

RD 17/01

31 October 2001

**TO ALL REGULATORY DIRECTORS OF ALL  
WATER AND SEWERAGE COMPANIES AND  
WATER ONLY COMPANIES**

**THE ROLE OF LONG RUN MARGINAL COSTS IN THE PROVISION AND  
REGULATION OF WATER SERVICES**

**MD170 and responses**

On 8 May 2001 we published *The role of long run marginal costs in the provision and regulation of water services* (the 'LRMC report'). We sent the report to Managing Directors under cover of MD170. Our purpose was to:

- explain our views on the relevance of LRMC in water service provision and in regulatory policy;
- publish and comment on existing estimates of LRMC;
- explain how we intend to promote greater consistency in estimation; and
- consult on proposals for the future scope and format of submissions.

We present our conclusions in this letter, and identify areas for further work, in the light of the written comments received and discussions at the technical workshop (28 June 2001). We also aim to build on previous MD letters (particularly MD123, MD148 and MD159) which explained the importance of LRMC for water pricing and efficient investment planning.

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Most respondents welcomed the LRMC report as a useful contribution towards greater consistency and understanding of LRMC methodology across the industry. The remainder of this letter sets out our stance on LRMC estimation methodology and the frequency and content of LRMC submissions, in the light of respondents' views. An annex to the letter addresses a number of specific issues raised by respondents regarding LRMC, tariffs and charges.

### **LRMC estimation methodology**

The majority of respondents argued that we should provide more detailed guidance on a standard methodology to be used for estimating LRMC. Respondents felt that this would reduce the disparity between LRMC estimates and promote consistency across the industry. Some also suggested that we should adopt a standard information capture system, and clarify the criteria for assessing submissions.

*Report C: Guidance on LRMC estimation* outlined two broad approaches to the estimation of LRMC: the 'average incremental cost' approach and the 'perturbation' approach. Responses were mixed as to whether companies should provide estimates on both approaches. Some smaller companies felt that the information burden would be too great, if we required estimates based on both methods.

We recognise these concerns. Therefore our standard approach will require you to submit LRMC estimates based on the 'average incremental cost' approach only. We do not expect this to require any more work than you would need to do to define your investment programme and understand your competitive position. In broad terms the average incremental cost approach will require you to:

- consider your resource position over a suitable long term period, say 25 years;
- forecast 'unconstrained' demand (ie based on present demand management policies as set out in the Environment Agency's Water Resource Planning Guidelines) over the same period;
- optimise the various strategies available to generate the least cost solution to addressing supply/demand imbalances;

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- estimate LRMC as the present value (PV) of the expected extra costs of the optimal strategy divided by the PV of the changes in the supply/demand balance in terms of additional volumes of water (a) supplied through additional supply schemes (not their capacity) and/or (b) saved through additional demand management options.

That is:

$$\frac{\text{PV of extra capital and operating costs of the optimal strategy}}{\text{PV of the volumes of additional water supplied and/or additional water saved}}$$

(You should note that the cost of restoring security of supply and the output of such schemes should generally be excluded from estimates of LRMC based on the average incremental cost approach.)

An important property of the average incremental cost approach is that it is based on a company's forecast investment plans, and does not require more than one investment programming exercise. It should also indicate the level at which future increments of output must be sold to ensure total cost recovery, given forecast changes in demand and supply.

However, we recognise that the 'perturbation' approach provides a useful guide for decision making in some circumstances, particularly in relation to the cost impact of a significant potential change to expected demands or costs. We may require you to prepare estimates of the cost impact of such changes in line with the 'perturbation' approach if these are relevant to your circumstances. This might be so, if you were anticipating significant changes due to competition, bulk supplies or changes to levels of service.

We will require you to prepare estimates on a financial cost basis. However, we expect you to consider environmental costs in your investment programming, in line with water resource planning guidance. Where environmental costs and benefits can be quantified, and the net impact is significant, you should also report LRMC including these costs.

More detailed guidance on estimation methodology will be embodied in business plan reporting requirements and definitions, which we intend to issue for consultation in summer 2002.

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## **Frequency and content of LRMC submissions**

Most respondents thought that requiring biennial LRMC submissions would be unnecessary and an unduly heavy regulatory burden. Water companies argued that submissions once per five year period should be sufficient, with revisions only required if there were material changes in their supply/demand balances.

We have decided to require you to submit full LRMC and economic level of leakage appraisals in your draft and final business plans at periodic reviews. We may require you to submit interim reports, between periodic reviews, when there are material changes in your water resource position or supply demand balance strategy.

The information requirement will build on information collected for the 1999 periodic review. We will explore how we can introduce a standardised information capture system (ICS) for each zonal investment programme. Our aim is that the ICS should show more clearly the relationship between LRMC estimates, using the average incremental cost approach, and the underlying cost and demand forecasts. Our reporting requirements will aim to move estimates onto a more consistent and comparable basis. We will present our intentions at a supply/demand technical workshop in spring of 2002.

Our intention is that the information should allow us to:

- assess whether you are planning and delivering water services in an efficient and economical manner;
- ensure that your strategies for tariffs, leakage control, competition and bulk supplies are consistent with your duties to maintain secure supplies and promote the efficient use of water; and
- compare companies using a commonly derived marginal cost measure.

We will also expect you to demonstrate that you are considering a full range of options to maintain secure supplies in response to changes in demand and changes in abstraction licensing.

Yours sincerely

**George Day**  
**Head of Water Resource Economics**

## **ANNEX A**

### **ISSUES RAISED BY RESPONDENTS ON LRMC, TARIFFS AND CHARGES**

Of the 22 written responses to MD170, over half raised issues relating to the links between LRMC and companies' charges. The issues raised and our responses are set out below.

#### **Issue: How should volumetric rates be reconciled with LRMC *and* total cost recovery?**

We indicated in MD159 that companies should set volumetric rates to reflect LRMC 'as closely as possible to provide appropriate incentives to promote economy in the use of water'. This approach would also ensure that customers enjoy bill reductions that reflect their supplier's cost savings, when their demand falls. MD159 set out more detail on the practical issues of application of LRMC to the volumetric rate.

We acknowledge that there may be good reasons for volumetric rates to exceed LRMC, if the latter is very low relative to average accounting costs. We also accept that it is possible that high LRMCs could imply that household volumetric rates will be below LRMC, although available evidence suggests that this is rare, where LRMC has been estimated using a robust method. If the situation arose we could not support negative standing charges, but we would consider tariff innovations to bring incentives at the margin closer to LRMC.

The balance between volumetric rates and standing charges should be informed by reference to LRMC provided this avoids unacceptable distributional effects. Our policy on household standing charges remains unchanged. That is they should recover no more than the customer-related costs for the unmeasured service, plus the additional fixed costs associated with providing a measured service.

#### **Issue: How should LRMC be used as a reference point for bulk supply terms?**

We indicated in the LRMC report that we would use LRMC estimates as a key reference point for determining financial terms for bulk supplies if agreement can not be reached between parties. Companies should consider bulk supplies as part of an overall strategy to balance supply and demand efficiently. A low LRMC estimate might indicate that bulk supplies could be provided at low cost. The reverse is likely to be true for high LRMC estimates. Differences between neighbouring companies' LRMC estimates should highlight opportunities for bulk

supplies. In planning and operating efficiently, companies should be ready to seek a bulk supply, perhaps for a limited period.

In judging whether the terms for bulk supplies are unduly preferential or discriminatory, we will take account of the interests of all customers. The donor company's customers would benefit from a revenue contribution that would otherwise not take place, and the receiving company's customers would benefit from access to a lower cost option.

**Issue: Is LRMC an appropriate reference point for all contracts?**

We indicated in the LRMC report that a suitable long-term period should be used for LRMC estimation and least cost investment schedules. Some respondents argued that pricing by reference to LRMC for shorter length contracts, such as five year bulk supply or common carriage agreements, would be inappropriate. We accept that contract length may be important in assessing the terms for some agreements. When required to assess terms, we will consider the case-specific circumstances taking account of the marginal cost implications of the arrangement; the impact on security of supply and resource planning; and the likelihood of contract renewal.

**Issue: How should environmental costs be taken into account when Ofwat assesses tariffs and competition issues?**

We expect companies to take account of environmental and social costs in their water resource planning, and in the sequencing of investments. However when we consider companies' pricing in relation to licence condition E or the Competition Act 1998, our primary reference point will be financial costs.

**Issue: How should tariffs be reconciled with zonal disparities in LRMC?**

We indicated, in MD152, that it was for companies to propose their charges and whether these were on a regionally averaged basis. We expect, as a general rule, that if companies propose to reflect costs in charges on a local basis, they should do so for all classes of customers and not just for some (eg only for large users). However, in some circumstances there may be good reasons for over-riding this general principle. This might be where there are major disparities in zonal supply/demand balance positions, significant resource issues and where households remain largely unmeasured.

Where there are significant zonal LRMC disparities we expect regionally averaged volumetric rates to be set in the upper part of the range of zonal LRMCs.