**Scope**

This specification covers the design, manufacture and testing of high-voltage, low-resistance type Neutral Grounding Resistors (NGR) for installation outdoors onto a concrete pad or power transformer.

**Applicable Standards**

The NGR shall be designed, manufactured and tested as per the latest revisions of IEEE Standard C57.32a.

**Documentation**

Supplier shall submit factory test reports at the time of shipment In accordance with the latest revisions of IEEE Standard C57.32a.

Supplier shall submit complete Instruction and Maintenance manuals at the time of shipment. The manuals shall give complete and detailed instructions for unpacking, installation, inspection, connection, and maintenance.

**Resistors**

The resistive elements shall have low temperature coefficient, resistor grade stainless steel of sufficient mass to withstand the rated current and prescribed duty.

The resistors shall be mounted in corrosion resistant support frames, using stainless-steel hardware.

The entire resistor assembly shall be mounted on insulators rated for the appropriate voltage.

All resistor terminals and interconnections between resistor units shall be copper or stainless-steel. High current connections shall be spot welded as appropriate.

Connections between resistors and bushings or current transformers shall be solid copper or stainless-steel bus or copper cables.

**Enclosures**

The frame of the enclosure shall be made from structural steel angles welded together or bolted together ~~with stainless-steel hardware~~. The top of the enclosure shall be solid, slightly overhung and sloped. It shall be embossed with stiffening ribs. The enclosure shall have ~~forged~~ eyebolts in each corner for lifting purposes.

The bottom of the enclosure shall be screened with expanded or perforated metal with openings of 1/2" or less. This screening shall be welded or bolted in and is not removable. It shall be elevated 4 to 6 inches above the base of the unit.

Bolt-on side covers on all four sides shall be used. Screened covers may be furnished for certain applications. Louvered or screened openings shall not exceed 1/2".

A durable nameplate, permanently attached to one side cover shall show the manufacturer and the complete rating. Painted enclosures shall be suitably cleaned, primed and painted. Stainless-steel and aluminum enclosures (in particular) shall be protected from scratching during `manufacture, assembly and shipment.

**CSA Approved Enclosure**

To meet CSA outdoor requirements, solid side covers and elevated, hooded roof shall be supplied. All ~~of the~~ other requirements outlined above shall be met.