HEXAGON BRASS BOLTS, NUTS & WASHERS SPECIFICATION

1.0 SCOPE

This specification describes specific requirements by Fiji Electricity Authority for the Manufacturers to manufacture, test and supply Brass Bolts, Nuts and Washers in compliance with the Authority's requirement for use on its network.

2.0 REFERENCE DOCUMENTS

The manufacture and testing of the Brass Bolts, Nuts and Washers shall comply with the relevant latest editions of the Australian/New Zealand or British Standards documents or any other relevant equivalent standards mentioned, therein, and as follows:

- AS 1111.1: 2015 - ISO metric hexagon bolts and screws, Product grade C, Part 1: Bolts.
- AS 1112.1: 2015 - ISO metric hexagon nuts, Part 1: Style 1—Product grades A and B.
- AS 1112.3: 2015 - ISO metric hexagon nuts, Part 3: Product grade C.
- AS 1112.4: 2015 - ISO metric hexagon nuts, Part 4: Chamfered thin nuts—Product grades A and B.
- AS 1275: 1985 - METRIC SCREW THREADS FOR FASTENERS.
- AS 1393: 1996 - Coach screws—Metric series with ISO hexagon heads.

3.0 SPECIFIC DESIGN REQUIREMENTS

3.1 Material Requirements

The Brass fasteners and washers shall be of Copper-based alloy with a composition of Copper and Zinc being the major constituent elements.

3.2 Heat Treatment

Heat treatment is necessary. Heat treatment shall be of the following processes of Austenizing, Quenching and then Tempering.

3.3 Tensile Strength

The Brass bolts, nuts and washers shall be manufactured from Brass alloy ingot with the Copper and Zinc being the constituent element and the composition for minimum tensile strength of 60,000 - 80,000 PSI [or 400 MPa].

3.4 Bolt Thread Forms

Details of the fasteners external and internal thread forms shall be specified with the parameters such as; the Pitch, Pitch diameter (min and max dia.), Crest, Flank angle specified and submitted to the Purchaser's Engineer for verification and approval prior to manufacture and delivery.

All relevant parameters of the Brass bolts, nuts and washers shall be set out in separate tables according to the schedule specified in Appendices

The bidders shall also provide labeled drawings on the fasteners of their offer for FEA Engineer's review.

3.5 Test Reports

The recent Test Certificates on bolts, nuts and washers already manufactured and supplied to power utilities shall be provided. The Test Certificates must be in compliance with the appropriate standards. Name and address of Certifying Officer shall be provided with the reports.

In addition to certificate of compliance, the supplier must agree to provide certified test reports to the Authority from each batch of Brass bolts, nuts and washers for approval prior to delivery of that batch. Name and address of Certifying Officer shall be provided with the reports.

Within one month of award the Supplier shall organize a Factory Visit by two (2) FEA Engineers at the cost of the supplier to witness tests to prove compliance to applicable technical and quality standards. This Factory Visit shall be carried out (at the cost of the supplier) annually for the duration of the supply agreement.

4 AWARD OF CONTRACT

All tender bids need to qualify the Authority's Supply Chain Tendering Policy.