

**International Energy Journal, Volume 9, Issue 2, June 2008**[HOME](#) | [ABOUT](#) | [LOG IN](#) | [REGISTER](#) | [SEARCH](#) | [CURRENT](#) | [ARCHIVES](#)[Home](#) > [Volume 9, Issue 2, June 2008](#) > [Hossain](#)**Fuzzy-based Load Frequency Controller of a Single Area Power System Considering Governor Nonlinearity***M.F. Hossain, M. R. Islam, T. Takahashi, M.G. Rabbani***Abstract**

*This paper presents the implementation of fuzzy based load frequency controller (FLFC) for controlling the frequency of an automatic generation control (AGC) in electric power generation systems. A typical single area power system is considered with governor dead-band. As a consequence of continually load variation, the frequency of the power system changes over time. In conventional studies, frequency transients are minimized by using conventional proportional integral (PI) controllers aiming of secondary control in AGC and zero steady-state error is obtained after sufficient delay time. In this paper, instead of this method, the configurations of fuzzy load frequency controller (FLFC) is proposed. For any load changes, the proposed controller restores the frequency to its nominal value within the shortest possible time. This controller provides a satisfactory balance between frequency overshoot and transient oscillations with zero steady-state error. All simulation results of the proposed controller are compared with conventional PI controller in both cases with and without governor dead-band.*

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