



WP 3

Impact of short term effects on long term hydro scheduling

The increased variability of hydro power caused by the developments described in the initial parts of this proposal is not well represented in the long term scheduling models EOPS (Vansimtap) and EMPS (Samkjøringsmodellen). These models are essential for the long term strategic use of the reservoirs.

The limited modeling of short term effects in these models may increasingly lead to incorrect water values and a non-optimal long term use of the reservoirs. With respect to the EMPS model, an upgrade in this respect is already included in another KMB project proposal. Focus is on the representation of short term issues in long term models to ensure better long term decisions.

This work package is targeted on the EOPS model, because the actual short term physical issues are primarily of interest for the operators of specific river systems.

The basis for this work package will be a version of EOPS ("Simtap-effekt") that has a daily time step, and which includes an LP-model for the intra-week optimization. Activities in this work package include:

- Taking into account the turbine related costs of rapid variations
- A better representation of time delays, also for discharge and bypass constraints
- The representation of new types of environmentally based and more dynamic constraints
- Reserve markets