

# Energy Meter

Dr Dhiraj Gupta, Nikhil Kumar Gupta, Himanshu Sharma, Aryan Tiwari, Akhilesh Yadav, Rishikesh Singh  
 Student, Department of Electrical Engineering Greater Noida Institute of Technology  
 Student, Department of Electrical Engineering Greater Noida Institute of Technology

**Abstract:- An advance and quick solution and fully reliable instrument that helps to make us aware about the proper utilisation of energy sources with perfect accuracy that's going to help us to measure the losses as well as increases or efficiency in terms of energy and other protections.**

## I. INTRODUCTION

Now a days energy losses is a big concern for the different power plant industries and the generation sector energy metre helps the advancement of the solution of some problems which can be minimised by the proper awareness of the actual cinerio that were present for the energy meter.

Latest discuss some of the major losses that can't be measured by unawareness or still lack of the awareness in the energy sector. Data sasin 2011 about 7.5 megawatt of energy losses done without a proper measurement system devices and awareness's.

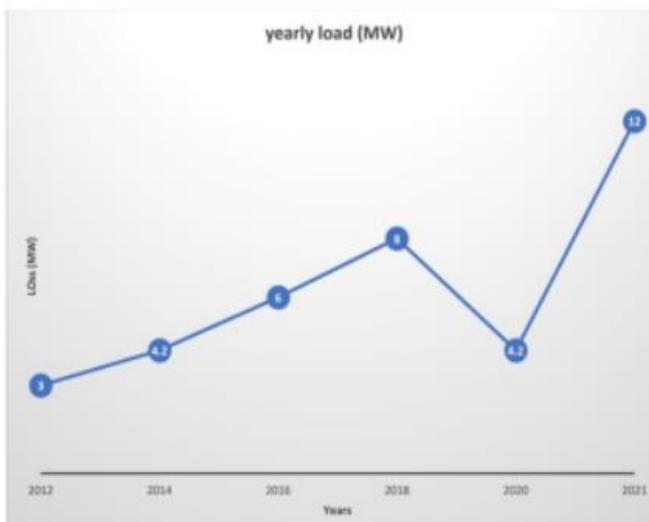


Fig 1:- Measurement of Power Losses Per Years in (MW)

In 2015 this figure is gone up about 10 megawatt losses which can be easily minimised at that time by losing loss measuring devices uses and mix us a very awareness about the proper actual laws content that are going to be followed daily basis.

## II. MECHANISM OF ENERGY METER

### A. Driving Mechanism-

Driving mechanism deals with the torque developed and the amount of energy stores which can drive the energy meter a very highly inductive circuit is going to use with the energy metre so that the ratio of error which can be linked with the energy metre is reduced somehow if we are going to measure the energy content that committed by the law says and this losses is not going to be an advance version of losses by the energy metre itself. fig. measurement of power losses per years in (MW)

### B. Rotating Mechanism

The major challenges is that if we are going to introduce the energy metre which has a rotating part then it must consume some energy devices which mean not be full field the actual losses and increase the content of losses so the losses content is minimised by keeping an ideal rotating mechanism practically no nothing is going to be ideal but if you keep on trying to updated the version our devices then it must be have reduce the losses as previously.

### C. Breaking Mechanism

As the like a normal machinery system if we observe there will be a breaking system on for direct contact this will create any external heat losses which is not as beneficial for us what is the better option than we can create an extra mechanism which can follow the external power sources to conserve or let's see take back the energy of a mechanical which are stored as a breaking system to system itself this phenomena can be referred as a term rewards power back to the system which is the beneficial part of the energy metre.

### D. Cannot Be Done Actually.

Registering mechanism-Registering mechanism is the phenomena where the amount of external agent is used when this System is creates an extra efficiency where the data analysis disease process energy flow back to the system will create the new automation live where the data actually analysed was not be prevent and we cannot be properly make us aware about the actual advancement that cannot be happened actually.

### III. HOW ENERGY SOLVE THE PROBLEM OF CREEPING

Providing a very closed speed response the friction is overcompensated and the response under those losses worldly potential coil is excited there is a no current in the current coil disc start rotating this problem can be handle or solved by the creeping concept.

Energy metre is well utilised under any circumference is which cannot be done as previously expected technology that mean or be aware with actual data. Induction type energy metre runs fast it's slow down by adjoining position of a breaking magnetic monitoring it away from the centre of a disc this centre of disc move toward the creeping problem and helps to create an advancement that cannot be done actually.

Friction compensation is the main cause of creeping in energy metres and for controlling the vibration of a disc often ac energy meter damping force produced by eddy current losses and helps to keep away from the centre of a disc this problem can be solved by lag coil.

### IV. LAG COIL OF ENERGY METER

Lakwell is used to maintain a 90 degree phase displacement between the flux and pressure coil which can be minimised or say become minimum when the leg while doesn't use a 90 degree phase displays meant is must to solve the problems which we created normally in any system when we can't use the leg coil leg coil can form the same process which cannot be done without leg coil.

### V. CONCLUSION

As per the detailed analysis we have concluded that proper working analysis of energy meter it will bring the changes within a power industry in terms of losses efficiency which are collectively termed as resource pulling.

### REFERENCES

- [1]. Power electronics converter, applications, and design” by n Mohan and w p Robbins.
- [2]. “power electronics: circuits, devices and applications” by m h Rashid. ...
- [3]. “power electronic converters” by r busier and g seguier.

### BIOGRAPHIES



The author is currently pursuing his bachelor’s degree in Dept. of Electrical Eng. in Greater Noida institute of Technology under DR. APJ Abdul Kalam Technical University.



The author is currently pursuing his bachelor’s degree in Dept. of Electrical Eng. in Greater Noida institute of Technology under DR. APJ Abdul Kalam Technical University.



The author is currently pursuing his bachelor’s degree in Dept. of Electrical Eng. in Greater Noida institute of Technology under DR. APJ Abdul Kalam Technical University.



The author is currently pursuing his bachelor’s degree in Dept. of Electrical Eng. in Greater Noida institute of Technology under DR. APJ Abdul Kalam Technical University.



The author is working as Head of Department in Electrical Eng. at Greater Noida institute of Technology under DR. APJ Abdul Kalam Technical University



The author is working as director of GNIOT group of institution. Greater Noida Gautam buddh nagar.