

Observations on technical paper issue # EE 08

This time there is a overwhelming response. We invited technical papers on issue # EE 08 and received total 71 contributions, of which 5 were very good, 15 good, 29 average and rest were below average.

Issue # EE08

Power factor corrections are supposed to reduce electricity consumption of a firm. Others dispute that and argue it reduces only electricity costs in case the power utility is offering a tariff where a reactive power demand charge are part of the monthly electricity bill. In discussing the nature or phenomena of reactive power experts use incomprehensive equations or explanations. The question is: What is reactive power and under which circumstances may power factor corrections reduce electricity consumption in a plant, or reduce electricity costs only, or reduce both electricity costs and electricity consumption.

Read the question carefully to avoid wasting your time with unnecessary efforts to write a highly theoretical dissertation about the subject. The answers are simple for those who have a good grasp of what reactive power really is.

It is observed once again that most papers submitted have only stressed on the theoretical aspect of the subject, very few have touched the real problem. We are interested in the answer based on actual practical industry experience from your side. Technical references should be given for making the papers concise.

Mr. Jayaraman C, his explanation of power factor, physical analogies and factor under which PF correction reduces electricity consumption in plant, electricity cost, and reduces both. His explanation of advantages/disadvantages of individual and group correction are quite impressive with explanation of his case study with diagrams. His article is awarded the first prize

Mr. R .Prakasam, gave two practical case studies to explain his point through data, we award him second prize.

Mr. G. Pandian's paper explain his point through strong statistical data, We award him third prize.

Mr. Rajiv Shankar's case studies and the payback period calculations rightly pointed the advantages of PF improvement is reduction of KVA demand resulting in reduction of power cost. We award him fourth prize.

Mr. K.G.Harish's statement of saving "0.5% of energy cost for every 0.01 pf improvement above 0.9" is correct and practically true in industrial scenario. We award him fifth prize.

A special note by Dr. A.Kaupp:

India has introduced the metric SI system a long time ago. Let us use it, and become perfect and instead of KWh write correctly kWh and instead of KWAHR write kWahr. In other words small k, capital W , capital A, small h and small r is the convention.

The winners are:

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| (1) Mr. Jayaraman C (Kochin Refineries Ltd.) | First Prize | (Rs.7,000) |
| (2) Mr. R .Prakasam (SITRA) | Second Prize | (Rs.6,000) |
| (3) Mr. G. Pandian (CPRI) | Third Prize | (Rs.4,000) |
| (4) Mr. Rajiv Shankar (Krishak Bharti Cooperative Ltd.) | Fourth Prize | (Rs.3,000) |
| (5) Mr. K.G.Harish (Glaxo Smithkline Consumer Healthcare Ltd.) | Fifth Prize | (Rs.2,000) |

There are two good papers, though no prize is given to them

- 1.Mr. Sanjiv Arora, MPSEB,Jabalpur
- 2.Mr. Surendranath Koottuparambil, ONGC

Congratulations to all the winners! Keep up the good work.