

Abstract – This paper describes a link between the Supervisory Control and Data Acquisition (SCADA) system of the Tennessee Valley Authority (TVA) and a software protection simulation environment developed by Electrocon International Inc. Using this link, four operating conditions that can affect protective relay reliability are checked and any violations of the conditions are flagged and reported. Every 5 minutes, the SCADA system generates a file that contains branch flows and bus voltages at 161kV and higher. A special process within the protection simulation environment reads this file, analyses the four operating conditions, and reports any violations. In its present form, this analysis is run in an off-line interactive mode. It is being extended to run in a near real-time mode with new data from the SCADA system every 5 minutes. Also planned is the analysis of hundreds of contingency cases from a State Estimator solution of the TVA network every 5 minutes.