

Sensitivity analysis of a hydroelectric production power plant under reworking scheme using fuzzy AHP approach

Ram, Mangey, author

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20495932&lokasi=lokal>

Abstrak

ABSTRACT

Hydroelectric power is an important renewable resource of energy is an indispensable contributor to the countrywide power network. The hydroelectric plant is expected to supply power with the highest scale of quality and reliability. Sensitivity analysis is used to determine the impact on the outcomes due to the changes in the parameters and structural changes. This research work aims to evaluate the sensitivity of the hydroelectric system, taking the human failure into consideration using fuzzy analytic hierarchy process (AHP) approach. Six different failure rates are taken into consideration. The fuzzy approach incorporates all the vagueness and uncertainty existing in the power system due to different failure and repair rates. The main contribution of this research is to evaluate the performance of any hydroelectric power plant under the failure of its various components using fuzzy approach.