

PRODRISK

Stochastic optimal scheduling

Long to mid term scheduling of hydropower systems

- SDDP solution algorithm – Optimization of detailed hydro system
- Supplement to EOPS/Vansimtap
- May include utility functions, futures trading
- Ideal for scheduling generation, maintenance
- Provides endpoint water values for short term scheduling
- Time consuming – Parallel processing usedTwo-stage stochastic problems

Flexible time resolution

- Sequential or accumulated intra-week price periods
- Start-up day
- Daily or weekly inflow
- Daily pumped storage

Flexible use of penalties

Investment analysis

- Serial simulation of inflow and price scenarios
- Valuation of reservoir storage

Main focus of recent development

- Modelling specific hydro details
- Greater variation in price, greater uncertainty
 - Correct valuation and operation of flexible hydro
 - Time resolution
- Expansion planning/investment analysis
- Reduced computing time



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