for PTM cleaning
80	Rustoline& WD-40
81	Limestone for painting walls of operating area

Utility -LIST OF CONSUMABLES (per month)

Sno	Name of Cons	Qty	Sno	Name of Cons	Qty
1	Ana Bond	3	36	Holdite liquid sealants	
2	Araldite	2	37	Hose clamps	
3	Bnian Cloth	30 mtr	38	Jointing sheets	
4	Battery (Pencil)	6	39	Insulation screws	
5	Battery Torch cell	6	40	Insulation tape	
6	Brush	3	41	Kerosene	10
7	Bulbs(60W/24V)	NA	42	Lead wire	
8	Chalk pieces	1 packet	43	Lugs (Aluminum)	4
9	Coir rope	20 mtr	44	Loctite (Flange sealant, Thread sealant, Bearing retainer)	5
10	Conical grinding stone	1 set	45	M Seal	15
11	Cotton tape roll		46	MS stud & Fasteners lie Bolt/nut/washer	10 kg
12	Cotton Waste	50 kg	47	Welding electrodes(6013,7018 & SS electrode whenever required) & special electrode for under water welding.	3 packet
13	CRC 2-26	10	48	O Ring / Chord	10 mtr
14	CTC		49	PVC solution	
15	Cutting Nozzle		50	Paintbrush	3
16	DA gas, Oxygen gas	5	51	Pendant holder	2
17	Drill Bits	2	52	Petrol, Diesel	5 ltr
18	Emery sheet (Coarse and fine)	20	53	Petroleum jelly	
19	F. G. Tape varnished roll	1	54	Precision blue paste	
20	Fevicol		55	Raval plugs	
21	Fevifold		56	Rustolene	5 ltr
22	Fibre glass sheet		57	Sand paper	10
23	Fibre sleeve		58	Shellac	
24	Gaada cloth		59	Shims	2 mtr
25	Gasket (rubber)	10 mtr	60	Soldering paste	
26	Gasket oil sheets	10 mtr	61	Soldering rod	
27	Gaskets	70 kg	62	Spark Lighter	
28	Gasket oil papers	3 mtr	63	Steam gasket sheets	
29	Gland rope	10 mtr	64	Teflon tape	25
30	Gouch screws		65	Twine	

31	Grinding paste (coarse and fine)	1 no	66	Varnish	
32	Grinding wheel (cutting / buffing)	10	67	Welding (glasses / white)	
33	Haksaw Blade	20	68	Welding holders	3
34	Hand Gloves (Leather/Cotton/Rubber/Asbestos)	72	69	Screws	
35	HolditeGraphaite compound	3	70	Wood brush	
Note: Blank qty column is not regular consumption , common items will be required as per need					

ANNEXURE: LIST OF TOOLS & TACKLES

S/N	ITEMS	Qty	S/N	ITEMS	Qty
1	D SPANNER OF NONSTANDARD SIZE -LIKE 46,63,75,90, MAKE-TAPARIA	1	47	RING SPANNER ALL NON STANDARD SIZE- 36,42,50,65,75,90	
2	ANGLE GRINDER AG4	1	48	I- BOLT (16 TO 24 MM)	
3	ANGLE GRINDER AG7	1	49	BENCH WISE 18MM	
4	CHAIN PULLEY BLOCK- 1TON, 2 TON ,5 TON EACH	1	50	PIPE WISE 18MM	
5	HYDRAULIC JACK 20TON	1	51	HAMMER ALL SIZE	
6	FILLER GAUGE	1	52	O RING KIT	
7	SPRIT LEVEL (PRECISE)	1	53	CIRCLIP PLIER(INSIDE-OUTSIDE)	
8	TEFLON HAMMER	1	54	TORQUE WRENCH	
9	BRASS BAR FOR BEARING FITTING	1	55	MEASURING TAPE (FREEMANS)	
10	PIPE WRENCH ALL SIZE	1	56	MEASURING SCALE	1
11	ALLEN KEY SET BOTH (MM AND INCH)+ other size like 14MM, 24MM,32,18,19	1	57	VERNIER CALLIPER	1
12	BOX SPANNER SET (ALL SIZE)	1	58	SCREW GAUGE (INSIDE AND OUTSIDE)	1
13	GASKET CHAMPION	1	59	THREAD GAUGE	1
14	GLAND ROPE	1	60	ALL NUTS AND BOLTS UP TO 24MM SIZE	
15	OIL PAPER	1	61	INSIDE CALLIPER	
16	OIL FILLING PUMP(BARREL PUMP)	1	62	OUTSIDE CALLIPER	
17	IMPACT WRENCH	1	63	NOSE PLIER	
18	GLUE FOR O RING JOINING	1	64	CUTTING PLIER	
19	CUTTING BLADE FOR O RING JOINING	1	65	LOCKTITE (406)	4
20	WELDING MACHINE(2NO)WITH COPPER WELDING CABLE	2	66	THREAD LOCK (HOLE TIGHT)	3
21	GAS CUTTING SET WITH 50METRE LONG HOSE (2NOS)	2	67	SLINGS (1TON,2TON,3TON UP TO 10 TON)	5
22	DRILL MACHINE HAND	1	68	POLYSTER SLINGS	4

23	STRAIGHT GRINDER	1	69	LIFTING CHAIN	2
24	TOOL GRINDER	1	70	MANILA ROPE	
25	ALL SIZE OF TAP SET (INCLUDING 36MM AND 1")	1	71	NYLON ROPE	20
26	DIE SET ALL STANDARD SIZE	1	72	SEAMS(BRASS) ALL SIZE	1
27	MANUAL PIPE BENDING MACHINE WITH DIE SET	1	73	SEAM CUTTER	2
28	ANCHOR DRILLING MACHINE	1	74	CHIESEL	
29	DRILL BIT ALL STANDARD SIZE	1	75	VIBRATION MEASURING INSTRUMENT	
30	OIL CAN	2	76	TEMPERATURE MEASURING INSTRUMENT	
31	GREESE PUMP	4	77	DIAL GAUGE WITH MAGNETIC STAND	4
32	BRAZING MACHINE SET	1	78	CONTACT CLEANER	
33	MARKENE CLOTH	20	79	SLIDE WRENCH	
34	TEMP. RASSISTENT HAND GLOVES	2	80	COMBINATION PLIER	
35	INSULATED GLOVES	2	81	SCREW DRIVER SET WITH 5 BLADES	
36	PVC TAPE		82	HEXSAW	10
37	TEFLON TAPE		83	FILE(ROUND,FLAT,)	
38	TORCH+SPARE BATTERY		84	9v battery	
39	MULTI METER		85	Torch	2
40	SOLDERING MACHINE		86	Hand lamps	
41	MEGGER		87	Extension board	3
42	CRIMPING TOOLS		88	Copper lugs up to 6 square mm	
43	TOUNGE TESTER		89	Cable jointing kit up to 185 square mm	
44	INSULATED GLOVES	1	90	Bearing Puller	1
45	HYDRAULIC JACK 50 TON	1	91	T4 HOOK CHOOK	1
46	Bearing Heater	1	92	CANVASS SLING 10 TON	1
			93	Condenser Cleaning Brush (soft material)	2
			94	Portable welding machine	1

Note: Blank qty column is not regular consumption , common items will be required as per need

Annexure 2: Lifting Tools/Tackles

S.N.	Details		swl
1	Chain PullyBlock 1 Ton 20mtr.		0
3	Chain PullyBlock 2 Ton 3mtr.		2
5	Chain PullyBlock 3 Ton 20mtr.		0
7	Chain Pully Block 3Ton 3mtr.		1

8	Siling 6mm-2.5mtr. 0.5 T		4
9	Siling 8mm-3mtr. 0.75 T		2
10	Siling 10mm-3mtr. 1 T		2
11	Siling 12mm-3mtr. 1.5 T		4
12	Siling 32mm-8mtr. 10ton		2
13	Polyester sling 50mm-3mtr. 2Ton		4
14	Polyester sling 75mm-4mtr. 3Ton		4
15	Manila rope pulley block, size 16mm groove x 125mm pulley dia. Single pulley Cap 200kg		0
16	Nylon wire rope (12 mm*15 mtr.)		2
17	D-Shackle 16MM PIN DIA Cap: 1 T		12
18	D-Shackle 24MM PIN DIA Cap: 2 T		4
19	D-Shackle 36MM PIN DIA Cap:5T		4
20	D-Shackle 65MM PIN DIA Cap: 20 T		2
21	Hyd Jack -50 t Capacity (Small Stroke)		1
22	Nylon wire rope (25 mm*15 mtr.)		1
23	Screw Jack -50 T capacity		1
24	Cutting Set with Trolley		2
25	Arc Welding Machines (Ranging Upto 415 Amps)		2
26	Portable welding machine (single phase)		1

DELIVERABLES /PENALTY/BONUS CLAUSE FOR AREA SUBSTATION –

Parameter	Target	Penalty/Bonus Criteria
PM time Compliance	Motor/trafo Maintenance=24/36/48 hours	
Transformer Availability(including PM time)	>99%	1 %< difference from accepted availability<2%: 1% deduction in monthly payment. 2 %< difference from accepted availability<3%: 2% deduction in monthly payment. 3 %< difference from accepted availability<4%: 3% deduction in monthly payment. 4 %< difference from accepted availability<5%: 4% deduction in monthly payment. 5 %< difference from accepted availability<6%: 5% deduction in monthly payment. Bonus of 1.5% for every 1% increase in availability from the target value of All Equipment after maintaining it for consecutive 2 months
LT/HT motor Availability(including PM time)	>98%	
VCB/ACB /UPS/battery charger/Battery bank Availability(including PM time)	>99%	

Tripping of any Equipment due to any abnormality	ZERO	Any tripping due to abnormal vibration or any leakage of air/water/oil will result in deduction of 0.5% in monthly payment from the invoice also there will be no provision for any bonus in this case
Manpower as per deployment on daily basis	100%	If the requisite manpower falls below 3 % of the required strength then COMPANY will deduct the payment for the number of people found short.
Availability of Tools/Tackles during PM/BD jobs as per the list	100%	Penalty of 0.25% of contract value will be imposed if the PM/BD time increased by 1 hours due to non availability of the tools/tackles as per the list
Overtime against Absenteeism	10% of Deployment	Overtime mandays against absenteeism not to exceed beyond 10% of total deployment. If it crosses 10 % then a fine of 0.5% of contract value will be imposed upon them

For pot room

PPE	Frequency	QTY	Applicable for Manpower in number (Approx)	Brand	
Safety Helmet	Yearly	1	270	Udyogi, Karam (ISI)	For All, With Company logo
Safety Shoes	Half Yearly	2	270	Midas, Frontier, Bata, Udyogi, Atlas (Steel Toe)	For All
Safety Goggles	Monthly	12	270	Karam, Udyogi, 3M, Venus	For All
Goggles, black for welder	Quarterly	4	15	Karam, Udyogi, 3M, Venus	For Welders & Welder's helper
Dust Mask	Weekly	48	270	3M, Venus,	For All
HF Fumes respirator (Mouth Piece + Cartridge)	Quarterly	4	225	3M, Venus	For technicians working near pots
Hand Gloves - Nitril	Weekly	48	270	Atlas, Udyogi, Mallcom	For All
Hand Gloves - Leather	Monthly	12	270	Atlas, Udyogi, Mallcom	
Hand Gloves - Heat Resistance	Weekly	48	100	Atlas, Udyogi, Mallcom	
Hand Gloves - Electrical	Quarterly	4	80	Atlas, Udyogi, Mallcom	
Earplug	Monthly	12	270	3M, Venus	For All
Ear Muff	Quarterly	4	45	3M, Venus	For Utilities technicians & those who are doing drilling through jack hammer
Leather Apron for welder	Quarterly	4	15	Atlas, Udyogi	For welders

Leather Leg & hand guard	Quarterly	4	15	Atlas, Udyogi	For welders
Face Shield	Quarterly	4	20	Udyogi, Karam (ISI)	For Gas cutters, welders, technician working near pots
Safety Harness	Half Yearly	2	40	Karam, Udyogi	For technicians working at height / Crane maintenance crew
Reflective Jacket	Half Yearly	2	270	VIZ-WEAR, Karam	For all, With Company logo
Apron for Battery testing	Half yearly	2	15	Karam, Udyogi	For Rectifier technicians
Arc Suit, LT	Yearly		6	Survive Arc, Karam	6 suits one time
Gumboot	Yearly	2	60	Duck back , liberty, bata (Steel Toe)	for workers working at FTP's
Uniform	Yearly	1	270		
Rain Coat	Yearly	0.5	270		
Inner Guard	Half Yearly	2	270		

S.No	Maintenance Contract Area		Monthly Price (INR)	Annual Price (INR)
1	Carbon Area	nos manpower		
a	Bake Oven (I&II)	47		
b	GAP (I&II)	40		
c	Rodding	51		
	Staff	4		
	Subtotal with Reliever	142		
2	POTROOM I & II			
a	Potroom Area	237		
b	Potroom Utility Area	19		
c	Subtotal with Reliever	256		

	Subtotal			
1	Hydra Hiring Charge with driver			
2	Pick up (Bolero Camphor ,G Shift) 2 Nos			
3	Pick up (Bolero Camphor ,A,B,C Shift) 3 Nos			
4	Diesel		At Actuals	At Actuals
5	Carbon (1800 Mandays /Year) Per manday cost			
6	Potroom (3000 Mandays /Year)Per manday cost			
7	Motor Binding/Repairing For Pot Area			
8	Motor Binding/Repairing For Carbon Area			
9	Belt Patcher @ 30 Mandays Per Year			

2. COMPANY reserves the right to deduct the amount pertaining to penalty ,non performance,absenteesm,non availability of any manpower,damagesetc from the monthly RA bills.

Contract validity Period	6-12 months
Mobilization Period	Immediate.
Bonus /Penalty Clause	As per scope of work and slab provided . However for starting 3 months no penalty will be imposed & after this penalty amount shall be limited to 5% of monthly bill areawise(i.e.Potroom Area and Carbon Area).
Safety Penalty	As per COMPANY's Safety rules.
Termination Clause	As per standard COMPANY PO terms.
Tools ,tackle,safety and Manpower	In contractor's Scope.
Other Terms and Conditions:	<p>2. Addition/Reduction of the manpower numbers: If additon/Reduction is done in manpower number then respective wage ,wage related liabilities to be increased/Decreased along with the addition/reduction in welfare and safety amount on prorata basis.For instance :</p> <p>Addition of manpower will impact cost by: $X=((\text{Gross Wage} + \text{Liabilities}) \text{ of the respective manpower} + Y) + (\text{profit \%age of } ((\text{Gross Wage} + \text{Liabilities}) \text{ of the$</p>

	<p>respective manpower + Y)))</p> <p>Where $X = (\text{Additional Cost Impact})$ $Y: (\text{Welfare} + \text{safety}) / 398$ Quoted profit %age</p> <p>Similarly:</p> <p>Reduction of manpower will impact cost by: $X = ((\text{Gross Wage} + \text{Liabilities}) \text{ of the respective manpower} + Y) + (\text{profit \%age of } ((\text{Gross Wage} + \text{Liabilities}) \text{ of the respective manpower} + Y)))$</p> <p>Where $X = (\text{Reduction Cost Impact})$ $Y: (\text{Welfare amount} + \text{safety amount}) / 398$ Quoted profit %age.</p>
	<p>3. Wage is considered to be escalated by 11% YOY and contractor has quoted accordingly by taking it into consideration but if wage and liabilities increased more than 11 % than contractor is liable to pay upto 11% of the wage increase however any change more than 11% shall be disbursed to the contractor at actual along with profit %age on the same as quoted by contractor.</p>
	<p>5. Any revision of wage structure during the contract period other than YOY 11% increase shall be paid extra with applicable liabilities and contractors profit %age on total of the same (i.e. additional amount) .The increase to be certified by COMPANY HR team and the same will be amended after taking approval from COMPANY Head HR.</p>
GST	GST Shall be extra subject to documentary evidence
Diesel	Diesel shall be provided by Balco
Payment Terms	<p>70% of the R/A Bill duly approved by SBU Head will be released by the 6th of each succeeding month. The balance 30% (Thirty Per Cent) will be also released within the succeeding month on certification of the R/A Bill from all concerned authority.</p> <p>Vendor shall submit SDBG @10% of the total yearly Contract Value in BALCO's standard Format through SFMS mode during startup of contract and in case SDBG is not submitted then 5 % Security deposit of monthly RA bill & 15% of monthly gross wages shall be kept hold from Monthly RA Bills and shall be released at</p>



the end of the contract.

Points which will supersede all related clause in the existing contracts are :

1. Penalty in this contract against the daily deployment shall be as follows:

2.

Manpower as per deployment on daily basis	100%	<p>If the requisite manpower falls below 97% of the required strength of daily deployment then BALCO will deduct the payment for the number of people found short@ 1.5 times of the average manpower cost .</p> <p>If the requisite manpower is above 97% of the required strength of daily deployment then no deduction shall be done and BALCO will pay bonus for the number of people found more than 97% of daily deployment @ 1.5 times of the average manpower cost .</p>
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3. For all bonus /penalty clause other than manpower daily deployment shall remain same .

4. Daily deployment shift wise shall be provided by users along with new entrant area wise allocation.

5. Absenteeism against daily deployment shall be certified by respective area BALCO EIC.

6. New entrant to be deployed at the earliest by user dept .If not deployed then no related calculation to be done for billing purpose.

Following cost plus model service contract will also to be kept inbuilt in contract.

Sl.No	Job description	PO Value	Proposed vendor
1	Servicing of Radio Remote Servicing		Hetronics
2	Calibration of Master Instruments		Alcalab
3	Servicing of DANFOSS VFD		Danfoss
4	Servicing of HIREL Make UPS		Hirel
5	Servicing of DUBAS Make UPS		Dubas
6	Expert visit for dryer service & healthin		Global Engineering
7	AMC for Area SS battery Chargers		Precision
8	Calibration of DCCT DynAmp		Sirius Control
9	Servicing of DANFOSS VFD- Pot Room		Danfoss
10	Smoke detector supply, erection, commiss		X -fire
11	DRAG CHAIN- ERECTION AND COMMISSIONING		KABELSCHLEPP INDIA
12	REPAIR OF PTM CABIN RAIL FRAME		Industrial Engineering

13	Re-Treading of Tyres		Rubbertec
14	AMC OF DIESEL DISPENSING UNIT		Hectronics system

SCOPE OF WORK CARBON MAINTENANCE

CARBON MAINTENANCE SCOPE OF WORK

- Maintenance contract scope in carbon plant covers preventive maintenance, shutdown maintenance, breakdown maintenance, predictive maintenance, and rectification of CBM findings of all equipments.
- Hydra (14 MT and 52 ft Boom) to be provided as and when required on chargeable basis.
- The contractor shall ensure all breakdown jobs are immediately attended or completed and shall depute any additional workmen from the existing manpower, if necessary, in any shift till the completion of job, as per COMPANY engineer-in-charge instruction with entire satisfaction. No extra payment will be made against extra deployment of manpower. PM should be completed within the stipulated time but as & when it is required the job has to be continued till the completion of job. This will be considered as part of contract & no extra claim for overtime incurred will be accepted. Any delay due to operation problems or spares non-availability will not be considered for any delay in PM time.
- Major preventive maintenance activities like cables changing, motors changing, major assemblies changing shall be carried out as per preventive maintenance/shutdown plan and it shall be considered as part of contract. Extra manpower from the existing manpower deployment shall be made by the contractor to control the above major jobs within stipulated time.
- Contractor has to ensure that no job is to be carried out without SMP/SOP duly certified by COMPANY in-charge and signed copy of same has to be submitted back to COMPANY after proper training on same to all employees. However any suggestions, improvements in the SOP/SMP can be suggested to the area in-charge and will be taken as an improvement.
- For shift maintenance, the people should be available for 24 hrs. Even in the case of shift change. Non-availability of manpower will be considered, as breach of contract and penalty shall be imposed. Penalty amount will be as per man power cost multiplied by no of man power required for the maintenance job.

- Any outcome / deviation found in CBM result to be attended immediately. Action Plan to be made to rectify all the deficiencies found during the CBM and corrective action has to be taken based upon the severity – CBM is not in Contractor's Scope but expert and tools required for rectification will be in contractor scope.
- The contractor can use the lifting facility, hoists, cranes etc. installed and available at site / workshop. However if any facility is not available or out of order the contractor has to arrange Hydra on chargeable basis, other than Hydra will not be in Contractor's Scope. While using or carrying out any job if any equipment or installation is damaged by the contractor it will be repaired and made good at the risk and cost of contractor by mutual discussion and finalization. Any asset / property damage by contractor will be repair to the original state by the contractor only otherwise the expense amount will be recovered from the contractor.
- Outside facilities required for repair maintenance/overhauling of the assemblies like gear Box, Motor etc. will be considered by contractor on chargeable basis up to the fixed amount.
- 2 no of pick up will be in contractor scope for material transportation i.e. transporting material / spares from central stores to site stores & from site store to work place. If Truck Trailer is required, the same will be arranged by Contractor's on chargeable basis.
- All statutory obligations, approvals, safety, security & storage of contractor's own material will be in the contractor's scope. Special care to be taken in LPG, oxygen cylinder, flammable material like diesel, petrol, etc. and is to be kept in minimum possible inventory with all the safety precautions, approvals and license.
- Any failure in the work / job executed by the contractor due to bad workmanship shall be corrected free of cost. Failure to do the corrections shall attract penalty by mutual discussion and finalization.
- Shift in charge / shift supervisor should be readily available in site at all times. Site in charge should be available during general shift hours, however during emergency situation in charge or his deputy has to be present at site.
- In case of the strike, mishaps, Site In-Charge has to be present at site within an hour to take care of the situation.
- The contractor should maintain a daily logbook and checklist for the works carried out by them and gets the signature of the shift-in-charge in the specified form given by COMPANY.
MIS to be prepared and circulated on daily basis.
- COMPANY shall provide water, electrical tapping point at a designated place and office space free of cost.
- Contractor's shift supervisors and site in charges has to be equipped with mobile phones preferably of the certified network provider.
- Any recruitment for the contract manpower has to be done under presence of COMPANY technical team and only approved manpower will be allowed for joining.

- Minor modification or improvement required to improve plant availability shall be in scope of contractor only.
- Contractor should reward employees on monthly basis under reward scheme i.e. employee of the month etc. as per COMPANY guidelines. Contractor must obey all the motivational, reward and recognition policy of COMPANY.
- Contractor has to promote the culture and policies followed by COMPANY within its employees.
- Contractor should abide asset optimization implementation by COMPANY at each department/area.
- Specialized jobs to be carried out /arranged by contractors on payment basis.
 - a. Emergency man power (technicians, fitter, fabricator, mill wright fitter, welder, cutter, electrician etc.) supply: 1800 man days per year. Manpower gate pass will be made same as short term contracts i.e., for 90 days. SBU head approval is required to use emergency manpower supply for the departments.
 - b. Hydraulic & pneumatic system trouble shooting.
 - c. Belt patching and belt replacement work: 30 man-days per year of belt patcher to be incorporate in contract. Belt patcher can be used as and when required.
 - d. Emergency motor rewinding up to 45KW: Up to 5 lakhs INR per year to be incorporate in contract.
 - e. Mechanical assemblies and repairing job up to 5 lakh to be incorporate in contract.
 - f. Outside Workshop repair like coupling boring, shaft repairing, rebuilding and machining, pulley repair and key way machining, pump repair and small machining Up to 3 lakhs INR per year to be incorporate in contract.

HOUSE KEEPING

- The contractor shall ensure that its employees while on COMPANY premises or while carrying out their obligations under this contract, observe the standards of cleanliness, decorum and general discipline define by COMPANY. COMPANY shall be the sole judge as to whether or not; the contractor and or its employees have observed the same. The contractor shall also participate to achieve the 5-S standards along with COMPANY. If contractor will not follow the 5S, penalty may be put by COMPANY up to 5% of the total monthly value. The contractor shall be responsible for general housekeeping including cleanliness and orderliness of the plant premises in and around equipments and the office area provided by COMPANY.
- The cleaning of dust, oil spillages, welding butts, metal scraps, used nut bolts & handling of scrap generation arises on account of maintenance activities will be in contractor's scope. Contractor shall ensure to discharge scrap only at designated place by his own resources.

SAFETY

- Contractor and its employees should follow all the safety rules and regulation of COMPANY.
- Contractor has to communicate all the safety guide lines/ messages and consequence management to all the workers as per the guide lines of Balco.
- Contractor shall provide all necessary safety PPE's like safety shoes, goggles, helmets, masks, and gloves etc. to his employees. The quality of PPE shall be certified by the COMPANY Safety Dept. Neither contractor nor his employees will be permitted to enter factory premises without safety gadgets. The contractor will ensure strict compliance of safety measure adopted by the COMPANY. Any violation of safety measures by the contractor or his employee will be taken seriously.
- In such situation or noncompliance of safety PPE,COMPANY shall penalize the contractor as follows:
 - Rs 500/- first time
 - Rs 1000/- second time
- In case the contractor fails to follow any safety rules and regulations, COMPANY reserves the right to cancel the contract.
- The contractor shall take all safety precautions and provide adequate supervision by competent persons in order to do the job safely and without damage to plant, personnel, equipment, and the environment.
- Proper PME schedule for each contract employee to be followed and also ensure proper height pass for all people working at height.
- All the documents related to the safety/legal/statutory documents to be submitted positively to the EIC as per the schedule. Failure of the submission will be treated as violation of safety.

SKILL MATRIX

All personnel will be having prior experienced of maintenance:

- Engineers/Supervisor –Degree + Minimum 3 years of work experience.
Diploma + Minimum 6 years of work experience.
- Technicians – Mechanical, electrical, instrumentation. Welder and cutter
Diploma/ITI +Minimum 5-8 years of work experience.

Must be able to read mechanical and electrical drawings, Must have basic knowledge in troubleshooting of hydraulics -Pneumatic system, coupling alignment, gearbox overhauling & PLC based control system. Any deviations to the above will be approved by COMPANY.

- Six monthly skill matrix review and up gradation to be followed strictly and training need identification to be done based on which training Plan to be made for six months and compliance to be monitored under COMPANY's supervision.
- Contractor should have comprehensive system for six monthly skill matrix evaluations and a six monthly training plan to enhance the skills of their employees and shall be acknowledged by COMPANY.
- Skill matrix formats and training plans to be approved by COMPANY engineer in charge.
- For multi skills development, technicians and supervisors/engineers should be rotated with or without prior information as per requirements or guidelines by COMPANY.
- Training to be arranged as per training need identification and if the training is conducted by COMPANY irrespective of contractor, then the amount will be deducted from monthly bill.

WORK TIMINGS

- Computerized punch system should be implemented by contractor for their employees. Overtime will be a part of contract scope. No extra payment will be made by COMPANY for over time. Contractor has to focus to minimize over time.
- The Contractor shall ensure that no employee of the contractor will enter to remain on COMPANY premises unless necessary for fulfilling contractor's obligations under this contract. In order to maintain proper co-ordination at the plant the workmen deployed by the contractor shall adhere to the work timings. These timings may change as and when required by COMPANY.
- Leave planning has to be taken from employees by area in charge/site in charge in advance for next month. Noncompliance for unauthorized absenteeism, leave without information, leave by short term notice, long absenteeism and any other kind of unauthorized leave, contractor has to take in disciplinary action.

CONSUMABLES, TOOLS AND TACKLES:

- All consumables, tools & tackles, rigging equipment's like slings, chain blocks, pneumatic wrench, torque wrench, special tools and normal fasteners are in contractor's scope.
- Every technician should have tool box as per their job requirement like mechanical, electrical instrumentation with latest and branded good quality tools and tackles. Damaged tools and tackles to be replaced immediately. Any improvement in the type of tools used at site as suggested by COMPANY to be implemented immediately. All tools - tackles, instruments and lifting arrangement must have a certified calibration report from recognized institution.
- Legal compliance certificate should be maintained by contractor for all its tool & tackles, cutting set, welding machine, etc.

- Minimum stock of consumables has to be maintained by contractor.
- Contractor should maintain the requisite tools and tackles, consumables at individual department. In case the contractor could not arrange tools and consumables within the given time, COMPANY shall reserve the right to procure these tools, consumables and deduct the amount from their running bills.
- The contractor shall be responsible for the periodic statutory load testing of the lifting tools maintained by them. COMPANY shall reserve the right to procure these lifting tools and deduct the amount from their bills.

PENALTY AND BONUS CLAUSE:

- For equipment availability -Details attached.
- For CPSC: - Details attached.
- For daily deployment (department wise i.e., GAP, BAKEOVEN, RODDING):- If daily deployment is below 97%, leads to penalty as per decided man rate of manpower shortage.
- Man day's rate will be decided during new order finalization.
- Any indiscipline will not be entertained and as per the enquiry suitable penalty to be imposed depending upon the seriousness of indiscipline.
- Any injury caused because of negligence / lack of trainings / skills will lead to penalty of 50000 INR.
- Penalty if job is delayed due to unavailability of any tools and consumable 1000 INR per hour delay.

STATUTORY

Contractor should maintain all statutory compliance at site.

- Contractor should ensure that none of their work force works more than as per labour laws, any deviation will be dealt seriously and suitable penalty will be imposed.
- COMPANY's canteen facility and portable services for snacks/tea will be extended to the contract workers on self-payment basis.
- The contractor should not engage any manpower without appointment letter. The same should be submitted to COMPANY in due course for the records.
- The contractor should maintain labour license from inspector of factories, muster roll form, employment card form, wage register form, attendance register for overtime and all statutory documents. These register has to be produced to COMPANY as and when demanded.

MANPOWER DETAILS -CARBON.

	worker	Engineer/	Staff
GAP (including lab)	38	2	
BAKEOVEN	45	2	
RODDING	49	2	
Supporting Staff			4
	132	6	4

BOQ		Gate pass % of carbon total	
a	GAP (1 & 2)	40	29%
b	Bakeoven (1 & 2)	47	34%
c	Rodding (including autogenous mill and hydraulic crusher)	51	37%
Total gate pass		138	
supporting staff		4	

Employee of the Month (Checklist)

Aspect	KPI	Marks
Discipline and Punctuality	Zero unauthorized absence	5
	Zero non-compliance in Gate entry and exit time	5
	Zero non-compliance in reporting time at site and leaving after closing time	5
Safety	Zero observation for involvement in any unsafe act	5
	100% PPE compliance	5
Improvement perspective	Kaizen done or involved in any specific drive initiated in the area	5
	Improvement idea generation	5

	Involved in QC	5
	5S score of involved area	5
Performance	Performance of ownership area	5
	Behavior at Shop floor as per feedback from In charges	10
	SOP/SMP Compliance	10
	Allocated task compliance - quality of job done	15
	Allocated task compliance - work done within time and all assigned job completed	15
Total		100

Penalty/Bonus clause for CPSC.

CONTRACTOR PERFORMANCE SCORE CARD -CARBON	
CPSC % = Average % {GAP,BAKEOVEN,RODDING}	
BONUS Of INR 50000	LESS THAN 87%-BUT GREATER THAN OR EQUAL TO 86%
BONUS Of INR 100000	LESS THAN 88%-BUT GREATER THAN OR EQUAL TO 87%
BONUS Of INR 150000	LESS THAN 89%-BUT GREATER THAN OR EQUAL TO 88%
BONUS Of INR 200000	MORE THAN 89%
PENALTY Of INR 50000	LESS THAN 84%-BUT GREATER THAN OR EQUAL TO 83%
PENALTY Of INR 100000	LESS THAN 83%-BUT GREATER THAN OR EQUAL TO 82%
PENALTY Of INR 150000	LESS THAN 82%-BUT GREATER THAN OR EQUAL TO 81%
PENALTY Of INR 200000	LESS THAN 81%

Contractor performance score card.

Dimension	Criteria	Unit	Weightage	Scoring criteria
Health, Safety & Environment (20%)	Compliance to PPE norms	Score	15%	Score
	LTI/MTI/FAI	Nos/month	5%	if LTI+MTI+FAI = 0, then 5, else if <3, 3, else 1, else if LTI >1, then HSE score = 0
	Fatality	Incidents	NA	In fatality, termination with 3 months notice
Execution (35%)	Availability of tools-tackles and consumables	%	10%	if >=95%, 5, else if >=90%, 4, else if >=85%, 3, else if >= 80%, 2, else if >=75%, 1, else 0
	On time completion	%	10%	if >=95%, 5, else if >=90%, 4, else if >=85%, 3, else if >= 80%, 2, else if >=75%, 1, else 0
	SAP related compliances (PM, CBM)	Score	10%	Score
	SMP/SOP Adherence	Score	5%	Score
Process Enablers (10%)	5S and housekeeping	Score	5%	Score
	Participation in Kaizen, SAM, BE, AO, TPM, TQM, initiative	%	5%	>70% participation, then 5; else if >50%, then 3, else if >30%, then 1, else 0
Quality (20%)	Adherence to Skill development plan	%	10%	if >=95%, 5, else if >=90%, 4, else if >=85%, 3, else if >= 80%, 2, else if >=75%, 1, else 0
	Manpower availability	%	5%	if >=95%, 5, else if >=90%, 4, else if >=85%, 3, else if >= 80%, 2, else if >=75%, 1, else 0
	No of unplanned reworks needed	Number	5%	If no of reworks = 0, score =5, if no =1 , score =3, if no = 2, score =1, if > 2, score =0
Others(15%)	Punctuality & attendance (Gate access punch report)-5	Score	5%	Score
	Engagement in CLTI of equipment-5	Score	5%	Score
	IT/SAP literate manpower to support O&M practices-5	Score	5%	Score
Statutory compliances	As per statutory compliances checklist			

100%

Proposed Bonus and Penalty clause(Carbon)

GAP Weighted Average Combined Target

Area	Weightage	Target	Weighted Target
			74.9
Green Anode Plant Availability	94.0	79.7	
430B Group (Coke Unloading & Storage)	3.0	94.2	2.8
Pitch Unloading Pumps	3.0	100.0	3.0
Final Weighted Target			80.7

Bakeoven Weighted Average Combined Target

Area	Weightage	Target	Weighted Target
BO Plant Availability	50.00	95.50	47.75
Fire	15.00	99.50	14.93
FTP	12.00	97.75	11.73
Stacking Crane	10.00	97.00	9.70
WMI	8.00	98.00	7.84
Utility	5.00	100.00	5.00
Final Weighted Target			96.95
Rodding Weighted Average Combined Target			
Area	Weightage	Traget	Weighted Target

Rodding Plant Availability (incDedusting)	60.00	76.00	45.60
Autogenous Mill(IncDedusting))	15.00	90.00	13.50
Butt Handling (IncDedusting)	10.00	90.00	9.00
Hydraulic Crusher(IncDedusting)	10.00	94.00	9.80
Crane+Hoist	5.00	98.00	4.90
Final Weighted Target			82.40

Proposed bonus / Penalty slabs		
GAP AVAILABILTY TARGET AND CLAUSE		
Final Weighted Target (AV)	80.70%	
PENALTY CLAUSE	Availability (%)	Penalty (INR)
	79.70%=<AV<80.7%	10000
	78.70%=<AV<79.70 %	20000
	77.70%=<AV<78.70 %	30000
	AV<77.70%	40000
BONUS CLAUSE	Availability (%)	Bonus (INR)
	80.7%<AV=<81.7%	10000
	81.7%<AV=<82.7%	20000
	82.70%<AV=<83.70 %	30000
	AV>83.70%	40000
PM hours 96		

Operational breakdown included		
Availbilty calculation formula	(TT-PM-BD)/TT	
PM (PREVENTIVE MAINTENACE)		
BD (BREAKDOWN HRS INCLUDING OPERATIONAL)		
TT (TOTAL HRS FOR MONTH)		
BAKEOVEN AVAILABILTY TARGET AND CLAUSE		
Final Weighted Target (AV)	96.95%	
PENALTY CLAUSE	Availability (%)	Penalty (INR)
	96.75%=<AV<96.95 %	5000
	96.55%=<AV<96.75 %	10000
	96.35%=<AV<96.55 %	15000
	AV<96.35%	20000
BONUS CLAUSE	Availability (%)	Bonus (INR)
	96.95%<AV=<97.15 %	5000
	97.15%<AV=<97.35 %	10000
	97.35%<AV=<97.55 %	15000
	AV>97.55%	20000
RODDING AVAILABILTY TARGET AND CLAUSE		
Final Weighted Target (AV)	82.40%	
PENALTY CLAUSE	Availability (%)	Penalty (INR)
	80.4%=<AV<82.4%	50000
	78.4%=<AV<80.4%	10000
		0
	76.4%=<AV<78.4%	15000
		0
	AV<76.4%	20000
		0
BONUS CLAUSE	Availability (%)	Bonus (INR)
	82.40%<AV=<84.4%	50000
	84.4%<AV=<86.4%	10000
		0
	86.4%<AV=<88.4%	15000
		0
	AV>88.4%	20000
		0

GAP TOOLS AND TACKLES

S.NO	TOOLS & TACKLES	REQUIRED IN SITE (GAP)
1	D SPANNER OF NONSTANDARD SIZE -LIKE 46,63,75,90, MAKE-TAPARIA	1 SET FOR EACH TECHNICIAN
2	ANGLE GRINDER AG4	2
3	ANGLE GRINDER AG7	2
4	CHAIN PULLEY BLOCK- 1TON, 2 TON ,5 TON EACH	2 EACH
5	HYDRAULIC JACK 20TON	2 (20 T), 2 (50 T)
6	FILLER GAUGE	1 FOR EACH TECHNICIAN
7	SPRIT LEVEL (PRECISE)	2 PIECE EACH , SPRIT LEVEL (PRECISE), MASTER LEVEL
8	TEFLON HAMMER	1 FOR EACH TECHNICIAN
9	BRASS BAR FOR BEARING FITTING	2 FOR EACH TECHNICIAN
10	PIPE WRENCH ALL SIZE	Small (300MM) for each technicians & 2 big one (1200MM)
11	ALLEN KEY SET BOTH (MM AND INCH)+ other size like 14MM, 24MM,32,18,19	INCH KEY SET & MM SET, FOR EACH TECHNICIANS
12	BOX SPANNER SET (ALL SIZE)	2 SET
13	GASKET CHAMPION	0.5 MM, 3MM, 5MM (GRAPHITE GASKET) OF 5 SQ M
14	GLAND ROPE	6MM & 10 MM & 18MM ASBESTUS, 10 MM & 12 MM (GRAPHITE COATED) EACH 10 M
15	OIL PAPER	0.5 MM 5 SQ M
16	OIL FILLING PUMP(BARREL PUMP)	2
17	IMPACT WRENCH	2
18	GLUE FOR O RING JOINING	LOCKITE 406, 5 PIECE
19	CUTTING BLADE FOR O RING JOINING	2 PIECE
20	WELDING MACHINE(2NO)WITH COPPER WELDING CABLE	4 nos 3-PHASE WELDING M/C WITH ELCB 30amp WITH COPPER CABLE 40 m (power cable) & 200 m (welding cable) & WELDING TOP 63A 5 pin & 1 Single phase welding machine
21	GAS CUTTING SET WITH 50METRE LONG HOSE (2NOS)	3
22	DRILL MACHINE HAND	2
23	STRAIGHT GRINDER	1
24	TOOL GRINDER	1
25	ALL SIZE OF TAP SET (INCLUDING 36MM AND 1")	8MM ,10MM, 12MM, 16MM, 18MM (3 EACH)
26	DIE SET ALL STANDARD SIZE	1 EACH
27	MANUAL PIPE BENDING MACHINE WITH DIE SET	1
28	ANCHOR DRILLING MACHINE	1
29	DRILL BIT ALL STANDARD SIZE	1 SET OF ALL SIZE
30	OIL CAN	2 (2 LIT), 2 (5 LIT)
31	GREASE PUMP	3 (5 KG), 3 (10 KG), 2 (HAND GREASE PUMP)
32	BRAZING MACHINE SET	1 SET
33	MARKENE CLOTH	25 M

34	D SPANNER OF NONSTANDARD SIZE -LIKE 46,63,75,90, MAKE-TAPARIA	46 (4), 60, 65, 70, 75, 80, 85 (2 EACH)
35	ANGLE GRINDER AG4	2
36	ANGLE GRINDER AG7	2
37	CHAIN PULLEY BLOCK- 1TON, 2 TON ,5 TON EACH	1 each
38	HYDRAULIC JACK 20TON	1
39	INSULATED GLOVES	FOR EACH TECHNICIANS (ACCORDING TO USE)
40	TEFLON TAPE	30 PIECE
41	TORCH+SPARE BATTERY	1 FOR EACH TECHNICIANS
42	MULTI METER	2 NO WITH CALIBRATION CERTIFICATE
43	SOLDERING MACHINE	1 NO
44	MEGGER	2 NO DIGITAL MEGGER WITH CALIBRATION CERTIFICATE
45	CRIMPING TOOLS(INCLUDING ALL STANDARD DIE)	1 NO
46	TOUNGE TESTER	2 NO WITH CALIBRATION CERTIFICATE (AC/DC)
47	POLYSTER SLINGS	5 TONN (2)
48	LIFTING CHAIN	3 TONN (10 M)- 3 PEIECE, 5 TONN (10 M)- 2 PIECE
49	MANILA ROPE	16MM (100M), 25 MM (100M)
50	NYLON ROPE	12MM (100M), 20 MM (100M)
51	SEAMS(BRASS) ALL SIZE	0.1, 0.2 TO 5 MM (1 SQ M EACH)
52	SEAM CUTTER	1 FOR EACH TECHNICIANS
53	CHIESEL	1
54	VIBRATION MEASURING INSTRUMENT	1
55	TEMPERATURE MEASURING INSTRUMENT	2
56	DIAL GAUGE WITH MAGNETIC STAND	CP 09, CP 12 (2 PIECE EACH)- CHICAGO PNEUMATICS
57	CONTACT CLEANER	OGR
58	SLIDE WRENCH	FOR EACH TECHNICIANS
59	COMBINATION PLIER	FOR EACH TECHNICIANS
60	SCREW DRIVER SET WITH 5 BLADES	FOR EACH TECHNICIANS
61	HEXSAW	FRAME: FOR EACH TECHNICIANS, BLADE= 3 EACH
62	FILE(ROUND,FLAT,)	FILE(ROUND,FLAT,TRAINGLE,NEEDLE,HALF ROUND)
63	Torch	FOR EACH TECHNICIANS
64	Cable jointing kit up to 185 square mm	1
65	Bearing Puller	2 HYD BEARING PULLER
66	HYDRAULIC JACK 50 TON	2
67	Bearing Heater	1 SMALL SIZE & 1 BIG SIZE
68	T4 HOOK CHOOK	2
69	CANVASS SLING 10 TON	1
70	WIRE ROPE SLING	2 TON, 3 TONN, 5 TONN, 10 TONN (4 EACH)
71	DESHAKLE	2 TON, 3 TONN, 5 TONN, 10 TONN (4 EACH)
72	LPG & Oxygen cable hose connector	5 piece
73	Electrical Gloves	for each technician
74	Earth Pit resistance measuring instrument	1 no
75	HT gloves	3 pair

76	AIR BLOWER	2
77	VACCUM CLEANER	2
78	Bearing Puller	1
79	Electrical Tester 500 volt	1 for each technicians
80	Winch Machine (5 ton Capacity)	1 ready stage at every time
81	Hand die grinder with drill bit	1 ready stage at every time
82	Magnetc drill with Carbide bit machine	1 ready stage at every time
83	RATCHET SPANNER SET 10 TO 32 D and Ring	3 SET at ready stage every time
84	Screw driver set (T-type for VFD & 32 different blade)	2 nos
85	Tool Box & tool bag	1 for each technicians
86	D -Spanner & Ring spanner set (6 to 32)	1 for each technicians
87	Aluminium ladder 8 feet - A TYPE	2 NOS
88	Aluminium ladder 12 feet - AT YPE	2 NOS
89	Aluminium ladder 20 feet - SINGLE	2 NOS
90	Lux meter	1
91	HAMMER	1 KG FOR EACH TECHNICIAN, 2KG, 5KG
92	POLYSTER ROPE SLING	2 TON, 3 TONN, 5 TONN (2 EACH)
93	HAMMERING RING & D SPANNER 30,32,36,41,46,50,55,60,65,70,75,80,85	4 PIECE each
94	D SPANNER 36,41,46,50,55,60,65,70,75,80,85	4 PIECE each
95	PVC WATER TUBE (10 MM O/D. X 30 M LG.	1
96	CROW BAR	5
97	STEEL TAPE – 5 MTRS ,	1 FOR EACH TECHNICIAN
98	TORQUE WRENCH WITH EXTENDED LEVER – UPTO 8000 NM	2 PIECE
99	CIRCLIP PLIER (INNER & OUTER)	1 FOR EACH TECHNICIAN
100	BUFFING WHEELS – WIRE TYPE	10

GAP CONSUMABLES

S.NO	CONSUMEBLES	CONSUMPTION PER MONTH
1	Ana Bond	5
2	Araldite	5
3	Hose clamps	1/2 "&1" & 2" (10 EACH), 12" & 18" (5 EACH)
4	Bnian Cloth	30m
5	Brush	3" & 5 " (5 EACH)
6	Kerosene	20 LIT
7	Chalk pieces	2 BOX
8	Loctite (Flange sealant, Thread sealant, Bearing retainer)	3 PEIECE
9	Conical grinding stone	5 PIECE
10	M Seal	10 PEIEC
11	MS Fasteners lie Bolt/nut/washer	M4*30, M6*30, M8*40, M10*50, M12*40, M12*60, M16*40, M16*60, M16*80, M18*60, M20*40, M20*60 (EACH FULL THREAD DOUBLE WASHER & DOUBLE NUT- QUANTITY AS PER USE)
12	Cotton Waste	100KG
13	Welding electrodes	6013*3.15MM (50 KG)
14	PVC solution	AS PER REQUIRED IN BELT JOINING
15	Cutting Nozzle	oxygen &lpg (3/64 modal- 4 peiec),
16	Paintbrush	3" & 5" (EACH)
17	DA gas, Oxygen gas	DA (6 PIECE IN CONSECUTIVE MONTH), OXYGEN (15 CYL)
18	Emery sheet (Coarse and fine)	COARSE (5 SQ M), FINE (5 SQ M)
19	Precision blue paste	Not used all time, as per requirement
20	Fevicol	200ml can (2kg)
21	Rustolene	15 lit
22	Shims	0.1 to 5 mm shims (3 sq m)
23	Sand paper	3 sq m
24	Gaskets	0.5 MM, 3MM, 5MM (GRAPHITE GASKET) OF 5 SQ M

25	Spark Lighter	5 piece (10 stone)
26	Gasket oil papers	0.5 MM, 3MM, 5MM (GRAPHITE GASKET) OF 5 SQ M
27	Gland rope	previous sheet
28	Teflon tape	previous sheet
29	Welding (glasses / white)	White glass (10 piece), black (4 piece)
30	Grinding wheel (cutting / buffing)	Grinding wheel (AG4- 10, AG7- 5), Cutting wheel- (AG4- 3, AG7- 3), buffering wheel (AG4-5, AG7-5)
31	Varnish	As per requirement of job
32	CRC	30
33	WD40	50
34	Silicon silient	60
35	Heating torch (for DA)	2 piece with torch (90 modal no)
36	Cutting rod	15 kg
37	cast iron electrode	5 kg
38	OGR	10
39	CRC	14
40	Aluminium foil	50
41	PVC tape	50
42	Bulb 100 watt screw type	150
43	Holder(procelain) 100 watt screw type	30
44	hand lamp set bulb,holder, bulb guard and handle	20
45	wooden screw 1/2 inch,	3
46	wooden screw 1 inch,	3
47	wooden screw 1 and half inch	1
48	steel screw 1/2 inch,	1
49	steel screw 1 inch,	1
50	steel screw 1 and half inch	1
51	nut bolt with washer 4mm*25mm	36
52	nut bolt with washer 6mm*75mm	100
53	nut bolt with washer 4mm*32mm	50
54	nut bolt with washer 3mm*32mm	50
55	nut bolt with washer 5mm*20mm	50
56	Painting brush 75 mm	12
57	Painting brush 100 mm	12
58	Thinner	10
59	marking cloth	50
60	Cotton waste	15
61	Fine embryo paper	20

62	Rough embry paper	20
63	Lug pin type cu 1.5 mm	50
64	Lug pin type cu 2.5 mm	50
65	Lug pin type cu 4 mm	25
66	Lug pin type cu 6 mm	25
67	Lug pin type cu 10 mm	25
68	Lug pin type cu 16 mm	25
69	Lug pin type cu ,25 mm	25
70	Lug pin type cu ,35 mm	25
71	Ring type cu lug 2.5 mm	50
72	Ring type cu lug 4 mm	25
73	Ring type cu lug6 mm	25
74	Ring type cu lug 10 mm	25
75	Ring type cu lug 16 mm	25
76	Ring type cu lug 25 mm	25
77	Ring type cu lug 35 mm	25
78	pin type al lug 10	36
79	pin type al lug 16	36
80	pin type al lug 25	36
81	pin type al lug 35	36
82	ring type al lug 10	36
83	ringtype al lug 16	36
84	ringtype al lug 25	36
85	ringtype al lug 35	36
86	soldering wire	2
87	soldering paste	2
88	soldering iron	1
89	vaccum cleaner paper filter	10
90	Ampere tape	10
91	Glass tape	5
92	pvc gland 1/2 inch	20
93	pvc gland 3/4 inch	20
94	pvc gland 1 inch	20
95	pvc gland 1.25 inch	20
96	pvc gland 1.50inch	20
97	pvc gland 1.75inch	20
98	pvc gland 2 inch	20
99	pvc gland 1/2 inch	20
100	metal gland double ended	10
101	cap type ms bolt 6mm ,6*32 mm	30
102	3 mm*10 mm nut bolt with washer	60
103	industrial top with earthing point	15
104	handlamp cu cable 1.5 mm 3core,220 volt	200

105	Torch	12
106	1.5 volt pencil AA	100
107	1.5 volt pencil AAA	10
108	9 volt	5
109	Power Fuse puller	5
110	industrial extension board	4
111	3 pin plug(16a,6a) for extension board/hand lamp	6
112	5 pin socket (6a,16a)for extension board/hand lamp	6
113	Rawal plug used for plugging wall hole	2
114	16 ft ladder with plateform	1
115	Motor insulation foam for tb covering	5
116	cable tie 100	4
117	cable tie 200	4
118	cable tie 300	4
119	google	12
120	locktite 406	6
121	Green colour earthing wire 4mm multicore	20
122	3 core 2.5 sqmm cu cable	100
123	Diesel	20
124	Nail,wire	2 kg (As per req)
125	Casing & capping conduit	40 meter
126	Flexible conduit	40 meter
127	5 Amp switch &shocket	5
128	15 amp switch &shocket	5
129	Paint (Black, Yellow, Red, Blue, Orange, Green)	15 lit (as per req)
130	FEVICOL SR 998	5 KG
131	Champion Gasket Style 59 (Hot oil gasket)	0.5 mm, 1 mm, 2 mm (of 5 Sq M)
132	Welding electrodes	7018*3.15mm (10KG), 7018*4.00mm (10KG)

BAKEOVEN TOOLS AND TACKLES

S/N	ITEMS	REQUIRED IN SITE (BAKEOVEN)	Remark
1	D SPANNER OF NONSTANDARD SIZE -LIKE 46,63,75,90, MAKE-TAPARIA	1 SET FOR EACH TECHNICIAN	
2	ANGLE GRINDER AG4	5	
3	ANGLE GRINDER AG7	5	
4	CHAIN PULLEY BLOCK- 1TON, 2 TON ,3 Ton 5 TON EACH	2	2 nos each
5	HYDRAULIC JACK 10T,20T ,50 T ,100 T	1	1 no each
6	Hydraulick jack bottel type 10 T	1	
7	FILLER GAUGE	2	
8	SPRIT LEVEL (PRECISE)	2	
9	TEFLON HAMMER	2	
10	BRASS BAR FOR BEARING FITTING	2	Small Size
11	PIPE WRENCH ALL SIZE	2	
12	ALLEN KEY SET BOTH (MM AND INCH)+ other size like12mm 14MM, 24MM,32,18,19	2	
13	BOX SPANNER SET (ALL SIZE)	2	
14	OIL FILLING PUMP(BARREL PUMP)	2	
15	IMPACT WRENCH	1	
16	WELDING MACHINE WITH COPPER WELDING CABLE(50 meter)	3	set
17	WELDING MACHINE(portable)	2	set
18	GAS CUTTING SET WITH 50METRE LONG HOSE	3	set
19	DRILL MACHINE HAND	2	NO
20	MAGNETIC DRILL MACHINE (PORTABLE)	1	NO
21	STRAIGHT GRINDER	1	NO
22	ALL SIZE OF TAP SET (INCLUDING 36MM AND 1")	1	SET
23	DIE SET ALL STANDARD SIZE	2 set each	
24	MANUAL PIPE BENDING MACHINE WITH DIE SET	1	
25	ANCHOR DRILLING MACHINE	1	
26	DRILL BIT ALL STANDARD SIZE	1	Standrad Size
27	OIL CAN (5 10 ,20 lilet)	2	SET

28	GREASE PUMP(2 kg ,5 kg)	3	NO
29	ANGLE GRINDER AG4	5	
30	ANGLE GRINDER AG7	5	
31	TORCH+SPARE BATTERY	3	
32	MULTI METER	2	
33	SOLDERING MACHINE	2	
34	MEGGER	2	
35	CRIMPING TOOLS	2	All Size
36	TOUNGE TESTER	2	
37	INSULATED GLOVES	2	Pair
38	RING SPANNER ALL NON STANDARD SIZE-36,42,50,65,75,90	1	SET
39	OIL CAN (5 10 ,20 lilet)	2	NOS
40	BENCH WISE 18MM	1	
41	HAMMER ALL SIZE	1	
42	TEFLON TAPE	50	
43	TORQUE WRENCH(PNEUMATIC,ELECTRIC)	1	
44	MEASURING TAPE (FREEMANS)(3 m ,5,m 30m)	5	
45	MEASURING SCALE	2	
46	VERNIER CALLIPER(mitutoyo)	3	
47	SCREW GAUGE (INSIDE AND OUTSIDE)	2	
48	THREAD GAUGE (metric ,bsp)	2 set	
49	FILLER GAUGE ,	1	SET
50	SHAFT ALIGNMENT FIXTURE	1	set
51	ALL NUTS AND BOLTS UP TO 24MM SIZE	100 each	
52	INSIDE CALLIPER	2	
53	OUTSIDE CALLIPER	2	
54	NOSE PLIER	2	
55	CUTTING PLIER	2	
56	SLINGS (1TON,2TON,3TON UP TO 10 TON)	2	
57	POLYSTER SLINGS	1	
58	MANILA ROPE	100 meter	
59	NYLON ROPE	100 meter	
60	SEAM CUTTER	2	
61	CHIESEL	2	
62	TEMPERATURE MEASURING INSTRUMENT(temperature gun)	1	

63	DIAL GAUGE WITH MAGNETIC STAND	2	
64	CONTACT CLEANER	5	
65	SLIDE WRENCH	2	8 inch
66	COMBINATION PLIER	3	
67	SCREW DRIVER SET WITH 5 BLADES	3	
68	HEXSAW	5	
69	FILE(ROUND,FLAT,)	1	6 inch
70	9v battery	10	
71	Torch	3	
72	Hand lamps	15	
73	Extension board	5	
74	Copper lugs up to 25 square mm	100	Nos.
75	Bearing Puller (HYDRAULIC,AND MANUAL)	2	
76	Bearing Heater	1	
77	Tool box set for each technicians	1	
78	Aluminium ladder 6 feet - A TYPE	2	Nos.
79	Aluminium ladder 8 feet – A TYPE	2	Nos.
80	Aluminium ladder 12 feet – A TYPE	2	Nos.
81	Air Blower	3	Nos.
82	Multimeter	1 each technician	
83	Clampmeter (big jaw)	1	Nos
84	Lighting transformer(24V)	2	Nos
85	Industrial Vacuum unit cleaner	5	Nos.
86	Industrial extension board with RCCB	5	Nos.
87	Bearing puller	3	Nos.
88	Ratchet set	2	Nos.
89	Crimping tool	2	Nos.
90	Electrical Tapes		
91	41 bits screw driver set	3	Nos.
92	Industrial Vacuum unit cleaner	5	Nos.

BAKEOVEN CONSUMABLES

S.NO	CONSUMEBLES	CONSUMPTION PER MONTH	Unit
1	Araldite	2	KG
2	Brian Cloth	100m	M
3	Battery (A, AA, AAA)	10	No
4	Battery Torch cell	20	No
5	Brush(1in,2in,4 in)	10 each	No
6	Bulbs(60W/24V)	20	No
7	Chalk pieces	1	packet
8	Coir rope	100	M
9	Cotton Waste	300	Kg
10	CRC 2-26	15	NO
11	WD 40	30	NO
12	Cutting Nozzle	4	NO
13	DA gas, Oxygen gas	15	NO
14	Drill Bits(1 to 25 mm)	all time available	NO
15	Emery sheet (Coarse and fine)	20	M
16	Fevicol	1	Kg
17	Gasket (rubber)	30	sqm
18	Gasket oil sheets	30	sqm
19	Gaskets(1 in ,2 in, 3in, 4 in)(300mm)	15	nos
20	Gasket oil papers	30	sqm
21	Gland rope(for steam line, water line) (graphite and teflor)required sizes(6 ,8 ,10 ,12,14)mm	20	M
22	Grub screws 5,6,8,10,16	10	NO
23	Grinding wheel (cutting / buffing)	10	NO
24	Haksaw Blade	10	NO
25	Hand Gloves (Leather/Cotton/Rubber/Asbestos)	360	NO
26	Hose clamps(1 in, 2 in ,3 in ,4 in , 70mm)	10	NO
27	Lead wire	5	no
28	Lugs (Aluminum)	50	no
29	Loctite (Flange sealant, Thread sealant, Bearing retainer)	10	no
30	M Seal	30	no
31	MS Fasteners lie Bolt/nut/washer(from M4 to M20)	50	no
32	Fastener M10 and M12	100	nos
33	Allen bolt M5 M6,M8,M10	20	Nos
34	Welding electrodes(6013,7018)(3.15,4 mm)	15	packet
35	cast iron electrode	2	packet
36	O-ring Cord Set (parker /vickers)	2	set
37	O-ring Cord with repair kit	1	no

38	Paintbrush	5	no
39	Petrol, Diesel	80	leter
40	Rustolene	10	no
41	Shims(all sizes)	10	sqm
42	Spark Lighter	10	no
43	Steam gasket sheets	15	sqm
44	Teflon tape	30	No
45	Twine(piano wire and twine)	100	No
46	Welding (glasses / white)	5	No
47	Welding holders	5	No
48	Screws	50	No
49	Wood brush	10	No
50	silica sealant	20	No
51	Nails	10	No
52	Haksaw Blades	5	No
53	Grinding Wheel(Buffering/Cutting)	5	No
54	Hose Clamps (1/2, 3/4, 1 1/2,2,2 1/2 3 ,4 inch))	10	No
55	Gasket (Rubber/Paper)	2	No
56	Oil Paper	1	Sheet
57	metal putty (metal magic steel)for shaft buildup	5	Nos
58	Chain link 1 inch half link	30	Nos
59	Chain link 1 inch full link	30	Nos
60	Chain link 1 inch full link duplex	5	Nos
61	GLUE FOR O RING JOINING	10	Nos
62	CUTTING BLADE FOR O RING JOINING	5	Nos
63	MARKENE CLOTH	300	m
64	PVC TAPE	50	no
65	GASKET CHAMPION	20	Sqm
66	Lug pin type cu 1.5 mm	50	
67	Lug pin type cu 2.5 mm	50	
68	Lug pin type cu 4 mm	25	
69	Lug pin type cu 6 mm	25	
70	Lug pin type cu 10 mm	25	
71	Lug pin type cu 16 mm	25	
72	Lug pin type cu ,25 mm	25	
73	Lug pin type cu ,35 mm	25	
74	Ring type cu lug 2.5 mm	50	
75	Ring type cu lug 4 mm	25	
76	Ring type cu lug6 mm	25	
77	Ring type cu lug 10 mm	25	
78	Ring type cu lug 16 mm	25	

[illegible]

RODDING TOOLS AND TACKLES

Sr. No.	Item	REQUIRED IN SITE (RODDING)
1	D Spanners of all standard Sizes	2 set
2	D Spanners of all nonstandard size: 42, 46, 48, 50,63, 75, 90, 95 etc.	2 sets each
3	Angle Grinder AG4	3 nos
4	Angle Grinder AG7	2 nos
5	Chain Pulley Blocks – 1T, 2T, 3T, 5T each	3 nos each
6	Richet Hoist – 0.75T, 1T, 2T	2 nos each
7	Hydraulic Pump for Jack	2 no
8	Filler Gauge	1 no
9	Sprit Level (Precise)	2 nos
10	O-Ring Repair Kit (For Non-standard o-ring)	2 set
11	Torque Wrench	1 no
12	Brass Bar for Bearing Fitting	2 nos
13	Measuring Scale	2 nos
14	Allen Key Set (MM & Inch size) + Other size like 14mm, 24mm, 18mm, 32,18,19, etc.	2 set each
15	Screw Gauge (Inside &OutSide)	1 no
16	Tread Gauge (Inch & MM)	1 no
17	All Bolts and nuts up to 24 mm size	50 no each
18	Inside Caliper	1 no
19	Oil Filling Pump (Barrel Pump)	2 nos
20	Nose Plier	3 no
21	Cutting Plier	2 no
22	Locktite (Tread lock, Breaing retainer, Thread Retainer)	2 no
23	Thread Lock (Hole Tight)	3 nos
24	Gas cutting Set with 50 mtrs long hose	3 set
25	Hand Drilling Machine	1 no
26	Straight Grinder	1 no
27	Tool Grinder	1 no
28	All Size if Tap Set (Including 36 mm & 1")	2 set
29	Die Set All Standard Size	2 set
30	Manual Pipe Bending Machine with Die Set	1 no
31	Anchor Drilling Machine	1 no
32	Drill Bit All Standard Size	2 set each
33	Grease Pump (3kg, 5kg, 20kg Cap.)	2 no each
34	Markene Cloth	60 mtrs
36	COMBINATION PLIER	1 no
37	Hexsaw	10 nos

39	Insulated Gloves	15 nos
40	PVC Tape	50 nos
41	Teflon Tape	20 nos
42	Copper Lugs up to 6 mm2	100 nos
43	Cable Jointing kit up to 185 mm2	2 no
44	Bearing Puller (Hydraulic)	2 nos
45	Crimping Tools	2 nos
46	Tounge Tester	2 nos
47	Canvass Sling 10 T	2 nos
48	Metal Magic Stick	5 nos
49	Portable Welding Machine	2 nos
50	Ring Spanners of all standard sizes	2 sets each
51	Ring spanners of all non standard size: 36, 42, 46,50, 65, 75 90 etc.	2sets each
52	Oil Can 5 ltr, 2 ltr, 1 ltr	2 nos each
53	Bench Wise 18 mm	2 no
54	Pipe Wise 18 mm	1 no
55	Hydraulic Jack 10T, 20T, 50T	1 no each
56	Hammer All Size	2 nos
57	O-Ring Kit (Standard)	2 set
58	Teflon Tape	20 nos
59	Teflon Hammer	2 nos
60	Measuring Tape (freemans)	5 nos
61	Pipe Wrench All Size	2 nos each
62	Vernier Clliper	2NOS
63	Box Spanner Set (For Hex. Nut and Allen bolt) + Other size 90mm, 95mm, 75mm, 70mm.	1 set each
64	Gasket Champion (up to 5 mm thick)	3nos
65	Gland Rope(6,8,10,12 mm)	10 mtrs
66	Oil Paper	1 sheet
67	Outside caliper	1nos
68	Impact Wrench	1nos
69	Glue for O ring Joining	3nos
70	Cutter for O-Ring	1nos
71	Welding Machines	5nos
72	Copper Welding Cable	50 mtrs
73	Wire Slings – 1T, 2T, up to 10T	3 nos each
74	D shackle 1T, 2T, 3T and 5T	5 nos each
75	Polyester Slings – 1T, 2T up to 5T	2 nos each
76	Lifting Chain	3nos
77	Manila Rope	3nos
78	Nylon Rope	50 mtrs
79	Seams (Brass) All Size(0.5x 0.5 m)	2 nos

80	Seam Cutter	2 nos
81	Chisel	3nos
82	Temperature Measuring Instrument	1no
83	Dial Gauge With Magnetic Stand	2 nos
84	Brazing machine set	1no
85	Slide Wrench (All Size)	5 set each
86	Screw Driver Set with 5 Blades	3nos
87	File (Round, Flat)	4nos
88	Niddle File (Complete Set)	1 set
89	Torch	3nos
90	Hand Lamps	10 nos
91	Extension Board	10 nos
92	Multimeter	3 nos
93	Soldering Machine	2 nos
94	Megger	2 nos
95	Bearing Heater	2 nos
96	T4 Hook Chook	2 nos
97	Number Punching Set	2 nos
98	Belt Patching kit	2 nos
99	Minimize Coupling Set	1 no

RODDING CONSUMABLES

Sr. No.	Name Of Consumables	Consumption/month	UOM
1	Ana Bond	1	No
2	Araldite	1	No
3	Brian Cloth	3	Mtr
4	Battery (A, AA, AAA)	20	No
5	Brush	5	No
6	Kerosene	20	Ltr
7	Chalk Pieces	1	box
8	Loctite(Flange Sealant, Thread Sealant, Beraing Retainer, Tread Lock)	10	No
9	Conical Grinding Stone	5	No
10	M-seal	10	No
11	MS Fasteners (Bolts/Nuts/Washer) up to M24 Size	50	No
12	WD-40	10	No
13	Cotton Waste	100	No
14	Welding Electrodes – 7018 4mm, 3.15mm	35	Kg
15	Welding Electrodes – 6013 4mm, 3.15mm	30	Kg
16	Cutting Electrodes - Cutrods	15	Kg
17	DA Gas, Oxygen Gas	18	No
18	Drill Bits (8, 10,12,16,20,24 mm)	1 No each	No
19	Petrol/Diesel	15	L
20	Emery Sheet & Roll (Coarse & Fine grade)	15	No
21	Fevicol	5	No
22	Rustolene	5	L
23	Fiber Glass Sheet	10	No
24	Fevifold		No
25	Sand Paper	5	No
26	Shims	2(all sizes)	No
27	Gasket (Rubber/Paper)	2	No
28	Oil Paper	1	Sheet
29	Spark Lighter	4	No
31	Grinding paste (coarse and fine)	0.5	Kg
32	Gland Rope(8,6,10,12 mm)	10	Mtr each
33	Welding Glasses	10	No

34	O-ring Cord Set with repair kit	1	No
35	Holdite Liquid Sealants	4	No
36	Hose Clamps (1/2, 3/4, 1 1/2, 2, 2 1/2 inch))	10	No each
37	Jointing Sheets	1	No
38	Insulation Screws	50	No
39	Insulation Tap	150	No
40	Bulbs (60W, 100W)	100	No
41	Lead Wire	2	No
42	Lugs (Aluminum) (6,10,16,25,35,50,75, sqmm)	30	No
44	Cotton Tape Roll	3	No
45	CRC 2-26	20	No
46	Cast Iron Welding Electrodes	5	Kg
47	PVC Solution	4	Ltr
48	Paint Brush	20	No
49	Pendant Holder	10	No
50	Petroleum Jelly	5	Kg
51	F. G. Tape Varnished Roll	10	No
53	Raval Plugs	5	No
54	Fiber Sleeve	10	No
56	Soldering Paste	0.5	Kg
59	Welding Holder	12	No
60	Wood Brush	4	No
61	Screws	20	No
62	Nails	100	No
63	Hacksaw Blades	10	No
64	Grinding Wheel(Buffering/Cutting)	5	No
65	Teflon Tape	20	No
66	Hand Gloves (Leather, Cotton, Rubber, Asbestos)	250	No
67	Holdite Graphite Compound	2	No
68	Cutting Nozzles	10	No

Apart from regular PPEs, following PPEs required for regular technicians:

1. Goggle (As per BALCO standard)
2. HEPA Mask
3. Face shield
4. Heat resistant gloves
5. Electrical gloves

Safety Items (PPEs)

For Carbon

PPE	Frequency	Applicable for Manpower in number (Approx)		Brand	
		QTY/yr			
Safety Helmet	Yearly	1	142	Udyogi, Karam (ISI)	For All. With Company logo
Safety Shoes	Half Yearly	2	142	Midas, Frontier, Bata, Udyogi, Atlas	For All
Safety Goggles	Monthly	12	142	Karam, Udyogi, 3M, Venus	For All
Dust/ Pitch Fume Mask	Weekly	48	142	3M, Venus,	For All
Mouth Piece + Cartridge	Quarterly	4	30	3M, Venus	
Hand Gloves - Nitril	Weekly	48	142	Atlas, Udyogi, Mallcom	For All
Hand Gloves - Leather	Monthly	12	50	Atlas, Udyogi, Mallcom	
Hand Gloves - Heat Resistance	Weekly	48	40	Atlas, Udyogi, Mallcom	
Hand Gloves - Electrical	Quarterly	4	45	Atlas, Udyogi, Mallcom	
Earplug	Monthly	12	142	3M, Venus	For All
Ear Muff	Quarterly			3M, Venus	For Utilities technicians & those who are doing drilling through jack hammer
		4	20		
Leather Apron for welder	Quarterly	4	13	Atlas, Udyogi	For welders
Leather Leg & hand guard	Quarterly	4	13	Atlas, Udyogi	For welders
Face Shield	Quarterly			Udyogi, Karam (ISI)	For Gas cutters, welders, technician working near pots
		4	40		
Safety Harness	Half Yearly			Karam, Udyogi	For technicians working at height / Crane maintenance crew
		2	40		
Reflective Jacket	Half Yearly	2	142	VIZ-WEAR, Karam	For all, With Company logo
Arc Suit, LT	Yearly		6	Survive Arc, Karam	6 suits, one time
Gumboot	Yearly	2	40		
Uniform	Yearly	1	142		

Rain Coat	Yearly	0.5	142		
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EXTRA REQUIREMNT DEPARTMENT WISE (FIFO).

GAP

1	Belt change and patching
2	bucket elevator REPLACEMENT/WINCH MACHINE
3	Fabrication jobs
4	De-dusting Maintenance/ filter bag changing/ line jamming cleaning
5	Earth pit cleaning, treatment(if required) & testing along with board updating in every 6 months
6	Lighting work
7	Heavy Erection jobs

BAKE OVEN

1	Rail alignment 4000 meter per year
2	Bags replacement 8000 nos per year
3	Structure bolt tightening 10000 no per year
4	Fabrication work below 3 meter 150 tonne and above 3 meter 100 tonne
5	Motor repair as on actual basis up to 6 lakhs
6	emergency machining job as on actual basis up to 3 lakhs
7	Earth pit cleaning, treatment(if required) & testing along with board updating in every 6 months
8	Lighting work
9	Stacking crane Panel repair with lock replacement

RODDING

1	Belt conveyor replacement work
2	BUCKET ELEVATOR BELT & BUCKET REPLAC
3	BE INSPECTION DOORS BOLT TIGHTENING
4	P&F LOOP TRACK BOLT TIGHTENING
5	BUCKET ELEVATORS BUCKET BOLT TIGHTENIN
6	Dedusting bag filter replacement

7	AGM mill structural bolt tightening
8	AGM Rotary break bolt tightening
9	Nut bolt Tightening
10	Lighting work
11	Earth pit cleaning, treatment(if required) & testing along with board updating in every 6 months
12	Furnace replacement/Repairing.

Supervisor may have to deal in SAP IN REPAIRING /ANALYSING MAINTAINENCE ACTIVITIES.
PORTABLE LIGHT/PORTABLE DRILL MACHINE/PORTABLE GRIDING MACHINE/IMPACT WRINCH.ALL
ARE CORDLESS.
SINGLE PHASE WELDING MACHINE: 5
REQUIREMNT OF STORE OPENING IN 2 SHIFT.
MISSLENEOUS FABRICATION CONTRACT TO BE DONE ON EMERGENCY BASIS.
2 PICK UP
1 HYDRA IN G-SHIFT.

CONTRACT PERIOD – 6 to 12 Months

SCHEDULE I : STANDARD TERMS AND CONDITIONS

1. DEFINITIONS

1.1. In the Agreement, the following words and expressions shall, unless the context otherwise requires, have the following meanings:

“Affiliate” shall mean with respect to any person, any other person that, directly or indirectly, controls, is controlled by or is under common control of such specified person. For the purposes of this definition, “control” means the direct or indirect beneficial ownership of more than fifty percent (50%) of the issued share capital, stock or other participating interest or the legal power to direct or cause the direction of the general management of the company, partnership or other person in question, and “controlled” shall be construed accordingly;

“Agreement” shall mean the Agreement between the Company and the Service Provider to which this Schedule is attached.“Fees” shall mean the prices and/or rates payable by the Company in respect of the Services and/or as specified in the relevant Purchase Order.

“Purchase Order” shall mean the document recording the specific Services to be carried out under this Agreement, from time to time.

1.2. Unless otherwise stated, any and all references in the Agreement to Clauses are references to the Clauses of the Agreement.

1.3. The headings in the Agreement are used for convenience only and shall not govern or affect the interpretation of the Agreement.

1.4. Words denoting the singular shall include the plural and vice versa, where the context requires.

1.5. Except as expressly identified, any reference to statute, statutory provision or statutory instrument shall include any re-enactment or amendment thereof for the time being in force.

1.6. Unless expressly stated otherwise, all references to days, weeks, months and years shall mean calendar days, weeks, months and years

2. SCOPE OF CONTRACT

2.1. The terms and conditions of the Agreement shall apply from the Effective Date and shall remain valid for the Term unless this Agreement is terminated earlier by the Company in accordance with Clause 10 below (Standard Terms and Conditions).

2.2. Subject to the provisions of this Agreement, the Parties agree that upon request of the Company in terms hereof, the Service Provider shall perform the Services at such locations and for such periods as may be agreed with the Company.

2.3. From time to time, the Company may issue a Purchase Order to the Service Provider. In such case, the terms and conditions of this Agreement shall apply to each such Purchase Order as if repeated in total.

2.4. The Service Provider shall commence the Services on the scheduled commencement date stated under this Agreement or in the relevant Purchase Order and shall continue such Services for the Term or the duration of the Purchase Order as applicable unless terminated earlier in accordance with terms and conditions hereunder. Each Purchase Order is subject to agreement on a case by case basis.

3. SERVICES

3.1. The Service Provider shall perform the Services with all due skill, care and diligence in a safe, competent and timely manner and in accordance with the requirements of the Agreement and/or the relevant Purchase Order. If Company notifies the Service Provider of any defect in the performance of the Services, the Service Provider shall rectify such defect at its own expense.

3.2. Except to the extent that it may be legally or physically impossible, the Service Provider shall comply with the Company's instructions and directions in all matters relating to the Services consistent with the provisions hereunder.

3.3. The Service Provider shall agree with the Company in the relevant Purchase Order from time to time as regards the personnel who will perform the Services and shall:

(a) only provide such personnel who possess appropriate experience, skills and qualifications necessary for the Services to be performed in accordance with this Agreement;

(b) not remove or replace such personnel without the prior written consent of the Company(not to be unreasonably withheld); and

(c) nominate a senior manager or director of the Service Provider to have overall responsibility for the provision of the Services in terms stated under this Agreement and/or the relevant Purchase Order, which person shall attend any meetings with the Company on reasonable prior notice.

3.4. The Company shall be entitled to request the Service Provider to replace any of its personnel providing the Services, where in the Company's reasonable opinion such person is incapable and or unsuitable for performing the Services required by this Agreement. The Service Provider shall promptly replace such person at no additional cost to the Company.

3.5. Without prejudice to any other rights of the Company under the Agreement or at law, if the Service Provider fails to perform the Services in accordance with the provisions of this Agreement, the Company may use alternative means to perform the Services and the Service Provider shall be liable for any additional cost incurred by the Company in using such alternate means.

3.6. The Service Provider hereby represents and warrants that it has all corporate authorisations and all other approvals, statutory, regulatory or other consents, licenses, waivers or exemptions required to enter into and perform its obligations under the Contract and is not restrained, enjoined or otherwise prohibited or made illegal by any applicable law, from executing and performing this Contract.

4. FEES

4.1. The Company shall pay for the Services performed in accordance with the prices as per Attachment 2 to Schedule 1 and/or rates specified in the relevant Purchase Order.

4.2. In case of contingency assignments, the agreed fees for such onetime Services shall be payable on completion of the relevant assignment as per the terms agreed under this Agreement and/or the relevant Purchase Order.

5. SERVICE PROVIDER'S GENERAL OBLIGATIONS

5.1. The Service Provider shall, and the Service Provider shall ensure that its employees and representatives shall, in performing its obligations under this Agreement, comply in all respects with all relevant laws, statutes, regulations and orders for the time being in force.

5.2. Where any of the Service Provider's employees or representatives is present at any of the Company's premises for the purposes of this Agreement, the Service Provider shall at all times remain responsible for the conduct and safety of such employee or representative.

5.3. The Service Provider shall not, in performing its obligations under this Agreement, hold itself out or permit any person to hold it out as being authorised to bind the Company in any way and will not commit any act which might reasonably create the impression that it is so authorised.

5.4. The Service Provider shall ensure that it has in place and maintains in place for the duration of this Agreement sufficient insurance to comply with all applicable laws and to cover its potential liabilities under this Agreement and shall provide evidence of such insurances to the Company on request. The Service Provider undertakes that such insurances shall contain waivers of any rights of recourse including, in particular, subrogation rights against the Company arising out of or in connection with the performance of this Contract to the extent of liabilities assumed by the Service Provider hereunder;

5.5. Notwithstanding the provision of the information by the Company, the Service Provider shall be deemed to have satisfied itself in respect of all relevant matters pertaining to the Services, including, but not limited to, the Scope of Work, the nature of the Services, access to the site, local facilities, climatic, sea, other water and weather conditions, working hygiene and working environment conditions and/or all other matters which may affect the performance of the Services. Any failure by the Service Provider to take into account any of the aforementioned matters shall not relieve or excuse the Service Provider from any of its responsibilities, liabilities or obligations hereunder or entitle the Service Provider to any extra payment.

5.6. The Service Provider may not subcontract any of its obligations under this Agreement without the prior written consent of the Company. The Service Provider shall not be relieved from any of its obligations or liabilities under the Agreement by virtue of any subcontract and the Service Provider shall be responsible for all Services, acts, defaults or omissions of its subcontractors (and its or their employees and consultants) as though they were the services, acts, defaults or omissions of the Service Provider.

5.7. In performing the Services, the Service Provider shall:

(a) give preference to the purchase and use of goods manufactured, produced or supplied in India provided that such goods are available on terms equal or better than imported goods with respect to the timing of delivery, quality, quantity required, price and other terms;

(b) subject to Clause 5.5, employ Indian subcontractors having the required skills or expertise to the maximum extent possible insofar as their services are available on comparable standards with those obtained elsewhere and at competitive prices and on competitive terms, provided that where no such subcontractors are available, preference shall be given to non-Indian subcontractors who utilise Indian goods to the maximum extent possible, subject to the proviso in Clause 5.6 (a) above; and

(c) Subject to Clause 5.5, co-operate with and assist Indian companies as subcontractors to enable them to develop skills and technology to service the petroleum industry.

5.8. The Service Provider shall maintain proper and accurate records in relation to the Services and shall provide copies of the same to the Company on request. The Company (or its appointed representative) shall have the right to audit the relevant books and accounts of the Service Provider in relation to any reimbursable charges paid for by the Company under this Agreement. Such audit right shall survive for a period of 2 (two) years following the expiry or termination of the Agreement. Any incorrect payments identified by such audit shall be adjusted between the Parties as appropriate.

INTELLECTUAL PROPOERTY RIGHTS-

Notwithstanding anything to the contrary contained in this Agreement, it is hereby agreed between the Parties that any Intellectual Property Rights arising out of, from or in relation to this Agreement including those created during the course of performance of the Agreement, shall belong to and vest in the Company and in this regard, the Service Provider hereby waives any right, title or interest in the same.

For the purposes of this clause Intellectual Property Rights includes but is not limited to all vested, contingent and future intellectual property rights including: (i) all inventions, compounds, compositions, substances, methods, processes, techniques, know-how, technology, data, information, discoveries, and materials including ideas, concepts, formulas, assays, practices, software, devices, procedures, designs, constructs, plans, applications, research, regulatory information, manufacturing process, scale-up and other technical data, reports, documentation and samples, including chemical, physical, analytical, safety, manufacturing and quality control data and information, as well as study designs and protocols; and any patents, trade secrets, confidential information, proprietary processes, or industrial rights directly or indirectly deriving therefrom; (ii) all trademarks, service marks, copyrights, designs, trade styles, logos, trade dress, and corporate names, including all goodwill associated therewith; and (iii) any work of authorship, regardless of copy rightability, all compilations and all copyrights and includes also includes any inventions, made, to be made, discovered, conceived or reduced to practice whether or not patentable.

6. THIRD PARTY CLAIMS AND LIMITATION OF LIABILITY

6.1. The Service Provider shall be liable for and shall defend, indemnify and hold the Company harmless from and against any and all claims, liabilities, costs, damages and expenses (including court costs and legal fees) in connection with:

(a) any claim made by any third party (including, but not limited to, any claim made by any governmental or statutory authority) against the Company arising out of or in connection with the performance by the Service Provider of its obligations under this Agreement.

(b) any infringement (whether actual or alleged) of any patent or other intellectual property right arising out of or in connection with the performance of this Agreement by the Service Provider.

6.2. Notwithstanding anything to the contrary in this Agreement, in no event shall either Party be liable to the other, whether arising under Agreement, tort (including negligence), strict liability or otherwise, for any indirect, consequential, special, punitive, exemplary or incidental loss or damages of any nature arising at any time from any cause whatsoever.

7. VARIATIONS

7.1. At any time during this Agreement, the Company may request the Service Provider to vary, amend or otherwise alter the Services (a "Variation Request").

7.2. Upon the receipt of a request from the Company pursuant to Clause 7.1, the Service Provider shall, within 7 days, notify the Company of the effect of the Variation Request on the Fees and/or other terms under this Agreement and/or the relevant Order.

7.3. If following receipt of the Service Provider's response pursuant to Clause 7.2, the Parties are in agreement on the Variation Request and the adjustments to be made to the Services under this Agreement and/or the relevant Purchase Order, the Parties shall execute a variation order (a "Variation Order") to reflect such agreement.

7.4. The Services shall not be varied, amended or otherwise altered and/or the Fees shall not be adjusted until such time as a Variation Order is executed by both Parties.

8. PAYMENT

8.1. In addition to any requirements set out in the relevant Purchase Order, if any, each invoices shall:

- (a) be in duplicate;
- (b) bear the Contract Number stated on the cover sheet to the Agreement;
- (c) state the name, e-mail address, mobile telephone number of the Company's Representative; and
- (d) be accompanied by supporting evidence and itemised in accordance with the Company's requirements.

Invoices to the Company shall be sent to the address set out in the Agreement. Service Provider must ensure that all invoices for services performed or goods delivered are submitted to the Company within 90 days.

Specifically, the Service Provider shall submit the following information/ documents to the Company unless specifically exempted by the Company representative in writing:

- (i) Latest tax residency certificate of the Service Provider as issued by the tax / revenue authorities of Service Provider's country of residence, stating specifically that the

Service Provider is tax resident of country as mentioned in such tax residence certificate.

(ii) Copy of the Permanent Account Number ('PAN') card issued by the Indian Tax authorities,

(iii) Copy of registration certificates under applicable Indian tax/other laws including but not limited to GST, Excise, import export code etc., as applicable.

(iv) Copy of the withholding tax certificate issued by Indian tax authorities, enabling the Company to make payments to the Service Provider after deduction of such taxes as per prescribed rate in the withholding tax certificate.

8.2. The Company shall make payment of a correct invoice within 45 days of receipt to the Service Provider's nominated bank account. Any invoice not complying with the provisions of this Agreement will be returned by the Company and the Service Provider shall submit a rectifying invoice.

8.3. The Company may dispute any amount on an invoice and withhold the disputed amount provided that: (a) the Company makes payment of any undisputed portion of the invoice and notifies the Service Provider of the disputed amount within 45 days of receipt of the relevant invoice;

(b) if the dispute is resolved in favour of the Service Provider, the Company shall pay the disputed amount within fifteen (15) days of the date of the resolution of the dispute or forty- five (45) days of receipt of the invoice, whichever is later.

If the dispute is resolved in favour of the Company, the Service Provider shall forthwith issue a credit note for the disputed amount.

8.4. The Company shall be entitled to set-off / adjust / deduct from any invoice under this Agreement, any payment due from the Service Provider to the Company or any of its Affiliates.

9. TAXES

9.1. Definitions

For the purposes of this Clause 9 (Taxation):

(a) "Tax" or "Taxes" means taxes, levies, duties, fees, charges and contributions as amended from time to time and any interest or penalties thereon;

(b) "Government Authority" or "Government Authorities" means any local or national government or authority of any country, competent to levy any Tax;

(c) "Goods & Services Tax" or "GST" shall include Central Goods & Service Tax ("CGST"), State Goods & Service Tax ("SGST"), Integrated Goods & Service Tax ("IGST"), Union Territory Goods & Service Tax ("UTGST") & GST Compensation Cess.

9.2. Person Responsible for payment of Taxes

9.2.1. General

Except as may be expressed in Vedanta Lanjigarhy set out in this Contract, the Service Provider shall be responsible for:

(a) the payment of all Taxes now or hereafter levied or imposed on the Service Provider or its subcontractors or on the personnel of the Service Provider or its subcontractors by any Government Authority in respect of any wages, salaries and other remuneration paid directly or indirectly to persons engaged or employed by the Service Provider or its subcontractors (hereinafter referred to as "Personal Income tax");

(b) the payment of all Taxes now or hereafter levied or imposed by any Government Authority on the actual/assumed profits and gains made by the Service Provider or its subcontractors (hereinafter referred to as "Corporate Income tax");

(c) the payment of all GST now or hereafter levied or imposed by any Government Authority on the supply of goods or services, if any, provided to the Company by the Service Provider or its subcontractors;

(d) the payment of all Taxes now or hereafter levied or imposed by any Government Authority on the mentioned goods only, namely, petroleum crude, HSD, Petrol, Natural Gas & ATF, if any, sold to the Company by the Service Provider or its subcontractors (hereinafter referred to as "Sales tax/VAT/CST");

(e) the payment of all Taxes now or hereafter levied or imposed by any Government Authority on the mentioned goods only, namely, petroleum crude, HSD, Petrol, Natural Gas & ATF, if any, manufactured by the Service Provider or its subcontractors for sale to the Company (hereinafter referred to as "Excise Duty"); and

(f) the payment of any other Taxes now or hereafter levied or imposed by any Government Authority on the Service Provider or its subcontractors as a result of the performance of this Agreement.

9.2.2. Exception to General:

Prior to commencing the Services, the Service Provider shall notify the Company whether or not it has Fixed Establishment in India. If the Service Provider notifies the Company that it does not have Fixed Establishment in India, then, any Indian GST chargeable on the services provided by the Service Provider under this Agreement shall be paid by the Company directly to the relevant Government Authority.

9.2.3. Reimbursement of Taxes to the Service Provider

It is acknowledged that responsibility for payment of Taxes to the Government Authority will be governed as per clause 9.2.1 and 9.2.2, the Service Provider will be reimbursed only for such Taxes which will be agreed to be reimbursed in the Compensation Schedule or any of the Purchase Order(s) issued under the Agreement.

9.2.4. Pricing

The Parties agree that details of Taxes included in, or excluded from, the Service Provider's prices and/or rates shall be as stated in the Compensation Schedule to the Agreement and nothing in this Clause 9 shall be construed to affect or prejudice such details as stated in the Compensation Schedule.

9.3. Withholding taxes and Withholding certificates

9.3.1. The Company shall, at the time of its payments due to the Service Provider, withhold the necessary taxes at such rate as is required by any Government Authority, unless and to the extent that the Service Provider shall produce to the Company any certificate issued by a Government Authority (having authority to issue such certificate) entitling the Service Provider to receive the payments under the Agreement for a prescribed period without deduction of any tax or deduction at a lower rate.

9.3.2. The Company shall provide the necessary withholding tax certificates to the Service Provider within the time stipulated by the relevant law to enable the Service Provider to file the same with the Government Authority as a proof of payment of such taxes.

9.4. Person Responsible for filing of returns / information to Government Authorities

9.4.1. The Service Provider shall be responsible for filing all necessary Tax returns (including, without limitation, returns for Corporate Income tax, Personal Income tax, GST, Sales tax and Excise Duty) with the relevant Government Authorities in accordance with all applicable statutory requirements and shall be responsible for providing all information requested by such Government Authorities

9.4.2. The Service Provider shall also ensure that its subcontractors file such returns as stipulated by the relevant Government Authorities and furnish such information as requested for by the relevant Government Authorities.

9.4.3. The Company, with respect to the tax withheld from the Service Provider in accordance with Clause 9.3 (Withholding Tax and Withholding Tax Certificates), shall be responsible for filing the withholding tax returns with the relevant Government Authorities in accordance with applicable statutory requirements.

9.5. Company's rights, if treated as representative assessee by Government Authorities
In certain situations, a Government Authority may treat the Company as the representative assessee of the Service Provider and/or its subcontractors and recover the Taxes due to the Government Authority by the Service Provider or its subcontractors from the Company. In such situations, the Company shall have the following rights:

(a) The Company shall be entitled to recover from the Service Provider, the Taxes paid on behalf of the Service Provider or its subcontractors (together with any costs and expenses incurred by the Company in connection therewith) or to retain the same out of any amounts to be paid to the Service Provider or its subcontractors that may be in its possession (whether due under this Agreement or otherwise) and shall pay only the balance, if any, to the Service Provider; and

(b) If the Company is required to furnish any details or documents in such capacity, the Company shall request the details or documents to be furnished to it by the Service Provider and the Service Provider shall immediately furnish the same to the Company. If the Service Provider fails to comply with the foregoing, any penalty/interest levied on the Company for non-filing or late filing of details or documents in this regard shall be recoverable from the Service Provider.

9.6. Indemnity

The Service Provider shall defend, indemnify and hold the Company Group harmless from and against any and all claims, liabilities, costs, damages and expenses (including court costs and legal fees) in connection with any Taxes which may be levied or imposed on the Service Provider or its subcontractors by any Government Authority arising out of or in connection with the performance of this Agreement.

9.7. Changes in Law

If, after the date of execution of this Agreement, there is any change in law which results in a change in the rate of any Tax included in the Service Provider's prices or rates or the introduction of a new tax and such change results in an increase or decrease in the cost to the Service Provider of performing this Agreement then the Parties shall agree to a revision in pricing to reflect such change provided that:

(a) the Party requesting such revision shall promptly (and in any case prior to submission of the Service Provider's final invoice under this Agreement) notify the other Party that such change in law has arisen; and

(b) the Party requesting such revision shall provide the other Party with documentary proof of such change in cost to the reasonable satisfaction of the other Party; and

(c) the provisions of this Clause 9.7 shall not apply to changes in Personal Income tax or Corporate Income tax or to changes in non- Indian Taxes.

9.8. GST Compliances by Service Provider

9.8.1. Notwithstanding anything contained hereinabove, the Service Provider shall strictly and in a timely manner, adhere to and undertake all acts, omissions and compliances required under the applicable GST laws to ensure that the Company is able to avail the Input Tax Credit/set off/rebate/refund of the GST (along with cesses and surcharges, if relevant) as applicable on the Services or any supplies if applicable

made by the Service Provider under this Agreement to the fullest extent possible under law. In this regard, without limiting the generality of the foregoing obligation in any manner whatsoever, Company reserves the right to specify to the Service Provider, particulars including but not limited to the following:

- (a) whether Service Provider should charge IGST or CGST-plus-SGST;
- (b) GST registration number of the Company;
- (c) whether the Service Provider should be responsible to generate the E-Way Bill;
- (d) the format of invoices/credit and debit notes/advance receipt vouchers;
- (e) the requirement for maintenance of a 'GST compliance rating score' above a specified threshold; etc. and
- (f) the relevant timelines for such compliances based on the applicable GST laws.

9.8.2. The Service Provider acknowledges that any failure in the foregoing obligations (including undertaking the ones specifically instructed by the Company, if any) can cause significant losses to the Company in the form of loss of GST credit, statutory interest liability on such credit loss (under applicable GST laws) and adverse impact on the 'GST compliance rating score' and thus, undertakes to carry out this foregoing obligation with sincerity, due diligence and without any delay or demur.

9.8.3. The Parties agree that the Company reserves the right to reimburse the GST component on supplies received only when the corresponding credit has become available in the electronic credit ledger of the relevant GST registration of Company.

9.8.4. Without prejudice to any other indemnification obligation under this Agreement, the Service Provider agrees to, at all times, to hold harmless and indemnify Company from and against all claims, liabilities, expenses, proceedings, costs and losses that may be suffered or incurred by Company which may arise out of or in connection with any failure by the Service Provider to adhere to its obligations including but not limited to its obligations under clause 9.9.1 above. In this regard, the Service Provider also hereby indemnifies Company from any costs, claim or liability arising out of any claim or action or omission by any employee or consultant or agent or outsourced staff or subcontractor of the Service Provider.

9.9. Payment of royalty on minerals-

It shall be the sole liability of the contractor to pay all royalties due, as per the applicable Rules, as amended from time to time, in respect of the minerals / materials which are being bought and used for the purposes of execution of this contract. The contractor shall produce royalty clearance certificate from the competent authority as proof of payment of royalty. In no event shall any liability in this regard be put on the company. Any default with respect to payment of royalty or non-production of royalty clearance certificate on the part of the service provider/contractor would count as a breach of the terms and conditions in the contract and the company shall have the right to

immediately terminate the contract and to recover the outstanding amount of the royalty
along with interest from Service Provider / contractor.

10. TERMINATION

10.1. Either Party may, at any time and without cause, terminate all or part of this Agreement by giving no less than [30] days' prior written notice to the other Party. Provided that, if any Services under this Agreement, or any Purchase Order issued hereunder, have already been initiated and the work is in progress, then the Company shall have the right to cancel/ terminate all or any part of the Service under the Agreement or the relevant Purchase Order without cause and with immediate effect.

10.2. In addition, the Company may terminate all or part of this Agreement with immediate effect by written notice to the Service Provider if one of the following circumstances occurs:

(a) if the Service Provider breaches any provision of this Agreement, provided that where remediable, the Company has notified the Service Provider of such breach and the Service Provider has upon receipt of such notice, failed to immediately and thereafter continuously proceed to remedy such breach to the Company's reasonable satisfaction; or

(b) if the Service Provider becomes insolvent or bankrupt or makes a composition or arrangements with its creditors; or

(c) if the Service Provider is wound up or a resolution for its winding up is made (other than for the purposes of an amalgamation or reconstruction whilst solvent); or

(d) if the Service Provider has a liquidator, provisional liquidator, receiver, administrator or an administrative receiver or manager of its business or undertaking appointed; or

(e) if the force majeure under Clause 14 continues for more than thirty (30) days.

10.3. In the event of cancellation/ termination of all or part of this Agreement for any reason, the Company's sole liability to the Service Provider in respect of such cancellation/ termination shall be to make payment of the Fees properly due under this Agreement up to the date of termination.

10.4. The expiry or termination of this Agreement shall be without prejudice to the rights and obligations of the Parties up to and including the date of expiry or termination and shall not affect or prejudice any term of this Agreement that is expressed to continue in force after, such expiry or termination.

11. CONFIDENTIALITY

11.1. The Company and the Service Provider shall keep any information which either Party learns about or receives from the other pursuant to this Agreement in strict confidence and will not disclose the same to any third party without the prior written consent of the other Party. The foregoing restriction shall not apply in respect of information which the Company requires to disclose for the purpose of performing Services or which was in the possession of the disclosing party prior to this Agreement or which is required to be disclosed by any law, rule or regulation of any governmental agency or court order or information which was already within the public domain or which was developed by either Party, independently of and without reference to the Confidential Information and the receiving party has evidence of such independent development. The provisions of this Clause shall survive the expiry of termination of the Agreement for a period of 3 years.

11.2. The Service Provider shall not disclose such Information(s) to any potential subcontractors until such time and in manner agreed by Company in writing. The decision of the Company will be final and binding on the Service Provider in this regard.

11.3. The Service Provider shall use best endeavours to prevent the authorised disclosure of the all information hereunder. Where any information is required to be disclosed under Clause 11.1, the Service Provider shall give prompt notice to the Company and shall use its best commercial endeavours to limit the extent of any such disclosure.

12. NOTICES

12.1. Any notice or other communication required or given under this Agreement shall be delivered in writing either by hand or by courier, registered mail with acknowledgment due, or fax to the address of the relevant Party set out in the Agreement (or such other address as may be notified by the relevant Party from time to time).

12.2. If a notice is delivered by hand or courier during normal business hours of the intended recipient it shall be deemed to have been received at the time of delivery otherwise on the next business day of the recipient. A notice sent by facsimile shall be deemed to have been received at the time when the sender's facsimile machine acknowledges transmission provided however that if the time of acknowledgement of transmission is after 5.00pm on a business day of the recipient it shall be deemed to have been received on the next business day of the recipient.

12.3. All notices or other communications between the Parties shall be in the English language.

13. GENERAL LEGAL PROVISIONS

13.1 The Company shall be entitled to assign this Agreement to an affiliate/subsidiary or on giving written notice to the Service Provider. Save as aforesaid, the Service Provider shall not be entitled to assign this Agreement or any part or any benefit or interest in or under it without the prior written approval of the Company which the Company may at its sole discretion accept or refuse.

13.2 This Agreement shall not be amended or modified except by mutual agreement in writing between the Parties.

13.3 This Agreement and the all Schedules and Attachments annexed hereto contains the whole agreement between the Parties relating to the subject matter of this Agreement, and supersedes any previous understandings, commitments, agreements or representations in respect of the subject matter. No terms or conditions endorsed upon, delivered or contained in Service Provider's quotation, acknowledgement or acceptance of the Agreement, specification or similar document will form part of the Agreement and Service Provider waives any right it otherwise might have to rely on such terms and conditions. No variation to any terms or conditions of this Agreement shall be valid unless expre Vedanta Lanjigarh agreed in writing by both parties.

13.4. No delay or failure on the part of either Party to enforce from time to time all or any part of the terms and conditions of this Agreement shall be interpreted as a waiver of such terms and conditions.

13.5. Nothing in this Agreement shall, or shall be deemed to, create an agency, a partnership or a relationship of employer and employee between the Parties. For the avoidance of doubt, nothing in this Agreement shall prevent or restrict the Company from entering into parallel Agreements with other parties for services similar or related to the Services.

13.6. Unless otherwise specifically stated, both the Company and the Service Provider shall retain all rights and remedies, both under the Agreement and at law, which either may have against the other. Each Party represents and warrants to the other that (i) it has been duly registered and organized and is a validly existing legal entity under the laws of the jurisdiction of its incorporation and that it has full power, authority and capacity to enter into and to carry out its obligations under the Agreement and (ii) by performing the Services it will not be in breach of any other Agreement, agreement, license or permit or in violation of any law and (iii) it shall at all times act in accordance with applicable laws and regulations.

13.7. The Service Provider shall comply with all safety instructions of the Company consistent with the provisions of the Agreement including, without limitation, the safety instructions of any of the Company's other Service Providers. Such instructions shall, if the Service Provider so requires, be confirmed in writing by the Company's Representative, so far as practicable.

13.8. The Service Provider shall not be entitled, without the written consent of Company, to make any news release or public announcement concerning the subject matter of the Agreement or to refer to the Company, use its name or logo, in print or electronic forms for marketing or reference purposes.]

13.9. If any provision of this Agreement is prohibited, invalid or unenforceable in any jurisdiction, that provision will, as to that jurisdiction, be ineffective to the extent of the prohibition, invalidity or unenforceability without invalidating the remaining provisions of this Agreement or affecting the validity or enforceability of that provision in any

other jurisdiction, unless it materially alters the nature or material terms of this Agreement.

13.10. The provisions of this Agreement are solely for the benefit of the Parties. No other person are intended to have, nor will have, any rights whatsoever, under this Agreement, whether for injury, loss or damage to person(s) or property or for economic loss.

13.11. This Agreement may be executed in one or more counterparts, each of which will be deemed to be an original copy of this Agreement and all of which, when taken together, will constitute one and the same instrument.

14. FORCE MAJEURE

14.1. Neither the Company nor the Service Provider shall be responsible for any failure to fulfil any term or condition of the Agreement if and to the extent that fulfilment has been delayed or temporarily prevented by a force majeure occurrence such as any (a) Act of God, (b) fire, flood, earthquake, (c) war, riot, insurrection and civil commotion, mobilization or military, call up of a comparable scope, which has been notified in accordance with this Clause 14 and which is beyond the reasonable commercial control and without the fault or negligence of the party affected and which, by the exercise of reasonable diligence, the said party is unable to provide against. For the avoidance of doubt, any strikes caused by the Service Provider (which includes its subcontractors) shall not be considered as a force majeure occurrence.

14.2. In the event of a force majeure occurrence, the party that is or may be delayed in performing the Agreement shall notify the other party without delay giving the full particulars thereof and shall use reasonable endeavours to remedy the situation without delay.

14.3. Save as otherwise expressed in the Agreement, no payments of whatever nature shall be made in respect of any period where Services are not carried out as a result of a force majeure occurrence.

14.4. Following notification of a force majeure occurrence in accordance with Clause 14.2, the Parties shall meet without delay with a view to agreeing a mutually acceptable course of action to minimise any effects of such occurrence.

15. BUSINESS ETHICS

15.1 The Service Provider shall declare any conflicts of interest with the Company including relationship or financial interest of any nature whatsoever with employees, managers, other suppliers, vendors or stakeholders of the Company.

15.2 The Service Provider shall not use the services of any of the employees of the Company, directly or indirectly or enter into any sort of monetary transaction with the employees of the Company. The Service Provider undertakes that he has not given,

offered or promised to give directly or indirectly any bribes, commission, gift, consideration, reward, or inducement to any of the employees of the Company or their agent or relatives for showing or agreeing to show favor or disfavor to any person in relation to this Agreement or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of the aforesaid undertaking, by the Service Provider, or his partners, agent or servant or any one authorized by him or acting on his behalf.

15.3 The Service Provider agrees to comply with the provisions of the Company's Supplier Code of Conduct which includes Anti-bribery and Corruption requirements (a copy of which is also available at http://www.vedantalimited.com/media/104182/supplier_code_of_conduct_-_december_2016.pdf) and the Company's Human Rights Policy (a copy of which is available at http://www.vedantalimited.com/media/80325/vedanta_human_rights_policy.pdf) including the Modern Slavery Act 2015 and in case of breach thereof, the same shall be treated as a breach of this Agreement.

OR

15.3 The Service Provider agrees to comply with the provisions of the Company's Supplier Code of Conduct which includes Anti-Bribery and Corruption requirements (a copy of which is also available at http://www.vedantalimited.com/media/104182/supplier_code_of_conduct_-_december_2016.pdf) and the Company's Human Rights Policy (a copy of which is available at http://www.vedantalimited.com/media/80325/vedanta_human_rights_policy.pdf) including the Modern Slavery Act and in case of breach thereof, the same shall be treated as a breach of this Agreement.

The Service Provider acknowledges and agrees that the Company is subject to the Modern Slavery Act 2015. In performing its obligations under the Agreement, the Service Provider represents and warrants that neither the Service Provider nor any of its employees performing the Services:

- (a) have been convicted of any offence involving slavery and human trafficking;
- (b) have been or are the subject of any investigation, inquiry or enforcement proceedings by any governmental, administrative or regulatory body regarding any offence or alleged offence of or in connection with slavery and human trafficking;
- (c) shall indulge in performance of any activity of slavery or human trafficking;

During the course of this Agreement, the Service Provider shall promptly notify the Company as soon as it becomes aware of:

- i. an act which may lead to the Company being in any breach, or potential breach, of the Modern Slavery Act 2015; or
- ii. any actual or suspected act of slavery or human trafficking in connection with this Agreement.

15.4 The Service Provider shall maintain records and provide to the Company upon request such records and evidences, as the Company may reasonably require, confirming the Service Provider's compliance with the obligations under this clause.

15.5 The Company shall have a right to initiate "audit proceedings" against the Service Provider to verify compliance with the requirements under this clause. Such audit may be carried out by Company or by a reputed agency to be appointed by Company at the sole discretion of Company. The Service Provider shall extend full cooperation for smooth completion of the audit mentioned herein.

15.6 Notwithstanding anything in this agreement, Company shall have right to terminate the Agreement forthwith and recover from the Service Provider, the amount of any loss arising from such termination in case, it is found that the Service Provider has failed to comply with requirements under this clause including any corrupt practices. A decision of the Company or his nominee to this effect that a breach of the undertaking had been committed shall be final and binding on the Service Provider.

15.7 If at any time during execution or performance of this Agreement the Service Provider becomes aware of any unethical practices or is faced with any undue demand, request for gratification or favor from any employee of the Company or a person connection with such employee, the Service Provider must report the same immediately to the Group Head- Management Assurance at the following address:
Group Head – Management Assurance, Vedanta, 75 Nehru Road
Vile Parle (E), Mumbai 400 099
'Complaints' can also be sent to the designated e- mail id:
Balco.whistleblower@vedanta.co.in

16. GOVERNING LAW AND DISPUTE RESOLUTION

16.1 This Agreement shall be governed by, construed and enforced in accordance with the laws of Korba, Chhattisgarh [India].

16.2 Any dispute or difference whatsoever arising between the parties out of or relating to the interpretation, meaning, scope, operation or effect of this Agreement or the existence, validity, breach or anticipated breach thereof or determination and enforcement of respective rights, obligations and liabilities of the parties thereto shall be amicably settled by way of mediation. If the dispute is not conclusively settled within a period of twenty-one (21) days from the date of commencement of mediation or such further period as the parties shall agree in writing, the dispute shall be referred to and finally resolved by arbitration under the Arbitration and Conciliation Act, 1996 (as amended from time to time), which are deemed to be incorporated by reference into this clause. The arbitration shall be conducted as follows:

(i) A sole arbitrator shall be appointed in case the value of claim under dispute is less than ₹ 50,00,000 (Rupees Five Million Only) and in any other event by a forum of three arbitrators with one arbitrator nominated by each Party and the presiding arbitrator selected by the nominated arbitrators.

(ii) The language of the mediation and arbitration proceedings shall be English. The seat of arbitration shall be Korba, Chhattisgarh [India].

(iii) The award made in pursuance thereof shall be final and binding on the parties. The right to arbitrate Disputes under this Agreement shall survive the expiry or termination of the Agreement.

OTHER TERMS & CONDITIONS1

17. STATUTORY COMPLIANCES & CLEARANCES

a) The Service Provider shall be solely liable for Statutory Compliance in respect of all applicable laws of land existing as on the date of the Agreement as well as those notified by the Central/ State Government from time to time including but not limited to compliance of provisions of Contract Labour (Regulation and Abolition) Act, 1970, Employees State Insurance Act, 1948, Employees Provident Funds and Miscellaneous Provisions Act, 1952, Minimum Wages Act, 1948, Payment of Bonus Act, 1965, Payment of Gratuity Act, 1972, Payment of Wages Act, 1936, Employees Compensation Act, 1923, Interstate Migrant Workmen (regulation of Employment and Conditions of Service) Act, 1979 etc. in respect of all employees employed by the Service Provider, directly or indirectly or through any sub-contractor. The Service Provider shall be solely responsible for maintenance of records and filing of various forms/ returns prescribed under all applicable Central/State Labour laws and Regulations/Rules made thereunder in respect of Workmen employed or engaged by it.

b) The Company shall be entitled to deduct/adjust from amount payable to the Service Provider, any dues, wages, compensation on accident or death, expenses incurred for benefits, provision for amenities and amounts paid or payable by the Company in compliance with the applicable laws, in respect of workmen/employees of the Service Provider.

c) The Service Provider shall ensure compliance under the Safety Provisions of the applicable State/ Central laws and shall ensure that its employees are trained, competent, physically and mentally fit for the assignment and are not suffering from any chronic or contagious disease.

The Service Provider is responsible for the safety and security of all men and materials employed by him. The Service Provider shall provide all safety equipment (such as tools & tackles, aprons, gloves, safety shoes etc.) to all Service Provider team members. The Service Provider shall provide adequate coverage against any accident met by the Service Provider's team during the period of the Agreement. The Service Provider shall indemnify the Company and its officers against any claim,

dispute and litigations arising in this regard. Further no separate consideration shall be payable by the Company for the same.

The Service Provider shall take all the required clearances under the applicable laws which includes but is not limited to Environment Protection Act, CG Land Revenue Code, CG Municipal Corporation Act etc. for successful discharge of all its obligations under the scope of work.

18. SUSPENSION

No compensation for alteration of schedule or suspension of work.: If at any time after the award the Agreement, the Company shall for any reason whatsoever not require the whole work done or part thereof as specified in the acceptance of the contract , the Company shall give notice in writing of the same to the Service Provider and the Service Provider shall not be entitled to any compensation and / or damage of any kind whatsoever, nor the contractor will be entitled to any claim for compensation for re scheduling of delivery period.

19.RELATIONSHIP BETWEEN THE SERVICE PROVIDER AND THE COMPANY

Personnel engaged/employed by the Service Provider shall be deemed employees of the Service Provider and will not for any purpose be considered employees or agents of the Company. Except as may otherwise be provided in this Contract, each Party shall be solely responsible for the supervision, daily direction, and control of its employees and payment of their salaries/wages, benefits, provision for amenities, compensation, disability benefits and the like.

20. SERVICE PROVIDER'S OBLIGATIONS/LIABILITIES

a) The sole responsibility of the performance of the sub-contractor rests with the Service Provider and the Service Provider shall be liable for any work done by its sub-contractor, agents, employees or officials. However, the Company reserves the right to claim damages and enforce rights on the sub- contractor solely or jointly with the Service Provider but such enforcement will not absolve the Service Provider from any liability.

b) The Service Provider shall advise the Company regarding, compliances, if any to be made by the Company.

c) The Company shall, without prejudice to its other rights be entitled to deduct/ adjust from any dues payable to the Service Provider or any security, all amount(s) which the Company may be liable to pay, incur or sustain as a result of the performance or non-performance, observance or non-observance of any of the terms of this Agreement by the Service Provider

21. SERVICE PROVIDERS'S WARRANTIES & REPRESENTATIONS

a) The Service Provider hereby, warrants and represents that:

- b) The Services under this Contract shall be strictly in accordance with the agreed terms.
- c) The Services to be provided under this Contract shall not infringe any third party intellectual property rights.
- d) The Service Provider hereby represents to the Company that, as of the date of signing of the Agreement, the Service Provider has received no notification of any rightful patent infringement claim which would prejudice the Company's right to use or maintain the Plant.

22. PENALTY FOR VIOLATION OF SAFETY MEASURES:

In case of any violation of safety measures and or on noncompliance of safety PPE by the Service Provider or his employee (s) BALCO may penalise the Service Provider as follows:

Rs 500/- First time

Rs 1000/- Second time onwards

If Service Provider continues failing to provide the safety &/ or PPE the company reserves its right to terminate the Agreement.

At any point of time safety compliance will be checked by Company Safety department or Execution Department. The Service Provider shall immediately upon knowing of any accident, damage or losses, in which he is involved on the site, should inform the area-in-charge.

The Service Provider shall take all safety precautions and provide adequate supervision by competent persons in order to do the job safely and without damage to plant, personnel, equipment, and the environment.

23. DISCIPLINE AT WORK AREA:

The Service Provider has to maintain discipline at work area. He has to keep the area neat and clean after work is over. All the spares, waste material like oil grease etc. has to be kept at designated area and cleaned the work place after job is over.

In case, maintenance activities are found to be suffering due to non-performance by Service Provider's employees or job negligence, then suitable punitive action will be taken by Company for the same.

24. EMERGENCY:

The Service Provider shall ensure that its workers follow the following instructions:

1. Contact fire control room on telephone No. 5333, 5219,5393,2333,242033 and inform name, location and brief of the emergency. If telephone is not available, break the glass of nearest manual call point of fire alarm or use the nearby portable fire extinguisher if you know the operation of the extinguisher.
2. Rush to the location of Emergency and assess the situation Combat the Emergency with the help of the available people using fire hydrant and fire extinguisher.
3. Rush to nearby assembly point [displayed in the department] in case of an extreme emergency.
4. As soon as any Emergency call, the Fire control room operator will immediately ask the Turn out no.1 available at Fire Station plant-I to rush at the emergency spot.
5. He will simultaneously inform to Main Security Gate of respective plants.

25. OCCUPATIONAL HEALTH & SAFETY (OH & S):

The Service Provider shall be responsible to take all precautions to ensure safety of the labours / workers at work. The Service Provider will supply his labours / workers safety equipment as per rules. If you are bringing your own equipment to carryout of job inside the plant such equipment should be subject hazard identifications and risk assessment prior to commencing of work.

The persons engaged by the Service Provider shall be given appropriate awareness on OH&S, those personal who will carry out jobs affecting OH&S shall be properly trained and made competent for the job performed by them. During emergency situation which may be faced in the plant your personal should move to the emergency shelters. They should not spread any rumour. (An OH &S booklet is available in Safety Deptt and is required to be signed by the Service Provider agreeing to comply with the same.

26. DAMAGE TO COMPANY'S PROPERTY:

Any loss / damage to the Company due to negligence or wilful attitude of the Service Provider or its employees while execution of the Agreement shall be recovered from the Service Provider's pending bills.

27. VEDANTA SUSTAINABILITY CLAUSES

27.1 HEALTH, SAFETY AND ENVIRONMENT (HSE) SYSTEMS

Designation of Supervisor: The Service Provider shall specify one of its employee as the Site HSE Supervisor who shall be responsible for attending HSE matters at all levels at the site of work, including emergency response.

Attendance of Service Provider: The Service Provider shall ensure that its site HSE supervisor is present at the place of work and performs supervisory functions at all times whenever four or more workers of the Service Provider or its sub-Service Providers are present at the place of work.

Statutory Compliance: Service Provider shall identify, document and comply with all pertinent Health, Safety and Environment (HSE) laws and regulations, approvals, licenses and permits which are applicable to the services and conduct of activities.

Service Provider shall conduct internal inspections and record to ensure full implementation of requirements and compliance with the system at the site. Service Provider shall provide documentary evidence that it has complied with the system, on company's demand.

Service Provider Site management plan: The Service Provider shall comply with its submitted plan in the bid document on how to manage and improve the work site.

27.2 HAZARD AND RISK ASSESSMENT

Pre and post Job Safety assessments: Service Provider is responsible and accountable for ensuring effective procedures and assessment systems are in place to meet all HSE conditions.

Prior to the commencement of any operation/activity, Service Provider must undertake a hazard and risk assessment, such as a job safety analysis or job risk analysis including control and mitigation process. The risk assessment should cover the following aspects of workplace

1. General Safety and Environmental Management Procedures
2. Waste Disposal
3. Equipment Decommissioning
4. Water Discharges
5. Material Storage/Spills
6. Storm Water Management
7. Use of Asbestos, Lead, CFCs and other objectionable chemicals.
8. Hot working, gas welding , etc
9. All electrical works
10. Work at heights including scaffolding
11. Demolition

- 12. Construction work of any kind
- 13. Transport management
- 14. Tank cleaning or testing
- 15. Confined space, etc

27.3 AWARENESS, COMPETENCY AND BEHAVIOR

Awareness: Before commencement of any Services, Service Provider shall at its own expense ensure that Service Provider's Personnel have been given the necessary HSE training including training in hazard identification, risk analysis, safe working behavior etc. The HSE training shall include a briefing explaining the nature of the part of the Services they will be performing, a job safety analysis and description of the hazards, which may be encountered during the performance of the particular tasks, which they are required to perform. During such training, Service Provider shall emphasize the fact that each person has an obligation to stop an act or task if it is unsafe. Service Provider shall ensure that Service Provider's Personnel attend refresher courses to maintain familiarity with current procedures. Service Provider shall provide evidence of completion of all training and competency assessments upon request by Company.

All Service Providers' Personnel arriving on the site shall attend the Service Provider's or Company's HSE inductions including a review of the site's safety procedures including Permit to Work and evacuation.

The Service Provider shall ensure safety meeting schedule, including but not limited to pre shift safety meetings, safety toolbox meeting, safety committee meetings and management review meetings.

Competency: The Service Provider shall ensure that all of its supervisory personnel performing work possess any specific competencies or qualifications, experience, responsibility and authorities required by applicable occupational health and safety laws, and shall provide proof of same satisfactory to company upon request.

Behavior: The Service Provider should provide adequate guidance so that Service Provider's personnel works to reduce workplace incidents and improve safe performance at all times. The Service Provider shall ensure that his staff conducts in a fit and proper manner whilst on site. Failure to do this may result in the removal or exclusion of such persons from the site.

27.4 CHANGE MANAGEMENT

If there is a change in site supervisor and Service Provider management personnel, it shall be notified to designated Service Provider manager as a part of Management of Change (MOC) process. This also includes reassess hazards and risk where the changes occur to the work scope, plant and equipment and the working environments.

27.5 INCIDENT REPORTING

Reporting: Any accident, injury, near misses, fire , explosion, spill of chemicals, environment degradation etc involving Company or Service Provider's personnel, property or any third party property shall be reported immediately to Company, irrespective of whether injury to a person or damage to property or equipment resulted.

Access to site: If Company exercises its right to conduct its own investigation; Service Provider shall provide Company with all reasonable assistance to allow & to complete its investigation.

Learnings: Service Provider shall implement the learnings from incident to prevent a recurrence. Service Provider must share lessons learned with Service Provider's Personnel.

27.6 SAFETY INTERACTION

The Service Provider must conduct regular safety interactions of its Personnel in accordance with the Company's safety interaction process. The number and frequency of safety interactions to be performed will be at the discretion of the Company Representative. Quality assessments of the safety interactions will be undertaken by the Company's HSE Personnel.

The Service Provider must conduct investigations into incidents, accidents and injuries by its Personnel or involving its equipment and property in accordance with the Company's incident investigation process. Action items must be created to prevent recurrence and be closed out before due dates.

27.7 EMERGENCY DRILLS

Service Provider shall participate in emergency response drills to test the effectiveness of its emergency procedures and equipment and the knowledge and proficiency of Service Provider's Personnel.

Service Provider will provide with their emergency response plan (ERP) which must be adoptable to suit the site.

27.8 CARDINAL RULE*

Service Provider shall ensure that all Service Providers' Personnel follow the ten safety cardinal rules. The rules are:

"Do not override or interfere with any Safety Provision nor let anyone else override or interfere regardless of seniority.

"Personal Protective Equipment (PPEs) applicable to the given task must be adhered to.

"Always follow isolation and lock out procedure

"No person will be allowed to work if under the influence of alcohol or drugs

"Report all injuries and illness

On violation of cardinal rules, yellow card will be issued by the Service Provider to the concerned personnel and disciplinary action will be taken by the Service Provider which may result in suspension of personnel also.

"Always follow SOP while working."

"Always report any unsafe act/condition or any near miss incidents."

"Carry out all activities with a valid work permit." "Always wear proper PPEs while working."

"Always drive within speed of 30 KMPH."

"Always wear crash helmet (two wheelers) & safety belt (four wheelers) while driving."

"Don't smoke in plant premises."

"Never work under the influence of alcohol or drugs."

"Never park any vehicle in the no parking areas."

"Never sleep while on duty."

27.9 PERSONAL PROTECTIVE EQUIPMENT

Service Provider shall, at its own expense, supply Service Provider's Personnel, where required, in connection with the safe performance of the Services, with adequate protective clothing and other protective equipment including first aid which shall be maintained in good condition or replaced, and shall be worn at all times where required to manage potential injury hazards associated with a work activity under this Contract.

Service Provider shall ensure that his personnel have been trained in the correct use and application of PPE. All such training shall be documented and available to company on request.

27.10 EQUIPMENT,TOOLS,TACKLES AND RESOURCES

Service Provider shall ensure that all plant, tools and equipment used by Service Provider's Personnel in the performance of the Services are suitable for use for the particular task or tasks for which they are to be used, are maintained in safe and operable condition and that users of the plant, tools and equipment are trained, experienced and where necessary, licensed and certified to operate them.

Service Provider shall maintain a register of all lifting equipment and tackle. Service Provider shall, upon request, provide certification of inspection within the previous twelve months for all cranes and lifting slings and tackle before the equipment is used for the Work, and/or shall carry out such tests and inspections as are requested by applicable regulatory authorities. Safe Working Load (SWL) and radius charts shall be available for all lifting equipment and shall be marked on the equipment. Service Provider shall ensure pre-inspection of lifting tools tackles including wire

rope slings, clamps, shackles, hooks etc before taking up the job. Company reserves the right to require, Service Provider to inspect any lifting gear that does not meet the requirements stated above. All equipment shall be stored and operated in accordance with the manufacturer's specification and guidelines.

Service Provider shall maintain up to date copies of all tests and maintenance certificates relating to cranes, lifting beams pulley blocks and lifting gear, and shall make them available to the Company upon demand.

All tools & tackles required for the execution of the job shall be arranged by Service Provider. Also a periodic audit would be undertaken to assess the condition of such tools and tackles.

While using their equipment and carrying out any job, if any equipment / installation belonging to company or any other agency at site is damaged by Service Provider, it will be made good at the risk and cost of Service Provider.

Detailed risk assessments shall be conducted for all equipment to identify all foreseeable hazards and determine the most appropriate controls to mitigate the risks associated in using in accordance with HSE laws and regulation.

Vehicles operating in company premises shall observe all parking and speed restrictions, road signs and traffic rules as per company policy.

27.11 MATERIAL SAFETY DATA SHEETS

The Service Provider shall maintain, at the job site, Material Safety Data Sheets for all hazardous materials and products taken onto the job site. Products are stored in appropriate containers clearly labelled prior to sending to site, all hazard substances are risk assessed to determine their safety requirements and suitability for use.

27.12 WORK PERMITS

Service Provider shall follow the site Permit to Work (PTW) system for carrying out hazardous activities that includes following (but not limited to) activities. The Service Provider shall not perform any of such activities without first obtaining and displaying the applicable work permit at the project site.

- a. Hot work
- b. Confined space entry
- c. Working at height
- d. Breaking into piping
- e. Lockout / Tagout / isolation etc.

- f. excavation or drilling into the ground or a concrete building slab using powered equipment
- g. Hazardous substance handling, etc.
- h. Excavation / trenching
- i. Chemical management MSDS's
- j. Any government related permit

27.13 HEALTH AND FITNESS

Each contract employee shall undergo a pre-employment medical check and periodical medical examination (PME) as per the company guidelines by a company approved doctor/ medical personnel and cleared for the type of work he/ she will undertake, prior to the commencement of work.

Service Provider shall ensure that all Service Providers' Personnel are able to perform the essential functions of their respective assignments and shall certify the same to Company if so requested by Company or if required by law. Service Provider's medical assessment process shall equal or exceed the requirements of Company's medical assessment procedure.

Service Provider shall ensure health assessment, monitoring and management of contract personnel exposure to noise, dust and other physical hazards that have the potential to be harmful to health.

27.14 DISEASE

Service Provider shall ensure that any of Service Provider's Personnel who exhibit any symptoms of any severe infectious disease that is communicable by air or surface contact immediately make appropriate arrangements to be medically assessed and removed from the Site until they have received medical clearance and can provide proof of such clearance.

27.15 HYGIENE AND HOUSEKEEPING

Service Provider shall ensure that Service Provider's Personnel maintain high standards of hygiene and housekeeping on the Site. Service Provider shall conduct routine hygiene and housekeeping inspections on the site to ensure that standards are maintained.

Service Provider shall collect and segregate scraps generated by their activities or services by creating separate bins and finally deposit or utilize as per the directions of Company.

27.16 ENVIRONMENT PROTECTION

Service Provider shall ensure proper collection and storage of used oil and waste oil generated at site. The used oil and waste oil collected so shall be disposed of in compliance to law. Any oil/grease soaked cotton waste would be collected from site of work and suitably disposed as per the guidelines.

Service Provider shall use appropriate Personnel protective equipment's and follow requisite procedure for handling, transportation and storage of Hazardous wastes inside the plant including disposal sites owned by company.

Service Provider shall be solely responsible for damage caused to the surrounding/ environment during transit.

Service Provider shall ensure optimum use of water, energy and other resources while providing services and also work for loss prevention in the form of leakages, spills, overflows, wastages etc. Service Provider shall be solely responsible for the legal actions that may be initiated consequent to environmental hazards as aforesaid. Service Provider would ensure that spillages, leakages and overflows etc are attended immediately on notice or on intimation.

27.17 SMOKING

Service Provider's Personnel shall not smoke at the work site except within designated smoking areas.

27.18 SERVICE PROVIDER ACCOMODATION

Where the Service Provider's Personnel provides accommodation for contract workers, the accommodation shall be appropriate for its location and be clean, safe and, at a minimum, meet the basic needs of workers. In particular, the provision of accommodation shall meet national legislation and shall have the minimum following: Provision of sanitary, laundry and cooking facilities and potable water " Safe location w.r.t health, hygiene and fire risks.

Provision of first aid, medical facilities and proper ventilation.

Building material shall be suitably inflammable, have smoke and fire alarms fitted and

Include other safety checks to prevent fire.

27.19 CLEARANCE OF SITE

On a continuous basis consistent with Good Industry Practice during the progress of the Works the Service Provider shall clear away and remove from the site, pursuant to the directions of the Company, all scrap, debris, other waste materials. The Service Provider shall leave on the site, for the Company, such temporary works as instructed by the Company, free of charge. The Service Provider shall at all times and particularly after completion of the Works, keep the Site and the Facility in a

clean, safe and workman-like condition and shall dispose of all rubbish (other than hazardous materials or other materials which may contaminate ground-water, for which other arrangements shall be made by the Service Provider) in accordance with Good Industry Practice.

27.20 REMOVAL OF UNSAFE WORKERS

The Service Provider shall document any identified instances of noncompliance with safety requirements by its workers and sub - Service Providers. Where any worker or sub Service Provider breaches safety requirements and thereby presents a threat of serious injury or death to any person, the Service Provider shall remove that worker or sub Service Provider from the project site for the duration of the project.

27.21 SUBCONTRACTING

The Service Provider shall be able to demonstrate that he has applied selection procedures that ensure that his sub-Service Providers are demonstrably competent to perform the works safely. The Service Provider shall provide to the Location Manager the names of sub-Service Providers he intends to appoint in advance of entering into a contract with any such sub-Service Provider. The requirements of this booklet, the contract specification, the contract health and safety plan, the risk assessments and method statements shall be imposed upon sub-Service Providers by the Service Provider.

27.22 MONITORING

Compliance check by Service Provider: The Service Provider shall monitor his safety performance and that of his sub-Service Providers to ensure compliance with standards set in the contract. The frequency of monitoring will be dependent upon the risk profile and number of persons employed.

Root Cause of incidents: All accidents shall be investigated to establish the basic causes and to recommend appropriate improvements in control. Details of all accidents, together with the associated investigation and recommendations, shall be passed to the company as soon as deemed reasonable.

Audit by company: The Company reserves the right to audit all aspects of the management of health and safety on site at any time. Deficiency

identified during any inspection / audit shall be entered into an appropriate action register that summarize the deficiency, the required actions, the person to whom that action have been assigned and date by which the action shall be completed.

The Service Provider shall be responsible to ensure all actions are completed, verified and closed within stipulated timeframes.

Monitoring by company: The Company reserves the right to allocate weight age and set safety KPIs in the Service Provider's scorecard. The scorecard performance shall be reviewed periodically.

27.23 SERVICE PROVIDER QUERIES

The queries should be normally directed to company's designate as specified in contract. The site specific "Service Provider safety management manual" can also be referred for any clarifications when in doubt. The details on specific processes, plants and machineries and related hazards are detailed in this manual.

28.ENERGY MANAGEMENT SYSTEM

Energy Management System Clause (for energy efficient products only such as motor, AC, Pumps, transformers etc.) As a part of Energy Management System (ISO 50001:2011), we wish to inform you that we intend to procure energy efficient products, equipment and services and you are requested to offer us energy efficient products, equipment & services which will have overall cost effectiveness. Your offer shall be evaluated partly on the basis of energy performance of your product, equipment or services throughout the entire life cycle of product. Hence, your offer should also include all the technical details related to energy use, consumption and efficiency and request you to inform us about the energy efficient products & specifications.