

A *Vista* Implementaion for Southern California Edison

Client:
Southern California Edison

Location:
California, USA

Project Year:
2005

Customer Environment

Southern California Edison (SCE) is located in Rosemead California, serving more than 13 million people in a 50,000 square-mile area of central, coastal and Southern California. The utility has been providing electric service in the region for 119 years. Its main hydro asset, known as Big Creek, was America's first large-scale integrated hydroelectric project, begun in 1911. It is an integrated hydroelectric project consisting of 23 generating units in nine powerhouses with a generating capacity of approximately 1,000 megawatts (MW), and six major reservoirs with a storage capacity of more than 560,000 acre-feet.

Challenge

Energy deregulation in the California market has provided the opportunity to buy and sell energy as well as ancillary services. This provides an opportunity and challenge for a utility with mixed generation resources. Deriving the optimum strategy in terms of bidding energy and ancillary services is very complex and cannot be made without the aid of advanced optimization methods, especially considering the complexity of the hydroelectric resources.

Solution

In December 2005, SCE contracted Synexus Global to implement LT *Vista* and ST *Vista*, the long- and short-term scheduling modules of the *Vista* Decision Support System (DSS). *Vista* will be implemented at the head offices of SCE at Rosemead, as well as at the Big Creek Control Center. There will be six *Vista* workstations in all.

Vista will explicitly provide long-term water management guidance and short-term scheduling of the generating units on hourly basis, which will be used to guide bidding into the energy and ancillary services markets. Ancillary service markets include up-regulation, down-regulation, spin and non-spin, as well as load following (incs and decs). The various water resources and power transmission constraints that need to be observed are also modeled.

Vista usage is incorporated into SCE's overall least cost dispatch resource planning process, which requires that energy-limited resources (such as hydro generation) are scheduled to operate in the hours with the highest values for energy and ancillary services, in order to minimize ratepayer costs by maximizing revenue on the market and/or minimizing cost of operations of the portfolio. In particular, *Vista* DSS facilitates the

- integration of forward pricing of market energy and ancillary service with the operating constraints to maximize revenues
 - coordination of long-term plan and short-term trading
- sharing of operational data and schedules among the various groups within the organization

Client Benefits

Vista will assist SCE marketers and traders to bid energy and ancillary services into the California ISO.

