

**Jim,**

Your Question:

'On a three phase delta transformer, secondary side, what is the purpose and/or advantage of grounding a phase (or corner) of that three phase system?'

**Working Electrician Reply:**

### **Corner-grounded Systems**

The uncommon grounded system is a 3-phase, 3-wire corner-grounded delta system. This is a system where one of the phase conductors of the 3-phase delta bank is intentionally grounded. Corner-grounded systems were used to supply services serving only a 3-phase load such as a well pump. Three-phase corner-grounded systems were also installed in the past as the main service for many commercial or industrial occupancies. These are becoming increasingly scarce because of the increased use of grounded systems with usable voltages: 120-volts and 277-volts. In a corner-grounded system, the voltage-to-ground on the ungrounded phase conductors is the same as the voltage between phase conductors. An example is a 480-volt corner-grounded delta system. The phase-to-phase and phase-to-ground voltage is the same 480-volts. This affects which circuit breakers or equipment may be used on corner-grounded systems in conformance to NEC requirements

This is part of the explanation from IAEI News: The Magazine January/February 2002

Installations and Inspections of Corner-grounded Systems  
by Michael J. Johnston

You can find this on the web if you still need help.