

Name : Rajiv Shankar

Designation: Manager (Electrical)

Company Name: M/S Krishak Bharati Cooperative Ltd.

Address: Plot A-10, Sector-1, Noida, Pin 201301

Email ID : rajivshankar12@hotmail.com



Calculation of fuel saving from improved efficiencies.

The efficiency is the ratio of output and input i.e. efficiency = Output/Input. For example, if we say that the efficiency of a particular equipment is 40%. It means that if we put 100 units of input in the equipment we will get 40 units of output. Similarly, if we say efficiency has increased from 32% to 33.3%, it means that earlier for 100 units of input we used to get 32 units of output but with the increased efficiency we get 33.3 units of output instead of 32 i.e an increase of 1.3 units.

Now as per increased efficiency we get 33.3 units of output while the input is 100 units, therefore for 32 units of output $(100 \times 32 / 33.3) = 96.09$ units of input is required. The saving will be $100 - 96.09 = 3.91$ units or 3.91%. Now if we put the values in option (I) $(33.3 - 32) \times 100 / 33.3$, we get same value i.e. 3.91%. In this way we find that option no. (I) i.e. $(\eta_{\text{new}} - \eta_{\text{old}}) \times 100 / \eta_{\text{new}}$ is correct.