

# Guide Form Specification for Medium Voltage Transient Surge Suppressor

This specification is for a \_\_\_\_\_ kV medium voltage three phase transient surge suppressor is designed to protect medium voltage systems from voltage surges due to lightning and switching events. The Medium Voltage Transient Surge Suppressor (MV-TVSS) will be placed on a \_\_\_\_\_ kV system (Line-Line Voltage) that is \_\_\_\_\_ grounded. (*ungrounded, solidly grounded, or resistance grounded*) The MV-TVSS shall come fully assembled and ready for interconnection.

All exceptions to this specification shall be clearly stated with your bid. If no exceptions are taken, the bid should include the phrase "no exceptions have been taken".

## 1. Enclosure

1.1 The MV-TVSS shall be housed in a Galvanneal Steel enclosure. The base of the unit shall consist of C2 steel channel for floor mounting and skidding into place.

1.2 The cover shall be "L" shaped and gasketed with multiple stainless steel fastening points. All corners shall be ground smooth.

1.3 High voltage warning signs and a nameplate showing rating information shall be "blind" riveted to the front of the enclosure.

## 2. Optional Surge Capacitors (Delete if not desired)

2.1 A low inductance three phase, all-film surge capacitor shall be provided for decreasing the slope of impending voltage surges. The capacitor shall be rated \_\_\_\_\_ micro-farads to ground and have a \_\_\_\_\_ voltage rating.

2.2 The capacitor shall be equipped with discharge resistors that reduce the capacitor voltage to 50 volts in 5 minutes when disconnected from the source.

2.3 The surge capacitor shall be capable of operating in the temperature range between -40 degree Fahrenheit and +115 degree Fahrenheit.

## 3. Surge Arrester

3.1 The MV-TVSS shall be equipped with six heavy duty distribution class lightning surge arresters for limiting the crest of impending voltage surges to safe values.

3.2 The surge arrester shall be silicone rubber housed and shall utilize MOV blocks. The arresters shall comply with ANSI/IEEE C62.11 standards.

3.3 The voltage rating and MCOV shall be appropriately rated for the system voltage and grounding as specified above.

#### **4. Optional Incoming Current Limiting Fuses (Delete if not desired)**

4.1 Current limiting fuses shall be provided to automatically disconnect a faulted MV-TVSS.

#### **5. Connections**

5.1 The unit shall come fully assembled and ready for interconnection. Standoff insulators shall be provided for termination of customer phase conductors. Termination points shall accommodate a NEMA 2 hole compression lug.

#### **6. Submittals**

6.1 Upon issue of a purchase order, the supplier shall provide 3 copies of approval drawings. The submittals shall include:

- Installation Instructions
- Single Line and three line diagrams
- Pad and cable entry drawings
- Drawings showing component layout
- Data sheets for all internal components

#### **7. Bid Requirements**

7.1 Supplier must state all exceptions in the Bid. If no exceptions are taken, the supplier must state that there are no exceptions.

#### **8. Acceptable Product & Suppliers**

8.1 Suppliers must offer a minimum 2 year warranty and have available extended warranty programs.

8.2 Supplier must have a licensed professional engineer on staff that has a post graduate degree in electric power engineering. Credentials shall be supplied upon request.

8.3 Supplier must show that they are a regular supplier of medium voltage motor surge protection equipment.

8.4 Acceptable Manufacturer and Product:

MSP™ by Northeast Power Systems, Inc. (NEPSI)