Abstract

This paper presents the performance of controllers in automatic generation control of a power system containing wind units along with conventional units. The two area system has been simulated with Proportional Integral (PI) and Fuzzy Logic Controller (FLC) and system performance has been analyzed and compared in terms of frequency response, Area Control Error (ACE) and response of wind units following a disturbance. A perturbation of 2 percent has been used to study the response of the system. It has been observed that wind units respond instantly to the disturbance and help the conventional units to take up the load change which are slightly slow in their response. The performance of fuzzy controller has been found superior.
to PI controller in frequency regulation which may be due to its better ability to manage the variability of the system under investigation.

References

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Index Terms

Computer Science               Power Systems

Keywords

Fuzzy Logic Controller   Wind Unit   Load Frequency Control   Inertial Control