Title : Renewable Energy Integration of 37-Bus System Using OpenModelica and OpenIPSL

Name of Contributor : Mohd Ayaz

Institution / Organization : Kamla Nehru Institute of Technology, Sultanpur

Email : ayaz666700@gmail.com

Abstract :

Renewable Energy Integration of 37 Bus System is implemented in OpenModelica by Using OpenIPSL library shown in figure 1. This 37 Bus Test Case is taken from the text book 'Power System Analysis and Design' by J. Duncan Glover and Mulukutla S. Sarma · It is constructed with three different voltage levels (69 kV, 138 kV and 345 kV), and all units entered in this modeling, are in per unit. This model consists 9 generators, 14 transformers, 24 loads and 43 power lines in case 1. In case 2, generator of bus no 30 replaced with PV and in case 3, generator of bus no 26 also replaced with type 3 wind turbine generator. A three phase balanced fault is simulated at bus no 17 for the duration of 0.6 seconds (3.5 seconds to 4.1 seconds). The purpose of this power system is to fault analysis and the voltage stability at multiple buses.