



LITERATURE

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A METHOD OF ENERGY MANAGEMENT BASED ON ION AND MATLAB

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Abstract- The electric utilities are consistently looking for energy management to decrease the energy cost, minimize the load loss, and to increase the power systems and networks' reliability. It would be possible to manage the energy in both sides of supply and demand of electric energy. ION is a developed technology (since 1995) for digital power quality and quantity analyzing that could cover on-line and real-time power monitoring and control applications as well.

In this paper, ION controller as a supervisory instrument is introduced, and then, applications of MATLAB, Microsoft Excel and ION Enterprise Vista in the load and electric management are discussed. Meanwhile, the methods of using ION and electric energy management are proposed. Finally, experimental results of the tests are included with the predictions.

1. INTRODUCTION

Security problems are important in electric power distribution grids according to developing of the grids and complexity of the connection of electrical devices. For this reason, power parameters (e.g. voltage, current, power factor, active and reactive power, etc) have to be kept in desirable level for consumers and the network [1-3]. So, for safety, reliability, stability, predictive maintenance of both consumers and the power system, it's strongly recommended such controlling and analyzing instruments.

One of the intelligent devices is ION which are useful for consumers' power control in accordance with its capabilities [4-6].

In this paper, power quality parameters are preserved in desirable level by ION capabilities and MATLAB software. ION saves the required data at Excel sheet and MATLAB software accepts the stored data of Excel as an input which can be processed and analyzed in third party software.

2. ENERGY MANAGEMENT

Optimal use of energy sources are principals of all countries, so energy management is now a "must" and has key role in all strategic decision makings of governments.

Load and electric management is mainly for achieving the objective of increasing net load factor to supply reliable electric for consumers and saving cost and it would be possible for both of supply and demand of electric energy.