RD 09/02

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

25 March 2002

Dear Regulatory Director

BULK SUPPLIES, COMPETITION AND PERIODIC REVIEW INCENTIVES

We are considering how to refine our periodic review methodology to improve incentives for companies that generate revenues through bulk supplies or through competition.

In doing so we seek to build on existing principles embodied in our rolling five year incentive mechanisms. At this stage we do not rule out proposing adaptations to these existing incentives in our main periodic review consultation to be published in October 2002. But our aim would still be to ensure consistency across incentives for costs and revenues. When published, we will also take account of the Government's detailed proposals for legislation on competition in water.

The attached paper sets out our initial proposals, on which we invite your views. We will also explain these proposals to company representatives in our 1 May workshop, and publish a summary of responses following the consultation. Our intention is to publish firmer proposals in our October 2002 consultation paper.

…/…

Please send your comments by 24 May 2002 to:

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Copies of responses will be placed in the Ofwat library unless marked 'Confidential'.

If you wish to discuss any issues relating to these proposals please contact George Day on 0121 625 1454.

Yours sincerely

W H Emery
Director of Costs & Performance
and Chief Engineer

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BULK SUPPLIES, COMPETITION AND PERIODIC REVIEW INCENTIVES: A CONSULTATION PAPER

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EXECUTIVE SUMMARY

Working regulated assets harder, or combining them in new ways, can generate new revenues and spread common costs more widely. A company can achieve this through new bulk supplies or competitive initiatives. This benefits the company and its owners. Over time customers should benefit through lower bills and/or improved services.

This paper sets out proposed changes in how we set price limits to improve incentives for companies that efficiently maximise their revenues. Without change we believe that incentives could be muted, and that companies' boundaries could inhibit the efficient development of bulk supplies.

These proposals aim to:

- improve incentives for companies to use their regulated assets efficiently to generate revenues;
- enable all customers to share in the long-term gains delivered by using resources and assets more efficiently; and
- allocate risks appropriately between owners of regulated companies and their customers.

Our proposals are based on the current legal framework. They may need further development in light of any new legislation on competition. We believe it is important to expose key principles, and issues of regulatory 'mechanics', at this stage. This will allow us to take account of your views in finalising our proposals.

The proposals

We propose that companies should retain the net revenue gains (or losses) relating to new bulk supplies or competitive non-tariff basket activity for five years. This is intended to mirror our approach to rolling incentives for cost efficiencies, and would apply to gains and losses to a company's appointed business.

For new bulk supplies we propose to assume that revenues match the annualised costs of making the supply for its first five years. (Annualised capital costs being the return on capital, and depreciation or renewal charges). This means that any 'profit', or difference between price and costs, would accrue to the company for the first five years of the supply.

For remaining non-tariff basket revenues, we propose that companies keep for five years any difference between actual revenues and the assumptions we make at the periodic review. If a company generates more revenue than expected it will keep the extra for five years, and vice versa if its revenues are lower than expected. Our proposals closely mirror the 1999 periodic review arrangements that allowed companies to retain operating cost efficiencies. But in this case we propose symmetrical arrangements, so that a company

that loses customers bears the revenue losses for five years. In this way, we aim to avoid insulating companies from competitive risks.

At periodic reviews our focus is on the costs and revenues of the appointed business. So we set out views on how these should be distinguished from non-appointed business. Non-appointed costs and revenues are outside the scope of price limits.

Your views

We seek your views on our proposals. The consultation paper sets these out in more detail. The questions below are numbered in the order that they appear in the text, but are grouped according to themes. We ask you to consider them with our general duties in mind, in particular:

- to act in a manner best calculated to secure that undertakers are able to finance the proper carrying out of their functions; and
- to facilitate effective competition with respect to appropriate matters (between persons holding or seeking appointments).

Principles

Q1. Should we refine our periodic review methodology to provide specific incentives for efficient bulk supplies and/or competitive activity?

Q2. Are the objectives we have set out reasonable?

Q3. Do you agree that companies' owners should not be insulated from the risks associated with competitive activity?

Q4. Will our proposals encourage efficient water resource sharing and/or conjunctive use arrangements?

Q6. What form should any incentives relating to revenue performance take, and over what period should they apply?

Q11. What are your views on the principle of symmetrical incentives, whereby companies retain both gains and losses for five years?

Q13. What are your views on the interaction between our proposals and our general duties?

Technical issues

(a) <u>Bulk supplies</u>

Q7. For bulk supplies we propose to implement incentives for new supplies made during AMP3 (2000-01 to 2004-05), but not for any extensions of existing agreements. What are your views on this proposal?

Q10. How should allowance be made for changes in costs arising from bulk supplies or competitive activity?

Q15. Accounting charges for bulk supply assets should be calculated in the same way as other assets (see our consultation paper 'The approach to depreciation for the periodic review 2004'), even if the agreement is for a shorter period. Thus annuitised costs should be calculated over the estimated life of the assets, and not the life of the agreement. Do you agree with this approach to depreciation? (see Annex C)

(b) <u>Competition</u>

Q5. Do you have comments on the approach we have set out for distinguishing between appointed and non-appointed activities in regulatory accounts and the periodic review?

Q8. Because companies could be penalised we propose to implement incentives for general non-tariff basket revenue performance only from 2005 onwards. What are your views on this proposal?

Q9. How should we treat revenue gains, if a company has made identifiable competitive gains of customers during the AMP3 period?

Q10. How should allowance be made for changes in costs arising from bulk supplies or competitive activity?

Q12. What are your views on the application of a presumption that non-tariff basket revenue under-performance reflects inefficiency?

Q14. What are your views on our proposals for scrutinising the 'terms of trade' between appointed and non-appointed activity?

Responses

Much of this paper raises technical issues. But there are also issues of principle on which interested parties, such as customers, competitors and environmental groups may wish to respond. If you wish to discuss the contents of the paper please contact George Day on 0121 625 1454.

We would like to hear from you on the issues raised in this paper. Our intention is to publish firmer proposals in our main periodic review methodology consultation paper to be published in October 2002.

Send your views by 24 May 2002 to:

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Head of Water Resource Economics
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Centre City Tower
7 Hill Street
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Unless otherwise requested the responses will be placed in the Ofwat library and made accessible to the public.

1. INTRODUCTION

Undertakers must fulfil a range of statutory duties, but they can also seek to increase revenues through new bulk supplies or competitive ventures. Working regulated assets harder, or combining them in new ways, can generate new revenues and spread common costs more widely. Over time this could be an important driver of the future cost and quality of services.

This paper sets out proposed changes to our periodic review methodology to improve incentives for companies that efficiently maximise revenues. Our focus is on changes in the costs and revenues of the appointed business.

Q1. Should we refine our periodic review methodology to provide specific incentives for efficient bulk supplies and/or competitive activity?

There are increased opportunities for competition through common carriage, and the lowering of the threshold for inset appointments in England. The Government intends to consult this year on arrangements to enhance the role of competition for large user customers.

Our proposals are based on the current legal framework. We recognise that new legislation to extend competition, could require further development of some details. However, we think that there are issues of principle, and some regulatory ‘mechanics’ that are usefully exposed at this stage.

2. OBJECTIVES

Greater scope for competition means that undertakers may gain or lose revenues. We aim to refine our periodic review methodology to:

- improve incentives for companies to use their regulated assets efficiently to generate revenues;
- enable all customers to share in the long-term gains delivered by using resources and assets more efficiently; and
- allocate risks appropriately between owners of regulated companies and their customers.

The Director has a general duty to act in the manner that he considers is best calculated to secure that undertakers are able to finance the proper carrying out of their functions, while also facilitating effective competition ‘with respect to such matters as he considers appropriate between persons holding or seeking appointments’. Our proposals are made with these requirements in mind.

Q2. Are the objectives we have set out reasonable?

We think there should be incentives for companies' owners (regardless of their precise ownership structure) to encourage efficient competitive activity. But owners should not be insulated from risk. Therefore, if appointed business revenues grow or are eroded as a result of new competitive or bulk supply initiatives, we propose that these gains or losses will flow to companies' owners for five years.

Q3. Do you agree that companies' owners should not be insulated from the risks associated with competitive activity?

We recognise investors' concerns about securing returns on their investments, and that too much risk could mean that gains to customers are outweighed by a higher cost of capital. So our proposals deliberately avoid a sea change in our approach to the periodic review. Instead we aim to build on existing principles.

Why are new arrangements needed?

Our 1999 periodic review methodology rewarded cost efficiencies through rolling incentive mechanisms for capital and operating cost outperformance. We think these incentives deliver long-term benefits to customers, and we will continue to apply these principles. But, without change, our 1999 methodology provides only limited rewards for generating new revenue streams. Equally the penalties for losing revenue streams (for example, by losing customers to competitors) are muted.

Revenue impacts

Incentives are muted because any revenue gains would normally be treated as a contribution to the appointed business's total revenue requirement at the next periodic review. This reduces the K factor applied to tariff basket revenues. Conversely, losses of revenue would be compensated by increased K factors at the following periodic review (see text box below).

Tariff basket & non-tariff basket revenues under 1999 periodic review methodology

In 1999 there was no mechanism for dealing with gains and losses in non-tariff basket revenues. At periodic reviews we assess companies' revenue projections, and deduct projected non-tariff basket revenues (on average, in the region of 7% of the total for the water service and 4% for sewerage) from the overall revenue requirement. K factors are set based on the remaining tariff basket revenue requirement. This means that higher expectations about non-tariff basket revenues lead to lower K factors, and vice versa.

Shareholders only retain the 'net gains' from activities that generate non-tariff basket revenues until the following periodic review. The division of benefits between shareholders and customers therefore depends on the timing of the gain in relation to the next periodic review. (Net gains refer to revenues less the extra financing and operating costs associated with the new service/initiative.) Equally, 'net losses' are only borne by shareholders until the next periodic review.

Cost impacts

New revenue-generating activities may increase appointed business costs. We think that rolling incentive mechanisms similar to those applied in 1999 will pick up these costs appropriately. This is because owners will face the cost consequences for the first five years (see text box below). If we proposed to revise any aspects of the rolling incentives for capital and operating costs we would propose consistent principles in any incentives applied to revenue performance. This will be covered in our October 2002 periodic review consultation paper.

Cost impacts under 1999 periodic review methodology
Extra appointed business costs due to competition or new bulk supplies reduce any capital or operating cost outperformance against the assumptions made at the preceding periodic review. Owners therefore make reduced gains via our established rolling incentive mechanisms. Extra capital costs are included in the regulatory capital value, provided total periodic review allowances by service are not exceeded (ie the RCV ‘cap’). Extra operating costs are included in the base for future projections. We think the principles of this approach remain sound, because cost impacts are carried by owners for the first five years.

Undertakers may also use assets or staff in new non-appointed activities within the appointed company. In this case, the benefit to the appointed business, and its customers, takes the form of a cost saving, rather than a revenue contribution. Some portion of appointed business costs needs to be re-classified as non-appointed, to reflect their use in non-appointed activity (in line with RAG5.03). Alternatively, the appointee’s accounts may show an appropriate ‘recharge’ for use of appointed business staff and resources.

How could incentives benefit customers?

Initiatives that generate new appointed business revenue streams could deliver significant gains to customers over time, in two main forms.

- **Revenue contribution** – customers of the appointed business enjoy lower prices if there are new revenue streams to finance appointed business costs. But this only applies if new revenues outweigh any new costs. (This underlies our concern about allocating risk to owners, and ensuring that terms and prices applied to new initiatives do not disadvantage the appointed business, discussed in section 5.)

- **Promoting efficiency** – all customers benefit from the competitive discipline placed on undertakers if there are incentives to gain and retain business.

Bulk supplies

Bulk supplies between companies can be an efficient way of meeting growing demand, or restoring security of supply. Companies with 'spare' capacity, or low marginal costs, can sell water (or capacity) to neighbours. A similar logic could also apply to sewerage capacity via sewer connection agreements. Bulk imports may benefit companies facing resource constraints or reductions in supply capacity due to environmental concerns. The latter could affect up to 700 Ml/d of existing abstractions, according to the Environment Agency's water resource strategy (Water resources for the future, March 2001).

Pooling different water sources both within and between companies, through 'conjunctive use', is often efficient. For example, river resources can be used in the winter to preserve upland or groundwater storage until summer when river flows are lower. We believe that companies are reluctant to seek or accept bulk supplies from other companies, even when this is efficient. This could reflect a preference for direct control and 'engineering' solutions, as well as a possible incentive to maximise the regulatory asset base.

To counter this we will seek to understand the potential for bulk supplies, and expect companies to make a robust case for new resource schemes. We will closely scrutinise plans where indicators such as long run marginal costs (LRMC) disparities suggest there is scope for bulk supplies. We also have the option to base supply/demand expenditure assumptions on the acceptance of bulk supplies that appear to be least cost options, even if a company chooses an alternative strategy.

Companies also appear reluctant to provide bulk supplies. This may be because:

- the net gains (ie revenues less costs) are passed back to customers immediately after the next periodic review;
- it may bring forward other supply/demand investments; or
- it may give rise to increased operational costs or supply risks.

Our proposals aim to encourage efficient water resource sharing or conjunctive use arrangements.

Q4. Will our proposals encourage efficient water resource sharing and/or conjunctive use arrangements?

3. DISTINGUISHING APPOINTED AND NON-APPOINTED ACTIVITIES

It is important to distinguish clearly between appointed and non-appointed activities. The distinction is important because our duty to secure that undertakers can finance their functions applies only to appointed activities. We believe that the financing of non-appointed activities is a matter for companies' owners, and should not be taken into account in the periodic review. Equally we must be satisfied that non-appointed activities cannot threaten the financial viability of the appointed business.

Some definitions

Appointee – the company holding an appointment under the Water Industry Act 1991

Functions – s.219 of the Water Industry Act 1991 defines these as 'the functions of the undertaker under or by virtue of any enactment'

Appointed business - the business consisting of the carrying out by the Appointee of the 'Regulated activities' (Licence Condition A)

Regulated activities - the functions of a water (or sewerage) undertaker including the duties imposed on a water (or sewerage) undertaker (Licence Condition A)

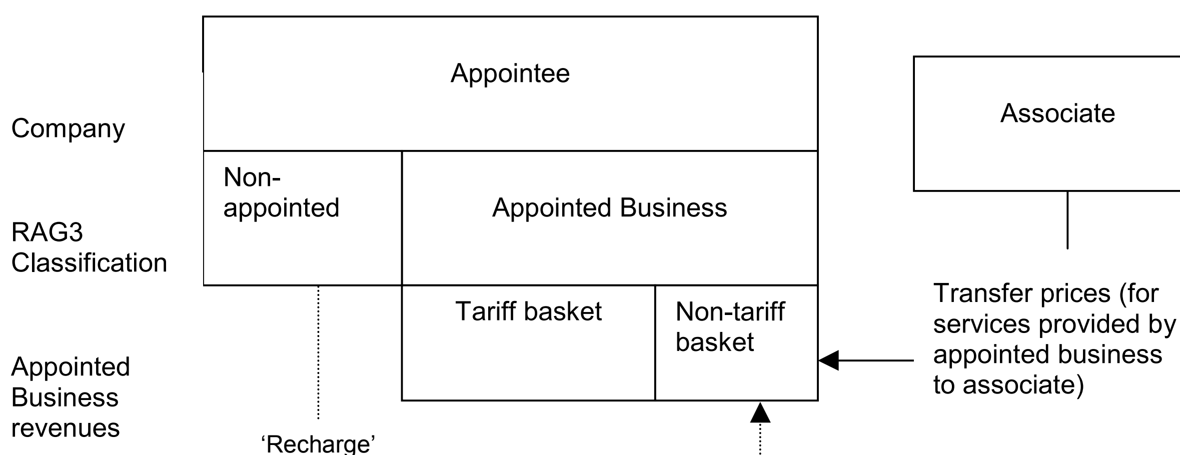
Non-appointed activity – any activity by an undertaker which does not fall within the appointed business

Associate – a company as determined in accordance with *Financial Report Standard 8, Related party disclosures* as modified in RD29/97 (RAG5.03, see also definitions in Licence Condition A)

Ofwat's periodic review methodology assumes that all revenues of the appointed business are available to finance the carrying out of the undertaker's functions. This includes all the costs of delivering and maintaining base service and defined enhancements. In broad terms the revenue requirement comprises return on capital, accounting charges and operating costs.

Where the appointed business provides a service to an associate, then transfer pricing provisions are designed to ensure arm's length trading. The revenues accrue to the appointed business. The **appointee** (ie the company that holds the licence, as opposed to the 'appointed business') may also carry out **non-appointed** activities. Here the principle at work is the fair attribution of the appointee's costs between its appointed and non-appointed business, as set out in RAG 5.03. This may take the form of an appropriate 'recharge' in the appointee's accounts (shown by the dotted line on the schematic below).

Figure: Schematic of activity / revenue classifications



Where companies undertake new 'non-appointed' activities, we believe that the associated costs, revenues and risks are a matter for companies' owners. The table below sets out our views on how companies' appointed and non-appointed activities should be distinguished in regulatory accounts and for the periodic review. The policy logic is broadly to separate those activities that reflect an undertaker's obligations, functions and agreed outputs, from discretionary activities. This builds on the RAG3.02 guidance. Our reasoning is set out in Annex A. There are five key cases to highlight.

- **Bulk supplies:** bulk supplies are part of the appointed business, because they are part of the undertaker's functions.

- **Inset appointments:** inset appointments, by definition, either become part of an existing appointed business (where the inset is by means of a licence variation), or result in the creation of a new (separate) appointed business. The latter could be a new entrant to the industry or an associate of an existing undertaker. Where an associate holds an inset appointment, it must pay the original appointed business for any services it provides in line with transfer pricing rules.

- **Common carriage:** our view is that common carriage services (as carrier) are not appointed business. Most common carriage will rely on appointed business assets. Common carriage charges should flow to the appointed business via an appropriate recharge (which is often equivalent to the access charges).

- **Supplies to an associate or the appointee's non-appointed business:** we propose that supplies to an associate or the appointee's non-appointed business for out of area or other non-appointed activities should be treated as if they were a special agreement made at an appropriate transfer point. At the transfer point the appointed business should receive a transfer

price. Beyond the transfer point any costs and revenues should be classified as non-appointed business or fall within the associate. For out of area activity the transfer point will often be the geographic boundary of the undertaker's area of appointment. (NB Cross-border supplies wholly or mainly for domestic purposes fall within the appointed business.)

- **'Remote' competition:** our view is that any competitive activity which takes place out of an undertaker's area of appointment, without physical connection to appointed business assets, is a non-appointed activity. An example of this 'remote competition' might be the development of a new out of area source to supply customers in another undertaker's area of appointment. If this involved the use of appointed business staff, Licence Condition F would apply.

Table: Distinguishing appointed and non-appointed activities – a proposed development of accounting guidance

Appointed	Non-appointed
• Supply for domestic purposes within the appointed area • Cross-border supply wholly or mainly for domestic purposes • Supply to non-domestic customers within the appointed area • Supply to the non-appointed business or an associate for out of area competitive activity (at appropriate transfer point) • Rechargeable work for which the appointee is a monopoly supplier • Bulk supplies and sewer connection agreements for other undertakers • Supplies to customers within the area of an inset appointment • Management and holding of protected land • Conservation • Recreation and amenity uses of those waters and lands which the Appointee employs for the purposes of water supply, in order to comply with the Water Industry Act 1991, for example rambling • Treatment of trade effluent	• Supply for domestic purposes out of area (via any means other than direct connection to an undertaker's system) • Supply wholly or mainly for non-domestic purposes out of area (via any means including cross-border supplies) • Sale of non water and sewerage services to third parties including the EA, for example laboratory, computing, billing, engineering, meter reading, support and transport services • Provision of common carriage transportation or distribution services. • Plumbing services • Reception and treatment of tankered waste • Consultancy • External sales of energy • Billing commission • Sales of stores to third parties • Rechargeable work for which the Appointee is not a monopoly supplier – recreation and amenity uses of non-appointed assets in conjunction with those waters and lands which the Appointee employs for the purpose of water supply, beyond the duties imposed by the Water Act 1989, for example water skiing and restaurants

Q5. Do you have comments on the approach we have set out for distinguishing between appointed and non-appointed activities in regulatory accounts and the periodic review?

4. THE PROPOSED PERIODIC REVIEW TREATMENT OF COSTS AND REVENUES

Bulk supplies or competitive initiatives can generate new revenues and spread companies' common costs across a broader base, to the benefit of customers. This underlies the case for a rolling incentive mechanism similar to those used for capital and operating cost efficiencies. To mirror these, our initial proposals allow companies' owners to retain net appointed business revenue gains (or losses) that arise from new bulk supplies or competitive activity for a specified period. We propose this should apply for a period of five years.

Q6. What form should any incentives relating to revenue performance take, and over what period should they apply?

We propose providing incentives in two separate ways.

- **For bulk supplies** we will make appropriate capital and operating cost allowances at periodic reviews. Incentives will be provided by assuming that revenues will limited to the annuity of these costs for the first five years of any new agreement. Any surplus revenue will accrue to the company's owners for that period. Further details of our proposals are provided in Annex C.

Q7. For bulk supplies we propose to implement incentives for new supplies made during AMP3 (2000-05), but not for any extensions of existing agreements. What are your views on this proposal?

- **For the remaining non-tariff basket revenues**, we propose that out- or under-performance against our assumptions is retained by the company for five years. This could operate on the same 'incremental out-performance' basis as the incentive allowance for operating expenditure out-performance (the 'opex roller'). But in this case we propose a symmetrical mechanism that takes account of 'incremental under-performance'. Out-turn performance would be assessed against our assumptions made at the 2004 periodic review (but excluding bulk supply revenues from both out-turns and assumptions). Our 2004 revenue assumptions will be based on performance in the base year for AMP4 (2002-03), updated as appropriate for 2003-04 out-turns. This would include competitive gains of revenue made up to that point. Any appointed business cost changes would be captured by our rolling capex and opex incentive mechanisms (subject to possible refinements - see section 2 'Cost Impacts').

- In both cases, after five years, actual revenues would roll through into the appointed business, thereby influencing prices to tariff basket customers

Q8. Because companies could be penalised we propose to implement incentives for general non-tariff basket revenue performance only from 2005 onwards. What are your views on this proposal?

Q9. How should we treat revenue gains, if a company has made identifiable competitive gains of customers during the AMP3 period?

Q10. How should allowance be made for changes in costs arising from bulk supplies or competitive activity?

Two simple worked examples of non-tariff basket revenue incentives follow, with a more detailed treatment in Annex G. In these examples references to non-tariff basket revenue exclude revenues from bulk supplies.

Worked example: Revenue outperformance from year 3

Years	1	2	3	4	5		6	7	8	9	10
Periodic review No. 1											
Forecast non-tariff basket revenue (excluding bulk supplies)	10	10	10	10	10						
Actual non-tariff basket revenue (excluding bulk supplies)	10	10	12	12	12						
Revenue out-performance	0	0	+2	+2	+2						
Periodic review No. 2											
Non-tariff basket revenue forecast (excluding bulk supplies) at time of periodic review 2							12	12	12	12	12
Outperformance adjustment – to accrue to shareholders (ie not counted as contribution to appointed business)							2	2	0	0	0
Assumed non-tariff basket contribution to revenue requirement(excluding bulk supplies)							10	10	12	12	12

Worked example: Revenue under-performance from year 2

Years	1	2	3	4	5		6	7	8	9	10
Periodic review No. 1											
Forecast non-tariff basket revenue (excluding bulk supplies)	10	10	10	10	10						
Actual non-tariff basket revenue (excluding bulk supplies)	10	9	8	7	7						
Revenue out-performance	0	-1	-2	-3	-3						
Periodic review No. 2											
Non-tariff basket revenue forecast (excluding bulk supplies) at time of periodic review 2							7	7	7	8	8
Outperformance adjustment – to accrue to shareholders (ie not counted as contribution to appointed business)							-3	-2	-1	0	0
Assumed non-tariff basket contribution to revenue requirement (excluding bulk supplies)							10	9	8	8	8

An exception to this mechanism is where non-tariff basket revenue growth is linked to, or caused by, contraction of tariff basket revenues. This might happen if an undertaker lost domestic customers (ie tariff basket revenues) to a competitor using common carriage (ie generating non-tariff basket revenue through access charges). But the Government's proposals for competition (announced on 19 March 2002) would tend to confine common carriage competition to large users, so we think this is unlikely to arise.

Non-tariff basket revenues

We propose judging performance against our 2004 periodic review forecasts of non-tariff basket revenues (excluding bulk supplies). We will, therefore, carefully assess companies' forecasts of non-tariff basket revenue. Generally, we will require robust justification before we accept forecast declines in non-tariff basket revenues. Our assessments will take account of current trends in large user demand, material individual revenue items, and out-turn non-tariff basket revenue performance.

Securing undertakers' ability to finance their functions

We could apply incentives only for revenue gains. Losses could be removed immediately at the following periodic review, by allowing a compensating rise in tariff basket charges. This would limit risks to undertakers, but expose customers. We think our proposed approach achieves a reasonable balance of incentives, while allowing undertakers to finance the proper carrying out of their functions.

Our proposal is to operate incentives in a symmetrical way, as set out in the worked examples above. Where an undertaker underperforms against our non-tariff basket revenue assumptions, we will start from a presumption of inefficiency. Such losses would be carried for the full five years. If an undertaker demonstrated that losses were unavoidable, we will make an adjustment at the next periodic review. Examples could be the closure of large industrial plants, or a competitive loss due to the alignment of boundaries or assets.

Q11. What are your views on the principle of symmetrical incentives, whereby companies retain both gains and losses for five years?

Q12. What are your views on the application of a presumption that non-tariff basket revenue under-performance reflects inefficiency?

We recognise, however, that large losses of revenue could threaten an undertaker's ability to finance its functions. Our response would depend on the precise circumstances of the case. The 'shipwreck clause' (Condition B13/14.3) could entitle an undertaker to request a new price determination. But in making a new determination we will take account of the extent to which losses could have been avoided by 'prudent management action'.

Q13. What are your views on the interaction between our proposals and our general duties?

5. TERMS OF TRADE FOR APPOINTED AND NON-APPOINTED ACTIVITY

The terms offered for bulk supplies, inset appointments and services to the non-appointed business will determine the flow of benefits to the appointed business and its customers. An undertaker should not be able to cross-subsidise these initiatives from its existing appointed business revenues.

We propose arrangements that oblige the undertaker to bear the risks (and gains) of new non-appointed initiatives. In cases where the non-appointed initiative relies on appointed business assets or resources, regulatory scrutiny of the specific terms offered may also be necessary. Terms for competitive appointed activity are already subject to scrutiny. Our interest in terms may be related to:

- Licence Condition E, which prohibits undue discrimination or undue preference in charging;
- Licence Condition F, which prohibits any cross subsidy between the Appointed and non-appointed businesses, and from the appointee to any associate company;
- Sections 40 and 40A of the Water Industry Act 1991, which allow us to determine bulk supply terms under certain conditions and where undertakers are unable to agree terms, following consultation with the Environment Agency;
- Sections 110 and 110A of the Water Industry Act 1991, which allow us to determine terms for sewer connection agreements under certain conditions; or
- Competition Act 1998, which prohibits anti-competitive agreements and abuse of a dominant position.

Further details are contained in Annex E which sets out our proposed approach to regulation of terms for various circumstances.

Conditions E and F will be our primary reference points, and we will apply established principles. Analysis of average accounting costs will therefore be a key element of our scrutiny. We expect undertakers to demonstrate that average prices implicit in their terms are determined by a robust allocation of accounting costs. LRMC is relevant to the balance between volumetric and fixed/standing charges.

Condition E does not apply to bulk supply agreements between undertakers. Annex F sets out our approach to the determination of bulk supply terms, where required. We will take account of marginal costing principles where appropriate.

Q14. What are your views on our proposals for scrutinising the 'terms of trade' between appointed and non-appointed activity?

6. RESPONDING TO THE CONSULTATION

We would like to hear from all those with an interest in the issues raised in this consultation. Send your views by 24 May 2002 to:

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7 Hill Street
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Unless otherwise requested the responses will be placed in the Ofwat library and made accessible to the public.

LIST OF ANNEXES

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Annex B: The treatment of bulk supplies in the 1999 periodic review

Annex C: Proposed incentives for bulk supplies

Annex D: Cashflow analysis of incentives for owners

Annex E: Scenario examples of our approach to the scrutiny of terms

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ANNEX A: DISTINGUISHING APPOINTED AND NON-APPOINTED ACTIVITIES

Companies operate in-area and out-of-area, and they can use the same assets to undertake both appointed and non-appointed activities. The following paragraphs aim to clarify our views on the distinction in some specific cases.

1. Domestic vs non-domestic supplies/discharges

Undertakers have a clear duty in their area under WIA91 to supply water for domestic purposes and to take and treat foul water and surface water. They also have a duty to make cross-border connections for water and sewerage for domestic customers outside their area. This is an instance where the undertaker is operating outside its area but the activity can only be regarded as appointed business.

Under WIA91, water companies have a duty in their area to supply water for non-domestic purposes provided it does not require unreasonable expenditure or put at risk domestic supplies. Domestic supplies and in-area non-domestic supplies are appointed activities.

We consider that out of area supplies that are wholly or mainly for non-domestic purposes are non-appointed. Companies should bear the gains/losses of pursuing this activity.

2. Bulk supplies/sewer connections

Bulk supplies and sewer connections are appointed business for both the provider and recipient undertaker.

3. Inset appointments

An inset appointment is the replacement of an appointee by another for a given area. By definition, insets can only be appointed activities.

4. 'Special' agreements

An undertaker is allowed to levy standard charges through a charges scheme or (except for services to dwellings) to charge by agreement. Both ways of charging recover revenue for the appointed business.

5. Non-standard water

Some industrial customers require water treated to a different standard from the mains supply. The treatment may be higher or lower than that required for potable mains water. Because WIA91 does not specify a quality standard for non-domestic supplies, supplies of such water in area are appointed business.

6. Common carriage as carrier

Common carriage is not mentioned in WIA91 – there is no WIA91 duty to carry another company's water for supply. It is therefore non-appointed business. But common carriage usually requires the use of appointed business assets and could have an impact on its customers. Revenue from charging for use of the appointed business's assets should be recovered by the appointed business through an accounting 'recharge' (similar to a transfer price between the Appointed and non-appointed businesses). This may often equate to close to 100% of access charges paid to the non-appointed business.

7. Common carriage as supplier

Supplying water by common carriage is not a WIA91 duty or power (as opposed to a connection under s.45 to an out of area domestic customer). It uses another undertaker's appointed business assets when out of area but might use a water source that is also used to supply in-area customers. It appears that this is not appointed business but it might have an impact on customers of the supplier's appointed business. There should be a recharge to the appointed business for assets used within the supplier's own area. But the part of this activity carried out outside its own area would be non-appointed business.

8. Trade effluent and tankered waste

Although there is some competition from on-site service providers, conveyance, reception and treatment of trade effluent is an appointed activity.

There is no duty for sewerage undertakers to receive tankered waste and it is a non-appointed activity. However, there should be a recharge to the appointed business for the use of its assets.

9. Self-lay

Where an appointee provides a self-lay service outside its area it is non-appointed activity. The appointee does not have a duty to lay pipes in another undertaker's area.

10. Private supplies

An appointee could help to set up a private supply, such as a borehole, in its area if that was the customer's wish. Providing this service is a non-appointed activity but should entail a recharge to the appointed business for use of personnel and other assets.

ANNEX B: THE TREATMENT OF BULK SUPPLIES IN THE 1999 PERIODIC REVIEW

The 1999 periodic review contained allowances for four new bulk supplies:

- Mid Kent Water to Folkestone and Dover Water (determined by Ofwat under s.40 of WIA91)
- Portsmouth Water to Southern Water
- Southern Water to South East Water
- Southern Water to Folkestone and Dover Water.

These were brokered through the investigation into water resources in the south-east (which followed the MMC report on the proposed merger of Mid Kent Holdings plc and General Utilities PLC and SAUR Water Services plc). The method used in 1999 allowed for a small incentive for the 'donor' companies. Cost assumptions allowed for the investments necessary to make the bulk supply. However, forecast revenues assumed that the supply would be either (a) little used or (b) charged at a rate lower than that written into the agreement. This meant a deliberate downward bias in the bulk supply revenue forecast, resulting in a higher revenue uplift through K.

The effect of this treatment was to allow a slightly higher return on bulk supply related investments. RD7/99 stated:

> "*Bulk supplies are emerging as pivotal in the context of the study in resources in the south east…. Ofwat has been considering its approach to making allowance for the associated costs and revenues. Ofwat envisages making full allowance in the recipients' price limits for costs based on likely estimates of volumes taken. For the donor's revenue projections, however, (and hence price limit) Ofwat is considering adopting an incentive allowance.*"

Why review this approach?

There are a number of reasons why it may be appropriate to review this approach.

- The incentive mechanism was 'buried' in the detail of revenue forecasts. We could be more explicit to provide clear incentives for potential bulk supply providers.
- The incentives may not be sufficient to overcome the perceived risks.
- Our 1999 approach meant that the benefit to the provider was a function of the volumes actually supplied. But some bulk supplies are essentially to share 'headroom' more effectively. The supply may only be used during dry years, but may deliver a real benefit by replacing or deferring other investments to enhance security margins. So relating the incentive to the volumes delivered may not be appropriate. Further details concerning the structuring of charges are contained in Annex F.

ANNEX C: PROPOSED INCENTIVES FOR BULK SUPPLIES

We believe there is a case for specific incentives for bulk supplies. Annex B sets out how bulk supplies were treated at the 1999 periodic review and the case for a new approach. Our proposed incentives for bulk supplies follow similar principles to those for revenue out or under performance, with net gains only taken into account after a five year lag.

- Where a bulk supply is accepted as part of an undertaker's supply/demand balance plan at a periodic review, we will make appropriate capital and operating cost allowances. Regardless of the actual terms of the contract, we will assume that bulk supply revenues are only equivalent to the annuitised costs for the first five years. Thereafter revenue assumptions will be based on actual revenues, subject to a floor of annuitised costs. This means that the excess of revenues over annuitised costs (ie return on capital, depreciation and operating costs) will accrue to owners for five years.
- Where a bulk supply is made that has not been allowed for at the previous periodic review, we will allow for incentives at the following periodic review, starting in 2004. We will log up costs associated with the bulk supply (subject to comparative challenge). We would also assume that its revenues were limited to annuitised costs, until the bulk supply was five years old. Thereafter actual revenues, subject to a floor (as above) would be included in forecast revenues.

Worked examples are overleaf. Accounting charges for bulk supply assets should be calculated in the same way as for other assets, even if the agreement is for a shorter period (see our consultation paper 'The approach to depreciation for the periodic review 2004'). The bulk supply contract must run for a minimum 10 year period to be treated in this way. Annuitised costs should be calculated over the estimated life of the assets, and not the life of the agreement.

Q15. Accounting charges for bulk supply assets should be calculated in the same way as other assets (see our consultation paper 'The approach to depreciation for the periodic review 2004'), even if the agreement is for a shorter period. Thus annuitised costs should be calculated over the estimated life of the assets, and not the life of the agreement. Do you agree with this approach to depreciation? (Annex C)

This arrangement allows the donor company to keep about 27% to 30% of the total gains, measured by the present value of the net cashflow over a suitable period. The remaining 70-73% of value is passed to customers. Annex D contains a worked example with a cashflow calculation assuming a 50 year asset life.

Changes to existing bulk supplies

In some cases it is efficient to reduce or revoke existing bulk supply agreements in order to maintain security of supply. This might be the case if a high LRMC company were supplying a low LRMC company through an historic bulk supply. Therefore, where relevant, at periodic reviews we will compare the revenue cost of reducing or revoking existing bulk supplies against the supply/demand balance investment costs identified by companies.

Company makes new bulk supply in year 1 (allowed for at periodic review)

	Years	1	2	3	4	5	6	7	8	9	10	11
Periodic review No. 1												
a	Bulk supply capex allowed at PR	140	0	0	0	0						
b	Bulk supply opex allowed at PR	1	1	1	1	1						
c	Costs ie (a) + (b) as annuity	10	10	10	10	10						
d	Assumed revenue from bulk supply (ie = (c) for first 5 yrs)	10	10	10	10	10						
e	Actual revenue from bulk supply	12	12	12	12	12						
f	Net gains to owners = (e) less (c)	2	2	2	2	2						
Periodic review No. 2												
g	Bulk supply costs expressed as annuity (capex less CCD already included in RCV, and opex in base) = (c)						10	10	10	10	10	10
h	Forecast revenue from bulk supply - now contributing to appointed business revenue requirement = (e)						12	12	12	12	12	12
I	Net gains to appointed business customers = (h) less (g)						2	2	2	2	2	2

Company makes new bulk supply in year 3 (not allowed for at periodic review)

Years		1	2	3	4	5	6	7	8	9	10	11
Periodic review No. 1												
a	Capex associated with bulk supply			140	0	0						
b	Opex			1	1	1						
c	Annuity equivalent to bulk supply costs	0	0	10	10	10						
d	Actual revenue from bulk supply	0	0	12	12	12						
e	Net gains (kept by shareholders)	0	0	2	2	2						
Periodic review No. 2												
f	One-off upward RCV adjustment = (efficient) capex associated with bulk supply						+140					
g	Bulk supply opex included in base opex = (b)						1	1	1	1	1	1
h	Assumed contribution to revenue requirement from bulk supply (equivalent only to annuitised costs until supply 5 years old, ie = (c) then (d) from year 8 onwards						10	10	12	12	12	12
i	Actual revenue = (d)						12	12	12	12	12	12
j	Net gains to owners/shareholders = (I) less (h)						2	2	0	0	0	0

ANNEX D: CASHFLOW ANALYSIS OF INCENTIVES FOR OWNERS

This worked example shows the strength of incentives offered by the proposed rolling mechanism. The first set of shaded boxes show the basis of our assumptions about costs and revenues from the bulk supply. The calculation assesses the proportion of the net cashflow (ie revenues less costs) that is retained by shareholders. It also calculates the premium over the cost of capital for the bulk supply related capital expenditure that this is equivalent to.

Scenario: Company bulk supply costs and revenues

Capex (50 years asset life)	100
Annual opex	5
Annual revenues	15

Cashflow calculation over 50 years (assumed asset life)

Year (yrs 11-50 not shown)	1	2	3	4	5	6	7	8	9	10
Capital costs	100	0	0	0	0	0	0	0	0	0
Operating costs	5	5	5	5	5	5	5	5	5	5
Revenues	15	15	15	15	15	15	15	15	15	15
Cost of capital	6%									
PV costs (over 50 years)	£173									
PV revenues (over 50 years)	£236									
PV net cashflow	£63									

Calculations of gains retained for the first 5 years by shareholders (depreciation ignored)

Year	1	2	3	4	5
Revenue	15	15	15	15	15
Less return on capital @ say, for example, 6%	6	6	6	6	6
Less opex	5	5	5	5	5
Net profit	4	4	4	4	4
Return on capital for year	10%	10%	10%	10%	10%
PV gain to shareholders over 5 years	£17				
Shareholder gains as % of PV net cashflow	27%				

Calculation of equivalent return on capital

PV of total capex and opex costs (all recovered via price limits)	£173
Plus PV of first 5 years' gain to shareholders	£17
Less PV of operating costs	£79
PV total returns to capex	£111
Equivalent return on capex	7.05%
Premium over cost of capital	1.05%

ANNEX E: SCENARIO EXAMPLES OF OUR APPROACH TO THE SCRUTINY OF TERMS

This list is non-exhaustive.

- **New bulk supplies** – the proposed incentive mechanism will encourage undertakers to seek terms that offer a 'margin' over the costs driven by the supply. Low LRMC companies have incentives to offer supplies to high LRMC companies. As we have stated elsewhere, if we are required to determine terms, we will consider LRMC and the interests of all customers. This could entail consideration of the share of benefits between the two companies' customers, as indicated by the difference between the LRMCs of those companies. Annex F illustrates the issues with worked examples.

- **Large user tariffs (in area)** – as stated in MD159 the primary reference will be average accounting costs, although we will expect companies to set volumetric rates with reference to LRMC.

- **Special agreements** – we will consider the terms for these following similar principles to those applied to large user tariffs. The individual circumstances of the particular customer will also feature in our analysis.

- **Supplies to associates** – the terms for any supply to an associate are subject to condition F. We expect terms to be consistent with those for large user tariffs and special agreements. Where the supply is made for use outside the undertaker's area of appointment, the associate should take ownership and pay for the supply at the boundary of the undertaker's area of appointment.

- **Cross-border supplies to large user customers** – we propose to treat out of area supplies wholly or mainly for non-domestic purposes as non-appointed business. Where this is a cross-border supply, the transfer price (or allocation of costs) between the appointed and non-appointed business (ie at the boundary of the area of appointment) should be consistent with terms for large user tariffs/special agreements.

- **Supply to customers out of area, via an associate company** – we will treat these as if they were special agreements made to the associate at the boundary of the area of appointment. (see *Supplies to associates* above)

- **Supply to domestic customers out of area** – this is a non-appointed activity unless via a direct supply pipe connection. Where the appointee enters directly into such an arrangement, without creating a separate associate, the interaction between the appointed and non-appointed businesses must satisfy Condition F. Any new costs and revenues specific to this activity should be treated as non-appointed. Where the supply relies on existing appointed business assets an appropriate cost attribution or recharge for use of resources (as set out in RAG 5.03)

between the appointed and non-appointed businesses should be made. Terms should be consistent with those for large users or special agreements.

- **Inset appointments** – new costs and revenues will normally be treated as part of the appointed business (where the inset is added to an existing licence), so there would be no transfer price. Where inset appointments do not entail any practical change in supply arrangements we will generally determine bulk supply terms with reference to existing terms for that customer.

- **Common carriage** – Our views on access pricing terms are set out in MD163. We plan to publish further guidance in 'Access Codes for Common Carriage'.

ANNEX F: WORKED EXAMPLES – TERMS FOR BULK SUPPLIES

Both examples compare a 'with bulk supply' scenario against a baseline 'without bulk supply' scenario. In both cases the making of a bulk supply reduces total supply/demand balance (SDB) costs in comparison with the baseline scenario. The examples show how, given the cost changes, a 'perturbation' LRMC analysis could be used to derive minimum acceptable prices for bulk supply providers, and maximum prices for bulk supply receivers (see pages 40-41 of our May 2001 report 'The role of long run marginal costs in the provision and regulation of water services'). This type of analysis would inform our judgements if we were required to determine terms.

Baseline scenario: no bulk supply considered	
Company A strategy	
NPV of supply/demand balance (SDB) costs	10,000
NPV incremental volumes	20,000
LRMC (average incremental cost)	0.5
Company B strategy	
NPV of SDB costs	20,000
NPV incremental volumes	20,000
LRMC (average incremental cost)	1
Total (two company) strategy	
NPV of SDB costs (Co. A + Co. B)	30,000
NPV incremental volumes (Co. A + Co. B)	40,000
LRMC (average incremental cost)	0.75

Scenario: bulk supply from A to B for entire volume	
Company A strategy with bulk supply	
NPV of SDB & bulk supply costs	24,000
NPV incremental volumes	40,000
LRMC (average incremental cost)	0.6
Basis for min bulk supply charge by Co. A	
Change to NPV of plan	14,000
Change to NPV of volumes	20,000
LRMC (perturbation) ie min charge	0.7
Company B strategy with bulk supply	
Investment no longer required	
Max price (= Co. B pre-bulk supply LRMC)	1
Total (two company) strategy	
NPV of SDB costs (Co. A + Co. B)	24,000
NPV incremental volumes (Co. A + Co. B)	40,000
LRMC (average incremental cost)	0.6
NPV of saving delivered by bulk supply	6,000

ANNEX F: WORKED EXAMPLES – TERMS FOR BULK SUPPLIES (cont'd)

Baseline Scenario: no bulk supply considered	
Company A strategy	
NPV of SDB costs	10,000
NPV incremental volumes	20,000
LRMC (average incremental cost)	0.5
Company B strategy	
NPV of SDB costs	20,000
NPV incremental volumes	20,000
LRMC (average incremental cost)	1
Total (two company) strategy	
NPV of SDB costs (Co. A + Co. B)	30,000
NPV incremental volumes (Co. A + Co. B)	40,000
LRMC (average incremental cost)	0.75

Scenario: bulk supply from A to B to meet part of B's required volume	
Company A strategy with bulk supply	
NPV of SDB & bulk supply costs	17,000
NPV incremental volumes	30,000
LRMC (average incremental cost)	0.57
Basis for min bulk supply charge by Co. A	
Change to NPV of plan	7,000
Change to NPV of volumes	10,000
LRMC (perturbation) ie min charge	0.7
Company B strategy with bulk supply	
NPV of SDB costs	9,000
NPV incremental volumes	10,000
LRMC (average incremental cost)	0.9
Basis for bulk supply price paid by Co. B	
Change to NPV plan	-11,000
Change to NPV of volumes	-10,000
LRMC (perturbation) ie max charge	1.1
Total (two company) strategy	
NPV of SDB costs (Co. A + Co. B)	26,000
NPV incremental volumes (Co. A + Co. B)	40,000
LRMC (average incremental cost)	0.7
NPV of saving delivered by bulk supply	4,000

ANNEX G: CALCULATION RULES FOR REVENUE INCENTIVES

The calculation rules below show our initial proposals for implementing the phased transfer of out-performance of revenue assumptions from a company to its customers. All revenues represent non-tariff basket revenues excluding bulk supply revenues. These rules ensure that incremental out-performance is retained by a company for five years irrespective of the year in which it was made. This is achieved by adjusting assumptions about the non-tariff basket contribution to meeting the company's total revenue requirement. Where companies have outperformed their non-tariff basket revenue assumptions, customers will benefit after five years through a lower tariff basket revenue requirement. If companies under-perform assumptions, they bear the cost for five years before it is recognised in price limits.

The general assumptions and method for calculating out-performance and hence, the incentive allowance are set out below.

pNTB — Our assumptions of total non-tariff basket revenue for the relevant financial year made at the prior periodic review.

aNTB — Reported actual non-tariff basket revenue for the relevant financial year. $aNTB_{06}$ is total non-tariff basket revenue for 2005-06

O — Out-performance in any given financial year. The difference between the regulatory assumption (pNTB) and the actual revenue (aNTB), so O_{06} is the difference between $pNTB_{06}$ and $aNTB_{06}$.

i — Incremental out-performance in a year compared to performance in the previous year, so i_{07} is O_{07} minus O_{06}.

IA — The incentive allowance to be deducted from the financial year's non-tariff basket revenue assumption (and therefore included in price limits). Thus, IA_{11} is the incentive allowance for the financial year 2010-11.

The method and calculation rules are based on the following general assumptions.

- Out- or under-performance is recognised via an incentive allowance (IA) that adjusts assumptions about the non-tariff basket contribution to meeting the revenue requirement.

- Out-performance and under-performance of non-tariff basket revenues are incremental in nature. The annual benefit to the company is the incremental out-performance relative to the previous year's out-performance. The annual cost to the company is the incremental under-performance relative to the previous year

- The IA is structured so that the company either retains the annual benefit from incremental out-performance for five years and then transfers it to customers, or it bears the cost of under-performance for those five years.

- Out-performance is assessed at a company level.

- The assessment is based on differences year by year between projected and actual non-tariff basket revenues.

- Unlike the opex roller, under-performance will be penalised via a negative IA adjustment and the company bears the costs for five years. This works by adjusting upwards assumptions about the contribution of non-tariff basket revenues to meeting the company's overall revenue requirement.

- No further out-performance is assumed to take place in 2009-10 over and above that achieved in 2008-09 (ie $O_{10} = O_{09}$ or $i_{10} = 0$). Actual incremental out or under-performance in 2009-10 is taken account of at the next review via an offsetting reduction in the first year of the next pricing period (2015-16).

The calculation of the incentive allowance and the adjustment of non-tariff basket revenue assumptions are set out below, with three worked examples over the page. Out-performance in 2005-06 (O_{06}) will already be passed on to customers in 2010-11.

IA_{11} for year 2010-11	$= i_{09}+i_{08}+i_{07}$	or	$O_{09}-O_{06}$
IA_{12} for year 2011-12	$= i_{09}+i_{08}$	or	$O_{09}-O_{07}$
IA_{13} for year 2012-13	$= i_{09}$	or	$O_{09}-O_{08}$
IA_{14} for year 2013-14	$= i_{10}$	or	$O_{10}-O_{09}$ or zero

ANNEX G (cont'd): WORKED EXAMPLES

Company **outperforms** revenue assumption in third year of review period

	2005-06	2006-07	2007-08	2008-09	2009-10
PR1 projected non TB revenue	100	101	102	103	104
Actual non TB revenue	100	101	103	104	105
Outperformance	0	0	1	1	1
Incremental outperformance	0	0	1	0	0
Notation	i_{06}	i_{07}	i_{08}	i_{09}	i_{10}
Year	2010-11	2011-12	2012-13	2013-14	2014-15
Incentive allowance (based on opex roller MD145 rules)	1	1	0	0	0

	2010-11	2011-12	2012-13	2013-14	2014-15
PR2 base non TB revenue (equivalent to 2009-10)	105	105	105	105	105
$i_{09}+i_{08}+i_{07}$	1				
$i_{09}+i_{08}$		1			
i_{09}			0		
i_{10}				0	
N/a					0
Assumed non TB contribution to revenue requirement	104	104	105	105	105

Company **underperforms** revenue assumption in third year of review period

	2005-06	2006-07	2007-08	2008-09	2009-10
PR1 projected non TB revenue	100	101	102	103	104
Actual non TB revenue	100	101	101	102	103
Underperformance	0	0	-1	-1	-1
Incremental underperformance	0	0	-1	0	0
Notation	i_{06}	i_{07}	i_{08}	i_{09}	i_{10}
Year	2010-11	2011-12	2012-13	2013-14	2014-15
Incentive allowance (based on opex roller MD145 rules)	-1	-1	0	0	0

	2010-11	2011-12	2012-13	2013-14	2014-15
PR2 base non TB revenue (equivalent to 2009-10)	103	103	103	103	103
$i_{09}+i_{08}+i_{07}$	-1				
$i_{09}+i_{08}$		-1			
i_{09}			0		
i_{10}				0	
N/a					0
Assumed non TB contribution to revenue requirement	104	104	103	103	103

Company **under and outperforms** revenue assumption over the review period

	2005-06	2006-07	2007-08	2008-09	2009-10
PR1 projected non TB revenue	100	101	102	103	104
Actual non TB revenue	99	98	104	105	106
Performance	-1	-3	2	2	2
Incremental performance	-1	-2	5	0	0
Notation	i_{06}	i_{07}	i_{08}	i_{09}	i_{10}
Year	2010-11	2011-12	2012-13	2013-14	2014-15
Incentive allowance (based on opex roller MD145 rules)	3	5	0	0	0

	2010-11	2011-12	2012-13	2013-14	2014-15
PR2 base non TB revenue (equivalent to 2009-10)	106	106	106	106	106
$i_{09}+i_{08}+i_{07}$	3				
$i_{09}+i_{08}$		5			
i_{09}			0		
i_{10}				0	
N/a					0
Assumed non TB contribution to revenue requirement	103	101	106	106	106