D RESERVOIR OPERATION

For the design of a reservoir, the input assumptions of release control and the relationships between the regulation function variables have to be determined. The results determine the storage capacities of a reservoir or the regulated flow (release), safe yield with a given reliability, the non-damaging flow, etc. During the operation of the reservoir the operating rules included in the input assumptions of release control must be adhered to. Other factors that have to be taken into consideration are the principles of operation during the failures in water supply and flood waves surpassing the design reliability.

As the design of a reservoir always includes a safety margin, the conditions for its various functions will, in most years, prove to be more favourable during the operations than was presumed by the design. During those years further profit can be gained from the reservoir by using extra water for, e.g., "flushing" of the river, regulating the winter regime, etc.

As soon as a reservoir starts to operate, it should be observed how it fulfils the planned functions; experiences gained should help to define more accurately the operation rules; all economic factors should be assessed.

The tasks of the water-management operations of a reservoir can be summarized as follows:

- to secure proper manipulation from the point of view of the storage and protection, which ensures the regulated flow as determined by the design calculations;
- to contribute to a better efficiency as compared to the design values at times when the hydrological conditions permit it;
- systematically to study and assess the water-management functions of the reservoir.

The demands on the operation of a reservoir are qualitatively higher if it forms part of a water-management system. Then it must fit in with the operation of the whole system with a higher level of operations, i.e., water-management dispatching.