Ann Controller Based Photovoltaic Source Injected DVR

C.Vimalarani[1]*, M. Muthuramalingam[2], A. Revathy Jemimah[3]

[1]Department of Electrical and Electronics Engineering K.L.N. College of Engineering Sivagangai, Tamil Nadu, India
[2]Department of Electrical and Electronics Engineering Suguna College of Engineering Coimbatore, Tamil Nadu, India
[3]Department of Electrical and Electronics Engineering Latha Mathavan Engineering College Madurai, Tamil Nadu, India

Abstract : The power quality issues are the great extent due increasing usage of non-linear loads, unexpected switching of heavy loads. One of the effective modern custom power devices to mitigate such voltage disturbance problems of sensitive loads in the area of distribution system is the Dynamic Voltage Restorer (DVR). The primary advantage of the DVR is keeping the users always on-line with high quality constant voltage maintaining the continuity of production. In this paper analyze with Photovoltaic based DVR which inject voltage with Artificial Neural Network (ANN) that protects a sensitive load from the power quality issues as voltage sag under unbalanced loading conditions such as linear and non-linear. DVR consists of Voltage Source Converter (VSC), injecting transformer and the DC link capacitor or external energy source along with other parts of the distribution system are simulated using MATLAB/ SIMULINK.

*****