Flood discharge from Suofengying Power Plant

How does water delay affect a cascade hydropower plant?
The water delay effect between cascade hydropower plants increases significantly with the number of plants,and the water delay affects the planned power output process and water level processof the cascade hydropower plants. Hence,a more accurate description of the dynamic water delay is especially necessary when making optimal scheduling plans.

Do different water delay formulations affect the power output process?
This indicates that the different water delay formulations directly affect the discharge distribution process between the cascade hydropower plants,which in turn leads to the deviation of the power output process. The power output process of each hydropower plant in model 2 and model 3 remains basically the same.

Is the Daily generation scheduling of Wujiang Cascade hydropower plants valid?
Taking the daily generation scheduling of Wujiang cascade hydropower plants in southwest China as an example,the validity of the model was verified. The conclusions can be drawn as below.

Will cascaded hydropower plants violate the Daily contracted electricity?
Hence,the cascaded hydropower plants will choose to partiallyviolate the daily contracted electricity and allow more electricity to participate in the day-ahead market to obtain higher profits.

How can cascade hydropower plants improve power generation profits?
The generation scheduling plan obtained from the developed model is more accurate. With the reform of China's electricity market,the cascade hydropower plants' participation in the portfolio electricity marketis an effective way to improve power generation profits and avoid risks.

How to schedule Cascade hydropower plants in portfolio electricity markets?
Optimal scheduling of cascade hydropower plants participating in portfolio electricity markets is studied. The dynamic water delay between cascade hydropower plants is well considered. The MILP approach is employed to deal with the nonlinear and nonconcave model. The generation scheduling plan obtained from the developed model is more accurate.

The aim of this study is to analyse the importance of considering the variation in the discharge coefficient (Cd) of a sluice passage and the tidal current speed (i.e. the flow speed ...

In this case, one Francis turbine will take part with 13.33%, flow rate 1.2 m3/s and power 1.34 MW, and two Francis turbines with 43.33%, flow rate 3.9 m3/s and power 4.36 ...

To cope with the further growth of renewable energy sources, constructing a hybrid pumped storage

hydropower (HPSH) plant by retrofitting existing conventional cascade hydropower ...

2 · The carbon emissions of China"s power sector account for 40% of the total emissions, making the use of renewable energy to generate electricity to reduce carbon emissions a top ...

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