عنوان مقاله:

Evaluating the effects of Uncertainty in Fuel Price on Transmission Network Expansion Planning Using IDPSO approach

محل انتشار:

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خلاصه مقاله:

Transmission Network Expansion Planning (TNEP) is one of the important parts of power system planning which determines the number, time and location of new lines for adding to transmission network so that the load is adequately supplied. There are several factors affecting TNEP, which sometimes make the problem results inaccurate and impractical because of their complicacy. Therefore, it should be tried to possibly introduce them in TNEP problem by using appropriate scientific tools. One of these parameters which is significantly effective in TNEP result, is the uncertainty of different parameters such as load growth, location of power plants in horizon year, and especially fuel price which indirectly affects the transmission lines loading and consequently the optimality of transmission plans via changing of loss and unsupplied load which are dependent on the power generation of power plants. Thus, in this paper, by considering the uncertainty of fuel price, in different scenarios, its determining role in TNEP result has been evaluated using IDPSO algorithm. To study the proposed approach, the 18-bus real network of Azerbaijan Regional Electrical Company is considered.

کلمات کلیدی:

Transmission network expansion planning, uncertainty, fuel, IDPSO

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