



CET

Experience that delivers

LIST OF ACCEPTABLE MAKES OF EQUIPMENT & SUPPLIES (Indigenous Supplies Only)

FEBRUARY 2024



PREAMBLE

This document "ACCEPTABLE MAKES OF EQUIPMENT AND SUPPLIES" is for indigenous supplies/ bought out items only and is a part of the tender specification for various packages.

The "makes" of various equipment and supplies are listed out in this document. It is essential that the equipment/ component/ materials to be supplied indigenously by the bidder will be of any one of the makes listed against that particular equipment/ component/ material in this document as further detailed subsequently.



CATEGORY 'A' ITEMS

ACCEPTANCE CRITERIA

- Vendor shall have established Quality Management System certified as per ISO-9001 or equivalent
- Vendor should have installed/ supplied at least any of the following within last 7 years for the item(s):

Either at least 2 reference in any of the SAIL plants/ RINL

Or at least 3 references in any of the private Integrated Steel Plants

Or at least 3 references in Maharatna Public Sector Undertakings/ Navratna Public Sector Undertakings/ Listed Indian companies (excluding financial institutions) having turnover in excess of ₹5000 crores in last financial year.

Copy of purchase orders along with satisfactory performance certificate/ inspection certificates for the above references shall be provided from the clients

- Self-declaration from vendor that the company is not blacklisted in any SAIL plants or PSUs

These are critical equipment and items. Contractor/ bidder to ensure that items listed under this category shall be supplied only from the makes listed.

In exceptional cases, if only two or less makes out of the listed makes for a particular equipment/ item are available to the bidder/ contractor for supply then additional makes can be proposed. However, bidder/ contractor shall establish the non-availability of the listed makes. Additional makes proposed by bidder/ contractor shall be approved subject to fulfilling the acceptance criteria stipulated alongside.





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CATEGORY 'B' ITEMS

These equipment/ items are for general purpose. Bidder may suggest additional makes, if any, during tendering stage with credentials to fulfil the acceptance criteria stipulated alongside.

In case of non-availability of listed makes during implementation, procedure listed under category A will apply.





Other Items not listed

Contractor may supply any other item not mentioned in this list from any make.

- Self-declaration from vendor is required that the company is not blacklisted in any SAIL plants or PSUs

Note: *The above categorization has been given for ease of project management. However, in exceptional cases, empowered committee of the plant may approve additional makes.*



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SECTION-A

ELECTRICAL

| S No. | ITEMS | CATEGORY | MAKE |
|--|--|----------|---|
| 1. 132 kV & ABOVE EQUIPMENT | | | |
| 1.1. | 132 kV/ 220 kV Gas Insulated Switchgear | A | CG POWER & INDUSTRIAL SOLUTIONS LTD, GE T&D, HITACHI ENERGY INDIA LIMITED, HYOSUNG T&D INDIA PRIVATE LIMITED, SIEMENS |
| 1.2. | 132kV/ 220 kV outdoor Isolator/ Disconnecting Switch | A | CG POWER & INDUSTRIAL SOLUTIONS LTD, GR POWER, HITACHI ENERGY INDIA LIMITED, RAYCHEM, SIEMENS, SWITCHGEAR & STRUCTURALS, ELPRO |
| 1.3. | 132kV/ 220 kV outdoor Circuit Breaker | A | BHEL, CG POWER & INDUSTRIAL SOLUTIONS LTD, GE T&D, HITACHI ENERGY INDIA LIMITED, SIEMENS |
| 1.4. | 132kV/ 220 kV outdoor CT/ PT/CVT | A | BHEL, CG POWER & INDUSTRIAL SOLUTIONS LTD, GE T&D, HITACHI ENERGY INDIA LIMITED, MEHRU, SIEMENS, TELK |
| 1.5. | 132kV/ 220 kV outdoor Lightning Arrestor | A | BHEL, CG POWER & INDUSTRIAL SOLUTIONS LTD, ELPRO, OBLUM, RAYCHEM |
| 1.6. | 132kV/ 220 kV cable XLPE | A | CCI (Cable Corporation of India), KEC, KEI, UNIVERSAL |
| 1.7. | 132kV/ 220 kV outdoor Insulator & Bushing | B | ADITYA BIRLA INSULATORS, BHEL, CG POWER & INDUSTRIAL SOLUTIONS LTD, CJI, JAYSHREE INSULATORS, MODERN, OBLUM, WSI |
| 1.8. | ACSR Conductor for 132kV/ 220 kV Transmission Line | B | APAR, CABCON, STERLITE |
| 2. 33kV EQUIPMENT | | | |
| 2.1. | 33 kV Indoor Switchgear | A | ABB, SCHNEIDER, SIEMENS |

| S No. | ITEMS | CATEGORY | MAKE |
|-----------|---|----------|--|
| 2.2. | 33 kV Gas Insulated Switchgear | A | ABB, SCHNEIDER, SIEMENS, |
| 2.3. | 33kV outdoor Isolator/ Disconnecting Switch | A | ABB POWER PRODUCTS & SYSTEMS INDIA LIMITED, CG POWER & INDUSTRIAL SOLUTIONS LTD, GR POWER, RAYCHEM, SCHNEIDER, SIEMENS, SWITCHGEAR & STRUCTURALS, ELPRO |
| 2.4. | 33kV outdoor Circuit Breaker | A | ABB, BHEL, CG POWER & INDUSTRIAL SOLUTIONS LTD, SCHNEIDER, SIEMENS |
| 2.5. | 33kV outdoor CT/ PT | A | BHEL, CG POWER & INDUSTRIAL SOLUTIONS LTD, ECS, MEHRU, TELK |
| 2.6. | 33kV outdoor Lightning Arrestor | A | BHEL, CG POWER & INDUSTRIAL SOLUTIONS LTD, ELPRO, OBLUM, RAYCHEM |
| 2.7. | 33kV outdoor Insulator & Bushing | B | ADITYA BIRLA INSULATORS, BHEL, CG POWER & INDUSTRIAL SOLUTIONS LTD, CJI, JAYSHREE INSULATORS, MODERN, OBLUM, WSI |
| 2.8. | ACSR Conductor for 33kV transmission line | B | APAR, CABCON, STERLITE, GUPTA POWER |
| 3. | MEDIUM VOLTAGE – INDOOR (3.3 kV to 11kV) | | |
| 3.1. | Switchgear (Circuit Breaker with panels) | A | ABB, BHEL, L&T, SCHNEIDER, SIEMENS |
| 3.2. | Vacuum Contactor | A | ABB, ANDREW YULE, BHEL, JYOTI, SCHNEIDER, SIEMENS, L&T |
| 3.3. | CT & PT | B | AEL, JYOTI, KALPA, KAPPA, PRAGATI, PRAYOG, ECS, SCHNEIDER |
| 3.4. | Isolator | B | ABB, A BONDSTRAND, MEGAWIN, PANICKERSWITCHGEAR PVT. LTD, |

| S No. | ITEMS | CATEGORY | MAKE |
|-----------|--|----------|---|
| 3.5. | HT Bus duct | B | BHEL, C&S, ECC, STARDRIVE BUSDUCTS LTD. |
| 4. | PROTECTION & METERING | | |
| 4.1. | Protective Relays | A | ABB, GE T&D, HITACHI ENERGY INDIA LIMITED, SIEMENS, SCHNEIDER |
| 4.2. | SCADA/ SAS System | A | ABB, ECIL, ETAP ,GE T&D, HITACHI ENERGY INDIA LIMITED, HONEYWELL, SIEMENS |
| 5. | LT SWITCHGEAR | | |
| 5.1. | Intelligent motor controller for IMCC | A | ABB, L&T, ROCKWELL AUTOMATION, SCHNEIDER, SIEMENS |
| 5.2. | Power Control Centre (PCC) | B | ABB, BCH, IEE PROJECTS, L&T, PCE PROJECTS PVT. LTD., SCHNEIDER, SIEMENS |
| 5.3. | Motor Control Centre (MCC) up to 1000 Amps and PDB | B | ABB, BCH, C&S, DIVYA ENGINEERS, HAVELLS, IEE PROJECTS , L&T, MARINE ELECTRICAL, MEDITRON, PCE PROJECTS PVT. LTD, SCHNEIDER, SEN & SINGH, SIEMENS, SWITCHING CIRCUITS |
| 5.4. | Motor Control Centre (MCC) above 1000 Amps | B | ABB, BCH, C&S, L&T, SCHNEIDER, SIEMENS |
| 5.5. | Air circuit breaker (ACB) | B | ABB, L&T, SCHNEIDER, SIEMENS |
| 5.6. | Moulded case circuit breaker (MCCB) (with positive isolation) | B | ABB, BCH, C&S, HAVELLS, L&T, SCHNEIDER, SIEMENS, EATON, ANDREW YULE |
| 5.7. | Motor Protection Circuit Breaker (MPCB) | B | ABB, BCH, C&S, L&T, SCHNEIDER, SIEMENS, SPRECHER & SCHUH, HAVELLS, EATON, ROCKWELL AUTOMATION |

| S No. | ITEMS | CATEGORY | MAKE |
|-----------|---|----------|---|
| 5.8. | Power Contactors, Auxiliary contactors/ Auxiliary relays | B | ABB, BCH, C&S, L&T, SCHNEIDER, SIEMENS , ANDREW YULE, SPRECHER & SCHUH, EATON, ROCKWELL AUTOMATION-ALLEN BRADLEY, OEN (AUXILIARY/CONTROL RELAY ONLY) |
| 5.9. | Control switches | B | ABB, BCH, EPCC, GE POWER CONVERSION, KAYCEE, L&T, SCHNEIDER, SIEMENS, SALZER |
| 5.10. | Thermal bimetallic Overload relays | B | ABB, ANDREW YULE, BCH, C&S, L&T, ROCKWELL AUTOMATION, SCHNEIDER, SIEMENS |
| 5.11. | Electronic over current relay/ Electronic motor protection relay (EOCR/ EMPR) | B | ABB, BCH, C&S, L&T, SCHNEIDER, SIEMENS, SPRECHER & SCHUH, ROCKWELL, EATON |
| 5.12. | LT bus duct | B | C&S, ECC, LOTUS POWER, L&T, SPEARHEAD, STARDRIVE BUSDUCTS LTD. |
| 6. | ILLUMINATION | | |
| 6.1. | Lighting fixtures | B | BAJAJ, CROMPTON GREAVES, EVEREADY, FORUS ELECTRIC PVT. LTD., GE LIGHTING, HALONIX TECHNOLOGIES PVT. LTD, HAVELLS, J TRON ELECTRONICS , ORIENT ELECTRIC LIMITED, PHILIPS, SURYA, SYSKA, TRANSRAIL LIGHTING LIMITED, TURNPOINT TECHNOLOGIES PRIVATE LIMITED, WIPRO |
| 6.2. | High Mast Tower | B | BAJAJ, CROMPTON GREAVES CONSUMER ELECTRICALS LIMITED, PHILIPS, SURYA ROSHNI LIMITED, TRANSRAIL, VALMONT, CONSOL, BP PROJECTS, VENTURA |
| 7. | TRANSFORMER | | |

| S No. | ITEMS | CATEGORY | MAKE |
|-------|------------------------|----------|---|
| 7.1. | Up to 33 kV (Oil Type) | A | BHARAT BIJLEE, BHEL, CG POWER & INDUSTRIAL SOLUTIONS LTD, INDCOIL TRANSFORMER (UPTO 1 MVA), ESENNAR TRANSFORMER, HITACHI ENERGY INDIA LIMITED, KIRLOSKAR ELECTRIC COMPANY, PROLEC GE, RAYCHEM-RPG, SAI ELECTRICALS (UPTO 1 MVA), SCHNEIDER, SIEMENS, VOLTAMP TRANSFORMERS LTD, ANDREW YULE, TRANSFORMER & RECTIFIER, KOTSONS (UPTO 630kVA only) |
| 7.2. | Above 33 kV (Oil Type) | A | BHARAT BIJLEE, BHEL, CG POWER & INDUSTRIAL SOLUTIONS LTD, GE T&D, HITACHI ENERGY INDIA LIMITED, TELK, SCHNEIDER, SIEMENS, TBEA ENERGY (INDIA) PRIVATE LIMITED, TRANSFORMER & RECTIFIER, KIRLOSKAR ELECTRIC COMPANY |
| 7.3. | Dry type | A | BHEL, CG POWER & INDUSTRIAL SOLUTIONS LTD, INDCOIL TRANSFORMER (UPTO 1 MVA), ESENNAR TRANSFORMER, HITACHI ENERGY INDIA LIMITED, KIRLOSKAR ELECTRIC COMPANY, RPG-RAYCHEM, VOLTAMP TRANSFORMERS LTD, SUDHIR |
| 8. | MV REACTOR | A | CG POWER & INDUSTRIAL SOLUTIONS LTD, GE T&D, PS ELECTRICALS, QUALITY POWER, SHRIHANS ELECTRICALS PVT. LTD., TRANSFORMER & RECTIFIER, SCHNEIDER |
| 9. | DRIVES | | |

| S No. | ITEMS | CATEGORY | MAKE |
|------------|--|----------|---|
| 9.1. | Variable frequency drive (VFD)<1.1kV | B | ABB, CG POWER & INDUSTRIAL SOLUTIONS LTD. (for motor upto 30 kW), CONTROL TECHNIQUES INDIA PRIVATE LIMITED (for motor upto 200 kW), DANFOSS, DELTA ELECTRONICS INDIA PVT LTD, FUJI, GE POWER CONVERSION, HITACHI-HIREL, MITSUBISHI ELECTRIC INDIA PRIVATE LIMITED, ROCKWELL AUTOMATION, SCHNEIDER, SIEMENS, TMEIC, YASKAWA |
| 9.2. | Thyristor Converter/ DC DRIVE | B | ABB, GE POWER CONVERSION, PARKER, ROCKWELL AUTOMATION, SIEMENS, FUJI |
| 9.3. | Soft starter | B | ABB, L&T, PARKER, ROCKWELL AUTOMATION, SIEMENS, SCHNEIDER, DANFOSS |
| 9.4. | FCMA /series reactor type soft starter | B | ABB, INNOVATIVE TECHNOMICS, JAYASHREE, SHRIHANS ELECTRICALS PVT. LTD., ROCKWELL AUTOMATION, SCHNEIDER, SIEMENS, LECON ENERGETICS PVT LTD |
| 9.5. | MV Drive | B | ABB, INNOMOTICS INDIA PVT LTD, SCHNEIDER |
| 10. | MOTORS | | |
| 10.1. | Synchronous Motor | A | ABB, BHEL, SIEMENS, GE |
| 10.2. | HT – AC | A | ABB, BHEL, CG POWER & INDUSTRIAL SOLUTIONS LTD., INNOMOTICS INDIA PVT LTD, KIRLOSKAR ELECTRIC COMPANY, WEG, TMEIC, JEUMONT ELECTRIC INDIA PVT LTD |

| S No. | ITEMS | CATEGORY | MAKE |
|--------------------------|----------------------------|----------|---|
| 10.3. | LT – AC | B | ABB, BHARAT BIJLEE, CG POWER & INDUSTRIAL SOLUTIONS LTD., HINDUSTAN ELECTRIC MOTORS (For up to 22 kW), KIRLOSKAR ELECTRIC COMPANY, LHP, SIEMENS, WEG, NGEF, BHEL, NORD |
| 10.4. | DC | B | BHEL, IEC, KIRLOSKAR ELECTRIC COMPANY, CG POWER & INDUSTRIAL SOLUTION |
| 11. CABLES | | | |
| 11.1. | 33kV cable XLPE | A | CCI (Cable Corporation of India), CRYSTAL, GLOSTER, KEC, KEI, POLYCAB, UNIVERSAL |
| 11.2. | HT (up to 11kV) cable XLPE | A | CCI, GEMSCAB INDUSTRIES LTD., GLOSTER, HAVELLS, KEC, KEI, POLYCAB, STERLITE POWER, UNIVERSAL |
| 11.3. | LT power & control cable | B | CCI, FINOLEX CABLES, GEMSCAB INDUSTRIES LTD., GLOSTER, HAVELLS, INSUCON, KEC, KEI, POLYCAB, RAVIN, SPECIAL CABLE PVT. LTD., SUYOG ELECTRICALS LIMITED, SVARN INFRATEL PVT. LTD. (for control cable only), THERMO CABLES, UNIVERSAL, LAPP, NANGALWALA INDUSTRIES (P) LTD |
| 12. MISCELLANEOUS | | | |
| 12.1. | Battery charger | B | AMARA RAJA POWER SYSTEMS LTD, APLAB, CHLORIDE (EXIDE), CHABI ELECTRICALS, LIVELINE ELECTRONICS, NELCO, SABNIFE (HBLNIFE POWER SYSTEMS), STANDARD |

| S No. | ITEMS | CATEGORY | MAKE |
|-------|---|----------|--|
| 12.2. | Battery Bank | B | AMARA RAJA, AMCO, EXIDE, FURUKAWA, PANASONIC, SABNIFE (HBLNIFE POWER SYSTEMS), STANDARD |
| 12.3. | Master controller | B | EATON, ELECTROMAG, EPCC, KAYCEE, L&T, SIEMENS, KAKKU, SPHONBUCKART, GESMANN, SCHNEIDER |
| 12.4. | Un-interruptible power supply (UPS): | B | FUJI ELECTRIC CONSUL NEOWATT P LTD, HITACHI-HIREL, LIVE LINE ELECTRONICS, NUMERIC, SCHNEIDER (APC), VERTIV ENERGY PRIVATE LIMITED |
| 12.5. | Nitrogen injection fire protection system | B | CTR, EASUN-MR TAP CHANGERS(P) LTD., TECTONICUS, VENDERE |
| 13. | GENERATOR | B | ABB, BHEL, SIEMENS, TOYO DENKI |



SECTION-B

MECHANICAL

| S No. | ITEMS | CATEGORY | MAKE |
|-----------|---|----------|---|
| 1. | GENERAL | | |
| 1.1. | Gearbox (50 kW and above) | A | BONFIGLIOLI, ELECON, SIEMENS-FLENDER, ROSSI, SUMITOMO, HEC, KIRLOSKAR, SHANTHI |
| | Gearbox (below 50 kW) | B | BONFIGLIOLI, ELECON, SIEMENS-FLENDER, ROSSI, SUMITOMO, ESSENTIAL POWER TRANSMISSION, HEC, KIRLOSKAR, NAW, SHANTHI, PREMIUM TRANSMISSION, SAN ENGG. LOCOMOTIVE COMPANY LTD., SUMI- CYCLO DRIVE INDIA PVT. LTD., TRIVENI, SCHMIEDE AND MASCHINEN |
| 1.2. | Geared Motor (5 kW and above) | A | BONFIGLIOLI, CYCLO TRANSMISSION, ROSSI, SIEMENS, NORD, SEW-EURO DRIVE |
| | Geared Motor (below 5 kW) | B | BONFIGLIOLI, CYCLO TRANSMISSION, ROSSI, SIEMENS, NORD, SEW-EURO DRIVE, ESSENTIAL POWER TRANSMISSION, IC INDIA LTD., POWER BUILD, SHANTHI, SUMI-CYCLO DRIVE INDIA PVT.LTD. |
| 1.3. | Geared Coupling (50 kW and above) | A | ELECON, FLEX-TRAN INDUSTRIES, RATHI (LOVEJOY), SIEMENS-FLENDER, TIMKEN, FENNER |
| | Geared Coupling (below 50 kW) | B | ELECON, FLEX-TRAN INDUSTRIES, RATHI (LOVEJOY), SIEMENS-FLENDER, TIMKEN, ALLIANCE ENGG. CO., CONCORD STEEL WORKS PVT. LTD., ESCO, GBM, NAW, ROMA MECHANICAL ENGINEERING CO, WELLMAN WACOMA, FENNER, SCHMIEDE AND MASCHINEN |
| 1.4. | Pin Bush/ Bibby Coupling (10kW and above) | A | ELECON, GBM, RATHI (LOVEJOY) |
| | Pin Bush/ Bibby Coupling (below 10kW) | B | ELECON, GBM, RATHI (LOVEJOY), NAW, ROMA MECHANICAL ENGINEERING CO, FENNER |

| S No. | ITEMS | CATEGORY | MAKE |
|--------------|-------------------------------|-----------------|---|
| 1.5. | Barrel Coupling | A | JAURE, MALMEDIE, RINGFEDER POWER TRANSMISSION |
| 1.6. | Fluid Coupling | A | ELECON, FLUIDOMAT, GHATGE-PATIL INDUSTRIES, PREMIUM TRANSMISSION, VOITH |
| 1.7. | Resilient Coupling | A | ELECON, FENNER, RATHI (LOVEJOY), NAW, TIMKEN, WELLMAN WACOMA |
| 1.8. | Transmission Chain & Sprocket | B | DIAMOND, REYNOLD, ROLKOBO, ROLCON, ROLON, GOLDEN ENGG & ENTERPRISE |
| 1.9. | DCEM Shoe Brake | A | BCH ELECTRIC LTD, ELEKTROMAG, KAKKU, KATEEL, SIBRE, SPEED-O-CONTROL, EMCO PRECIMA ENGINEERING PVT LTD.(BUBENZER BREMSEN) |
| 1.10. | DCEM Disc Brake | A | BCH ELECTRIC LTD, ELEKTROMAG, KAKKU, KATEEL, PETHE, SIBRE, SPEED-O-CONTROL, EMCO PRECIMA ENGINEERING PVT LTD.(BUBENZER BREMSEN) |
| 1.11. | Hydraulic thruster brake | A | EMCO PRECIMA ENGINEERING PVT LTD.(BUBENZER BREMSEN), KATEEL, SIBRE |
| 1.12. | Non-metallic Liner | B | KAVERI, TEGA, THEJO |
| 1.13. | Wearing Plates (Metallic) | B | NLMK INDIA, QUARD, HARDOX |
| 1.14. | Lathe & Shaper | B | BATLIBOI, GUJARAT LATHE MANUFACTURING COMPANY PVT. LTD., HEC, HMT |
| 1.15. | Welding Rectifier/transformer | B | ADVANI, ADOR, ESAB, MOGORA COSMIC, MEMCO |
| 1.16. | Bearing | A | FAG, NTN, SKF, TIMKEN, KOYO, SCHAEFFLER |
| 1.17. | Slew Bearing | A | ROTHERDE, SKF, LIEBHERR |
| 1.18. | Split Bearing | A | COOPER, TIMKEN, SKF |

| S No. | ITEMS | CATEGORY | MAKE |
|--------------|--|-----------------|--|
| 1.19. | Passenger cum Goods Elevator (544 kg and above) | A | mitsubishi, otis, thyssenkrupp, schindler |
| | Passenger cum Goods Elevator (below 544 kg) | B | MITSUBISHI, OTIS, THYSSENKRUPP, SCHINDLER, ECE, KONE ELEVATOR, OMEGA |
| 1.20. | Hook (up to 10 t) | B | FREE TRADING CORPORATION, HERMAN MOHTA, SMRITI FORGING & ENGG, MACHINE TOOLS, ESKAY MACHINERY, STEEL FORGINGS & ENGINEERING |
| 1.21. | Hook (above 10t) | A | FREE TRADING CORPORATION, HERMAN MOHTA, SMRITI FORGING & ENGG, STEEL FORGINGS & ENGINEERING |
| 1.22. | Wire Rope | B | BHARAT WIRE ROPES, FORT WILLIAM, BOMBAY WIRE ROPE, ORION ROPES, USHA MARTIN |
| 1.23. | Expansion Joint for Hot Blast system (metallic) | A | FLEXATHERM, FLEXICAN, LONE STAR, MB METALLIC BELLOWS |
| 1.24. | Stove Valves (two lever/ three lever/ double eccentric butterfly valve) | A | FOURESS, JOSHI & JAMPALA, L&T |
| 1.25. | Hot Blast Valve | A | FOURESS, JOSHI & JAMPALA |
| 1.26. | Coil Strapping M/c | B | KOHAN KOGYO CO., SIGNODE, SUND BRISTA, TITAN |
| 2. | MATERIAL HANDLING EQUIPMENT | | |

| S No. | ITEMS | CATEGORY | MAKE |
|-------|--|----------|---|
| 2.1. | Conveyor Belt | B | CENTURY INDUSTRIAL PRODUCTS, FORECH INDIA LTD, FENNER-DUNLOP, HINDUSTAN RUBBER, JONSON RUBBER INDUSTRIES LTD., NORTH LAND RUBBER, ORIENTAL RUBBER, PHOENIX CONVEYOR BELT (INDIA) PVT. LTD, SEMPERTRANS NIRLON |
| 2.2. | Idler | B | AMPS ENGG. & EQUIPT. PVT. LTD., BENGAL TOOLS, BEVCON, ELECON, GOLDEN ENGG & ENTREPRISE, GOLDEN ENGINEERING INDUSTRIES, HITECH EQUIPMENTS PVT. LTD., INDIANA CONVEYORS, L & T, MACMET, MCNALLY SAYAJI ENGINEERING LIMITED, NEWALL INDUSTRIES, SANRAJ PROJECTS PVT. LTD., SANDVIK ASIA, SOLCON, TECHNO IMPEX, VINAR SYSTEMS, VN INDUSTRIES |
| 2.3. | Pulley | B | AMPS ENGG. & EQUIPT. PVT. LTD., BENGAL TOOLS, BEVCON, ELECON, GOLDEN ENGG & ENTREPRISE, GOLDEN ENGINEERING INDUSTRIES, HITECH EQUIPMENTS PVT. LTD., INDIANA CONVEYORS, L & T, MACMET, MCNALLY SAYAJI ENGINEERING LIMITED, NEWALL INDUSTRIES, SANRAJ PROJECTS PVT. LTD., SANDVIK ASIA, SOLCON, TECHNO IMPEX, VINAR SYSTEMS, VN INDUSTRIES |
| 2.4. | Belt Weigher / Weigh feeder System | A | ACME, FLSMIDH, PFISTER, PRECIA MOLEN, SCHENCK, SIEMENS (MILTRONICS) |
| 2.5. | Plummer Block (100mm shaft dia at bearing and above) | A | FAG, MASTA, SKF, TIMKEN |
| | Plummer Block (below 100mm shaft dia at bearing) | B | FAG, MASTA, NANDY ENGINEERING CONCERN, SKF, TIMKEN |

| S No. | ITEMS | CATEGORY | MAKE |
|--------------|--|-----------------|--|
| 2.6. | Belt Scraper (belt width 1000mm and above) | B | HOSCH, KAVERI, THEJO |
| | Belt Scraper (belt width below 1000mm) | B | HOSCH, KAVERI, INDIANA CONVEYORS, THEJO |
| 2.7. | Vibrating Screen (100tph and above) | A | METSO, SCHENK PROCESS, SANDVIK, FLSMIDTH |
| | Vibrating Screen (below 100tph) | B | ELECTRO ZAVOD, ELEKTROMAG-JOEST VIBRATION PVT. LTD., IC INDIA LTD., McNALLY SAYAJI ENGINEERING LIMITED, METSO, SCHENK PROCESS, SANDVIK, FLSMIDTH, |
| 2.8. | Vibrating Feeder | A | ELECTRO ZAVOD, ELEKTROMAG-JOEST VIBRATION PVT. LTD, IC INDIA LTD., McNALLY SAYAJI ENGINEERING LIMITED, METSO, SCHENK PROCESS, SANDVIK, FLSMIDTH, |
| 2.9. | Apron Feeder (500tph and above) | A | L & T, THYSSEN KRUPP, SANDVIK, METSO |
| | Apron Feeder (below 500tph) | B | ELECON, HAZEMAG, L & T, McNALLY SAYAJI ENGINEERING LIMITED, TENGL, THYSSEN KRUPP, SANDVIK, METSO |
| 2.10. | Screw Conveyor | B | GMV ENGG, MASYC, VINAR SYSTEMS |
| 2.11. | Electro mechanical Actuator | B | AUMA, LIMITORQUE, PREPEC, ROTORK |
| 2.12. | EOT Crane (all capacities) | A | ANUPAM INDUSTRIES, HEC, JINDAL STEEL & POWER, MUKAND, TATA GROWTH SHOP, UNIQUE INDUSTRIAL HANDLERS |

| S No. | ITEMS | CATEGORY | MAKE |
|--------------|---|-----------------|---|
| | EOT Crane (maximum 50 t) | A | CENTURY CRANE, ELECTROMECH, MELTECH CRANES PVT. LTD., FAFECO, SMACO, ALPHA |
| | EOT Crane (maximum 10 t) | B | EDDY CRANE, SHIVPRA, TUOBRO FURGUSON, ELECTRO THERAPY, REVA INDUSTRIES |
| 2.13. | Electric Hoist | B | BRADY & MORRIS, CENTURY CRANE, EDDY CRANE, ELECTROTHERAPY, GRIP ENGRS., HERCULES HOIST LTD. (INDEF) , HI-TECH INDUSTRIES, MELTEC, REVA ENGG, SHIVPRA |
| 2.14. | Electric Winch | B | EDDY CRANE, ELECTROMECH MHS PVT. LTD. ENGG, ELECTROTHERAPY, HMTC ENGG. CO., PULLMAN |
| 2.15. | Jib Crane | A | BRADY & MORRIS, CENTURY CRANES, GRIP ENGG, MELTEC, EDDY CRANE |
| 2.16. | Chain Pulley Block & Hand Operated Travelling Crane | B | BRADY& MORRIS, CENTURY CRANES, HERCULES HOIST LTD. (INDEF), HI-TECH., LIGHT LIFT IND., REVA ENGG,TRACTEL TRIFOR |
| 2.17. | Underslung Cranes | B | EDDY CRANE , CENTURY CRANES, FAFECO, MUKAND, KONE CRANES & DEMAG, REVA ENGG, ALPHA, BRADY & MORRIS, SHIVPRA, TUOBRO FURGUSON |
| 2.18. | Shock Absorbers /Hydraulic Buffer | A | ENIDINE, OLEO, ACE CONTROLS |
| 2.19. | Electro Magnet | A | EAST COAST ENTERPRISERS, ELEKTROMAG, SGM, SUPERLIFT |
| 2.20. | Tongs | B | BUCK, HEPPENSTALL, SOMERS, YELLOW STONE INDIA |
| 2.21. | Stacker or Reclaimer | A | ELECON, FLSMIDTH, HEC, L & T, McNALLY SAYAJI ENGINEERING LIMITED, METSO, SANDVIK ASIA, TENOVA TAKRAF, THYSSENKRUPP |

| S No. | ITEMS | CATEGORY | MAKE |
|--------------|---|-----------------|--|
| 2.22. | Stacker-cum-Reclaimer | A | FLSMIDTH, HEC, L & T, McNALLY SAYAJI ENGINEERING LIMITED, METSO, SANDVIK ASIA, TENOVA TAKRAF, THYSSENKRUPP |
| 2.23. | Bucket-Wheel Reclaimer | A | FLSMIDTH, HEC, L & T, McNALLY SAYAJI ENGINEERING LIMITED, METSO, TENOVA TAKRAF, THYSSENKRUPP, SANDVIK ASIA |
| 2.24. | Wagon Tippler | A | ELECON, FLSMIDTH, HEC, L & T, McNALLY SAYAJI ENGINEERING LIMITED, METSO, THYSSENKRUPP |
| 2.25. | Hanging Magnet/ Cross belt/ Inline Magnetic Separator | A | ELECTRO ZAVOD, ELEKTROMAG, HUMBOLDT WEDAG, MAGNET INDUSTRIES (CAL) PVT. LTD., McNALLY SAYAJI ENGINEERING LIMITED, METSO |
| 2.26. | Fork Lift | B | GODREJ, TIL, VOLTAS |
| 2.27. | Crusher (Cone / Gyratory / Jaw) | A | FLSMIDTH, HEC, L&T, McNALLY SAYAJI ENGINEERING LIMITED, METSO, SANDVIK, THYSSENKRUPP, URALMASH |
| 2.28. | Impact / Hammer Crusher | A | HEC, L&T, McNALLY SAYAJI ENGINEERING LIMITED, METSO, SANDVIK, TERRASOURCE, THYSSENKRUPP |
| 2.29. | Roll Crusher | A | ELECON, FLSMIDTH, HEC, L&T, McNALLY SAYAJI ENGINEERING LIMITED, SANDVIK, THYSSENKRUPP, URALMASH |
| 2.30. | Rotary Breaker | A | L&T, McNALLY SAYAJI ENGINEERING LIMITED, TERRASOURCE, THYSSENKRUPP |
| 2.31. | Industrial/ Cabin/ Crane e-room AC | A | FRIGORTEC, KABU, LINTERN |
| 3. | HYDRAULICS SYSTEM | | |
| 3.1. | Hydraulic Cylinder | A | APEX FLUIDOMATICS PVT. LTD., CANARA HYDRAULICS, DANVER, EATON, HYDRO PNEUMATIC CONTROLS, OSCAR, PARKER, REXROTH, VEKTRA ENGG., VELJAN, WIPRO, YUKEN |

| S No. | ITEMS | CATEGORY | MAKE |
|-----------|--|----------|--|
| 3.2. | Hydraulic System with Accessories | A | EATON, HYDAC, PARKER, REXROTH, YUKEN |
| 3.3. | Hydraulic Valves | A | CANARA HYDRAULICS, EATON, HYDAC, MOOG, PARKER, REXROTH, YUKEN |
| 3.4. | Accumulator | A | BOSCH, EATON, EPE, HYDAC, PARKER, REXROTH, YUKEN |
| 3.5. | Hydraulic Fitting & Clamp | B | EPE, FLUID CONTROL HYDROCRIMP, HYDAC, HYDAIR, HYDROMATIK, HYTECH, PTS, STAUFF |
| 3.6. | Hydraulic Filter | B | HYDAC, INTERNORMEN, PARKER |
| 3.7. | Hydraulic Motor | A | EATON, MAHA HYDRAULICS, PARKER, REXROTH, SAUER DANFOSS, YUKEN |
| 3.8. | Hydraulic Pump | A | SAUER DANFOSS, EATON, MAHA HYDRAULICS, PARKER, REXROTH, YUKEN |
| 3.9. | Hose | B | AEROFLEX, EATON, HYDROKRIMP, HYDROLINE, INDIA FLEX INDUSTRIES, INDO INDUSTRIAL SERVICES, PARKER, PSI HYDRAULICS, SONI RUBBER PRODUCTS LTD., SUPERSEAL |
| 4. | PNEUMATIC SYSTEM | | |
| 4.1. | Pneumatic Cylinder | B | CANARA HYDRAULICS, EL-O-MATIC (INDIA) PVT. LTD., GABRIEL PNEUMATICS, HYDAIR, HYDRO PNEUMATIC CONTROLS, I.L. PALAKKAD, NUCON, ROTEX, SHRADER, SMC, VELJAN, WIPRO |
| 5. | LUBRICATION SYSTEM | | |
| 5.1. | Oil Lubrication System for Rolling Mills, Sinter Plant, Blast Furnace, Bulk material equip | A | HYDAC, SKF LINCOLN, LUBRICATION SYSTEM LTD., BIJUR DELIMON, REBS LUBRICATION |

| S No. | ITEMS | CATEGORY | MAKE |
|--------------|--|-----------------|--|
| 5.2. | Oil Lubrication System other than above (Cl. 5.1) | B | HYDAC, SKF LINCOLN, LUBRICATION SYSTEM LTD., PRAKASH LUBRIQUIPMENT, SHAAN LUBE, BIJUR DELIMON, REBS LUBRICATION |
| 5.3. | Screw Pump | B | ROTO, TUSHACO, UT PUMPS & SYSTEM |
| 5.4. | Gear Pump | B | ALFA, PARKER, REXROTH, ROTO, ROTODEL, TUSHACO |
| 5.5. | Filter Strainer | B | MULTITEX FILTRATION, OTOKLIN, SPAN ASSOCIATES PUNE, SUPERFLOW FILTERS |
| 5.6. | Oil Mist / Oil-Air Lubrication System | A | BIJUR DELIMON, SKF LINCOLN, REBS LUBRICATION |
| 5.7. | Grease Lubrication System for Rolling Mills, Sinter Plant, Blast Furnace, Bulk material Handling Equipment | A | BIJUR DELIMON, SKF LINCOLN, REBS LUBRICATION, AFMC |
| 5.8. | Grease Lubrication System other than above (Cl 5.7) | B | AFMC, BIJUR DELIMON, CENLUB SYSTEMS, SKF LINCOLN, PRAKASH LUBRIQUIPMENT, REBS LUBRICATION |
| 5.9. | Hose | B | AEROFLEX, HYDROKRIMP, HYDROLINE, INDO INDUSTRIAL SERVICES, PSI HYDRAULICS, SONI RUBBER PRODUCTS LTD., SUPERSEAL |



SECTION-C

MINING & MINERAL PROCESSING AREA

| S No. | ITEMS | CATEGORY | MAKE |
|--------------|--|-----------------|---|
| 1. | Sizer | A | FLSMIDTH, MMD, SANDVIK, THYSSENKRUPP |
| 2. | Ball / Rod / Ag Mill | A | CEMTEC, CHANDERPUR WORKS PVT. LTD., FLSMIDTH, HEC, L&T, McNALLY SAYAJI ENGINEERING LIMITED, METSO, OUTOTEC, SANDVIK , THYSSENKRUPP, URALMASH |
| 3. | Classifier | A | DORR OLIVER, DURGA METALS, EIMCO-KCP, FLSMIDTH,METSO, MBE-CMT |
| 4. | Thickener | A | EIMCO-KCP, FLSMIDTH, McNALLY SAYAJI ENGINEERING LIMITED, METSO, OUTOTEC, TENOVA-DELKOR, WESTECH |
| 5. | Jig | A | ALLMINERAL, MBE-CMT, TENOVA-DELKOR |
| 6. | Filter(Vacuum /Pressure) | A | ANDRITZ, EIMCO-KCP, FLSMIDTH, METSO, OUTOTEC, TENOVA-DELKOR, TH COMPANY, WESTECH |
| 7. | Wet High Intensity Magnetic Separator / High Gradient Magnetic Separator | A | ALLMINERAL, ERIEZ, MBE-CMT, METSO, LONGI MAGNET, MINERAL TECHNOLOGIES, OUTOTEC |
| 8. | Low Intensity Magnetic Separator | A | ERIEZ, LONGI MAGNET, MBE-CMT, METSO, MINERAL TECHNOLOGIES, MULTOTEC |
| 9. | Dewatering Screen | A | DERRICK, FLSMIDTH –LUDOWICI, IC , METSO, McNALLY SAYAJI ENGINEERING LIMITED, SCHENCK PROCESS, WEIR MINERALS |
| 10. | Spiral – Gravity Concentrator | A | AKW A+V GMBH, FLSMIDTH, MINERAL TECHNOLOGIES, MULTOTEC, OUTOTEC |
| 11. | Hydrocyclones | A | CDE, FLSMIDTH KERBS, McNALLY SAYAJI ENGINEERING LIMITED, METSO, MOZLEY, MULTOTEC, WEIR MINERALS |
| 12. | Metal Detector | A | ELECTRO ZAVOD,ELEKTROMAG, ERIEZ, MBE-CMT, METSO |



SECTION-D

PROCESS CONTROL & AUTOMATION

| S No. | ITEMS | CATEGORY | MAKE |
|-----------|--|----------|---|
| 1. | FIELD INSTRUMENTATION | | |
| 1.1. | Pressure/differential pressure/Level/Flow Transmitter | A | ABB, EMERSON, E&H, FUJI, HONEYWELL, YOKOGAWA, SIEMENS |
| 1.2. | Temperature Transmitter | A | ABB, E&H, EMERSON, HONEYWELL, SIEMENS, YOKOGAWA |
| 1.3. | Pressure / DP switch | A | ASHCROFT, BAUMER, DANFOSS, INDFOS, WIKA, SWITZER, |
| 1.4. | Tuning Fork/ Rod type Level Switch | A | ABB, E&H, EMERSON, NIVO CONTROL, SAPCON, SIEMENS, VEGA |
| 1.5. | Conductivity/RF/Capacitance type Level Switch | A | E&H, NIVO CONTROL, P&F, SAPCON, VEGA, |
| 1.6. | Float type Level Switch | A | BAUMER, EMERSON, ENDRESS & HOUSER, KROHNE MARSHALL, LEVCON, NIVO CONTROL, SAPCON, TRAC |
| 1.7. | Ultrasonic Level Sensor | A | E&H, EIP ENVIRO, EMERSON, KROHNE MARSHALL, P&F, SIEMENS, SICK, VEGA |
| 1.8. | Radar Type Level Sensor | A | E&H, EIP ENVIRO, EMERSON, KROHNE, MARSHALL, SIEMENS, VEGA |
| 1.9. | Electro Magnetic Flow Meter | A | E&H, EMERSON, KROHNE MARSHALL, ROCKWIN, YOKOGAWA, SIEMENS |
| 1.10. | Flow Elements (Orifice / Venturi / Flow nozzle / Pitot tube / Annubar) | A | ENGG SPECIALTIES, EMERSON, MECHANICAL ENGINEERS, UNI CONTROL, WIKA |
| 1.11. | Radiation Pyrometer (online/portable) | A | CHINO, EURO THERM, LAND, WILLIAMSON CORPORATION, FLUKE |

| S No. | ITEMS | CATEGORY | MAKE |
|-----------|--|----------|---|
| 1.12. | Level SW/ Transmitter (Nucleonic type) | B | BERTHOLD, E&H, THERMOFISHER |
| 1.13. | Temperature Switch | B | E&H, IFM, HYDAC, WIKA |
| 1.14. | Flow Switch | B | EMERSON, IFM, KROHNE MARSHAL, KOBOLD |
| 1.15. | Vortex Flow Meter | A | E&H, EMERSON, KROHNE MARSHAL, SIEMENS, YOKOGAWA |
| 1.16. | Mass (Coriolis) Flow | A | ABB, E&H, EMERSON, KROHNE MARSHAL, SIEMENS, YOKOGAWA, |
| 1.17. | Level Switch/Transmitter (Displacer Type) | B | CHEMTROL, DK INSTRUMENTS, EMERSON, LEVCON |
| 2. | CONTROL VALVES | | |
| 2.1. | Globe Valve | A | FISHER, FORBES MARSHALL, IL PALAKKAD, KOSO, SAMSON, SEVERN, UNIFLOW CONTROLS |
| 2.2. | Butterfly Valve | A | AIRA, DEL VAL, FISHER, FOURESS, IL PALAKKAD, KOSO, SEVERN |
| 2.3. | Pneumatic Actuator | A | DEL VAL, FORBES MARSHALL, IL PALAKKAD, KOSO, OM CONTROL, ROTEX, SAMSON, UNIFLOW CONTROLS |
| 2.4. | Electrical Motor Actuator | A | AUMA, BERNARD, LIMITORQUE, ROTORK, |
| 2.5. | Electro Pneumatic Positioner | A | ABB, EMERSON, FORBES MARSHALL, SIEMENS |
| 3. | CONTROL SYSTEM EQUIPMENT | | |

| S No. | ITEMS | CATEGORY | MAKE |
|-----------|---|----------|--|
| 3.1. | Signal Isolator | A | MASIBUS, MICROSYSTEMS & CONTROLS, MTL, P&F, PHOENIX, STAHL, YOKOGAWA |
| 3.2. | Distributed Control System | A | ABB, EMERSON, HONEYWELL, SCHNEIDER, SIEMENS, ROCKWELL, TOSHIBA, YOKOGAWA, |
| 3.3. | PLC System | A | ABB, ECIL, HITACHI, HONEYWELL, EMERSON AUTOMATION (FORMERLY "GE INTELLIGENT"), ROCKWELL, SCHNEIDER, SIEMENS |
| 3.4. | Technological Control System/ Multi Tasking Control System/ Embedded Control System | A | ABB, DANIELI, EMERSON AUTOMATION (FORMERLY "GE INTELLIGENT"), SIEMENS, SMS, TMEIC |
| 3.5. | PDA | A | DANIELI, IBA, LMS, MICA, SOMAT |
| 3.6. | Panel / Enclosure / Rack | B | APW PRESIDENT, DIVYA ENGINEERS, HOFFMANN, PYROTECH, RITTAL, VALRACK |
| 3.7. | Surge Protection | A | DEHN, MTL, P&F, PHOENIX CONTACT, OBO BETTERMANN |
| 4. | PANEL BASED INSTRUMENTATION | | |
| 4.1. | Single Loop Stand Alone Controller | A | ABB, FUJI, HONEYWELL, SIEMENS, TOSHIBA, YOKOGAWA |
| 4.2. | Paperless Recorder | A | CHINO, EURO THERM, FUJI, HONEYWELL, LAXONS, YOKOGAWA, |
| 4.3. | Alarm Annunciator | B | IIC, IL, MINILEC, PROCON, SEMUDA |
| 4.4. | Regulated DC Power Supply Unit / SMPS | A | APLAB, COSSEL, PHOENIX CONTACT, SIEMENS, WAGO |
| 5. | ANALYSERS | | |

| S No. | ITEMS | CATEGORY | MAKE |
|-----------|--|----------|---|
| 5.1. | Gas Analyser | A | ABB CHEMTROL (AMETEK), EMERSON, FUJI, FORBES MARSHALL, HONEYWELL, PANAMETRICS, SICK, SIEMENS, YOKOGAWA |
| 5.2. | Gas Detector | A | BEILER & LANG, DETRONICS, DRAGGER, INDUSTRIAL SC. CORPN MSA, TELEDYNE |
| 5.3. | Flame Detector | A | DURAG, ENDEE, HONEYWELL, SICK, YAMATAKE |
| 5.4. | Moisture Analyzer (Nucleonic) | A | CHINO, BERTHOLD, EMERSON, THERMO FISHER |
| 5.5. | Moisture Analyzer (Microwave/ Capacitance Type) | A | ABB, CHEMTROL, MOISTECH, NDC, SIEMENS |
| 5.6. | Opacity Analyser | A | DURAG, FORBES MARSHALL, MAIHEK, SICK, |
| 5.7. | Calorific Value Analyser | A | CHEMTROL(AMS), REINEKE, UNION CALORIMETER, YOKOGAWA, IGCA |
| 5.8. | pH / Conductivity / ORP Analyser | A | ABB, E&H, EMERSON, FORBES MARSHAL, HONEYWELL, YOKOGAWA, |
| 5.9. | SOX / NOX/ CO Analyser | A | ABB, AIC (FUJI), EMERSON, FUJI, FORBES MARSHAL, HONEYWELL, SICK, SIEMENS, YOKOGAWA |
| 5.10. | Elemental Analyser | A | JICO, MAYA, PANALYTICAL, REAL TIME, SCANTECH, THERMO SCIENTIFIC |
| 6. | WEIGHING | | |

| S No. | ITEMS | CATEGORY | MAKE |
|-----------|--|----------|--|
| 6.1. | Electronic Weighing System (Hopper Weighing / Platform / Scales / In-motion W.B.) | A | ABB, ACME, AVERY KELK, BEST, MINEBEA INTEC (FORMERLY SARTORIOUS), PRECIA MOLEN, RICE LAKE, SCHENK, TRANSWEIGH |
| 6.2. | Load Cells & Accessories | A | ABB, FLINTEK, HBM, MINEBEA INTEC (FORMERLY SARTORIOUS), PRECIA MOLEN, PRECISION, RICELAKE, SCHENCK, SIEMENS, KELK |
| 7. | SPECIAL INSTRUMENTS | | |
| 7.1. | Thickness Gauge | A | IMS, IRM, MESACON, TOSHIBA, THERMO SCIENTIFIC, |
| 7.2. | Hot Metal Detector | A | AMERICAN SENSORS, DANIELI, DELTA, SICK, TOSHIBA, HOKUYO AUTOMATIC CO. LTD. |
| 7.3. | Width Gauge | A | ABB, DELTA, DANIELI, IMS, PSYSTEME, THERMO SCIENTIFIC, TOSHIBA |
| 7.4. | Vibration Monitoring System | B | GE OIL & GAS, IRD MECHANALYSIS, SCHENCK, SHINKAWA |
| 7.5. | Portable Vibration Monitor with analysis software | B | BENTLEY NEVADA, FORBES MARSHAL, IRO |
| 7.6. | Test & Measuring Equipment | B | APLAB, FLUKE, KANE, SCIENTIFIC, TECHNOFIX, |
| 7.7. | Laboratory Equipment | B | BEAMEX, FLUKE, SCANDURA, WIKA |
| 7.8. | Digital Multi-Function Meter | B | ACORD, CONSERVE, L&T, RISHAV, SECURE |
| 7.9. | Strip Profile Gauge | A | IMS, MESACON, NDC (IRM), THERMO SCIENTIFIC, TOSHIBA, |

| S No. | ITEMS | CATEGORY | MAKE |
|-----------|--------------------------------------|----------|---|
| 7.10. | Flatness/ Shape Gauge | A | ABB, DELTA, IMS, P-SYSTEME, SIEMENS, THERMO SCIENTIFIC, |
| 7.11. | Laser Doppler Velocity Meter | A | ACCUSPEED, AMERICAN SENSORS, DELTA, KELK, LASER SPEED, |
| 7.12. | Optical Barrier | A | ABB, AMERICAN SENSORS, DELTA, PAULI, SICK, |
| 7.13. | Position Transducer | A | LEONARD BAUR, NSD, SONY MAGNESCALE, TEMPOSONIC, DELTA |
| 7.14. | Optical Encoder | A | HUBNER, LINE & LINDEY, STEGMANN |
| 7.15. | Surface Inspection System | A | ABB, COGNEX, PARSYTEC, SIEMENS, SURCON |
| 8. | COMMUNICATION EQUIPMENT | | |
| 8.1. | Wireless Communication Equipment | A | CISCO, EXTREME, GE, JUNIPER, LOTUS WIRELESS, MOTOROLA, MOXA, RADIUS, SATELLINE, SHEETAL WIRELESS, STAHL, PHOENIX CONTACT |
| 8.2. | EPABX | A | ALCATEL, AVAYA, ERICSON, ITI, SIEMENS |
| 8.3. | PA System/ Conferencing system | B | AHUJA, BOSCH, HONEYWELL, PHI AUDIO COM |
| 9. | DISPLAY & FDA SYSTEM | | |
| 9.1. | Alpha Numeric Display/ Jumbo Display | B | AGLA, BLE BELL, GE, LECTROTEK, MICROTECH, PYROTECH ELECTRONICS, VINAY |
| 9.2. | Large Screen Display | B | HITACHI, LG, PANASONIC, SAMSUNG, SONY |

| S No. | ITEMS | CATEGORY | MAKE |
|------------|---|----------|---|
| 9.3. | Video Walls (LED) | B | DELTA, HITACHI, LG, PANASONIC, SAMSUNG, SONY |
| 9.4. | Fire Detection and Alarm (FDA) System | A | BOSCH, HONEYWELL (ESSER), HONEYWELL (NOTIFIER), SCHRACK SECONET, SECURITON, SIEMENS, TYCO |
| 10. | INSTRUMENTATION CABLES | | |
| 10.1. | Instrumentation/ Screened/ Co-axial/ Special Cables | A | CCI, CORDS, DELTON, FINOLEX, LAPP, MEM, NICCO, SPECIAL CABLES, SUN, THERMOCABLES, TOSHNIWAL, UNIVERSAL |
| 10.2. | Telephone Cable | B | BELDON, DELTON, FINOLEX, NICCO, TELE LINK, UNIVERSAL, |
| 10.3. | Load Cell Cable | A | FLINTEC, HBM, PRECIA MOLEN, RICELAKE, SARTORIOUS, SCHENK, SIEMENS |
| 10.4. | T/C Extension cable, Compensating cable, PTFE cable | A | BELDEN, LAPP, MEM, TEMCON, TEMPESENS, THERMOCABLE, TOSHNIWAL CABLES |



SECTION-E

REFRACTORY

| S No. | ITEMS | CATEGORY | MAKE |
|-------|---|----------|--|
| 1. | Fireclay Refractories (Alumina Up to 44 %) | B | ARUN REFRACTORIES, ARVIND INDUSTRIES, ASSOCIATED CERAMICS LTD., BRAHMA REFRACTORIES PVT. LTD., BURNPUR CERAMICS, BURNPUR INDUSTRIES, CHAMPION CERAMICS PVT. LTD., INDUSTRIAL ASSOCIATES, MAHAKOSHAL REFRACTORIES PVT. LTD., MAITHAN CERAMIC LTD., MANISHRI REFRACTORIES & CERAMICS PVT. LTD., PREMIER REFRACTORIES PVT. LTD., RAJHANS REFRACTORIES PVT. LTD., RHI MAGNESITA INDIA REFRACTORY LIMITED, SAIL REFRACTORY UNIT, SHREEKANT INDUSTRIES, TRL KROSAKI REFRACTORIES LTD., VALLEY REFRACTORIES PVT. LTD. |
| 2. | High Alumina Refractories (Alumina Above 44 %) | B | ASSOCIATED CERAMICS LTD., BRAHMA REFRACTORIES PVT. LTD., CHAMPION CERAMICS PVT. LTD., INDUSTRIAL ASSOCIATES, MAHAKOSHAL REFRACTORIES PVT. LTD., MAITHAN CERAMIC LTD., MANISHRI REFRACTORIES & CERAMICS PVT. LTD., PREMIER REFRACTORIES PVT. LTD., RAJHANS REFRACTORIES PVT. LTD., RANCHI REFRACTORIES (INDIA) PVT. LTD., RHI MAGNESITA INDIA REFRACTORY LIMITED, SAIL REFRACTORY UNIT, SAINT-GOBAIN PERFORMANCE CERAMICS & REFRACTORIES, TRL KROSAKI REFRACTORIES LTD. |
| 3. | Silica Refractories | B | TRL KROSAKI REFRACTORIES LTD., RHI MAGNESITA INDIA REFRACTORY LIMITED, SAIL REFRACTORY UNIT |

| S No. | ITEMS | CATEGORY | MAKE |
|-------|--|----------|---|
| 4. | Insulation Refractories | B | ACHINT CHEMICALS, ASSOCIATED CERAMICS LTD., CALDERYS INDIA REFRACTORIES LTD., CARBORUNDUM UNIVERSAL LTD., MAITHAN CERAMICS LTD., MURUGAPPA MORGAN THERMAL CERAMICS LTD., NAVRANG REFRACTORIES PVT. LTD., NEWKEM PRODUCTS CORPOPRTATION, NUTECH REFRACTORIES PVT. LTD., PREMIER REFRACTORIES PVT. LTD., RAJASTHAN CERAMICS INDUSTRIES, RELIABLE REFRACTORIES PVT. LTD., VALLEY REFRACTORIES PVT. LTD., SHREE CERAMICS FIBERS PVT. LTD. |
| 5. | Basic Refractories (Magnesite/ Mag Chrome/ Chrome Mag/ Magnesia-Carbon/ Alumina Magnesia Carbon) | B | CHAMPION CERAMICS PVT. LTD., MAITHAN CERAMIC LTD., MANISHRI REFRACTORIES & CERAMICS PVT. LTD., RANCHI REFRACTORIES (INDIA) PVT. LTD., RHI MAGNESITA INDIA LTD., RHI MAGNESITA INDIA REFRACTORY LIMITED, SAIL REFRACTORY COMPANY LTD., SAIL REFRACTORY UNIT, SARVESH REFRACTORIES PVT. LTD., TRL KROSAKI REFRACTORIES LTD., VESUVIUS INDIA LTD. |
| 6. | Purging Refractories (Porous Plug/ Purging Plug) | B | IFGL REFRACTORIES LTD., MANISHRI REFRACTORIES & CERAMICS PVT. LTD., RHI MAGNESITA INDIA LTD., RHI MAGNESITA INDIA REFRACTORY LIMITED, SARVESH REFRACTORIES PVT. LTD., TRL KROSAKI REFRACTORIES LTD., VESUVIUS INDIA LTD. |
| 7. | Pouring Refractories (Well block/ Inner Nozzle/ Outer Nozzle/ Slide gate) | B | IFGL REFRACTORIES LTD., MANISHRI REFRACTORIES & CERAMICS PVT. LTD., RANCHI REFRACTORIES (INDIA) PVT. LTD., RHI MAGNESITA INDIA LTD., RHI MAGNESITA INDIA REFRACTORY LIMITED, SARVESH REFRACTORIES PVT. LTD., TRL KROSAKI REFRACTORIES LTD., VESUVIUS INDIA LTD. |
| 8. | Black Refractories (Shroud/ Mono block Stopper/ Tundish Nozzle/ SEN/ Single Taphole Sleeve) | B | IFGL REFRACTORIES LTD., RHI MAGNESITA INDIA LTD., RHI MAGNESITA INDIA REFRACTORY LIMITED, SARVESH REFRACTORIES PVT. LTD., TRL KROSAKI REFRACTORIES LTD., VESUVIUS INDIA LTD. |

| S No. | ITEMS | CATEGORY | MAKE |
|-------|---|----------|---|
| 9. | Silicon Carbide Refractories | B | CARBORUNDUM UNIVERSAL LTD., SAINT-GOBAIN PERFORMANCE CERAMICS & REFRACTORIES |
| 10. | Alumina-Silicon Carbide-Carbon (ASC) Refractories | B | CHAMPION CERAMICS PVT. LTD., MANISHRI REFRACTORIES & CERAMICS PVT. LTD., RAASI REFRACTORIES LTD., RHI MAGNESITA INDIA LTD., RHI MAGNESITA INDIA REFRACTORY LIMITED, TRL KROSAKI REFRACTORIES LTD. |
| 11. | Acid Resistant Refractories | B | CHAMPION CERAMICS PVT. LTD., MAHAKOSHAL REFRACTORIES PVT. LTD., MANISHRI REFRACTORIES & CERAMICS PVT. LTD., RAJHANS REFRACTORIES PVT. LTD., BURNPUR CERAMICS, SB STEEL, ORIENT REFRACTORIES, JARIDIH CHEMICALS & INDUSTRIES |



SECTION-F

UTILITIES & SERVICES

| S No. | ITEMS | CATEGORY | MAKE |
|-------|--|----------|---|
| 1. | PUMPS | | |
| 1.1. | Centrifugal Pumps (Horizontal Split Casing / Horizontal Back Pullout / Vertical axial, Volute & Mixed flow Types – All ranges) | A | BHEL, FLOWMORE, FLOW SERVE, KIRLOSKAR (KBL), KSB, SAM, SULZER, WILO-MATHER & PLATT, WPIL, JYOTI PUMPS |
| 1.2. | Centrifugal Pumps (Horizontal Split Casing / Horizontal Back Pullout / Vertical axial, Volute & Mixed flow Types – Less than 100 m3/h) | A | BEST & CROMPTON, CALAMA, CHEMFLO, CRI, SAM, SJ INDUSTRIES, SPX FLOW (JOHNSON) |
| 1.3. | Boiler Feed Pumps / Condensate Extraction Pump | A | BHEL, KIRLOSKAR EBARA PUMPS LIMITED (For boiler capacity upto 50 tph), KSB, SULZER |
| 1.4. | Submersible pump | B | CALAMA, CRI, DARLING, FLOWMORE, GOODWIN PUMPS (for handling slurry), KISHOR PUMPS, KSB, LUBI, SAM, SU MOTORS, SULZER, VARAT, WPIL, XYLEM, KBL, WILO-MATHER & PLATT |
| 1.5. | Horizontal Centrifugal Pumps For Slurry Handling | A | BEST & CROMPTON, CRI, FL SMIDTH (DORR OLIVER), FLOWMORE, FLOW SERVE, GOODWIN PUMPS, METSO, SAM, WEIR MINERALS |
| 1.6. | Reciprocating Slurry Pump | A | FL SMIDTH (DORR OLIVER), ROTO, WEIR MINERALS |
| 1.7. | Vertical Centrifugal Pumps for Slurry Handling | A | METSO, SAM, WEIR MINERALS |
| 1.8. | Reciprocating Pumps | A | ACME, AIRAUTO, CHEMTROL ENGG., FLOW SERVE, SWELORE |

| S No. | ITEMS | CATEGORY | MAKE |
|--|---|----------|--|
| 2. | VALVES & GATES | | |
| 2.1.FLUIDS (EXCEPT STEAM & OXYGEN) SERVICE | | | |
| General Services-Make-up water system, Cleaning & Washing, Service air system, Purging system | | | |
| 2.1.1. | Gate and Globe (Cast Steel) General Services | B | BHEL, DEMBLA VALVES LTD, FLUIDTECH EQUPT., FOURESS, GM ENGG., INTERVALVE, IVC, JOSHI JAMPALA, KIRLOSKAR, KSB, L&T, MASCOT, OSWAL INDUSTRIES, STEELSTRONG, TYCO VALVES, UNIVERSAL ENGG. CONCERN, VALVE TECH IND., LEADER, S&M INDUSTRIAL VALVES (KOLKATA), SWIMS (BDK) |
| 2.1.2. | Gate and Globe (Cast Steel) ALL Process | A | BHEL, DEMBLA VALVES LTD , FLUIDTECH EQUPT., FOURESS, KSB, L&T, TYCO VALVES, S&M INDUSTRIAL VALVES (KOLKATA), SWIMS (BDK), VALVE TECH IND. |
| 2.1.3. | Non-return Valves (Cast Steel) General Services | B | ADVANCE VALVES (NOIDA), BHEL, DEMBLA VALVES LTD, DEZURIK, FLUIDTECH EQUPT., FOURESS, GM ENGG., INTERVALVE, KIRLOSKAR, KSB, L&T, OSWAL INDUSTRIES, STEELSTRONG, UNIVERSAL ENGG. CONCERN, UNIVERSAL ENGG., VALVE TECH IND, LEADER, S&M INDUSTRIAL VALVES (KOLKATA), SWIMS (BDK) |
| 2.1.4. | Non-return Valves (Cast Steel) All Process | A | ADVANCE VALVES (NOIDA), BHEL, FLUIDTECH EQUPT., FOURESS, KSB, L&T, SWIMS (BDK), VALVE TECH IND. |

| S No. | ITEMS | CATEGORY | MAKE |
|--------|---|----------|--|
| 2.1.5. | Gate, Globe and Non-return Valves (Forged Steel) General Services | B | BHEL, FLUIDTECH EQUIPMENTS Pvt. Ltd., FOURESS, HYDRO TECH ENGG., INTERVALVE, JOSHI JAMPALA, KIRLOSKAR (KBL), KSB, L&T, OSWAL INDUSTRIES, VALVE TECH IND., S&M INDUSTRIAL VALVES (KOLKATA), SWIMS (BDK) |
| 2.1.6. | Gate, Globe and Non-return Valves (Forged Steel) All Process | A | BHEL, FOURESS, KSB, L&T, SWIMS (BDK) , VALVE TECH IND. |
| 2.1.7. | Gate and Globe Valves (SS & Alloy Steel) | A | BHEL, FLUIDTECH EQUIPMENTS Pvt. Ltd., FOURESS, INTERVALVE, KSB, L&T, OSWAL INDUSTRIES, SWIMS (BDK), VALVE TECH IND. |
| 2.1.8. | Gate, Globe, Non-Return Valves (Cast Iron, & SG Iron) General Services | B | BANKIM, CALSEN, CHEMTECH, DURGA VALVES, FLUIDTECH EQUPT., GM DALUI, IVC, JOSHI JAMPALA, KIRLOSKAR, LEADER, S&M INDUSTRIAL VALVES (KOLKATA), SHIVA DURGA, SIGMA FLOW, UNIVERSAL ENGG. CONCERN, UNIVERSAL ENGG., UPADHYAY, VALVE TECH IND |
| 2.1.9. | Gate, Globe, Non-Return Valves (Cast Iron, & SG Iron) All Process | A | FLUIDTECH EQUPT., IVC, JOSHI JAMPALA, KIRLOSKAR, S&M INDUSTRIAL VALVES (KOLKATA), SHIVA DURGA, UPADHYAY |
| 2.1.10 | Double Eccentric Butterfly Valves | A | ADVANCE VALVES (NOIDA), DELVAL FLOW CONTROLS, DEMBLA VALVES LTD, FOURESS, INTERVALVE, JOSHI JAMPALA, L&T, STAFFORD (VIRGO), VALVE TECH IND., SWIMS (BDK), KSB, KIRLOSKAR, IL |

| S No. | ITEMS | CATEGORY | MAKE |
|--------|--|----------|---|
| 2.1.11 | Triple Eccentric Butterfly Valves | A | ADVANCE VALVES (NOIDA), DELVAL FLOW CONTROLS, DEMBLA VALVES LTD, EMERSON (VIRGO), FOURESS, INTERVALVE, JOSHI JAMPALA, L&T, PENTAIR (TYCO), SWIMS (BDK) , VALVE TECH IND. |
| 2.1.12 | Butterfly Valve General Services | B | BRAY CONTROLS, DELVAL FLOW CONTROLS, DEMBLA VALVES LTD, DEZURIK, DURGA VALVES, CHEMTECH, , FLUIDTECH EQUIPMENTS Pvt. Ltd., FLOW SERVE, FOURESS, INTERVALVE, JOSHI JAMPALA., KIRLOSKAR, KSB, L&T, MASCOT, METSO, ROTEX, S&M INDUSTRIAL VALVES (KOLKATA), SIGMA FLOW, STAFFORD CONTROLS, TYCO VALVES, UNIVERSAL ENGG. CONCERN, UNIVERSAL ENGG., VALVE TECH IND.,AVCON, SWIMS (BDK) , LEADER, VICTRAM VALVES |
| 2.1.13 | Butterfly Valve All Process | A | ADVANCE VALVES (NOIDA), BRAY CONTROLS, DELVAL FLOW CONTROLS, DEMBLA, FLOW SERVE , FOURESS, INTERVALVE, KSB, L&T, METSO, TYCO VALVES, S&M INDUSTRIAL VALVES (KOLKATA), SWIMS (BDK) , VALVE TECH IND. |
| 2.1.14 | Fabricated Valves (Gate Valves) | A | FLUIDTECH EQUPT., FOURESS, JOSHI JAMPALA, L&T, CHEMTECH, VALVE TECH IND. |
| 2.1.15 | Fabricated Valves (Butterfly Valves) | A | FLUIDTECH EQUPT., FOURESS, IL, INTERVALVE, JOSHI JAMPALA, L&T , VALVE TECH IND. |

| S No. | ITEMS | CATEGORY | MAKE |
|--------|---|----------|--|
| 2.1.16 | Goggle Valves | A | FOURESS, JOSHI JAMPALA, Zimmerman & Jhonson-India, CHEMTECH, VALVE TECH IND. |
| 2.1.17 | 3 or 4 Way Cock/Plug valve (CI / CS/ FS) | B | FLUIDTECH EQUIPMENTS Pvt. Ltd., FLOWSERVE, UNIVERSAL ENGG. CONCERN, L&T, S&M INDUSTRIAL VALVES (KOLKATA) |
| 2.1.18 | Ball Valve (SS/CS / FS / CI) General Services | B | AQUA VALVES, DELVAL FLOW CONTROLS, DEMBLA VALVES LTD, EMERSON (VIRGO), FLUIDTECH EQUIPMENTS Pvt. Ltd., INTERVALVE, KSB, L&T, MASCOT, OSWAL INDUSTRIES, MICROFINISH, NSSL, PENTAIR (TYCO), ROTEX, VALVE TECH IND., S&M INDUSTRIAL VALVES (KOLKATA), SWIMS (BDK) |
| 2.1.19 | Ball Valve (SS/CS / FS / CI) All Process | A | DELVAL FLOW CONTROLS, EMERSON (VIRGO), INTERVALVE, KSB, L&T, MICROFINISH, PENTAIR (TYCO), ROTEX, S&M INDUSTRIAL VALVES (KOLKATA), SWIMS (BDK) , VALVE TECH IND. |
| 2.1.20 | Float Valve | B | CALSEN, IVC, LEADER, LEVCON, SHIVA DURGA, UPADHAYA, |
| 2.1.21 | Foot Valve | B | CALSEN, DEZURIK, IVC, KIRLOSKAR (KBL), LEADER, LEVCON, SHIVA DURGA, UPADHAYA, SWIMS (BDK) |
| 2.1.22 | Diaphragm Valve | A | CRANE PROCESS, FLUID SYSTEM, MASCOT, SWIMS (BDK) |
| 2.1.23 | Air Release Valve | B | BANKIM, CALSEN, FLUIDTECH EQUIPMENTS Pvt. Ltd., IVC, LEADER, LEVCON, S&M INDUSTRIAL VALVES (KOLKATA), SHIVA DURGA, SIGMA FLOW, UPADHYAY |

| S No. | ITEMS | CATEGORY | MAKE |
|---------------------------|---|----------|---|
| 2.1.24 | Safety Valve | A | BHEL, IL, FORBES MARSHALL, MEKASTAR, PENTAIR (TYCO), SWIMS (BDK) |
| 2.1.25 | Needle Valve | A | AIR CHEM, DUNCUN, SCHRODER, SEIMAG, VALVE TECH IND |
| 2.1.26 | Knife-edge Gate Valve | A | DEZURIK, FLOWLINK SYSTEMS, HABONIM VASS, JASH, JOSHI JAMPALA, METSO, ORBINOX, PENTAIR (TYCO), VALVE TECH IND, WEIR-MINERALS, BRAY CONTROLS |
| 2.1.27 | Pressure Reducing Valve | A | CRESCENT, FLOWTEK, FORBES MARSHALL, IL, MEKASTER |
| 2.1.28 | Sluice Gate | B | FLUIDTECH EQUIPMENTS Pvt. Ltd., IM ENGG, INTERVALVE, JASH, LEVCON, S&M INDUSTRIAL VALVES (KOLKATA), VICTRAM VALVES, VALVE TECH IND. |
| 2.1.29 | Non-Ferrous Valves (General Purpose) | B | AKSONS, ASCO, BOMBAY METAL, CRESCENT, FLUIDLINE, GM DALUI, LEADER, SANT VALVES, VALVE TECH IND |
| 2.1.30 | Dampers – (in Flue duct) | B | DTL, FOURESS, INTERVALVE, JOSHI JAMPALA, STAFFORD, VALVE TECH INDUSTRIES |
| 2.2. STEAM SERVICE | | | |
| 2.2.1. | Gate and Globe (Cast Steel & Forged Steel) | A | BHEL, FLUIDTECH EQUIPMENTS Pvt. Ltd., FOURESS, HOPKINSONS-WEIR, HYDRO TECH ENGG., INTERVALVE, KSB, L & T, OSWAL INDUSTRIES, PRUSS(HS), SWIMS (BDK), VALVE TECH IND. |
| 2.2.2. | Non-return Valves (Cast Steel & Forged Steel) | A | BHEL, DEZURIK, FOURESS, INTERVALVE, KSB, L&T , SWIMS (BDK) |

| S No. | ITEMS | CATEGORY | MAKE |
|-------------------------------|---|----------|---|
| 2.2.3. | Gate, Globe & Non-return Valves (SS & Alloy Steel) | A | BHEL, FOURESS, HOPKINSONS-WEIR, KSB, L & T, OSWAL INDUSTRIES, VALVE TECH IND. |
| 2.2.4. | Ball valves (Cast Carbon Steel and alloy Steel) | A | BHEL, KSB, L & T, OSWAL INDUSTRIES, THERMAX |
| 3. HEAT EXCHANGERS | | | |
| 3.1. | Heat Exchanger (Plate Type) | A | ALFA LAVAL, APV, HRS, IDMC, SWEP, TRANTER, KELVION INDIA |
| 3.2. | Heat Exchanger (Shell & Tube Types) | B | AIR CARE EQUIPMENTS, ALFA LAVAL, APV, BHEL, EASTERN EQUIP ENG (EEE), EUREKA ENGG., GODREJ, HRS HEAT EXCHANGERS, ING-TECH ENGG. CO., L&T, PRECISION COOLING, REILIENCE, RELIANCE, TEMA INDIA, TEXMACO, THERMAL SYSTEMS, THERMAX |
| 4. | COOLING TOWERS | A | GAMMON, GEA COOLING TOWERS, PAHARPUR, PALTECH, SHRIRAM TOWER, WET BULB |
| 5. FILTERS / STRAINERS | | | |
| 5.1. | Filters (Manual/ Automatic Self Cleaning) /Strainers | A | AMIAD, FILTRATION ENGINEERS, HYDAC FILTERS, OTOKLIN, SUPERFLO, SUREFLO PUROLATOR, TECHNOMAX ENTERPRISES (I) Pvt Ltd (MUMBAI), YAHA WATER SYSTEMS |

| S No. | ITEMS | CATEGORY | MAKE |
|-----------|---|----------|---|
| 5.2. | Pressure Filters/ Pressure Sand Filters | A | DOSHI ION-VEOLIA, DRIPLEX, ING- TECH ENGG. CO., EFFWA, EUREKA ENGG. RESIN INDIA, FILTRATION ENGINEERS, ION EXCHANGE, McLANAHAN, OTOKLIN, PENTAIR WATER, TECHNOMAX ENTERPRISES (I) Pvt Ltd (MUMBAI), THERMAX, VA TECH, VOLTAS, YAHA WATER SYSTEMS |
| 5.3. | Activated Carbon Filter/ Pressure Sand Filter/ Activated Filter Media | A | ARUDRA, ION EXCHANGE, OTOKLIN, PENTAIR WATER, RESIN INDIA, SUREFLO, THERMAX, VASMYL, VOLTAS, YAHA WATER SYSTEMS |
| 5.4. | Iron Removal Filter | A | ION EXCHANGE, SPARKLE, THERMAX, VOLTAS, ZEOLITE INDIA (P) LTD |
| 5.5. | Y-Strainer | B | CADILLAC, DRAYTON-GREAVES, FILTRATION ENGINEERS, FORBES MARSHALL, OTOKLIN, SUPERFLO, UNIKLINGER |
| 5.6. | Cyclone Separator | B | Filtration Engineers India Pvt. Ltd., LAKOS, SUPERFLO, TIMEX (AMIAD) |
| 6. | EXPANSION JOINTS/COMPENSATORS (Utility & Services) | | |
| 6.1. | Expansion Joints / Compensators (Metallic) | A | ATHULYA, DWREN, FLEXICAN, FLEXITHERM, LONE STAR, BD ENGINEERS, METALLIC BELLOWS, PRECISION ENGINEERS, SUR INDUSTRIES |
| 6.2. | Expansion Joints/Compensators (Rubber) | B | CORI ENGG., DWREN, GBM , KELD ELLETOFT INDIA, PRECISION ENGRS., STANDARD PRECISION BELLOWS, SUR INDUSTRIES |

| S No. | ITEMS | CATEGORY | MAKE |
|-------|---|----------|--|
| 7. | CENTRIFUGAL GAS BOOSTER (BF/CO/BOF/MIXED FUEL GAS) | A | AEROTO BOLDROCCHI, ANDREW YULE, BHEL, HOWDEN, TLT |
| 8. | INSULATION MATERIAL AND WORK | B | BAKELITE HYLAM, FINLAY INSULATIONS, LLYOD INSULATION, RAYCHEM, UP TWIGA |
| 9. | PRESSURE VESSELS / BUFFER VESSELS | A | BHEL, L&T, NTPC-ALSTOM, PRESSURE VESSEL INDIA (P) LTD., TEXMACO, TITAN ENGINEERING |
| 10. | GAS HOLDER (DRY SEAL TYPE) | A | MB Engg (CLAYTON WALKER GROUP -UK), LAZARUS & ASSOCIATES |
| | GAS HOLDER (WET SEAL TYPE) | A | MB Engg (CLAYTON WALKER GROUP -UK), LAZARUS & ASSOCIATES |
| 11. | PIPES | | |
| 11.1. | Steel Pipes | B | INDIAN SEAMLESS (ISMT), JSW, JINDAL SAW, JCO GAS PIPE LTD, LALBABA SEAMLESS TUBES, KHANDELWAL, MAHARASHTRA SEAMLESS, SAIL, SURYA TUBES, TATA TUBES, UTKARSH, RATNADEEP METAL & TUBES LTD. |
| 11.2. | Stainless Steel Pipes | B | CHOKSY, DIVINE TUBES, JINDAL SAW, MAHARASHTRA SEAMLESS, MEC TUBES, SURAJ LTD., QUALITY STAINLESS, STANDARD (INDIA), STERLING, ZENITH, RATNADEEP METAL & TUBES LTD |
| 11.3. | Cast Iron Pipes & Specials | B | KALINGA IRON WORKS, KESORAM INDIA LTD. |

| S No. | ITEMS | CATEGORY | MAKE |
|---|---------------------------------|----------|--|
| 11.4. | DI Pipes | B | ELECTRO STEEL CASTINGS., JINDAL SAW, TATA METALIKS DI PIPE LTD. |
| 12. WATER TREATMENT AND DM WATER PLANT | | | |
| 12.1. | DM , Soft Water Plant, RO PLANT | A | VEOLIA, DRIPLEX, EFFWA, EUREKA FORBES, GE POWER & WATER, GEA ENERGY SYSTEMS, ION EXCHANGE, ISGEC (Except RO Plant), PENTAIR WATER, RESIN INDIA, SPARKLE, THERMAX, TRIVENI ENGG., VOLTAS |
| 12.2. | Clarifier | B | EIMCO-KCP, EUREKA FORBES, JORD ENGINEERS, McNALLY SAYAJI, TECHNOMAX ENTERPRISES (I) Pvt Ltd (MUMBAI), TRIVENI ENGG. Water Systems India Pvt. Ltd., YAHA WATER SYSTEMS |
| 12.3. | Thickener | - | As per makes of Thickener mentioned in MINING & MINERAL PROCESSING AREA |
| 12.4. | Chemical Dosing | B | CHEMBOND, GE POWER & WATER, NALCO, SJ INDUSTRIES, TELLABS CHEMICALS, TRIVENI ENGG |
| 12.5. | Filter Press | A | ANDRITZ, DINSHAW, FILTER MACHINE, FL SMITH, PANAMA, SUREFLO |
| 13. EQUIPMENT & SYSTEM FOR AIR AND GAS | | | |
| 13.1. | Turbo Blower | A | BHEL (For Centrifugal), Howden CKD Compressors (For Centrifugal), KAWASAKI, Mitsui E&S Machinery Co., MAN Energy Solutions, SIEMENS |
| 13.2. | Compressor (Centrifugal) | A | ATLAS COPCO, FS-ELLIOTT, INGERSOLL RAND, KAZANCOMPRESSORMASH, KIRLOSKAR, KOBELCO, SIEMENS |

| S No. | ITEMS | CATEGORY | MAKE |
|-------|--|----------|--|
| 13.3. | Compressors (Screw) | A | ATLAS COPCO, ELGI, INGERSOLL RAND, KAEZER, KIRLOSKAR PNEUMATIC |
| 13.4. | Compressors (Reciprocating) | A | BURCKHARDT COMPRESSION, ELGI, INGERSOLL RAND, KIRLOSKAR PNEUMATIC |
| 13.5. | Portable Air Compressors | B | ATLAS COPCO, ELGI, HOLMAN CLIMAX, INGERSOLL RAND, KIRLOSKAR |
| 13.6. | Centrifugal Blowers & Fans – For all applications except fuel gas | | |
| | Capacity < 80,000 m3/h | A | AEROTO BOLDROCCHI, ANDREW YULE, BATLIBOI, BHEL, C.DOCTOR, HOWDEN, MAXFLOW, REITZ, TLT ENGG. |
| | Capacity > 80,000 m3/h | A | AEROTO BOLDROCCHI, ANDREW YULE, BHEL, HOWDEN, MAXFLOW, TLT ENGG |
| 13.7. | Air Drier | B | ATLAS COPCO, DELAIR, EXAL, INGERSOLL RAND, ROOS TEMPKOOL, SANPAR, TRIDENT |
| 13.8. | Air Trap | B | DRAYTON GREAVES, FORBES MARSHAL, UNI KLINGER |
| 13.9. | Moisture Separator | B | DRYTECH ENGINEERS, FESTO CONTROL, HYDAIR, NUCON, ROSS, SCHRADER, SMC, THERMAX, UNIKLINGER, VELJAN |
| 14. | POWER PLANT EQUIPMENT | | |
| 14.1. | Boilers (Stoker, Pulverised, AFBC, CFBC) | A | BHEL, GE, ISGEC, THERMAX, THYSENKRUPP |
| | Gas Fired Boiler | A | BHEL, GE, ISGEC, THERMAX |
| | Waste Heat Boilers | A | BHEL, ISGEC, THERMAL SYSTEM (less than 50 tph capacity), THERMAX |
| 14.2. | Steam Turbines (For turbo-blower) | A | BHEL, MAN Energy Solutions, SIEMENS |

| S No. | ITEMS | CATEGORY | MAKE |
|--------------|---|-----------------|---|
| 14.3. | Steam Turbines (For power generation) | A | BHEL, MAN Energy Solutions, SIEMENS, SKODA, TRIVENI TURBINE |
| 14.4. | Auxiliary Steam Turbines (Range less than 1000 kW) | A | KEPL, FORBES, TRIVENI TURBINE |
| 14.5. | Gas Turbines | A | ALFA LAVAL, ALSTOM, BHEL, GE, MITSUBISHI, SIEMENS |
| 14.6. | Top Pressure recovery Turbine | A | KAWASAKI, Mitsui E&S Machinery Co., MAN Energy Solutions |
| 14.7. | Condenser (Water) | A | ALSTHOM, BHEL, GE GODAVARI, MAZDA, SIEMENS, UNIVERSAL HEAT EXCHANGER |
| 14.8. | De-aerator | A | BHEL, ION EXCHANGE, ISGEC, THERMAX |
| 14.9. | PRDU | A | BHEL, CHEMTROL, FORBES MARSHAL, THERMAX, KOSO FLUID CONTROL, EMERSON PROCESS MANAGEMENT |
| 14.10. | HP / LP Dosing | A | ASIA LMI, ENPRO, META CHEM, VK PUMPS |
| 14.11. | Soot Blowers | A | BERGMAN, BHEL, SISTON |
| 14.12. | HP Heater & LP Heater | A | BHEL, ISGEC, SIEMENS, THERMAX |
| 14.13. | Steam Traps | B | DRAYTON, FORBES MARSHALL, GREAVES, THERMAX, UNIKLINGER, ESCO, UNISON VALVES, PENANT ENGG, ECON STEEL |
| 15. | POLLUTION CONTROL EQUIPMENT | | |
| 15.1. | ESP | | ----- |

| S No. | ITEMS | CATEGORY | MAKE |
|-------|--|----------|---|
| | Capacity < 5,00,000 m ³ /h | A | ANDREW YULE, BATLIBOI ENVIRONMENTAL ENGG, BHEL, ELEX, FL SMIDTH, GEA PROCESSING, HARMONY ENVIRONMENTAL SYSTEMS (HES), K. C COTTRELL INDIA, RIECO INDUSTRIES, SOIL & ENVIRO INDUSTRIES, THERMAX INDIA |
| | Capacity > 5,00,000 m ³ /h | A | BHEL, ELEX, FL SMIDTH, GEA PROCESSING, K. C COTTRELL INDIA, SOIL & ENVIRO INDUSTRIES, THERMAX |
| 15.2. | BAG FILTERS | | ----- |
| | Capacity < 2,50,000 m ³ /h | A | ANDREW YULE, APC SYSTEMS, BATLIBOI ENVIRONMENTAL ENGG., BEVCON WAYORS, CK AIRTECH, CLAIR ENGINEERS, F. HARLEY, GLOBAL ENVIRO SYSTEM, RIECO INDUSTRIES, SOIL & ENVIRO INDUSTRIES, THERMAX |
| | Capacity > 2,50,000 m ³ /h | A | ANDREW YULE, BATLIBOI ENVIRONMENTAL ENGG., BOLDROCCHI, RIECO INDUSTRIES, SOIL & ENVIRO INDUSTRIES , THERMAX |
| 15.3. | DUST SUPPRESSION SYSTEM | B | CHEMTROL SAMIL, DUST SOLUTION SYSTEM, F. HARLEY, KAVERI ULTRAPOLYMERS, SPRAYING SYSTEMS, TPS INFRASTRUCTURE |
| 15.4. | CYCLONES AND MULTI CYCLONES | B | AEROTO BOLDROCCHI, AIR TECHNICO, ANDREW YULE, BATLIBOI ENVIRONMENTAL ENGINEERING, F. HARLEY, RAJDEEP ENGG, RIECO INDUSTRIES, THERMAX |
| 16. | AIR CONDITIONING, REFRIGERATION & VENTILATION | | |

| S No. | ITEMS | CATEGORY | MAKE |
|--------------|---|-----------------|--|
| 16.1. | Window/Tower/Split AC/ Ductable Split AC | B | BLUE STAR, CARRIER, DAIKIN, FEDDERS LLYOD, HITACHI, MITSUBISHI, SAMSUNG, VOLTAS, ZAMIL |
| 16.2. | Packaged Chillers | A | BLUE STAR, CARRIER, DAIKIN, DUNHUM BUSH HITACHI, TRANE, VOLTAS, YORK |
| 16.3. | Package AC | B | ACCEL, BLUE STAR, DAIKIN, VOLTAS |
| 16.4. | Precision Air Conditioning | A | CLIMAVENETA, EMERSON, STULLZ-CHSPL (INDIA) |
| 16.5. | Cooling Tower (ACVS) | B | ADVANCE COOLING TOWERS, ARMEC, DBR, FRICK INDIA, GAMMON INDIA, HIMGIRI, MIHIR ENGINEERS, PAHARPUR, SOUTHERN COOLING TOWERS,VOLTAS, WET BULB |
| 16.6. | Air Handling Unit | B | DAIKIN, EDGETECH, ETA, ROOTS COOLING, VOLTAS, ZAMIL, ZECO AIRCON |
| 16.7. | Tube Axial Fan | B | ABLE AIR-O TECH, AEROVENT, ANDREW YULE, CARYAIRE, DUSTVEN, EFE, FLOWLINK, HUMIDIN, KHAITAN, KRUGER, MAXFLOW, MESINA, SH ENGG., TUBOFLOW |
| 16.8. | Panel Filter For Air | B | ABB, ACCO, BHARAT, C.DOCTOR, CADILLAC, EFE, FLOW LINK, FMI, GEC, PUROLATOR, WFI |
| 16.9. | Air Washer | B | AIRLINK, EFE , HUMIDIN, MARCO, MESINA, ROOTS COOLING , SYMPHONY |
| 16.10. | Propeller Fan | B | ABB, ACCO, AEROVENT, DUVENT, INDVENT FANS, MESINA, SH ENGG., TUBOFLOW, VENTURA |

| S No. | ITEMS | CATEGORY | MAKE |
|---|---|----------|--|
| 16.11. | Roof Extractors | B | AIRLINK, ALMONARD, ANDREW YULE, C. DOCTOR, CARYAIRE, EFE, FLOWLINK, HUMIDIN, KRUGER, VENTURA |
| 16.12. | Vapor Absorption Machine | A | BLUE STAR, CARRIER, KIRLOSKAR, THERMAX, VOLTAS |
| 17. OXYGEN & CRYOGENIC SERVICE | | | |
| 17.1. | Cryogenic Pump | A | CRYOPUMP, CRYOSTAR, ICL |
| 17.2. | Oxygen Filter / Y-Strainer | A | BEE, BLUESTAR, CARBERN, CLASSIC, Filtration Engineers India Pvt. Ltd., NOVINTEC, ORSEAL, SHIPHAM, VEE |
| 17.3. | Non Ferrous Control Valves | A | BLACKHALL, FISHER, LEEDS, METSO, SAMSON, SEVERN GLOCON |
| 17.4. | Non Ferrous Self-regulating Valves | A | BALEY BRIKETT, BROADY, FISHER, SAMSON, SEVERN GLOCON, TYCO |
| 17.5. | Non Ferrous Valves (Gate, Globe, Ball) - < DN50 | B | CRESCENT, FLUIDLINE, LEADER, MICROFINISH |
| 17.6. | Non Ferrous Valves (Gate, Globe, Ball) - > DN50 | A | BESTOBELL, BROOKSBANK, FISHER, HEROSE, LEEDS, MACK, METSO, SAMSON, SEVERN GLOCON, SHIPHAM |
| 17.7. | Safety Relief Valve | A | ARCA, BAILEY BRIKETT, BROADY,CROSSBY, DARLING MUESEO, FARRIS, IL, JN MARSHALL, KEYSTONE, KUNKLE, SEBIM, SEMPELL, TYCO |
| 17.8. | Vaporizers | A | CRYOQUIP, ICL, INOX, IWI CRYOGENICS, SHELL & TUBE |
| 18. FIRE FIGHTING EQUIPMENT | | | |

| S No. | ITEMS | CATEGORY | MAKE |
|-------|--|----------|--|
| 18.1. | Portable Fire Extinguishers | B | DEFLAME, FIRE SHIELD, FIREX, GUNNEBO, INTIME FIRE, KANADIA FYR FYTER, MINIMAX, NITIN, SAFEX, SUPREMEX, ZENITH |
| 18.2. | Fire hydrant | B | ASCO, GUNNEBO, MINIMAX, NEWAGE, NITIN,STEELCO, ZENITH |
| 19. | REHEATING FURNACE (Pusher/Rotary) | A | ANDRITZ, ENCON, FIVESTEIN, HYPERTHERM, TECHNO THERM, TENOVA, WESMAN |
| 20. | MISCELLANEOUS ITEMS | | |
| 20.1. | Surge Tanks | B | ANUP ENGG., PERFECT ENGG., SAKTHI HITECH, ZENITH ERECTORS |
| 20.2. | Oil Skimmer | B | HI-TECH ENGRS, JVM ENG., POTENTIAL ENGG, PREMIER OIL SKIMMER |
| 20.3. | Traveling Water Screen | B | MACMET, MAHINDRA ASTECH, McGALE, OTOKLIN, SWAMINA INT., TRIVENI |
| 20.4. | Electrical Heat Tracer | B | NICROPAD, RAYCHEM, THERMON, THERMOPAD |



SECTION-G

**COMPUTERIZATION &
INFORMATION TECHNOLOGY**

| S No. | ITEMS | CATEGORY | MAKE |
|------------------------|---|----------|--|
| 1. IT EQUIPMENT | | | |
| 1.1. | Desktop PC | B | DELL, HP, LENOVO |
| 1.2. | Industrial PC / Semi-Rugged Laptop | B | ADVANTECH, DELL, PANASONIC, SIEMENS |
| 1.3. | Laptop | B | DELL, HP, LENOVO |
| 1.4. | Server | A | DELL, HPE, FUJITSU, LENOVO/IBM, ORACLE/SUN |
| 1.5. | Network Switch/ Router/ WAP (IT, Office) | A | CISCO, DELL, EXTREME, HP/HPE, RUCKUS |
| 1.6. | Network Switch/ Router/ WAP (Industrial) | A | ADVANTECH, CISCO, HIRSCHMANN, ROCKWELL, SCHNEIDER, SIEMENS |
| 1.7. | Cyber Security Solutions (Hardware/ Software) | A | CHECKPOINT, CISCO, FORTINET, JUNIPER, SOPHOS, PALO ALTO |
| 1.8. | Passive network components / accessories | B | DIGILINK/SCHNEIDER, MOLEX, RiT, ROSENBERGER, SYSTIMAX, TYCO (AMP) |
| 1.9. | UTP cable | B | DIGILINK/SCHNEIDER, ELKAY, MOLEX, RiT, SYSTIMAX, TELELINK, TYCO(AMP), UNIVERSAL |
| 1.10. | FO cable | B | BELDEN, DIGILINK/SCHNEIDER, FINOLEX, LUCENT, MOLEX, RiT, STARLITE, SYSTIMAX, TYCO(AMP), ROSENBERGER |
| 1.11. | Data storage system | A | DELL/ EMC, FUJITSU, HP/HPE, HITACHI, IBM, NETAPP, ORACLE |
| 2. CCTV SYSTEM | | | |
| 2.1. | CCTV system | B | BOSCH, CP PLUS, HONEYWELL, , PANASONIC, PELCO, SAMSUNG, SEIMENS, SONY, TYCO |
| 2.2. | LED display (40" or more) | B | HITACHI, LG, PANASONIC, SAMSUNG, SONY |
| 2.3. | Video wall | B | DELTA, HITACHI, LG, PANASONIC, SAMSUNG, SONY |

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