

Impact of Harmonic Resonance and V-THD in Sohar Industrial Port-C Substation

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Abstract : This paper presents an analysis study on the impacts of the changes of the capacitor banks, the loss of a transformer, and the installation of distributed generation on the voltage total harmonic distortion and harmonic resonance. The study is applied in a real system in Oman, Sohar Industrial Port-C Substation Network. Frequency scan method and Fourier series analysis method are used with the help of EDSA software. Moreover, the results are compared with limits specified by national Oman distribution code.

Keywords : power quality, capacitor bank, voltage total harmonics distortion, harmonic resonance, frequency scan

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