

## F. Electrical Requirements:

ELECTRICAL	
1	<p><b>Design Philosophy</b></p> <p>1. Electrical System shall be envisaged separately for 'CO2 Capture, Compression, and Storage Block' and the 'C-Brick Manufacturing Block'.</p> <p>2. The design and engineering of the electrical installation shall be in accordance with established codes, standard &amp; specification, sound engineering practices and shall meet the statutory &amp; local regulations.</p> <p>3. Electrical equipment and material shall comply with their relevant specification, Data sheet &amp; Project specification &amp; latest edition of the codes &amp; standards (Including any amendments) applicable shall be followed.</p> <p>4. For the purpose of design of equipment/systems, an ambient temperature of 50 deg. Centigrade and relative humidity of 95% shall be considered. The equipment shall operate in a highly polluted environment.</p> <p>5. All equipment &amp; material shall be suitable for operation in service conditions typical of oil &amp; gas processing plants.</p> <p>6. All equipment shall be suitable for rated frequency of 50Hz with a variation of +3% &amp; -5%, and 10% combined variation of voltage and frequency.</p> <p>7. All draw-out modules shall be provided with "Closed door operation" feature wherein movement of the module from "Isolated" position to "Service" position &amp; vice-versa and power ON / OFF operation of the module shall be possible only with the module door closed condition.</p> <p>8. VFD &amp; UPS shall be air-conditioned to increase reliability of heat sensitive electronic component. Switchgear room shall be force ventilated.</p> <p>9. Battery room shall be ventilated with exhaust fans. However, failure of cooling or ventilation shall not affect the equipment.</p> <p>10. For the purpose of electrical earthing calculations (soil electrical resistivity) and cable rating calculations (soil thermal resistivity) the data of the area shall be used.</p> <p>11. LT Indoor transformers shall be 3 phases, 4 wire system with additional LVN Bushing for equipment earthing.</p> <p>12. 415V incomers from transformers or ties between switchgears shall be through bus ducts wherever switchgear rating is 1600Amp and above.</p> <p>13. The substation switchgear floor shall have a minimum clear height of 4.5m. from any lowest beam bottom.</p>