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Transmission cost allocation and pricing in a de-regulated power system

R. Arul[1], G. Ravi[2], and S. Velusami[3]

1 Adhiparasakthi Engineering College, Department of Electrical & Electronics Engineering, Melmaruvathur, Tamilnadu-603319, India.

2 Pondicherry Engineering College, Department of Electrical & Electronics Engineering, Puducherry-605 014, India.

3 AnnamalaiUniversity, Department of Electrical Engineering, Annamalai Nagar, Tamilnadu-608002, India. Email:arulphd@yahoo.co.in

Abstract

The objective of this project work is to develop new algorithms for transmission cost allocation and pricing in a de-regulated power system market and by comparing the results obtained, the merits and demerits of each method was given along with suitable recommendation for power pool dispatches and bilateral markets.

Key words: *Transmission cost allocation, Power system*

Index terms

Accounting Rate of Return, Energy Division Method(ED), Mega Watt Miles Method, Postage Stamp Method, Power eXchange, vertically integrated utilities.

1. Introduction

1. 1. De-regulated of power system

Deregulated of power system has been dealt at length by Marija lllic *et al*., (1998). Today's electric power industry is undergoing many fundamental changes due to the process of deregulation. The traditional vertically integrated utility structure is far and wide being replaced by a deregulated structure The customer, who was in the past supplied on a cost of service basis, had very little choice, will now be supplied on a market basis with a wide array of options. Vertically integrated utilities would be unbundled into separate generation, transmission and distribution service companies. These separate entities are referred to as the GENCOs, TRANSCOs, and DISCOs.

Under deregulated conditions, generation and transmission companies would be selling power to distribution companies under contract. The ISO (Independent System Operator) will act as a traffic cop for the system and manage the transmission access. The PX (Power eXchange) will operate like a financial exchange and will open the market to generation from all available sources. Under the deregulated power system a part of the load may be supplied via privately negotiated bilateral transactions between generators and loads. The remaining

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