		20. Hydraulic Press Motor – Auxiliaries, 21. Brick Handling - Servo Motor - Indexing Table – 1/2, 22. Brick Handling - Servo Motor – Long Travel – 1/2, 23. Brick Handling - Servo Motor – Cross Travel – 1/2, 24. Brick Handling - Servo Motor – Up & Down – 1/2, 25. Brick Handling - Servo Motor – Rotation – 1/2, 26. LSP - Base Car Transverse Motor-1 27. LSP - Top Car Transverse Motor-1/2 28. LSP - Centraliser Drive-1/2 29. LSP - Lifting Motor 30. Pallet Handling - Double Girder Crane - Long Travel-1/2 31. Pallet Handling - Double Girder Crane - Cross Travel-1/2 32. Pallet Handling - Double Girder Crane – Power Pack Motor-1 33. Pallet Handling - Double Girder Crane – Power Pack Auxiliaries 34. Water Pump -1/2 35. Vacuum Pump – 1/2 36. Air Compressor – 1/2 37. Area Lighting & CCT 38. Weigh Bridge
5	**Brief of Electrical Scope**	Bidder to provide following electrical system as per attached SLD & BOQ shall be covering following clauses but not limited to it. Bidder shall make all provision required according to the design and for satisfactory and safe operation of the Electrical system. 1. 6.6kV / 0.433kV, 1.25 MVA & 1MVA distribution transformers (1 nos each). 2. 6.6 kV (UE) Aluminium conductor, XLPE insulated, armoured cables with heat shrinkable end termination kits and straight through jointing kits (where joints are required due to length of feeders being longer than standard cable drum lengths) cable glands and lugs for all cabling. 3. 6.6kV, 1250A, 50kA for 1 sec draw out type switchboards, with VCB type circuit breakers including spare feeders. 4. 02 nos 415V LT distribution boards are to be given for downstream supply to both CO2 Capture plant and Ash Brick Plant plant. 415V, 2500A, 50kA for 1 sec draw out type switchboards, with ABCB type circuit breakers contactors, fuse boards, MPCB etc., to be given with at least one spare feeders of each type. 5. HT & LT Motor and VFD (MV & LV) as per requirement.

		6. When secondary (0.415KV side) current exceeds 1600 amps bus ducts to be used for interconnection between distribution transformers and switchgear for feeding motor loads and other loads including spare feeders. Bus duct should be of, 2500A, 3-phase TPN, 50 kA for 1 sec draw-out type PMCC. 7. 415/415 V, 3-phase dry type lighting transformers for normal lighting and emergency lighting system. 8. 415V, 150A, 3-phase TPN, 25 kA for 1 sec. draw-out type Lighting Distribution Boards (LDBs) including spare feeders. 9. Any kind of distribution of power supply to various drives, auxiliaries through MCCB, MCB, isolators, etc. as required shall also be in bidder's scope. 10. All power (HT& LT), control, instrumentation and special cables shall be under the Bidder's scope. 11. Cable support system and laying & termination of all cables along with necessary termination arrangements and other accessories such as, trays, conduits, pipes, JBs, etc. shall be in bidder's scope The formation of cable trench/tray shall be required for cable laying shall be under bidder's scope. 12. Motors along with canopy, couplings and coupling guards for all rotating pumps, compressors and blowers etc. covered under this package. All motors shall be provided with cable glands, cable box and lugs suitable for termination of required size of power cable. 13. Variable frequency drives systems complete with input transformer, chock, switchboard/panels of required voltage rating with bypass as required for variable speed motors. 14. 220 V DC protection to be used for protection and breaker control. 220V supply will be given from nearby SWGR from there party has to take the supply through control cable (2.5sqmm copper cable). 15. 240V, 30kVA AC dual redundant with bypass UPS system (2 nos 1X100%) with Nickel cadmium battery, ACDB, cell booster for DCS/PLC/Instrumentation loads including spare feeders. Battery backup time of 3 hours. 16. Industrial type safe area and flameproof type control stations with push buttons, selector switches, ammeters, lamps as required. 17. Industrial type safe area and flameproof type 415V AC welding receptacles and 240V AC, 1-phase Convenience receptacles. 18. Complete lighting within the plant battery limit 19. Construction power if required by the Bidder that should be clearly indicated in the bidder's offer including its KVA rating. OWNER shall provide a suitable terminal point for it and Bidder should safely withdraw the power from the identified terminal point.

		20. Grounding system for complete plant and equipment are under Bidder's scope. 21. All the required controls and protections as per the IEC & system requirement for individual equipment and overall electrical system shall be under the bidder's scope. 22. Proper Earthing and Lightning protection including earth pits, earthing grid, grounding cables, strips, wires associated connectors and accessories shall be provided. 23. The plant safety and equipment safety shall be the responsibility of the Bidder till the final handover of plant to OWNER. 24. The Bidder should ensure safety of personnel working on the electrical system. 25. Tools and tackles for maintenance of all electrical equipment and systems. 26. All Commissioning and necessary spares shall be provided along with equipment. 27. Safety equipment such as, shock hazard charts, first aid boxes, caution boards, apron, eye shields, discharge rods, DCP portable CO2 fire extinguishers, insulating mats, sand buckets, Voltage grade hand gloves and other equipment for safety of all electrical equipment and personnel as per statutory regulations. 28. Works as listed below, but not limited to it, are included in the scope of this contract. It shall be on the basis of single point contractor's responsibility, completely covering all the equipment defined in this document and required for completion of the system for the plant. 29. All the associated civil work including all the equipment foundation as indicated in detailed BoQ & SLD shall be in bidder scope of work. Any other civil work required for completion of electrical scope of work shall also be in bidder scope.
6	**Basic Design & Detailed Engineering**	1. Basic engineering calculations i.e., load analysis, load flow, short circuit, and voltage drop during motor start-up etc. for selection of electrical equipment's. 2. Sizing and selection of electrical equipment as per applicable hazardous area classification to be developed by Contractor. 3. Overall single line diagram and single line diagrams for individual switchboards, UPS, DC systems, Aux power supply system. 4. Hazardous Area classification drawings including plans at various levels, elevation drawing, list of hazardous hydrocarbon material along with their characteristics. 5. Electrical Equipment list and Motor List. 6. Preparation of Electrical and Instrumentation interlock and interface requirements as per process/ operational requirements.