M. Thyristors shall be chosen to have a rating of 2.5 times the normal peak working voltage. A capacitor/resistance network shall suppress voltage peak transients for every thyristor and excessively high rates of change of voltage (dv/dt) shall be limited by a "snubber" network. Voltage spikes, which may be detrimental to any solid-state component or relay, shall be suppressed by suitable networks.

N. Thyristors shall be capable of maintaining continuously 10% in excess of the current imposed by the maximum load conditions, and be protected against current overloads caused by malfunction of components or circuitry within the inverter or external loads. Over current protection and rate of current rise (di/dt) in the thyristors shall be controlled by electronic current limiting devices, which shall cause trip current circuits to operate.

O. Thyristor heat sinks shall be provided with thermostats, which shall effect tripping in the event of excessive temperatures occurring.

P. Printed circuit boards shall confirm to IEC 60249, or other approved equivalent standard, and connections by multi-way sockets suitably treated to avoid high resistances being formed between the plug and socket.

Q. Anti-condensation heaters shall be provided complete with a hygrostat type switch with reasonable setting range (50-100%), which operates when the preset value of %RH exceeds above dew point. The heaters shall have OFF/AUTO control on the cubicle front door and not be in operation when the VFD is functioning.

R. The harmonics reflected in the incoming electricity supply from the VFD shall not exceed the limits set by the ADDC. The Contractor shall be responsible for liaison with the ADDC to ensure full compliance with their requirements.

S. Total Harmonic Distortion (THD) shall be limited to lowest level under 5% as per G5/4-1 in order not to create stresses and resultant problems for the plants distribution systems. It may therefore be necessary to ADDC and/or G5/4-1/IEEE 519.

T. It will be necessary to conduct field test to measure the harmonics with all VFDs regardless of whether filters, reactors, chokes etc. are installed or not. If the drives do not meet the specified performance, the Contractor shall provide an acceptable solution at no extra cost.

U. The VFD shall be selected based on the following criteria:

V. User-friendly – allowing the operator to configure the VFD at site with ease.