PROBLEMS OF ENERGY SAVING ALTERNATING IN CURRENT MOTORS: A CASE STUDY OF INAN ELECTRIC GENERATOR AND INDUSTRIAL COMPANIES

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Abstract

This article is about ensuring the reliable operation of power generation equipment and obtaining quality electricity from it. Reducing reactive energy consumption provides energy savings. Electric motors play an important role in power generation and they need to be constantly monitored to ensure their reliability.

Key words: electric motor, alternating current, quality electric power, induction motor, minimum reactive power, different electric generator.

Introduction/ Main Point

Nowadays when some countries are called developed countries, we can understand that the name is a synonym of industry manufactures with high level technology. Electric motors play a significant role in the process of manufacturing in industrial companies. So, electric motors are considers as main component part of electric generator. As we know in manufacturing, it is mainly used as alternating current motor which works through alternating current.

At the present time by taking into consideration of different electric generator is included near 70% electric energy usage, it is required to put into practice of thrifty AC motors of energy. Working principle of AC motor is based on inserted current cable of magnetic fie which are mutual influence with this field. It is appeared that main electric energy is extravagances in induction motors is the same with magnetic fields extravagances induction motors power extravagances.

Inductor motors power extravagances divide into active and reactive power extravagances . If it works for putting in motion of Motor's active power generator , reactive power generates rotating magnetic current in a motor and with the help of this ,current is moved vied active power with necessary

amount from fire catcher to erector. In a low part ,there are some methods of reducing Inductor motor's power extravagances:

- Changing from a full loaded motor to little loaded motor.
- Changing from fire catcher of motor's triangle scheme to star scheme.
- Decreasing idler working order of motors
- Limiting current of setting to work through reducing time of setting to work
- Increasing cost value of power coefficient through equalizing of reactive power.

Controlling reactive power of consuming motor according to value of loading with their help of frequency modifier is new and efficiently method it will be course to increase consuming motor's reactive power from system and to be less of nominal value from real loading moment of induction motors as a result power coefficient of motor will become weak. Induction motor implements base of adapting minimum value of consumption of motor's reactive power as a result of erecting fire catchers power according to value of loading in the motor shaft For being minimum reactive power, it should be controlled through legality to loading moments value of fire catcher's power

$y = \alpha \sqrt{\mu p}$

Here : $y = U_{1f}/U_{2f}$ - relative value with respect nominal value of fire – catcher power according to the given frequency's value ; $\alpha = 1/2$ - relative value with respect nominal value of frequency μC – relative value of loading moment it would be taken as a criteria not increasing erector current's value which is showed as limited value of power erecting processes and as a result it changes frequency and consumes reactive power in a minimum value when it's loading moment of erecting velocity's inductor motor is in a different value.

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