

Chapter 7

7.0 Conclusion

The idea of the project was to be an eye opener for this careless mistake of losing energy on the electrical network. Millions of units energy would have been lost and being lost even today due to this carelessness. Hope this research will reach all concerned of designing and operating electrical networks to incorporate into future projects or minimize in the existing facilities.

I have discussed the background for the project and the lengthy problems occurring due to the unbalances in the electrical network. The list is not limited to those but ever increasing as the demand for electricity gets expanded and more loads and electronic equipment is added to the system.

Some typical solutions were discussed that can be easily adapted to the facilities. Even these are not limited to those solutions but any other methodologies can be used to keep the unbalances and neutral currents low.

Case studies presented gave a good indication of the saving potential each facility has, which can be a motivation for engineers considering modifications. It was proved that the problem is not limited to particular consumer type or set of consumers, but widely spread over all consumer categories consuming 3 phase power. The problem is reflected for the single phase consumers in large scale.

Ability of data collection by electronic energy meters is not being practiced for the purpose of concentrating on the savings as above. It is proposed that the power supply authorities should give the day to day data collection access to the consumer from energy meters and let the consumer be aware about his own power quality problems and to initiate remedial action for his problems. As proposed by the paper the consumer can use load balancing and to select the correct equipment so that the harmonics are minimized back on the system could be practiced.