TECHNICAL SPECIFICATIONS FOR 600/1000 VOLTS, 1 CORE, 630 SQ. MM CU / XLPE / PVC CABLES.

6.1 STANDARD SPECIFICATIONS :

The manufacturer must have ISO 9001, Quality management standard, ISO 14001 environment management standard and BS OHSAS 18001 occupational health and safety standard.
In addition to this the type test certificate from internationally recognized testing laboratory KEMA / ASTA/CESI OR CPRI must also be submitted.

6.2 CONDUCTOR:

The conductors shall be stranded and shall consist of annealed copper having a conductivity not less than 100% international standard. The conductor shall comply with BSS No. 6360. The surface of individual strands shall be smooth and clean before insulation is applied. The cross-sectional area of conductor shall not be less than 630 sq. mm. The cable shall fully comply IEC 60502-1.

6.3 INSULATION:

The insulation shall be cross-linked polyethylene applied by an extrusion process and shall comply with IEC 60502-1. The insulation shall be free from any contaminants larger than 0.25 mm in its largest dimension or porosities or voids between 0.05 mm and 0.13 mm allowed shall be 30 voids per cubic inch of insulation. In plant repairs of the insulation are prohibited unless specially agreed to by the Purchaser.

6.4 OVERSHEATH:

The oversheath shall be PVC. The PVC shall be of the heat resisting hard type and shall comply with BSS 7655 section 4.2 for PVC type 9 or other relevant standard. The sheath shall be black in colour. The outersheath of the cables shall have marking by embossing or indenting “MEW” along with manufacturers name with upright block letters of minimum 3mm height at every two (2) meters of their length.

6.5 CURRENT RATING:

The current ratings of cables for the site and installation conditions mentioned shall be stated. These should be based on maximum conductor temperature in normal operating conditions not exceeding 90 degree centigrade.

Where ratings are specified for only standard conditions, appropriate adjustment factors should be stated.

6.6 SHORT CIRCUIT RATING:

Offers should be accompanied with short circuit current curves. It is assumed that the conductor is at its maximum operating temperature of 90 degrees centigrade before the occurance of the short circuit and the maximum conductor temperature after a fault duration of 0.5 second will be 250 degrees centigrade. The cables shall carry the above short circuit currents without damage or undue stress.

The formula used in evaluating the short circuit currents should be stated.

Full details to cover all the above requirements shall be submitted with the offer.

6.7 GUARANTEE FOR PVC OVERSHEATH:

A separate guarantee certificate should be submitted with each offer to guarantee that the offered cables particularly the PVC oversheath will with-stand the severe ambient conditions when stored in the drums in the open yard for a period of two years.

6.8 PACKING:

The cables shall be wound on strong wooden cable drums provided with wood battens to protect the cable from damage. All drums shall become the property of the purchaser. The cables shall be supplied in drum lengths of 250 metres. The drum lengths should not vary from this standard length by more than 10 meters.

6.9 INSPECTION AND TESTS:

The following tests shall be carried out in the presence of our appointed inspectors to determine whether the materials comply with the specifications. Three copies of the results/records of all tests shall be furnished to the Purchaser.

6.10.1 ROUTINE TESTS:

The Routine Tests shall be carried out at works on each drum of cable. All the Routine Tests as specified under clause 14 of IEC 60502-1 shall be carried out.

6.10.2 TYPE TESTS:

a. Electrical Type Tests:

Tests shall be carried out at the Manufacturer's works on a sample of the cable. All the Electrical type Tests specified under clause 16 of IEC: 60502-1shall be carried out.

b. Non-electrical Type Tests:

All the Non-Electrical type Tests are required under clause 17 of IEC: 60502-1shall be carried out.

6.10.3 SPECIAL TESTS:

All the special tests as specified under clause 15 of IEC: 60502-1 shall be carried out.

6.10.4 SAMPLE TESTS TO CONFIRM ACTUAL METAL WEIGHTS:

The sample shall be taken from one drum of each production batch or from one drum of every 10 Kms. of cable produced in a batch - i.e. sampling whichever is higher in percentage is to be considered.

6.10.5 ACCEPTANCE TESTS:

Should 10% of the samples taken from the selected drums in the consignment fail to pass any of the above mentioned tests, the whole of the consignment shall be deemed not to comply with the standards and shall be rejected.

6.11 VOCABULARY NO:

The vocabulary No. to be indicated on each cable drum is WA001409008/6150 will be notified later, for which the Manufacturer/Tenderer should contact MEW in due course. The size and type of lettering shall be clear and legible and the exact dimension shall be submitted to MEW for approval.

6.12 TECHNICAL SCHEDULE:

The attached technical schedules shall be completed in all respects by the Tenderer and returned duly signed. The value indicated in general particulars and guarantees shall be as specified in IEC / BSS / IEEE or any other International Standard (which are accepted by MEW). Supporting documents authenticating the values shall be submitted.