

A NERA Publication

Energy Regulation Insights

Issue No: 21

August 2004

From the Editor

Ofgem, the British energy regulator, is currently working with electricity distribution companies on the next five-year price control period (2005-2010). One of the major issues for discussion is the level of allowable capital expenditure and the treatment of “over- and under-spends”. Ofgem has finally accepted that companies’ investments may need to exceed the allowance and has developed three tests for assessing capital overspends. This brief discusses the potential impact of these proposed tests on regulated companies’ investment incentives. The authors conclude that offering incentives for efficient capital expenditure requires regulators to abandon any pretense that price cap regulation is “light-handed”. Instead, the future of price cap regulation lies in detailed procedures for assessing capital overspends that are transparent in their interpretation and predictable in the way that they are applied.

Graham Shuttleworth, Director

OFGEM Proposes New Treatment of Capex Overspend

by Former Senior Consultant Rocío Concha and Former Special Consultant Isabelle McKenzie

Introduction

Since privatisation in 1990, the electricity distribution companies have consistently invested less than the revenue allowed for capital expenditure. However, for the next price control period, Ofgem recognises that overspend will become more likely and has therefore tried to devise a scheme that encourages “efficient” investment above the allowance.¹ Will the scheme really achieve its goal?

The Ofgem Proposals

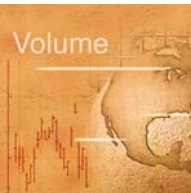
Ofgem proposes three tests for assessing capital overspends:²

- “(1) If there is clear evidence of wasteful and unnecessary spending then this will not be included in a licensee’s regulatory asset value;
- (2) If costs are higher than allowed at the last price control review but are nevertheless consistent with efficient spending, in general there will be a symmetrical treatment of under and over spend. Therefore the licensee could expect to have to meet at least the return element of financing costs of overspend for a full five year period, after this full five year period had elapsed the amount of the overspend would be added to its regulatory asset

¹ If the regulated company needs to carry out an unexpectedly high level of capital expenditure within the price control period, it is able to request a review of its price control, but Ofgem does not have to acquiesce. The scheme described here is intended to function as part of the price control rules.

² This test has been retrospectively applied to the current gas distribution price control period and applies from the next electricity distribution price control period.

The views in this issue represent the views of the authors and not necessarily those of NERA.



value;

- (3) *Where costs are higher, consistent with efficient spending and this spending can be clearly shown as providing significant benefits to consumers, such as in terms of being essential for security of supply, Ofgem would consider allowing the licensee to recover the regulatory depreciation and return from the year the expenditure is incurred.*³

We depict a decision matrix from the Ofgem test in Figure 1.

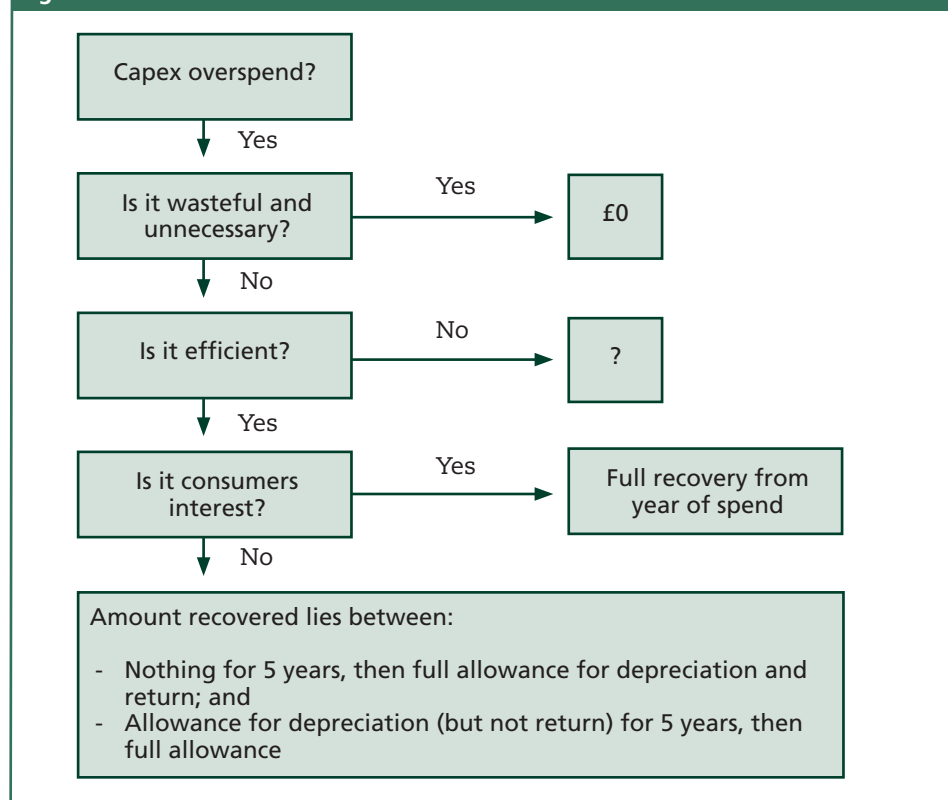
Ofgem’s acceptance that regulated companies may need to undertake investments not anticipated in the regulatory review is to be applauded. However, Ofgem’s proposed arrangement raises some serious questions about the tests to be applied, and the associated adjustments to revenue.

“Wasteful and unnecessary”

The first test is to determine if the expenditure was “wasteful and unnecessary”. This first step raises two questions:

1. To apply this test, will Ofgem investigate *some* capital expenditure as “overspend” (if so which?), or investigate *all* of the company’s capital expenditure?
2. Will Ofgem scrutinise the *decision* to invest (ex—ante assessment) or the *outcome* of the investment

Figure 1



(ex—post assessment)?

When price cap regulation was introduced in the UK in 1990, it was described by the (then) electricity regulator as “light—handed regulation” when compared to the “intrusive” nature of rate of return regulation employed in the US. Principally, under price cap regulation, the regulator did not scrutinise all investment decisions to determine if they were “prudent” before allowing them. Instead, it set

an allowance and allowed the company to determine exactly how—or whether—it would spend the money, faced with the incentive that it could keep any revenue allowance not used.

UK regulators have consistently maintained that this approach gives the companies an incentive to invest efficiently, without undue regulatory interference in business decisions. In practice, it has required a (non—binding) review of capital investment plans

³ Gas Distribution Price Controls Open Letter, Ofgem, 16 March 2004 para 5 and Electricity Distribution Price Control Review Policy Document, Ofgem, March 2004 para 3.67



at the start of each review, to set the revenue allowance for new investment. However, in the past, “efficiency” usually meant investing less (and doing it more cheaply), which required little or no review of “underspends”. In the future, if there is “overspend” Ofgem will also have to review the capital expenditures that were not in the initial plan. Thus, in the end, Ofgem will end up reviewing all capital expenditures at one time or another.

Ofgem has not set out how it will determine if an unforeseen investment was wasteful or unnecessary. It might be tempting to review the utilisation of the investment, i.e. whether it meets a demand or not. However, such an approach would expose regulated companies to the vagaries of demand growth, which is inherently unpredictable. If demand was lower than expected, new investments would appear to be unnecessary by this test and the company would receive a low rate of return. However, if demand was higher than expected, the investment would earn, at most, a rate of return equal to the cost of capital. Thus, the returns to the regulated business would be skewed compared with those of a competitive business, which would expect to earn higher profits on more successful investments.

Given this asymmetry in returns, appraising investment by actual rates of utilisation will discourage many efficient investments, i.e. those whose expected returns exceed their

expected costs. To overcome this problem, regulators have to appraise how the company takes the decision to invest and how the company *executes* the project, *in the light of available information and conditions at the time*.

“Efficient Spending”

Ofgem’s second test relates to a measure of “efficient spending” by the regulated company and applies once it has passed the “wasteful and unnecessary” test. Ofgem’s use of these two different criteria is curious. It raises the possibility that an investment could be deemed as not “wasteful and unnecessary”, but nevertheless “inefficient”. Ofgem is silent on the remuneration a company would receive in this case.

In principle, the two criteria of “wasteful and unnecessary” and “efficient spending” mean the same thing. To reduce regulatory uncertainty, Ofgem should either show clearly that the two tests are different, or amalgamate them into a single “efficiency” test. It is possible that Ofgem intends the “wasteful and unnecessary” test to apply to the *investment decision process*, whilst the test of “efficient spending” applies to *project execution*. However, the text does not make this clear and the resulting ambiguity is not con-

ducive to providing incentives for efficient investment, since investors will not know how Ofgem will assess their investments.

Curiously, even if an investment passes these tests, Ofgem does not plan to allow full recovery of its costs, including a rate of return. Even if an investment is efficient, necessary and not wasteful, Ofgem may only permit recovery of depreciation for the first 5 years. Investments that save other costs may still meet private sector investment criteria, but Ofgem’s approach would discourage many other kinds of investment, were it not for the final test, perhaps.

“Significant Benefits to Consumers”

For investments that pass the “not wasteful and unnecessary” and “efficient spending” tests, there remains a further hurdle to full cost recovery. It must pass a third test of “significant benefit to consumers”. The definition of this criterion as a separate test is extraordinary, since efficient investment is in consumers’ interests and one would expect investment deemed “efficient” to be included within the



regulatory asset base and fully recovered.

If a company fails this test, it can recover somewhere between (1) nothing for five years, followed by full recovery thereafter, and (2) depreciation only for five years, followed by full recovery thereafter.⁴ Such investments would only be worthwhile if the investment reduced other costs incurred by the company, for instance, if investment in replacing equipment reduced the cost of maintenance. Perhaps Ofgem anticipates that most investments will be of this form and hence self-financing, with this final test intended to identify investments that benefit consumers (e.g. by increasing the quality of supply) without benefiting the company.

However, by adding this extra test to its proposals, Ofgem has effectively set up an obligation to apply criteria other than efficiency, which investors will have to anticipate. The lack of clarity over this test, and the possible reduction in returns, may well discourage

investors from investing efficiently.

Criteria for Setting Tests

This discussion of Ofgem's proposed tests shows the degree of ambiguity and (potential) overlap in the proposals. Ofgem may have clearly defined intentions, which are consistent with one interpretation of the tests, but these intentions are not transparent and the tests are open to a range of interpretations. Ofgem's multiple investment criteria create regulatory uncertainty for the regulated company because they fail the basic requirements for a *stable* and *predictable* regulatory procedure. To ensure that these tests encourage efficient investment, Ofgem will need to clarify the meaning of appraisal criteria by defining the data requirements, analytical procedures and appraisal standards in more detail, at each stage ensuring that they are *objective* (minimise the use of judgements and interpretation

by regulatory staff) and *mechanistic* (are routinely and consistently applied).

Conclusion

The regulated electricity companies in the UK have consistently responded to the incentive for capital under-spends. In future, capital overspends will become more likely. Ofgem has responded to this development by introducing a revenue allowance for capital overspends, supposedly providing an incentive for "efficient" overspends. However, our discussion of Ofgem's tests as currently phrased leads to the following conclusions:

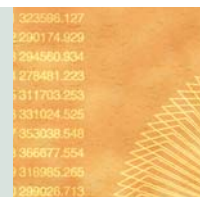
1. Ofgem will have to scrutinise *all* investment decisions (showing that so-called "light-handed regulation" is unsustainable);
2. Two tests ("wasteful and unnecessary" and "efficient") appear to

⁴ It is unclear from the proposals what Ofgem actually will allow the companies to recover.

About NERA

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- overlap, creating uncertainty as to what they will mean in practice, or that one test may be redundant;
3. The final test of “significant benefits to consumers” gives Ofgem the power to disallow some costs, but again it is unclear how it differs from the other tests or how Ofgem will apply it;
 4. Ofgem has not set out whether the test will look at the information available at the time of the investment decision or at project execution or at the results of the investment (which depend in part on factors outside the control of the regulated company).
- wasteful or unnecessary”; (2) to be “efficient”; and (3) to provide “significant benefits to consumers”. As the Ofgem proposals do not define any of these criteria, the prudent approach for the affected companies will be to forgo some efficient investment which exceeds the capital allowance, because of the risk that Ofgem will disallow some or all of the investment at the next price control review. To overcome this reluctance on the part of investors, Ofgem will need abandon any pretence at “light—handed regulation” and instead to set down its appraisal criteria in far greater detail.

So far, Ofgem’s proposed arrangements do not offer well—defined incentives for efficient overspend. In order to guarantee full cost recovery, investments would have: (1) to be “not

Our Practice

NERA is at the forefront of the continuing transformation of the energy industries worldwide. We have pioneered in developing approaches for introducing competition in segments such as power generation (where competition is workable) and for improving the regulation of sectors (where it is not). We work with companies and governmental bodies worldwide to design competitive power markets and to develop tariffs and rules of access for regulated transmission and distribution systems for electricity and gas and transport of oil and oil products. With industry restructuring, we also help companies develop strategies for exploring new opportunities and minimizing new risks, including issues related to climate change and other environmental initiatives.

We help our clients to develop new regulatory strategies and, when needed, support our clients with analysis and testimony before regulatory commissions, antitrust and competition policy agencies, and domestic and international courts. Our economists help clients to decide which lines of business to pursue; to divest assets no longer consistent with their strategy; to identify and evaluate opportunities for mergers, acquisitions and investment; and to develop bidding, trading, contracting, and marketing strategies and organizations. Our work also includes designing and conducting energy auctions, providing strategy and valuation, advice on mergers and acquisitions, the financing of energy companies, and the financial restructuring of distressed companies.