

Operating Income (after tax)

In Pennsylvania, the amount of "*Operating Income (after tax)*" is calculated based on a return on investment. The critical feature here is that the calculation includes the full interest cost of the utility. This gets a bit involved, but here is how it is done:

The allowable "*Operating Income (after tax)*" is calculated as a return on investment.

In the regulated world, that investment is called "Rate Base".

Rate Base is comprised of two elements: Debt and Equity. This is very much like owning a home you could sell for \$300,000. If you had a \$200,000 mortgage on that home, you would have \$200,000 of debt and \$100,000 of equity. If the utility regulator was valuing your home he would say your Rate Base = \$300,000.

Next the utility regulator calculates the rate of return that the utility is allowed to earn on its rate base. Here is the way it is calculated:

$$\text{Average Rate} = \frac{\text{Interest Rate X Debt}}{\text{Debt + Equity}} + \frac{\text{ROE X Equity}}{\text{Debt + Equity}}$$

In the above equation ROE = Return On Equity. It is the percentage of Net Earnings divided by Equity. Setting the ROE is a key regulatory function. In most states it is about 10% - give or take 1%. The interest rate generally is the actual average rate paid by the utility.

Now make the following substitutions:

Interest Cost = Interest Rate X Debt

Net Earnings = ROE X Equity

Rate Base = Debt + Equity

The result is:

$$\text{Average Rate} = \frac{\text{Interest Cost}}{\text{Rate Base}} + \frac{\text{Net Earnings}}{\text{Rate Base}}$$

Next, the allowed "*Operating Income (after tax)*" is calculated as follows:

$$\text{Operating Income (after tax)} = \text{Average Rate} \times \text{Rate Base}$$

Multiplying the Average Rate by the Rate Base results in the following:

$$\text{Operating Income (after tax)} = \text{Interest Cost} + \text{Net Earnings}$$

Isn't that "interesting"! "*Operating Income (after tax)*" is simply the sum of Interest Cost plus Net Earnings. Once this number is determined by the above calculation, all the other cost elements get added to it to determine allowable revenue.

The result is that the ratepayer winds up paying the full interest cost of the utility.