ETAP Real-Time
Economic Benefits & Savings

ETAP Real-Time is an intelligent PC-based energy management software application that runs as an operator workstation to monitor, control, and optimize the operation of your power system, while simultaneously serving as an engineering workstation capable of utilizing real-time data to perform full spectrum power system analyses.

ETAP Real-Time provides new techniques and cutting edge technology to allow electrical power users and producers to be competitive. In light of the recent power crisis and rising electricity costs, it's imperative for a power management system software to put operators, engineers, and managers in control of operation, maintenance, and planning of the electrical power system resulting in optimum system utilization, lower costs, and financial stability. ETAP Real-Time provides <u>immediate</u> and <u>sustainable</u> return on investment.

1. *Short-Term Savings*
   Optimal Supervisory Control
   This saving in energy cost is due to the overall system optimization and power loss reductions. The savings value can be estimated between $500 to $1,000 times the total load MVA. This is based on the energy costs calculated for a 100 MVA cogeneration plant with $0.10 per kWhr import power. Savings may be considerably higher than this for systems that have abnormal losses, circulation power, and/or energy cost penalties.

2. *Short- to Mid-Term Savings*

   Advance Monitoring
   This is due to the overall modernization of the electrical system. Some of the saving contributions are listed below. Note that each existing system will have different cost savings based on its size and operating policy and procedure.

   1. Provide state-of-the-art monitoring capabilities to operators, engineers, and management.
   2. Have comprehensive visual, annunciated (alarm & warnings) and logged information about your power system, even for equipment without directly measured data.
   3. Provide a means for management to set, monitor, and control the operating policy of the system.
   4. Provide basic and advanced electrical engineering information to the system operators and controllers.
   5. Inform electrical engineers and managers with up-to-date status of the system operating conditions.

   Real-Time Simulation
   Savings are due to operators and engineers being experienced with the system in a short time. ETAP Real-Time provides an ability to simulate system response to operator actions based on real-time measurement. The savings factors are listed below.
   1. Prevent operator errors by predicting the system behavior.
   2. Provide a free 24-hour operator self-training tool using the Real-Time Simulator Mode.
   3. Prevention of future operator errors by providing prior knowledge of the system and its behavior to operator actions and/or disturbances.

3. *Mid- to Long-Term Savings*
   Optimal Supervisory Control
   This can be a major reduction in the equipment capitalization cost by increasing equipment lifetime. This saving is achieved by continuously operating at a near-to-optimal condition and hence preventing possible overloads and under/over-voltage situations.

   Intelligent Load-Shedding
   By dynamically minimizing required load shedding, hence reducing system downtime, PSMS will save you money. PSMS accomplishes this by using an innovative approach that provides a fast-acting load-shedding scheme using artificial intelligence and real-time operating information from the system. Optimum load shedding can be achieved for most possible adverse system conditions and disturbances.