

Guernsey Electricity: Regulatory Issues

Report by Sir Ian Byatt, David Newbery and Chris Bolt

Executive Summary

We take as our starting point for the policy framework within which GEL and OUR operates the Review of Commercialisation by Treasury and Resources Department (T&R) and Commerce and Employment Department (C&E) and the subsequent resolutions by the States of Deliberation dated 1 June 2006.

In approaching our terms of reference, we believe that the RAB can only be determined when other policy objectives, principally the shareholder's financial objectives and the starting level of prices, have been specified. These are policy matters, not ones for the economic regulator.

We consider that the Financial Framework should be reviewed to give greater clarity on the expectations of T&R as GEL's shareholder. In particular, the level of the cash reserve required under the Save to Spend policy should be clarified and more closely linked to future investment needs.

In determining future investment by GEL, we consider that options should be appraised at a risk-based test discount rate, established by OUR as part of the price setting process, to deliver a security standard agreed between GEL and C&E. We consider that the same rate should be the allowed return on net additions to the RAB, so that consumer prices reflect at the margin the economic cost of maintaining the agreed security levels. For the same reasons, we consider it is important that variable electricity charges should be set on proper economic principles to give appropriate price signals and ensure fair competition with other fuels.

We note the guidance from T&R on the use of the existing (historical cost) valuation of GEL's assets for accounting purposes, and consider that this provides an appropriate starting RAB. We also recognise that the commercialisation of GEL was not intended to change the level of electricity charges. We therefore conclude that a lower return should be earned on assets on this element of the RAB than on subsequent new investment.

To give appropriate incentives to efficiency, the price control needs to be based on efficiency targets for OPEX and CAPEX set by OUR. In our view the resulting price limits should be incorporated into a 'hard' budget constraint for GEL management. Ideally this would be reinforced by a Management Incentive Plan on criteria approved by OUR.

The regulatory framework should be supported by regulatory accounts, ideally on a CCA basis. These accounts should distinguish clearly between 'above the line' costs and revenues which relate to regulatory decisions, and 'below the line' financing items (including the level of cash reserves and dividends either to T&R or to customers) which are for the shareholder. At each price review, T&R should determine whether any outperformance in the previous period, and any excess of cash expected to be generated by GEL in the next period, should be paid to T&R as a dividend, or used to offset electricity bills as a 'customer dividend'.

Background and Terms of Reference

1. The Office of Utility Regulation (OUR) published its Decision Notice on the next price control for Guernsey Electricity Limited (GEL) in December 2005. Although originally proposed to last for three years, the final price control decision covered one year only. The principle reason for this was disagreement between OUR, GEL and the States of Guernsey (both given their responsibility of energy and regulation policy and as owners of GEL) in particular on the value of GEL's assets and the correct basis for determining the appropriate return on those assets.
2. The Decision Notice indicated that OUR intended to seek independent expert opinion on those issues. Subsequently, we were appointed by OUR as an Independent Expert Panel to report on them.
3. Our terms of reference are as follows:

Terms of Reference for the Expert Panel

The Director General has established an Independent Expert Panel to advise him with respect to certain economic issues relating to the future price control for Guernsey Electricity (GEL). The Panel will advise the Director General on:

- *The feasible alternatives for arriving at the opening Regulatory Asset Base the Director General should apply for the purposes of its future price control of GEL*
 - *In particular, to consider the appropriateness of the 'Financial Framework' document as a means of allowing GEL's shareholder a reasonable return*
 - *To advise on the implications of the alternatives identified above for any future price control set for GEL by the Director General.*
4. We have carried out this task by reviewing material submitted to us by the parties, in particular GEL, and by discussing the issues with the main parties (OUR, GEL, Guernsey Gas, T&R and C&E) in Guernsey on 10 July 2006. We discussed a draft of this report with the parties on 11 August 2006. We are grateful for the cooperation we have received.

Structure of this report

5. In approaching this issue, we have first sought to understand the context for commercialisation and regulation of GEL. We recognise that there are particular public policy objectives in Guernsey which have a bearing on the most appropriate resolution of the issues covered by our terms of reference. Given that these objectives are reflected in the Financial Framework established by the Treasury and Resources Department (T&R) and the Commerce and Employment Department (C&E), we have considered this document first, before considering the issue of the Regulatory Asset Base (RAB).
6. In reviewing the policy and financial context, we have identified some lack of clarity and possible conflicts of objectives that need to be resolved so that clear decision-making processes are in place. In particular we believe that there should be closer articulation of the financial models used for

price setting and the regulatory accounts. At the heart of this should be an explicit statement of the principles to be used in determining the weighted average cost of capital (WACC) to be used in project selection and price setting. We do not believe that the specification and calculation of an appropriate RAB can satisfactorily be addressed until these matters are resolved, and the final number will depend on the way that they are resolved.

7. Our report is therefore structured as follows:

- a review of the policy and financial context within which GEL operates;
- observations and recommendations on the Financial Framework document;
- conclusions and recommendations on the cost of capital for GEL;
- conclusions and recommendations on the RAB and allowed return;
- conclusions on the implications for future price control reviews of GEL.

Guernsey Electricity: policy and financial context

8. Guernsey Electricity Limited (GEL) is owned by the States of Guernsey, with T&R acting as the shareholder. It was established as a publicly owned company in 2002, as part of the policy of the States for commercialising public enterprises. The company is subject to a Financial Framework specified by the States that sets out the financial policies to be adopted. It is also subject to price regulation by OUR.
9. GEL competes with Guernsey Gas in the space and water heating markets, where customers may be sensitive to the relative prices of gas and electricity. The cost of gas is largely determined by the world market price of LPG, all of which is imported. Electricity is (mostly) imported from France, where the cost is linked to the price of fuels and carbon, and partly from local generation, where the cost is linked directly to imported oil prices.
10. The States specify a policy (the Public Service Obligation) towards security of supply. This is the n-2 policy that requires that peak demand in Guernsey can still be met after the failure of the two most critical supply components (which at present are the link to France and the largest generating set on the island). C&E is responsible for energy policy in Guernsey.
11. The National Audit Office (NAO) reviewed the outcomes of commercialisation and the operation of the regulatory framework that supports it in a report to T&R and C&E dated September 2005.¹ That report set out, in Appendix 3, recommended principles for the States as

¹ *Review of Commercialisation and Regulation in the States of Guernsey*, National Audit Office, September 2005, available at http://www.gov.gg/ccm/cms-service/download/asset/?asset_id=2316036.

Shareholder in the commercialised enterprises, including GEL. The underlying principles it recommended were:

- **Clarity and transparency of objectives** – for the business; and an approach which ensures greater clarity between the trade-offs in policy, regulation, customer and shareholder interests.
- **A shared vision** for the business, based on agreed objectives, which are explicitly agreed by the shareholder, the Board and the management team.
- **An engaged and informed shareholder**, exercising its key levers of influence (i.e. governance, appointments, strategy, incentivisation and performance monitoring).
- **An incentive framework** that links rewards explicitly to profit and value performance over the long term.

12. In their joint report to the Policy Council, T&R and C&E agreed that the current Guidance to GEL should be reviewed against these principles.² This conclusion was endorsed by the States of Deliberation in the resolution dated 1 June 2006. We support these principles, and take them as our starting point for assessing the appropriateness of the Financial Framework. issued to GEL.

Observations and recommendations on the Financial Framework document

13. T&R and C&E have prepared a 'Financial Framework' document for GEL, with OUR input, dated 16 March 2006.³ The general financial policy specified for GEL is that of "Save to Spend", whereby capital expenditure is financed from accumulated surpluses rather than borrowing. Within this policy, the States specify a desirable level of GEL's cash reserve, which is held on deposit at T&R in the form of gilt-edged securities. The desired cash reserve is set in relation to expected investment over several years. Compared with utility finance in many other jurisdictions, where gearing (debt as a percentage of the RAB) of 50-75% is considered optimal, this may appear to be an inefficient capital structure. But it has been consciously chosen by the States.

14. The States also specify a level of return to the shareholder. These returns are modest, reflecting the policy that "financial targets for GEL shall be set so as to deliver improved efficiency in fulfilling the requirements of the Public Supply Obligation imposed under the regulatory regime whilst drawing a balance between seeking a commercial return on the resources employed and the effect on the community of any increase in charges which may result".

15. It is recognised in the Financial Framework that setting prices to reflect the specified objectives for the cash reserve and for dividends will "result in an

² *Review of Commercialisation*, 5 April 2006, in Billet d'Etat X, 31 May 2006, at http://www.gov.gg/ccm/cms-service/download/asset/?asset_id=2316034.

³ *GEL Financial Framework*, 16 March 2006, reproduced at Annex A. We note that a different version of this document appears to have been sent to GEL.

accounting loss being recorded for some years and an accounting profit for other years". It is expected that "over 10 years (roughly a full CAPEX cycle for GEL) the accumulated profits/losses, returns to shareholder, change in cash reserves and any tax paid should balance out".⁴

16. OUR's approach to these issues is set out in its consultation and decision documents.⁵ OUR accepts that the Save to Spend policy should be reflected in its price setting framework, but considers that the RAB should as a consequence be set to zero. GEL and T&R believe that this will result in sustained losses for the company, contrary to the outcome expected in the Financial Framework of losses in some years and profits in other years. They also consider OUR's approach to be inconsistent with other aspects of the Financial Framework, notably that "T&R ...insists that, for accounting purposes, the value of those assets should continue to be based on historic costs and appropriate depreciation policies as at present".
17. We have reviewed the Financial Framework against the NAO principles and other regulatory precedents. It is not clear to us that the objectives of the various parties – the States, OUR and GEL – are fully consistent with each other. This has contributed to the disputes about the correct Regulatory Asset Base (RAB) to be used by OUR in setting price limits. Nor is it clear to us that these arrangements provide adequate incentive to efficiency either in the provision or use of electricity on the Island. GEL believes that making losses can be de-motivating and inimical to efficiency. OUR believes that ready access to cash for investment can lead to uneconomic projects. Guernsey Gas believes that the energy market is being distorted by under-pricing of electricity. The States have recognised the need for a more explicit energy policy. The n-2 security of supply policy could be met in different ways with greater or lesser dependence on imports from France.
18. We accept that GEL must be responsible for the delivery of electricity and of any wider social, environmental or other national objectives in so far as these objectives are clearly specified by the States. Subject to achieving these wider objectives, GEL should use (and be incentivised to use) its business skills to reduce its costs and improve its efficiency. We therefore accept that it is for GEL and its management to take operational decisions on running the business which deliver a satisfactory standard of service to customers, within a framework of price controls and incentives set by OUR and the Financial Framework established by the shareholder.
19. However, we also consider it is important that the regulatory and financial framework should distinguish between decisions on the price of electricity charged to customers and the benefit derived by customers from ownership of GEL by the States. In recognising the need for a clear

⁴ *Financial Framework*, paragraph 6.

⁵ *Review of Guernsey Electricity Limited's Price Control: Draft Decision*, September 2005 (OUR 05/23A), at <http://www.regutil.gg/docs/OUR0523.pdf> and *Price Control on Guernsey Electricity Limited: Decision Notice*, December 2005 (OUR 05/31), at <http://www.regutil.gg/docs/OUR0531.pdf>.

statement of public policy towards energy pricing and to public ownership of companies such as GEL, we do not believe that independent regulation is undermined; rather by creating this distinction we believe that regulatory independence would be strengthened.

20. While endorsing the conclusions of the Review of Commercialisation that OUR's responsibilities for the regulation of GEL should not be changed, we therefore accept that it is for T&R (as shareholder) and C&E (with responsibility for energy policy and regulation) to determine certain aspects of Financial Framework for GEL. These include:

- the appropriate valuation of GEL at the time of commercialisation;
- the basis of GEL financing (i.e. Spend to Save);
- the shareholder returns to be expected;
- the use of cash surpluses; and
- the incentivisation of GEL management.

21. However, we consider that the Financial Framework needs to set out clearer guidance on these issues. In particular, greater clarity is needed on the level of cash reserves consistent with the Save to Spend policy. This might, for example, be on a basis equivalent to the UK Chancellor's Golden Rule, such that no borrowing is required to finance the expected (efficient) cost of CAPEX over an investment cycle. **We therefore recommend that:**

Recommendation 1. T&R should establish a clear rule for establishing the level of cash reserves required under the Save to Spend policy. This might be, for example, that expected cash reserves should not fall below zero over an investment cycle (which might be of the order to ten years, given the technology and lumpiness of investment). It should also indicate at each price review the dividend it expects to receive if GEL operates in accordance with regulatory targets.

22. We consider that the application of such a rule should be the responsibility of OUR. In particular, it is important that OUR should assess as part of each price control review whether the investment proposed by GEL is efficient, both in terms of the proper appraisal of options to meet customer demands and appropriate security levels, and the costs expected.

23. We are also concerned that, as currently drafted, the Financial Framework may give insufficient incentive to GEL to deliver improved efficiency. Unlike the situation facing a privately owned company, there are no market incentives to out-perform and no market pressures for increasing dividends. We therefore believe that T&R as shareholder should consider the introduction of a management incentive plan for GEL management. This was recommended by the NAO⁶, and is common for commercialised companies under public ownership. Such a plan would be based on delivery of regulatory targets including customer service; OUR should

⁶ Paragraph 14j of Appendix 3.

therefore be consulted as to whether the incentive plan does indeed focus on appropriate measures.⁷ We also support the provision in the Financial Framework to determine the dividend actually paid to GEL to reflect performance by GEL in the year in question.

24. We also therefore recommend that:

Recommendation 2. T&R should establish the dividend to be paid by GEL each year in the light of performance, and should consider the introduction of a management incentive plan linked to delivery of regulatory objectives.

25. We set out our detailed comments on the Financial Framework in Annex A. Our views on the return on capital and on the valuation of GEL's assets are set out in the following sections of our report.

Conclusions and recommendations on the cost of capital for GEL

26. We note that Guernsey electricity is extremely capital intensive by EU or UK standards.⁸ The choice of the discount rate (when selecting the least-cost expansion plan) and the weighted average cost of capital or WACC (when deciding on the long-run marginal cost of generation) are therefore critical given this high capital intensity.

27. We are surprised and concerned that the Mott MacDonald report on *Generation Investment Options for Guernsey* (Dec 2004) used a discount rate of 2% real to select investments. The States appear to argue that because they hold GEL's cash balances under the Save to Spend policy and lend it to the UK Government at gilt rates, the relevant discount rate should be 2% real or even less; and OUR proposed in its Decision Notice a cost of capital of 4.8% nominal. By contrast, standard utility practice by regulators in the UK is to compute a weighted average cost of capital (WACC) based on a notional gearing, cost of debt and cost of equity appropriate to the risk characteristics of the utility concerned, delivering a WACC of about 5% real.

28. Using a risk free gilts rate for investment appraisal will result in excessively capital intensive expansion choices.⁹ Further, while the risk free debt rate

⁷ Examples of management incentive plans for publicly owned companies in the UK include Scottish Water and the Post Office. The arrangements for Network Rail and Glas Cymru are also highly relevant.

⁸ The base-load plant is a Slow Speed Diesel (SSD) running on HFO at an installed cost of about £900/kW, compared to combined cycle gas turbines with a higher efficiency and a capital cost under £350/kW, the preferred investment in the UK. In 2004/5 the D station (the most efficient) ran 1,693 hours, or at a load factor of less than 20%. An efficient base-load plant should run at 80%, so the effective capacity cost is more like £3,600/kW for such a plant, more than twice that of a nuclear power station. The interconnector with Jersey (and thus to France) costs about £1,200/kW, and gives access to electricity generated in nuclear power, that itself cost £1,200 or more per kW. The cost of the n-2 standard require substantial reserve capacity which further contributes to capital intensity.

⁹ To give a simple example, the extra annual capital cost of a kW of interconnector costing £1,200/kW rather than that of an Medium Speed Diesel (MSD) costing £350/kW at 2% over 25 years is £43/kW/yr, while at 5% is £60/kW/yr, or, at 80% load factor, £4/MWh rather than £5.5/MWh. If the cost of fuel for the MSD is between £4 and £5.5/MWh more than the cost of importing electricity then the choice of domestic generation rather than an

for a state-owned enterprise like GEL may well be 2% real, the equity component should be considerably higher (as computed in the WACC). It would seem imprudent of the States effectively to treat GEL as risk free when its past investment decisions demonstrate evidence of considerable risk.¹⁰

29. We believe that OUR should, as part of its regulatory function, specify the appropriate WACC as a major element in a price review. Such a WACC would take account of the risk that would be incurred by the shareholder as a result of any unexpected events or any failure by GEL to meet its obligations within the efficiency expectations specified by OUR when setting price limits.

30. We recommend therefore that:

Recommendation 3: GEL should be required to use a discount rate for selecting investments that reflects GEL's equity risk. The precise number should be specified by OUR at a price review but is likely to be closer to 5% real than Mott MacDonald's (and the States) value of 2% real (i.e. about 5% nominal).

Conclusions and recommendations on the RAB and allowed return

31. We turn now to the central issue covered by our terms of reference, the determination of the RAB for GEL and the appropriate return on it.

32. The way in which GEL was commercialised effectively recognised as a public policy objective that commercialisation in itself should not lead to a change in average bills. This means, in our view, that the regulatory framework should accept the average level of bills in 2002 as an appropriate starting point.

33. The assets of GEL were independently valued when it was set up in 2002. We understand that this was largely a desk exercise to revalue the land, and that the equipment was accepted at written down book value. At current price levels, the return on this asset base, after depreciation, is expected to fall well short of a risk-based WACC, as described in the previous section of our report. So the objective of leaving the initial level of bills unchanged requires either a write-down of assets or earning of a lower return on assets in existence at the time of commercialisation.¹¹

interconnector expansion will be sensitive to which of these discount rates is chosen. Setting the discount rate equal to the risk-free gilt rate would probably result in even more capital-intensive expansion choices, and would strongly favour interconnections over on-island generation, leading in due course to GEL being primarily a distribution and supply company once there are several separate interconnectors.

¹⁰ Older MSDs were substantially more expensive than now, and so suffered a considerable capital loss, while the generation plant may have been suited to an isolated system but not necessarily to one interconnected to France and importing 85% of its consumption.

¹¹ We reject a third approach in which GEL chooses (perhaps at the behest of the Board Members representing the owner) to price below its cap as it undermines incentives on GEL to become more efficient in operation, investment and pricing by imposing demanding price controls, and thereby renders pointless the system of price regulation.

34. We note that T&R, in the Financial Framework, “insists that, for accounting purposes, the value of [GEL’s] assets should continue to be based on historic costs”, and does not contemplate any asset write down. Our clear preference therefore is to retain the 2002 valuation of GEL’s assets, and establish a return on those assets below the WACC.¹² We consider that this approach most appropriately recognises the past approach to the financing of GEL’s assets, and preserves the financial interests of both customers and shareholder at the time of commercialisation. We note that there are precedents for this form of ‘two-tier’ return.¹³
35. However, to maintain incentives for efficiency, we consider that customers should face efficient tariffs at the margin. This means, in our view, that:
- price controls should reflect an allowed return on new investment since 2002 (net of depreciation on that investment) equal to the risk-based WACC; and
 - that the variable element of electricity tariffs should be based on commonly accepted economic principles, also reflecting this WACC.¹⁴
36. This also means that the effect on GEL’s allowed revenue of the lower allowed return on pre-2002 assets (again net of depreciation on those assets) should be reflected in fixed or capacity charges that do not affect consumption decisions.¹⁵
37. Given this proposal to distinguish the return allowed on pre-2002 assets and subsequent net additions, it is particularly important that regulatory accounts are established to allow the value of pre-and post-2002 assets to be identified and separately rolled forward (net of depreciation on the separate asset values). These accounts must include a sufficient provision, over an investment cycle, for the maintenance, and, where appropriate, replacement of existing and newly created assets. The accounts must also distinguish between the cash reserve established to meet the Save to Spend objective, and a ‘profit and loss account reserve’ which reflects differences between actual profits and those expected at the time the price control was set.

¹² We recognise that the 2002 valuation may not have followed the principles of Deprival Value, which we consider are the most relevant, and are described in more detail in Annex D. However, we do not believe that these principles would result in a materially different valuation, and under the approach recommended here would in any case be offset by a change in the return allowed on existing assets.

¹³ See Annex B for a discussion of these precedents.

¹⁴ We set out in Annex C how this might be achieved.

¹⁵ This should not be difficult as the characteristic of GEL is that it is necessarily highly capital intensive – the average customer requires some 2kW capacity, with the physical assets having a book value of about £4,000/customer. At a WACC of 5%, amortised over 25 years this amounts to a capital charge of £284/customer/year or £142/kW max demand/year. If 75% of this value is represented by the inherited (2002) assets earning 1.5% real and the remaining 25% represents new assets earning 5% real, the revised annual fixed charges would be £207/customer/year or £103/kW max demand/yr.

38. Given an RPI-X form of price control, we consider that these regulatory accounts should preferably be in a current cost format; this does not in our view have any necessary implications for the form of statutory accounts for GEL.

39. In respect of the RAB and allowed return, **we therefore recommend that:**

Recommendation 4. the RAB at the time of commercialisation should be set equal to the balance sheet asset value at that date;

Recommendation 5. the allowed return on these assets should be determined in a way which leaves average bills at that date uncharged;

Recommendation 6. the allowed return on subsequent net additions to the RAB should be the same risk-based WACC used to appraise investment decisions; and

Recommendation 7. regulatory accounts should be established, preferably on a current cost basis, which reflect this approach and which also identify any differences between the levels of OPEX and CAPEX allowed for in setting price limits and those actually achieved.

Conclusions on the implications for future price control reviews of GEL.

40. The process of a price review will involve close discussions between the States and OUR, taking into account submissions from GEL on its future cash requirements. It will require in particular, an assessment of the following 'above the line' items:

- OPEX;
- capital maintenance, to cover over an investment cycle the cost of maintaining and renewing capital assets;
- a return on pre-2002 net assets which is at a level determined on the principles set out in paragraph 33; and
- a return on post-2002 additions to new assets equal to the risk-based WACC used for investment appraisal.¹⁶

41. Determination of the relevant cash flows will, as set out earlier in our report, need to reflect the require clarity on the security of supply policy (n-2) as it affects GEL's future investment needs. Cash flows will also need to reflect the efficiency achievable by GEL, as determined by OUR.

42. Setting the price control will also require an assessment of 'below the line' financing items. These include:

- interest on cash reserves, determined at the expected deposit rate for gilts;

¹⁶ It will be necessary to roll forward two separate RABs, on relating to those assets inherited in 2002, and those created after than date. The inherited assets will be written down each year by their depreciation to give the inherited RAB, while the new RAB will be augmented by all new investment, and reduced by the depreciation of post-2002 assets.

- the expected dividends to T&R;
- any increase or reduction in cash flow to achieve the level of cash reserve required under the Save to Spend rule;
- the treatment of any shortfall or outperformance in efficiency on the part of GEL in the previous price control period.

We set out at Annex E how the different elements of cash reserves might be treated in setting the price control.

43. Consideration of these financing items is likely to lead to an adjustment to the revenue required by GEL to meet 'above the line' costs. This adjustment could in principle be made in four ways:

- a change to the price control;
- a change to the required level of cash reserves;
- a change to the expected dividend; or
- a specific adjustment paid to customers through a "customer dividend".

44. We do not consider that the first two approaches will generally be appropriate, given the need for the price control to produce hard budget constraints for the supplier, GEL. Without explicit hard budget constraints, there is always a risk that a publicly owned supplier will engage in behaviour that is not fully cost effective, as was the experience with nationalised industries in the UK.

45. There are therefore essentially only two alternative uses for the distributable surplus. The surplus can either be transferred as dividends set at a normal rate to the owner, the States, for worthy purposes (such as reducing other taxation, reinvestment for a rainy day in other profitable on or offshore investments, etc), or used to provide dividends to consumers to offset higher electricity bills – effectively by treating customers co-owners in some kind of mutual enterprise or Company Limited by Guarantee (rather like Glas Cymru)¹⁷. We consider that the choice between the different approaches is one for the States, taking account of broader public policy objectives.

Summary of recommendations

Recommendation 1. T&R should establish a clear rule for establishing the level of cash reserves required under the Save to Spend policy. This might be, for example, that expected cash reserves should not fall below zero over an investment cycle (which might be of the order to ten years, given the technology and lumpiness of investment).

¹⁷ In the case of Glas Cymru these customer dividends (now £19 per customer) are paid at a flat rate irrespective of the size of each customer's bill. In this case, the benefit is larger, relative to the size of the bill, for household and small business customers than for larger businesses. Other ways of paying the "dividend" are possible, for example as credits against the fixed charges, but it would be important to avoid any distortion of incentives to use electricity wisely by making the transfer independent of electricity consumption.

It should also indicate at each price review the dividend it expects to receive if GEL operates in accordance with regulatory targets.

Recommendation 2. T&R should establish the dividend to be paid by GEL each year in the light of performance, and should consider the introduction of a management incentive plan linked to delivery of regulatory objectives.

Recommendation 3: GEL should be required to use a discount rate for selecting investments that reflects GEL's equity risk. The precise number would be specified by OUR at a price review but is likely to be closer to 5% real than Mott MacDonald's (and the States) value of 2% real (i.e. about 5% nominal).

Recommendation 4. the RAB at the time of commercialisation should be set equal to the balance sheet asset value at that date;

Recommendation 5. the allowed return on these assets should be determined in a way which leaves average bills at that date uncharged;

Recommendation 6. the allowed return on subsequent net additions to the RAB should be the same risk-based WACC used to appraise investment decisions; and

Recommendation 7. regulatory accounts should be established, preferably on a current cost basis, which reflect this approach and which also identify any differences between the levels of OPEX and CAPEX allowed for in setting price limits and those actually achieved.

Annex A

GEL's Financial Framework

Financial Framework provisions	Comments of Panel
<p>Treasury & Resources Department and Commerce & Employment Department representatives consider that the approach set out below provides an interim and pragmatic framework for the forthcoming price determination:</p>	<p>It would be more appropriate to distinguish the roles of T&R as shareholder and C&E as responsible for energy policy and for regulation.</p> <p>Although we support a pragmatic approach, it is important to establish a Framework which is sustainable over a number of years.</p>
<p>1. T&R requires GEL to be run on the basis of building up cash reserves to fund CAPEX</p>	<p>Although this policy may not create an optimal capital structure, we accept that is appropriate for the shareholder to specify financing structures.</p>
<p>2. As part of future price controls T&R and GEL will propose a level of cash reserves considered appropriate for GEL's business needs based on objective criteria, in particular efficiency considerations*</p>	<p>Again, this is a matter for the shareholder. However, as recognised in the footnote, a more precise rule is required. We have, for example, proposed that the level should be no higher than needed to ensure that it remains non-negative over the investment cycle, and that the efficiency concerns related to both the cost of required investment and the efficiency with which GEL is run and which will influence the surplus available. Implementation of the rule should be for OUR as part of each price control review.</p>
<p>3. T&R will determine the level of returns it requires as shareholder expressed as a % of the cash reserve (or the returns generated from the cash reserve) each year**</p>	<p>If GEL is to be encouraged to adopt efficient investment criteria it is important that the WACC should reflect the risks facing such a business, recognising that is small, moderately isolated, subject to relatively higher supply disruption risks for a given level of reserve capacity, and risks investing relatively more in the wrong plant to address such security concerns. In addition, we consider that specifying the return as a percentage of the cash reserve may not be an appropriate formulation, and that specification as a return on assets would be better.</p>

<p>4. Based on the levels of cash reserves maintained over recent years and current States Guidance (see below), T&R does not anticipate that the level of returns required would exceed £0.5m in any one year</p>	<p>See above, and discussion in the main report on the alternative approaches to determining the return on GEL's assets and hence the financial return to the shareholder.</p>
<p>5. T&R will not require a dividend based on the value of tangible assets but insists that, for accounting purposes, the value of those assets should continue to be based on historic costs and appropriate depreciation policies as at present</p>	<p>We have commented on the basis for determining the dividend above, and if it is not to be related to tangible assets, then it should be related to pre-tax profits.</p> <p>Good regulatory practice using price caps of the RPI-X form logically (but not necessarily) fit best with current cost accounting in which the RAB is uprated in line with prices, possibly periodically revalued to reflect Deprival Value (DV). This will have implications for depreciation. It is possible to distinguish between historic cost accounting, used for company and tax purposes, and current cost accounting for the regulatory accounts.</p>
<p>6. T&R recognises that the above approach will result in an accounting loss being recorded for some years, and an accounting profit for other years. Over 10 years (roughly a full CAPEX cycle for GEL) the accumulated profits/losses, returns to shareholder, change in cash reserves and any tax paid should balance out;</p>	<p>If GEL earns positive returns on its RAB(s), as it should if it achieves its predicted level of efficiency, and if all new investment is financed out of the CAPEX cash reserves, then GEL should make profits in every year.</p>
<p>7. This mix of profits and losses is acceptable whilst shareholder value is maintained and T&R will publicly promote this principle</p>	<p>Shareholder value will only be maintained if GEL adopts the investment, valuation and dividend policies as set out in comments above.</p>
<p>8. The financial framework within which GEL is required to operate will be taken into account by the OUR but the actual levels of OPEX and CAPEX that are used for the price determination will</p>	<p>As set out in the main report, we consider that a distinction should be made between the shareholder's policies in respect of financing and the protection of customer interest, and the basis on which price limits are set to</p>

<p>be subject to the usual statutory processes involving GEL and the OUR, with the ultimate options of mediation or a formal appeal to resolve any disputes.</p>	<p>promote efficient operation by GEL and energy use by consumers.</p>
<p>The effects of adopting this interim approach can be reviewed near the end of the forthcoming price determination period and, if necessary, revised for future determinations</p> <p>* A logical basis for calculating the return rather than just stipulating an arbitrary sum will be necessary in order to achieve a defensible position should any interested third party appeal a price determination.</p> <p>**Consideration will need to be given as to how the returns may be paid to T&R within the current GEL Mem. & Arts. and Guernsey Company Law.</p> <p>States Guidance on shareholder returns:</p> <p><i>“Financial performance targets for Guernsey Electricity Limited shall be set so as to deliver improved efficiency in fulfilling the requirements of the Public Supply Obligation imposed under the regulatory regime whilst drawing a balance between seeking a commercial return on the resources employed and the effect on the community of any increase in charges which may result”</i></p> <p>GS 16 March 2006</p>	<p>We consider that this Financial Framework requires reassessment urgently to provide a sound basis for the current price control review, to commence in April 2007. The Guidance should also be revised, to be consistent with the principles set out by the NAO in its Review of Commercialisation.</p>

Annex B

Regulatory precedents for two-tier return on capital

1. OUR is properly concerned that its rulings should be reasoned and accord with prior regulatory precedent, unless there are strong reasons for departing from such precedent, particularly as each of its decisions will itself create precedents for future price controls in the Bailiwick. Most UK regulatory decisions are for privately owned companies, whereas GEL is state-owned. The only state-owned comparators in the UK are Royal Mail, regulated by Postcomm, and Scottish Water, regulated by the Water Industry Commission for Scotland. However, we consider that decisions taken by the UK Government on pricing by network industries before and at privatisation are also relevant, given the policy on commercialisation in Guernsey.
2. In our view, these precedents demonstrate that political decisions have been taken in a number of industries to use the current average level of bills as the starting point for regulation, rather applying the WACC to an asset value established on Modern Equivalent Asset principles. In most cases, these decisions have been implemented by establishing a RAB below MEA values, and setting the allowed return equal to the risk-based WACC. However, there is at least one precedent where the specific option we have recommended in our report has been adopted.

Postcomm

3. Royal Mail (RM) is a highly labour-intensive enterprise. GEL in contrast is highly capital intensive, and its owner in the past has not insisted on a commercial return on its Modern Equivalent Asset (MEA) value, but instead has intentionally held down its claims for dividends to ensure that electricity prices are also kept from rising. Confronted with a need to set a price control, OUR has to decide how to treat GEL's assets.
4. The RM example is instructive. Postcomm avoided setting a RAB for RM in the first 2003 price control:

“Postcomm set Royal Mail’s current price control using a “cash” approach. Under this approach Postcomm set a revenue allowance for Royal Mail so that, on a net present value (NPV) basis, it equalled the projected cash outlays of Royal Mail over the price control period.”¹⁸
5. However, Postcomm has since argued persuasively for moving to a RAB based approach. We therefore do not consider that the 2003 Postcomm cash-based price control is a useful precedent for OUR to set a zero opening RAB as this was an interim measure, to be replaced by a RAB-based approach based on MEA values.¹⁹

¹⁸ *Postcomm Royal Mail Price and Service Quality Review: Final Proposals for Consultation*, Postcomm, December 2005, at para 7.2

¹⁹ We would argue that a more appropriate basis for the RAB is Deprival Value, which allows those assets whose replacement value overstates their current value to the business to be written down to reflect the current value.

The water industry in England and Wales

6. Like GEL, the water and sewerage companies (WaSCs) in England and Wales, which were privatised in 1989, are very capital intensive. Both during the period of public ownership, under a regime similar to commercialisation in Guernsey, and at privatisation, political decisions were taken that there should not be a step change in bills to enable the companies to earn a risk-based return on their MEA values.
7. When (current cost) financial targets were first introduced for the water authorities around 1980, it was decided that the return on existing assets should be back-calculated from existing bill levels (which gave a figure of around 2% in real terms), with increases in charges set so that new assets would earn the 5% real Required Rate of Return (RRR). This is essentially the same approach as recommended in this report.
8. At privatisation, it was similarly decided that privatisation should not of itself lead to an increase in bills (although this was needed to finance the significant CAPEX programme of the companies). In that case, however, the regulator subsequently established a RAB which reflected flotation values, with a risk-based WACC being allowed on that return. This is the alternative approach we consider but reject in this report.
9. In the case of the smaller water companies already operating in the private sector, an initial RAB was derived on a basis which generated similar financial ratios to those for the WaSCs. This approach has also subsequently been adopted for Scottish Water.²⁰

Railtrack

10. A further relevant example is given by the decisions of the Rail Regulator in respect of access charges by Railtrack in 1995, in advance of its flotation. In that case, the Government had initially proposed that the return on MEA values should be increased from the current 5% real to the return then expected for publicly owned transport assets of 8% real.
11. By contrast, the Rail Regulator concluded that the resulting increase in prices would be contrary to the overall public interest, provided that the structure of charges was set on a basis which encouraged efficient use of the network:

“The Regulator has not been persuaded that Railtrack needs to earn an 8% return on the Modern Equivalent Asset (MEA) value of its assets for it to be able to finance its activities, or enable it to be privatised. Rather than take a view on a particular capital value and cost of capital, the Regulator has instead considered the profile of charges which seems to him best to balance all the section 4 duties.”²¹

²⁰ *Strategic Review of Charges 2006-2010*, Water Industry Commission for Scotland, November 2005.

²¹ *Railtrack's track access charges for franchised passenger services: The future level of charges: A policy statement*, Office of the Rail Regulator, January 1995.

12. In this case, the Regulator did not choose explicitly between the two approaches considered in our report, on the basis that proceeds at the subsequent flotation would provide a more robust basis for a RAB.

Annex C

Determining the variable element of electricity tariffs

1. Our recommendations are based on the principle that GEL is required to act commercially, and that investment and tariff decisions should reflect economic principles relevant to an inter-connected international energy market.
2. The tariff is made up of a number of elements:
 - the notional wholesale price of electricity, i.e. the marginal cost of generation, including the capacity and ancillary service charges, or of imports;
 - the conveyance cost (losses plus the capacity cost of the distribution activities); and
 - the supply or retailing costs (metering, billing, etc).
3. The notional wholesale price would, if GEL were unbundled, be a market transaction passed through to final consumers. The wholesale price is the sum of the short-run variable costs for that hour, the capacity cost, and the cost of various services, of which the most expensive will be the reserves carried to ensure the n-2 security of supply standard that has been agreed. The short-run variable cost when all power comes from France is just the tariff under which that it delivered into the GEL local network. If it is less costly to run local generation, then it will be the short-run cost of the most expensive source of supply, mainly fuel, including all the variable O&M costs (maintenance, that part of depreciation related to hours run and cold starts, and the extra staffing costs of running the plant).²²
4. The capacity cost is the long-run marginal capital cost of expansion to provide each MW needed and any fixed costs of providing that capacity, as Guernsey will shortly have to decide on its next investment to augment capacity. As noted above, this could be anywhere between £350 and £1,200/kW and will also depend on the WACC.²³

²² As we understand it, Guernsey is not part of the EU Emission Trading System and so does not require carbon dioxide allowances (EUAs) for fuel burned on the island. Imported electricity, however, is priced to reflect the carbon cost of the marginal fuel. The French Powernext price is closely linked to the German Power Exchange, EEX, where the price is typically set by coal-bringing plant with a high level of carbon dioxide emissions. This gives domestic generation more of an advantage relative to importing than was the case when Mott MacDonald wrote its report. Whether the States are willing to underwrite this free riding off the UK Kyoto allocation should be addressed in the forthcoming Energy Policy.

²³ The capacity cost is most elegantly charged in proportion to the loss of load probability (LOLP), and as such mainly in hours of peak demand. This will also include the cost of having reserve capacity to ensure that the LOLP remains acceptably low on average (which in turn is driven by the n-2 criterion). It may be that rather than expanding capacity, it would be cheaper to agree an interruptible tariff with large customers, if there were sufficient supply of such demand to replace the largest generation unit that would otherwise be needed. Less elegantly, the capacity charge would be in proportion to simultaneous peak demand (perhaps averaged over a number of peak hours as with the British triad pricing system) for larger customers, or determined as a fixed charge from demand profiles (for smaller loads).

5. In addition to the long-run marginal cost (LRMC), the other elements of the fixed charge are those costs that are not variable in the short run that can be attributed to generation (and will include a lot of labour costs of having the ability to operate domestic generation at short notice in the event of a failure of the interconnector). Offsetting this to some extent will be profits on running any infra-marginal plant that is cheaper than the marginal price-setting plant.
6. Many of these elements will depend on the expansion plan, which in our view should be revisited with a more appropriate WACC as discussed above and revised fuel and import price forecasts. Roughly speaking, expanding the interconnector increases the fixed or capacity charge in exchange for a lower energy or variable cost. In contrast, expanding on-island generation is likely to raise the variable cost (in some periods) but lower the capacity cost.
7. Once this has been decided, the appropriate wholesale prices can then be estimated, and the revenues and costs forecast as required for the price control. At this point it would be possible to estimate the deprival value (DV) of the current generation assets, if it were thought helpful in regulatory accounting. This could be done by discounting the cash flows net of future investment significant costs. We note that if this procedure is carried out periodically (e.g. at every price control or at every investment decision point), the result will be a real valuation, not a book value based on historic cost. Best practice for RPI-X price control regulation is to conduct intermediate valuations of the RAB in real rather than historic cost terms, and to adjust depreciation suitably. Full DV valuation is unlikely to be necessary if OUR adopts current cost accounting for post-2002 investments, unless there is a significant change in technology and/or fuel prices that requires a substantial write-down of existing assets.
8. Conveyance costs are less likely to be driven by expansion plans, and the larger part of their valuation will be determined by the treatment of pre-2002 asset valuation (book value) and the required rate of return on those assets (which is likely to be quite low). However, if consistent principles are adopted for rolling the RAB(s) forward, over time the valuation of these assets should still evolve with investment and depreciation, and the share of new assets earning a higher WACC will rise.
9. The resulting variable part of customer tariffs would then be set at efficient levels and will then encourage efficient use of electricity (choice of equipment, insulation, usage) and the correct choice between electric and gas heating, CHP, etc. Setting a notional wholesale price allows those offering renewable generation (tidal flow, municipal waste, etc) to be paid an efficient price on which to base their decision to invest or not.²⁴

²⁴ The fact that Guernsey has not joined the ETS and priced carbon suggests to the outside observer that the States are not prepared to bear their part of the cost of reducing global climate change, and if true would suggest a lack of willingness to provide additional support to renewables. It may be that some consumers are willing to pay extra for local green electricity, in which case that could be passed through to renewables suppliers. It may be that the States' Energy Policy explicitly provides for financial support to renewables, in which case GEL can be instructed to provide such subsidies.

Annex D

Determining the optimal deprival value of generating assets

1. In accordance with modern accounting principles, the DV of assets, or their value to the business, would be the lower of the replacement cost of the assets that are worth replacing and the recoverable amount – the present value of the future cash flows obtainable and cash flows obviated as a result of the asset's continued use and ultimate disposal net of any expenses that would need to be incurred.²⁵
2. When GEL next commissions a least-cost expansion plan to determine whether to build or subscribe to an expansion of interconnector capacity or whether instead to expand on-island generation, it would be possible to take the opportunity to estimate the optimal deprival value of the existing assets as follows:
3. For each piece of equipment owned by GEL and obviously attributable to generation, to ask what would be the extra cost (in present value terms) incurred by its removal, net of any realisable scrap value. Some of the generation sets may have a negative value (i.e. it will cost something to remove them and they have already been effectively retired). Some sets, such as the latest SSD, might be replaced by an MSD or by advancing the date, or increasing the capacity, of the interconnector, with consequential impacts on the cost of generation that will also need to be taken into account. The buildings may have value if the gensets are needed, but much lower value if not, and so on.
4. The reason for doing this when a least-cost plan is being drawn up is clear, because at that point the existing plant must be modelled as part of the exercise, and removing elements (at least gensets) is then a straightforward extra calculation. There is no urgency to undertake a revaluation exercise, and it would only be worth undertaking such an exercise if the extra cost (over and above the cost of the least-cost expansion plan) is modest.
5. Valuing building and fuel handling facilities in both cases may be somewhat more problematic, but the aim would be to produce a reasonable estimate rather than an accurate valuation. This was done in 2002 at commercialisation and there is no urgency in revisiting that estimate, unless some of these assets are to be sold.

²⁵ These cash flows would not include any dividends paid to the States, or into the cash reserve, or into any "customer dividends".

Annex E

Treatment of cash reserves in the price control

1. At present GEL holds considerable cash reserves (over and above working capital) of nearly £20 million on deposit with T&R, where they earn a modest nominal rate of interest. If our proposals are accepted, it is likely that this amount will exceed the efficient sum required for future CAPEX. We would propose designating an initial CAPEX reserve (which given expected future investment needs might be of the order of £10 million) to be ring-fenced for future approved CAPEX, and if GEL invested efficiently the sum would suffice without borrowing. The remainder would be placed in a different account, to be used either for dividend payments, cash withdrawals, or held on account for consumers.
2. These cash reserves will earn interest and this should be considered as part of the core income of GEL in determining the required revenue to cover efficient OPEX and CAPEX. In order to predict the future cash reserves, T&R will have to agree the policy for the CAPEX reserves and the rate at which any cash surpluses are to be disbursed. It would simplify matters if all interest income is attributed to the cash reserves, so that the amount required for CAPEX will take account of interest earned.