



The Regulatory Formula & The Alternative

Regulated utilities are allowed to recover their cost to do business and earn a return on invested capital. Expressed as a formula this is the revenue requirement:

$$\text{Rev} = \text{Oc} + (\text{V}-\text{D})\text{rr}$$

Where:

Rev = Revenue justified by cost and return

Oc = Operating cost including depreciation

V = Value, always first costs

D = Depreciation

rr = Rate of return allowed by regulators

(V-D) = Rate base, this is the current book value of assets and the un-recovered part of depreciable assets and other amortized capital.

The formula gives the utility little incentive to reduce operating costs as these are passed through allowing full recovery. As long as the rate of return (rr) is above the cost of debt, the rate base can be inflated by spending more capital than necessary. The rr is almost always well above the cost of debt.

If a utility has a capital structure of 50% debt, as regulators encourage, then:

$$\text{rr} = .50 \text{ rd} + .50 \text{ re}$$

Where: rd = return on debt and re = return on equity

So if the utility is allowed an 8% overall rate of return and obtains debt for 4% (rd), its return on equity will be 12% (re). If the allowed rr is raised to 9%, then the re will be 13%. Once the rate of return is set, and if the cost of debt decreases, the return on equity will increase.

Operating capital, storm damage, conservation programs and other "regulatory assets" all go into rate base where the un-amortized portion earns the rate of return. Utilities prefer long amortization and depreciation periods. They borrow money at low rates and invest in guaranteed high return capital projects.

The regulatory formula provides an understanding of how and why utilities operate and invest the way they do. There is a strong bias for capital projects like nuclear generators. There is also a great incentive to have cost overruns, if the utility has the political clout to get excessive capital into the ratebase. Hence regulated utilities spend a great deal of money on lobbying and strategic contributions to gain the political capital necessary to get their mistakes into the official ratebase.

A regulated business is the carnival mirror image of a real business. Many of the same terms used to describe normal companies are used, but their meanings are distorted. There is no incentive to innovate because operating cost reductions are passed on to customers. Regulated utilities don't care if environmental rules require heavy investment in emission control equipment. That's just more capital in place and subsequent earnings. They actually like having coal plants shut down. They get to collect depreciation and return on the abandoned coal-fired asset; plus they get to invest in a new asset to replace the power output and double dip capital recovery and return for same amount of power.

So how can the monopoly-regulatory system be reformed? There has to be free and open competition so the most efficient users of capital can gain a market share from the over-capitalized incumbents. This means competition in the delivery system, too, not the mandatory access with full recovery of toxic assets that has been tried. Let potential competitors also offer the wiring from generators to customers. Threatened with seeing their infrastructure become obsolete, incumbent utilities will develop sharing arrangements. Other industries, and even utilities in certain circumstances, have developed such working agreements.

Utility regulation came into being through political means as protection from competition. Much of the previous misunderstandings about economics have been cleared up in the past hundred years. There is no sound reason the services offered by regulated utilities cannot be made in a market setting.