

عنوان مقاله:

(Exergy and Environmental Analysis of a Hydropower plant (case study: Dez Dam in Iran

محل انتشار:

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خلاصه مقاله:

The production process of the power plant with the hydropower plant located in Dez Dam was analyzed using exergy methods and sensitivity analysis. The objectives of the present study, first by identifying and observing the exergy efficiency of large-scale hydropower plants on a large and second scale, show the determination of the most important key parameters of the system, location, and extent of exergy losses. To this end, the plant was divided into four subsystems, each with specific creations and exorcism. The exergy analysis results showed that some elements of the power plant eliminate the amount of exergy compared to others, and the loss of significant exergy in the transformer is of great importance. In contrast, the results of the global sensitivity analysis of the model with the system showed that the most important key parameter is found in the exergy efficiency of the power plant studied in the turbine, namely: the diameter of the impeller pulley. Since the transformer is imported from abroad, an alternative solution to improve the system's exergy efficiency can be done at the level of the geometric dimensions of the turbine .because this component is built locally

کلمات کلیدی:

Exergy Analysis; Environmental analysis; Hydropower; Optimization

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