

From Assisted to Augmented Intelligence: Paving the Path towards Autonomous Intelligence in System Protection

Many utilities across the country use ***assistive intelligence*** to aid engineering efforts in system protection. This intelligence takes forms such as standardization of drawings, settings templates, and processes, each of which promote consistency and reduce the chances of error. Basic assistive intelligence is relatively easy to achieve in these cases, as drawing and setting tasks tend to be well-defined, rule-based, and repetitive. However, most utilities have not moved beyond this basic level of standardization to further address both growing resource constraints and, more importantly, reduce the potential for errors in the face of rapidly growing grid complexity.

In this seminar, SynchroGrid will demonstrate how utilities can now move beyond assisted intelligence towards ***augmented intelligence***, allowing them to accomplish tasks that were formerly unachievable. We will show how utilities can adapt intelligent relay setting calculation programs to receive recommended settings when calculating settings for a transmission line. We will also discuss how utilities can easily create rule-based setting templates that adapt to the utilities' preferred philosophy. This level of intelligence has the power to completely disrupt and redefine existing processes, allowing utilities to dramatically reduce costs and, more importantly, reduce human error.

We will conclude by looking to the near future with ***autonomous intelligence*** that will emerge in the years to come. Software agents will work on behalf of protection engineers, constantly monitoring the short-circuit model to further guard against the introduction of errors and significantly reduce the time and effort expended to uncover them. SynchroGrid will show the latest developments in integration processes between Doble PowerBase, ASPEN OneLiner, and SARA that serve as the foundation for these autonomous systems by reducing the software barriers between settings data storage, short-circuit model, and philosophy calculations.