

عنوان مقاله:

Assess the Reliability of Using Wind and Solar Hybrid Systems in Power Plants

محل انتشار:

پنجمین کنفرانس بین المللی پژوهش های کاربردی در علوم و مهندسی (سال: 1399)

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خلاصه مقاله:

The rapid growth of energy consumption in the country is such that in the coming years, Iran will turn from an energy exporting country into an energy importing country. To counter this threat, it is necessary to implement strategies to optimize the production, distribution and consumption of energy, improve its consumption pattern and use renewable energy. In this research, modeling and simulation of solar photovoltaic power generation system is based on storage in the battery in order to ensure the reliable supply of power required by Kermanshah power plant and refinery. The aim of this study is to find the annual production of electrical energy of photovoltaic cells and the optimal size of system components. Another goal of this research is to optimize the cost of energy by considering the high reliability of this system. In this research, information about solar radiation is taken from the New Energy Organization and used in the simulation by Homer software. After the implementation of the program, it was observed that the total amount of electrical energy produced by the cell in a year is equal to 2163569kwh, which is much more than the required load, and if the system is connected to the network, you can also earn money from its sale. The cost of the system with high configuration is \$ 0.96 / kwh, which is 9.12 years for the return on investment

کلمات کلیدی:

.Modeling and simulation, photovoltaic cell, reliability, return on investment

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