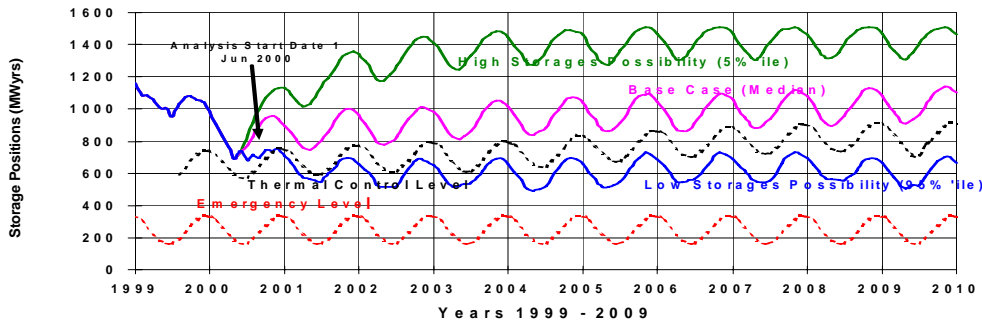


PROJECT DATA

Tasmania Hydro Electric System Modelling

CLIENT	Hydro Tasmania
PROJECT LOCATION	Tasmania, Australia
DATE OF PROJECT	Models updated 2005
SERVICES PROVIDED	System modelling, optimisation modelling, management of electricity system

PROJECTED MONTHLY STORAGE POSITION With Maintenance, Cloud Seeding & Thermal



The following are list of the main models develop to model the Tasmanian Hydro Electric system:

SYSOP

System simulation model which models on an hourly level for individual machines. Uses historical inflow sequences and heuristic operating rules to generate the predicted system load. Also used to project future storage position, evaluate operating changes, estimate probability of failure and thermal usage and to define system capability.

Thermal Control

Aggregated storage optimisation model which produces the optimum thermal control level for the system given a load forecast and historical inflow variability. The optimum level is based on chance of failure of 2% in any of the next 10 year period. Output used in SYSOP to simulate thermal input into the system.



PROJECT DATA

TEMSIM

Hybrid of SYSOP developed to model a market environment in Tasmania and also to model energy transfers to the Australian Mainland via the Basslink cable. Essentially the same as SYSOP but uses optimised water values for storages to offer energy into a market environment. Used primarily to evaluate the benefits of Basslink trading.

Long Term Model

An aggregated optimisation model to developed the long term water values which feed into TEMSIM and also HYDRO MAX (see below). It incorporates the Basslink energy transfer, Victorian prices, cost of system failure and thermal usage.

HYDROMAX

(In Development) An optimisation model to provide the optimal energy bids into the National Electricity Market (NEM). This model details all machines in the system, Basslink transfers, predicted price and inflow forecasts to provide an optimal bid stack for each ½ hour period of a day. These bids will form the basis for the operation of the system over the following 24 hour period.

