

## SCPPA Generator Step Up Transformer, Apex GS RFP – 05 December 2016

oil leakage, shall have ample provision for oil expansion, and shall be furnished with an oil level indicator.

### (b) 500-kV Composite Bushings:

(i) **General:** The 500-kV bushings furnished shall be composite-insulated and shall be resin-impregnated paper-insulated, capacitance-graded, draw-lead type. Resin-bonded paper-insulated bushings shall not be furnished.

The bushings shall comply with IEEE Standards C57.19.00 and C57.19.01, unless stated otherwise in these specifications.

The bushing ratings shall be in accordance with Section 5 of IEEE C57.19.00, except as follows.

The rated BIL shall be minimum 1675 kV and the rated continuous current for the draw-lead stud and mating top terminal shall be not less than ~~2000~~ 800 amperes. The minimum creep distance shall be in accordance with IEEE C57.19.01.

The creepage distance of the bushings shall not be reduced by the proximity of auxiliary equipment, conduits, lifting lugs, or any other external components of the tank or the structure.

The bushing in-board shank (lower end), flange, and terminal dimensions shall be in accordance with Table 3 of IEEE C57.19.01.

### (ii) Insulating Envelopes:

(1) **Outdoor Insulating Envelope:** The insulating envelope used above the bushing mounting flange shall consist of an epoxy-impregnated, seamless, void-free fiberglass tube with silicone rubber sheath and weather sheds and metal end fittings.

The tube end fittings shall be heat-shrunk and glued onto the tube.

The tube-sheath and sheath-shed interfaces shall be bonded or molded into one piece by hot vulcanization. The strength of the tube to rubber interface shall be greater than the tearing strength of the rubber alone.

The interface between the metal end fittings and the silicon rubber shall be permanently sealed to prevent moisture and foreign material from contacting the tube-to-metal interface.

The silicone rubber sheath and weather shed material shall have a chemical backbone of 100 percent silicone polymer before fillers are added.