Article Abstract

Title:	**Allocation of optimal distributed generation using GA for minimum system losses in radial distribution networks**
Author(s):	T. N. Shukla [1*], S.P. Singh[2], K. B. Naik[3]
Address(es):	[*1]Department of Electrical Engineering, Kamla Nehru Institute of Technology, Sultanpur, (U. P.), INDIA [2]Department of Electrical Engineering, Institute of Technology, Banaras Hindu University, Varanasi (U. P.), INDIA [3]Director, College of Engineering Science and Technology, Lucknow (U. P.), INDIA [*]Corresponding Author: e-mail: tns_shukla55@yahoo.com, tns.shukla@gmail.com,Tel. 05362-226278, Mob. +919415962452
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Abstract:	The distributed generation (DG) is one of the viable options for mitigation of problems of load growth, overloading of lines, quality of supply and reliability in tern extending equipment maintenance intervals and to reduce line losses. However, the line loss reduction is the obvious parameter easily expressible in terms of system parameters. Therefore, this paper aims to minimize active power loss by placing DG strategically in a radial distribution system. The problem is formulated as an optimization problem and solution is obtained using genetic algorithm (GA). The strategic locations are decided on the basis of loss sensitivity to active power injection at various nodes. This approach helps in reducing the computational efforts of selecting appropriate location(s). The performance of the method is tested on 33-bus test system and comparison of the results with a reported method reveals that the proposed method yields superior results. In addition, long term economic benefit of optimal DG placement is also demonstrated.
Keywords:	distributed generation, line loss reduction, optimal location, radial distribution networks**.**