

## **Experience with a runoff forecasting system for the Austrian Danube Catchment emphasizing hydropower production within E**

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The practical use of the hydrological forecasting system for the Austrian electricity company Verbund (Oesterreichische Elektrizitaetswirtschafts-Aktiengesellschaft, 71 hydro power plants and 5 thermal power plants) with a high percentage of hydro power production is shown. The electricity production shows short term and seasonal variations with regard to inflow which points out the necessity of a hydrological forecasting system. Due to the liberalization of the electricity market in Europe the online availability of reliable, operational runoff prediction became necessary. The runoff forecasting system is embedded within the Energy Economic Support System (EEDSS) of the Verbund.

For the optimal operation of the power plants and the power trading in the hydro dominated power system of Verbund it is very important to have up-to-date information about the water inflow to the reservoirs and the runoff situation in general. For the optimization of the power generation especially the runoff forecasts for both hourly values for the next 48 hours and daily mean values for the next three to five days are calculated.

Accurate forecasts reduce the uncertainties of the input for the optimization of production and trading. The usage of the seasonal reservoirs and the function of power plants as a regulator in high water times can also be realized. Due to the detailed knowledge of the water situation the possible practice of business rivals in other countries can be estimated.

Finally the practical use of the flood forecasting system for the operation of hydro power plants during increasing high-water level in correlation with energy planning is shown for selected examples.