The protection system of a four-terminal transmission line involves a high degree of complexity. Many devices, including protection and communication devices, are involved in providing optimal protection to the line in operation. The level of complexity is further increased when, as in the case described in this article, three companies with three different protection philosophies come together to protect such a line. This article describes the commissioning test of the line protection of a four-terminal line. During the test, the responsible protection engineers used a system-based protection test to gain a detailed insight into the behavior of the protection system.

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Aaron is an experienced commissioning and testing consultant specializing in complex electrical distribution systems for mission critical facilities such as datacenters, airports, hospitals, and commercial/industrial buildings. Aaron has commissioned Datacenters in the US and internationally in South America and remotely managing commissioning projects in Europe. Most recently, Aaron led the commissioning effort for the 28MW Emergency Power Generation facility for the new Terminal C Orlando’s MCO Airport. This system comprised of 15kV paralleling gear, (7) 4MW CAT generators, 18 double-ended switch gears, and the SCADA alarm and control system. Aaron’s education comes from the Navy Nuclear Power School, he has been previously certified as a NETA 3, and currently carries NICET Electrical Testing Tech and ASHRAE, Building Commissioning Provider, BCxP certifications. From design through operations, Aaron has a unique resume to assist with the testing and commissioning of any electrical system or to help with any challenges you may have.