Available Transfer Capability Enhancement with Load Rescheduling using Cat Swarm Optimization

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Abstract

Available transfer capability (ATC) calculation is a complicated task and improving of ATC is an important issue in the current de-regulated environment of power systems. Power transactions between a specific seller area and a buyer area can be committed only when sufficient ATC is available. This paper proposed a method of load rescheduling which is ATC based incentive to the loads like in smart grid. The Continuation Power Flow (CPF) method is used for getting the power flow results. A new Artificial Intelligence Technique known as Cat Swarm Optimization (CSO) is used to maximize ATC. The load control can significantly affect the operation of the system and it will be very important for ISO. The proposed technique is implemented for the analysis of ATC on IEEE 14 bus system and IEEE 24 RTS bus System.
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References


**Index Terms**

Computer Science  
Power Systems

**Keywords**

Available Transfer Capability (atc)  
Cat Swarm Optimization (cso)  
Continuation Power Flow (cpf)  
Load  
Rescheduling  
Deregulation.