"DETECTING POWER GRID SYNCHRONIZATION FAILURE BY SENSING VOLTAGE OR FREQUENCY BEYOND ACCEPTABLE RANGE"

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INTRODUCTION

An approach towards a smarter tomorrow is always an achievement and this paper discusses how this approach helps to make our power grid's functioning more enhanced and reliable. The problem of islanding is a common problem when we talk about the distribution system and hence methods that have been devised for the prevention of possible islanding situation : Passive methods and Active methods. These methods and their performance is characterized by certain requirements that have been laid down by the Institute of Electrical and Electronics Engineering (IEEE), International Electro Technical Commission (IEC) and many other Standards Organizations. As far as active methods are concerned, minor disturbances are introduced into the power system and thereafter the response that the system provides is observed and monitored. These methods result in alteration of the balance of power existing amid generators and the load, hence reducing the quality of the power that we obtain from the system. There are several examples of the active methods, a few of them being impedance measuring methods, AFD-Active frequency drift, whereas on the other hand passive methods continuously monitors various parameters of the power grid like in this case over voltage, over current, temperature variation and oil level indication.

This implementation concludes that it is possible to have a power grid system that is smarter, more effective as well as efficient in its operation, thus proving to be more economical as compared to the present installations. The challenge is a continuous and uninterrupted transmission which can be very well achieved with the implementation described by this paper and in addition to the continuous transmission several other parameters .

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