

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.

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 process of the cascade hydropower plants. Hence, a more accurate description of the dynamic water delay is especially necessary when making optimal scheduling plans.

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.

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 market is an effective way to improve power generation profits and avoid risks.

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.

Will cascaded hydropower plants violate the Daily contracted electricity?

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

The station is an important part of TMLP's power portfolio and protects the ratepayers from price spikes in the market. The Bernard F. Cleary Flood Generation site consists of Unit 9 dual fuel ...

The Suofengying Dam is a concrete gravity dam on the Wu River, 44 km (27 mi) northwest of Guiyang in Guizhou Province, China. It is located 35.5 km (22 mi) downstream of the Dongfeng Dam and 74.9 km (47 mi) upstream of the Wujiangdu Dam. The primary purpose of the dam is hydroelectric power generation and it supports a 600 MW power station. Construction on the dam ...

# 2025 Suofengying Power Plant Flood Discharge

Abstract. China's hydropower, with a total installed capacity of over 390 GW, is currently considered to be the most reliable flexibility resources to support the grid integration ... design flood discharge is large about 8,000m<sup>3</sup>/s and the ratio of spillway gate height to dam height is about 54%. Intermediate type reservoir looks like between lake and river types during ... The Suofengying reservoir was constructed to generate hydroelectric power. The total capacity of the reservoir impoundment is up to 201.2 million m<sup>3</sup> with a catchment area of 21,862 km<sup>2</sup>. ... The sensitivity of the optimal configuration of pumping stations and PV plants is analyzed. Retrofitting adjacent hydropower plants with pumping stations to construct hybrid pumped ...



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