The Regulation of Independent Gas Transporter charging

Draft Proposals

December 2002 87/02

Summary

This draft proposals paper is an important part of Ofgem's review of Independent Gas Transporter (IGT) charging arrangements. As part of this review, extensive analysis has been undertaken on the responses received to the May consultation paper[1], on IGT charging and on IGT costs. The results of this work provide the basis for the recommendations in this paper.

To select an approach to the regulation of IGT charges the following criteria have been used:

- the objectives for the review and the main issues as set out in the May 2002 consultation paper, adjusted where appropriate to take account of the views of respondents;
- whether the option is rational, proportionate and reasonable in addressing concerns with IGT charging; and
- the practicability of implementing the option.

Based on the analysis and criteria discussed above, this paper sets out draft proposals for a system of relative price regulation, based on Transco-equivalent charges, for the future regulation of IGTs' gas transportation charges. Remaining issues for consultation include:

- the level of the relative price control, equivalent to Transco or below Transco;
- the path of charges over the relative price control, whether charges should track Transco's charges (possibly with fixed floor prices) or follow their own path between reviews;
- the scope and timing of future reviews of the relative price control;
- whether a review of Transco's current structure of charges should be undertaken, including whether these charges provide the appropriate price signals to IGTs and consumers; and

[1] The Regulation of IGT charging; May 2002 37/02

- whether the relative price control should apply to rural infill and non-domestic sites.

In addition, this paper considers arrangements for the treatment of legacy sites (sites predating the new arrangements). It would be beneficial for shippers, consumers and IGTs if the disparity between the different sets of arrangements could be minimised and a degree of harmonisation achieved. The options for addressing this issue include, but are not limited to, the following:

- maintain the existing arrangements by ring-fencing the costs and charges of legacy sites;
- allow IGTs to migrate legacy sites to the new arrangements as and when they judge it to be appropriate; and
- provide a timetable for phasing in the new arrangements for existing sites. If an IGT chooses not to participate in the proposed arrangements then these sites would be ring-fenced under the existing arrangements.

Finally, this paper sets out initial thinking on the potential financial ring-fencing of IGTs.

Views are invited on the draft proposals for relative price regulation and the other issues identified for consultation. Responses should arrive no later than 12 February 2003.

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1. Introduction

Purpose of this document

1.1. These draft proposals are an important part of Ofgem's review of IGT charging arrangements. The paper discusses a range of options for the future regulation of IGT charging arrangements and recommends a single approach to be taken forward. Various aspects of the form of the new arrangements are considered and set out for further consultation. The paper also discusses the regulation of existing (legacy) sites and the financial ring-fencing of IGTs.

Background

1.2. The review of IGT charging is concerned with both the level and structure of IGT charges. In other areas of gas and electricity regulation, these two aspects of charging are dealt with separately. For example, the setting of Transco's Local Distribution Zone (LDZ) price control - which determines the total allowed revenue to be recovered through Transco's gas distribution charges - is carried out separately from the ongoing review of Transco's LDZ charging methods. This separation holds true for most of the price regulated gas and electricity companies. However, in the case of IGT charging, the issues associated with the level and structure of charges are closely inter-related and they are being considered together in this review.

1.3. Although transportation charges are levied on gas shippers, they are passed on to suppliers and end consumers and make up a significant proportion of final bills. For domestic consumers these charges typically represent 35 to 40 per cent of the final price, with somewhat lower percentages applying to commercial and industrial users. This represents a significant cost for households. A shipper serving a consumer on an IGT network connected to Transco's network will incur transportation charges from both Transco and the IGT, as the gas has to travel over both networks.

Rationale

1.4. There are indications that the existing structure and level of IGT connection and transportation charges are not acting in the best interests of consumers.

1.5. Ofgem's analysis of IGT charges (set out in Chapter three of this paper) confirms that some of the IGTs' transportation charges are significantly higher than Transco's charges to equivalent sites. In addition, the considerable variation in IGT charges indicates that while some IGTs are able to consistently sustain charges close to Transco's levels, other IGTs charge up to three times Transco's charges.

1.6. At least two major suppliers have chosen to increase their charges to consumers on IGT networks above their charges for those on Transco's network. Other suppliers are also considering higher charges for consumers on IGT networks. There are currently about 400,000 consumers connected to IGT networks. If shippers extended the additional charges that are being levied on some IGT-connected consumers to all these consumers, the total cost to consumers would be approximately £12 million per annum.

1.7. Respondents to the May 2002 consultation paper on the regulation of IGT charging provided strong support for the introduction of a new regulatory framework for IGT charging. These responses came from GTs, shippers, suppliers and other respondents.

1.8. The objective of the review of IGT charging is to ensure that IGTs are regulated in a transparent and consistent manner that promotes effective competition and efficiency, with consumers seeing real benefits from the operation of the IGTs. It is also important that IGTs have incentives to invest and operate efficiently.

1.9. The options considered for the future regulation of IGT charging include:

A. increase the competitive pressure on IGTs;

B. introduce rate of return regulation for IGTs' gas transportation charges;

C. introduce formal price regulation for IGTs' gas transportation charges;

D. introduce relative price regulation for IGTs' gas transportation charges; and

E. develop a revised approach to enforcing the existing licence conditions.

1.10. Option A would involve the separation of connection and transportation charges and increasing the competitive pressure in both the connections and gas transportation markets. This approach might allow competitive pressures to achieve many of the objectives of this consultation without having to resort to formal price regulation. However, the introduction of competitive franchises for IGT network extension and/or operation might require significant legislative changes and it would be difficult to predict how these new arrangements would affect prices and how effectively they would protect the interests of consumers.

1.11. Option B could be implemented through the separation of connection and transportation charges and the introduction of rate of return regulation for IGTs' gas transportation charges. This approach might create a low risk environment for IGTs and would prevent them from earning excessive profits. However, there would be little incentive for IGTs to minimise costs and there could be an incentive to increase capital costs – over-engineering or goldplating of assets – which could increase prices.

1.12. Option C would involve the separation of connection and transportation charges and formal price regulation of gas transportation charges either at the IGT or site level. This would promote efficiency by providing an incentive for IGTs to increase profits by reducing their cost base and the sharing of efficiency gains with consumers through the operation of the price control over time. However, this would require significant regulatory involvement to establish the control and enforce the new arrangements. A number of IGTs have suggested that this approach might discourage competition in the provision of connections.

1.13. Option D would involve the separation of connection and transportation charges and the setting of transportation charges levied by IGTs through linkage to Transco's equivalent charges. This would establish transparent and verifiable charges and a consistent financial boundary, restricting excessive payments to developers. In addition, this approach would be easily adopted by industry and relatively straightforward to implement.

1.14. Option E would involve a revised approach to enforcing the current licence conditions to address some of the issues identified with IGTs. While this approach could be introduced relatively quickly, it may be difficult to harmonise the different charging methods between IGTs and the drafting of existing licence conditions may not be sufficiently robust to achieve the objectives proposed for this review.

1.15. In the light of the above considerations it is intended to develop a system of relative price regulation (Option D) based on Transco-equivalent charges for the future regulation of IGTs' gas transportation charges. This approach offers a straightforward approach to the regulation of transportation charging and establishes a transparent and verifiable charging structure. This should facilitate effective competition between shippers and suppliers and deliver significant benefits to consumers.

1.16. In formulating draft proposals careful consideration has been given to the guidance given by the Secretary of State to Ofgem on social and environmental matters. All consumers on IGT networks commissioned following the implementation of final proposals should benefit from revised regulatory arrangements, including the fuel poor.

1.17. In implementing any new proposals for the regulation of IGTs it will be important to ensure that the boundary between connection and use of system charges provides appropriate signals for the economic extension of the gas network.

Previous documents and correspondence

1.18. An earlier consultation paper, Regulation of Independent Gas Transporter Charging, was published in May 2002. Chapter two of this paper provides a summary of responses to the May paper. Another consultation paper, Independent Gas Transporter charges and Cost of Capital, was published on 20 February 2002[2]. The responses to those two papers have been considered together in formulating the draft proposals.

[2] Independent Gas Transporter charges and Cost of Capital 20/02

1.19. This paper focuses on the regulation of IGT charging. Issues relating to the quality of gas transportation have been addressed by the recent papers on the Guaranteed and Overall Standards of Performance for IGTs[3].

1.20. As a result of concerns about some IGT charging practices, Ofgem has introduced arrangements for charges levied under Standard Licence Condition (SLC) 4C and SLC 4 of the Gas Transporters Licence. Ofgem established Interim Arrangements[4] for all applications for charging methodology acceptances under SLC 4C received after 7 December 2001. These Interim Arrangements have established criteria for acceptance of SLC 4C methods for new gas networks. These criteria require that the combined SLC 4 and SLC 4C charges for transporting gas to IGTs' sites should not exceed the equivalent "all the way" charge levied by Transco to similar sites on its network. These arrangements will remain in effect until this review has been completed and new arrangements put in place.

1.21. In addition, Ofgem wrote to all IGTs on 29 November 2002, setting out its interpretation of reasonable profit for charges levied under SLC 4. This letter is located on Ofgem's website under the IGT Review[5]. The intention is that the definition of reasonable profit proposed in this letter should come into effect on 1 April 2003.

Structure of the document

1.22. The document has the following structure:

- Chapter two provides a summary and assessment of the responses received to the May 2002 consultation paper on the regulation of IGT charging;
- Chapter three sets out the analysis of IGT charging undertaken as part of this review;
- Chapter four sets out the analysis of IGT costs undertaken as part of this review;

[3] Papers were published on 19 October 2001, December 2001, 23 January 2002 and 19 February 2002.
[4] Located at www.ofgem.gov.uk /newprojects/ipgt_index.htm
[5] www.ofgem.gov.uk /newprojects/ipgt_index.htm

- Chapter five provides a detailed assessment of all options considered for the future regulation of IGT charging;
- Chapter six sets out draft proposals for the future regulation of IGT charging;
- Chapter seven outlines initial thinking on how legacy sites should be treated;
- Chapter eight discusses issues relating to the possible financial ring-fencing of IGTs; and
- Chapter nine discusses the way forward.

1.23. Background information on a number of areas of regulatory and pricing policy that are closely related to this review is set out in the following appendices:

- Appendix 1 discusses the boundary between connection and use of system charges;
- Appendix 2 examines the structure of use of system charges;
- Appendix 3 considers the length of price controls;
- Appendix 4 provides the charging analysis questionnaire sent to IGTs;
- Appendix 5 provides the cost analysis questionnaire sent to IGTs; and
- Appendix 6 sets out the financial ring-fencing licence conditions.

Consultation responses

1.24. If you would like to comment on these draft proposals, please respond by the 12 February 2003. Written responses should be addressed to:

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1.25. Electronic responses should be sent as an MS-Word document or alternatively in the main body of the email message. Responses to this document will be placed in the Ofgem library and therefore any confidential material should be included as a separate annex. If you would like to discuss this document please contact Frances Warburton on 020 7901 7089 or Indra Thillainathan on 020 7901 7294.

Timetable

1.26. Responses to this document will be considered together with the responses to other correspondence on the IGT review in developing final proposals for the IGT charging regime. It is intended to publish final proposals in the second quarter of 2003.

2. Summary of responses

Introduction

2.1. Ofgem received 19 responses to the May 2002 consultation on the Regulation of Independent Gas Transporter charging. There were five confidential responses, the other 14 non-confidential responses are located on Ofgem's website. GTs provided nine responses, while shippers and suppliers accounted for seven and the remainder were received from two other companies (involved in gas transportation and the housing sector) and one independent consultant.

2.2. Responses to the February 2002 Cost of Capital paper were summarised in the May 2002 paper and responses to both papers have been considered together in formulating the draft proposals.

2.3. Responses to the May 2002 paper largely focused on the three main sections of the consultation:

- principles of GT charging;
- issues arising from IGT charging policies; and
- options for the future regulation of IGT charging.

Principles of GT charging

2.4. Only two IGTs provided a detailed response to the proposed principles for GT charging. The proposed principles centred on the promotion of effective competition in the markets for connections, gas transportation, shipping of gas and the supply of gas, and regulation where effective competition did not exist.

2.5. Both IGTs strongly supported the promotion of effective competition between connection providers, although one questioned whether this could be achieved by establishing a formal boundary between connection charges and transportation charges. On the issue of shipper/supplier competition, it was felt that this could be strengthened if shippers were encouraged to sign network codes and invest in Supply Point Administration (SPA) IT, and GTs were encouraged to develop more uniform charging arrangements.

2.6. Both IGTs agreed in principle to incentivising IGT efficiencies and sharing any gains with consumers but were less supportive of allowing an efficient IGT to make only a reasonable profit. One IGT said little justification existed for regulating profits if an IGT was found to offer the lowest charges and best service standards. With regard to promoting efficient use of gas through cost reflective charges, one IGT noted that such charges would be capacity based and hence conflict with transparent charges needed to promote competition. Finally, while both respondents recognised the need to protect the interests of rural consumers, they felt it was appropriate to extend gas networks to all consumers, including those in non-rural areas.

Issues arising from GT charging policies

2.7. The May 2002 paper identified 13 issues of possible concern relating to IGT charging policies for consideration. These are dealt with below.

Issue 1: It is not clear that effective competition exists in securing new contracts

2.8. A mixed response was received from the IGTs commenting on whether effective competition exists in securing new contracts for network extensions. Some IGTs agreed that effective competition did exist, while others said the effectiveness was less clear. Other respondents said there were difficulties with effective competition and three shippers/suppliers cited the ability of IGTs to cross subsidise between connection and transportation activities as evidence of market distortion.

Issue 2: Connections and transportation services lack clear and consistently applied definitions of each service

2.9. The views of IGTs varied with one agreeing with this statement in principle but suggesting that GT business and connection activities could co-exist within the same group if appropriate commercial and regulatory arrangements were in place.

2.10. One IGT said that while separation between transportation and connection was straightforward for connections to existing networks, it was more difficult for

new network extensions (which often required apportioning the costs of a mains extension). Another IGT said that formal separation could increase connection charges and discourage customers from taking a connection. A further IGT said the issue was irrelevant as most IGTs contracted out their connection work via a competitive tendering process. Two shippers/suppliers said that a clear and formal separation of costs and charges would promote competition between GTs.

Issue 3: Cross subsidisation of competitive connection activities with monopoly transportation revenues may be distorting competition in the connections market

2.11. Four of the seven IGTs who responded strongly disagreed with this statement and said that effective competition in the connections market does exist. They said that many IGTs already contract out connection work to utility infrastructure providers (UIPs) and that it is inappropriate to refer to cross-subsidising of connection activities with transportation revenues. The opposing view was taken by the remaining three IGTs and four shipper/suppliers, all of whom said that UIPs were unable to compete effectively with IGTs due to the IGTs' ability to offset low connection charges with higher transportation revenues.

Issue 4: Payments of allowances by IGTs to gain contracts distorts competition in the connections market

2.12. The majority of respondents agreed with this statement, with one IGT citing this as the main reason for the IGT review. All agreed that a large payment to a developer could allow an IGT to secure a contract for network extension irrespective of efficiency. This was considered to be disadvantageous not only to UIPs, but also to consumers if the payment resulted in higher transportation charges. However, two IGTs disagreed with the statement with one commenting that the value of the payment was irrelevant as long as consumers faced low charges and received high quality service.

Issue 5: Statutory connections (23m and 10m rules) distort competition in the connections market

2.13. The 23-metre rule provides an obligation on an IGT to connect certain premises within 23 metres of its networks. The 10-metre rule means it may have to cross subsidise these connections.

2.14. All respondents to this issue supported the removal of the statutory 10m rule, although a mixed response was received for the abolition of the 23m rule.

2.15. Suggestions on replacing the statutory rules focused on whether IGTs should adopt Transco's proposal for a fixed allowance (which would allow eligible parties to apply for an allowance towards the cost of connection). Two shippers viewed this option as sensible as it could provide financial support to those wanting a connection without allowing IGTs an unfair advantage in securing connections. Support for the fixed allowance scheme was also expressed by two IGTs, with one suggesting that the amount could vary according to the IGT and the type of ground excavated. Another IGT criticised the fixed allowance scheme for introducing another cross-subsidy and suggested that customers should pay the market price for connection.

Issue 6: Effective competition does not exist within gas transportation

2.16. Most respondents commenting on this statement agreed that since each gas network operates as a natural monopoly effective competition could not exist. However, one IGT maintained that incentives to operate efficiently still existed for monopolies and thus the real concern was whether any efficiency gains were passed onto consumers.

Issue 7: Lack of transparency and consistency in IGT charging methodologies may be distorting shipper and supply competition

2.17. While most respondents agreed that supply competition was beneficial for consumers, several GTs questioned whether varying transportation charging methods and statements were harmful to supply competition. In fact, some considered the current arrangements to be beneficial, allowing IGTs to innovate and differentiate their products from each other. Only one IGT agreed with the statement citing the difficulty of shippers in analysing the level of charging

incurred on IGT networks. However, four shippers/suppliers indicated that the current arrangements might cause them to try and avoid serving consumers on IGT networks or charge a supplement to these consumers.

Issue 8: There are insufficient incentives on IGTs to invest and operate efficiently

2.18. IGTs generally considered that there was ample incentive for IGTs to invest and operate efficiently driven by the need to achieve sustained growth and profitability in a new and expanding market. However, two shippers/suppliers stated that as IGTs are not subject to efficiency incentives, consumers could suffer from any resulting inefficiencies. Furthermore, they recommended that efficiency incentives should encompass service standards and relate to the systems designed to facilitate the transfer of consumers between suppliers.

Issue 9: There are insufficient incentives on IGTs to share efficiency gains with consumers

2.19. IGTs broadly disagreed with this statement and said that there were sufficient regulatory and market incentives in place to ensure that they were constrained to earn only a reasonable profit. They also said that it was the shipper's responsibility to pass on any savings gained from transportation efficiencies to the consumer. A shipper/supplier said that IGTs should be encouraged to operate efficiently so reducing the pressure on suppliers to levy higher charges to consumers on IGT networks.

Issue 10: There are insufficient controls on IGTs' ability to earn excessive profits on SLC 4B and 4C charges

2.20. In general IGTs said that further controls on profits would be unnecessary. One IGT said that restricting profits would not be appropriate since it considered IGTs to be high risk start-up businesses and the initial capital outlay more akin to venture capital. Another IGT said that sufficient controls probably do not exist under SLC 4C and suggested fixing charges to an external reference point in preference to any cap on profits. One shipper/supplier recommended that the reasonable profit clause be extended to cover SLC 4B and 4C charges.

Issue 11: There is no formal definition and verification of reasonable profit for IGTs

2.21. Respondents agreed that no formal definition of reasonable profit existed. However, few supported the introduction of such a definition or the introduction of rate of return regulation. One IGT stated that by regulating profits market entry would be restricted to the detriment of competition, while another felt that profit should not be an issue as consumers would be more concerned with low charges and high quality of service. Support for a definition was given by one IGT that suggested policing charging methodologies to prevent excessive returns. A shipper/supplier made similar suggestions.

Issue 12: Cross-subsidisation of new connections with transportation revenues may not encourage efficient connection to the network and efficient use of gas

2.22. Some IGTs strongly disagreed with this statement and said that cross-subsidisation was an efficient means to expand the gas network, since higher up-front charges may discourage consumers from connecting to gas networks. A number of IGTs said that higher transportation charges might be appropriate for connecting rural infill projects. A shipper/supplier said that cross-subsidisation between connection and transportation would not affect the efficient use of gas.

Issue 13: Existing licence conditions may not be encouraging development of rural gas networks

2.23. Some IGTs commented that existing licence conditions encouraged the connection of rural gas networks since SLC 4C charges allowed IGTs to connect areas perceived to be high risk and uneconomic. However, one IGT welcomed modifying SLC 4C so that it would only apply to rural infills. A shipper/supplier said that extending the gas network to rural areas should be a matter for the government and not addressed through the regulation of IGTs.

Summary of Ofgem's views

2.24. The difficulties with the regulatory arrangements for IGTs identified in the May 2002 consultation paper remain valid, in particular:

- IGTs are not subject to any formal incentives to invest and operate efficiently or to share efficiency gains with consumers. Chapter four sets out an assessment of the relative efficiency of IGTs;
- there are insufficient controls on IGT transportation charges. Chapter three includes an assessment of the present level of IGT charges; and
- there is evidence that the cross-subsidies between connection and transportation charges are distorting competition in the market for connections.

Options for the future regulation of IGT charging

2.25. The May 2002 paper identified five options for the future regulation of IGT charging. These are discussed below.

Option A: Increase the competitive pressure on IGTs

2.26. This option included a range of possible proposals including competitive franchising, introducing a formal connection/transportation boundary and extending the SLC 4 objectives to all charging methods. Some IGTs did not support franchising for various reasons ranging from the lack of experience of this type of regulation in GB to the negative impact that the creation of regional monopolies could have on competition. However, Transco said that franchising could stimulate competition by encouraging new entrants to the market. The views of shippers/suppliers were mixed, although there was little support for competitive franchising.

2.27. The lack of support from IGTs for competitive franchising and the lack of experience in GB of these arrangements suggest that it would not be practicable at this stage to develop these arrangements. Nevertheless it will be important to consider further whether additional steps can be taken to encourage the development of competition in the gas connections market.

Option B: Rate of return regulation for IGT transportation charges

2.28. This was the least popular of the five options and it was supported by only one respondent. Three IGTs strongly opposed it considering rate of return regulation

to be a retrogressive measure that would do little to incentivise IGTs to become efficient. Shippers/suppliers and an independent consultant also argued against rate of return regulation adding that its operation would increase costs and require significant regulatory input. The one supporting response came from a small IGT who said that a guaranteed rate of return would provide certainty of investment for IGTs. Ofgem agrees with the majority of respondents that rate of return regulation would not provide IGTs with sufficient incentives to improve efficiency.

Option C: Formal price regulation for IGT transportation charges

2.29. Some IGTs expressed support for this option, subject to certain conditions. One IGT suggested the combined use of formal and relative price regulation, as it did not believe sole use of formal price regulation was appropriate for IGTs. Two IGTs suggested that formal price regulation could work if it took into account the differing nature of the IGTs. In particular this form of regulation would require specification of appropriate profit and cost levels and recognition of the start-up nature of IGT businesses. Two GTs rejected this option as impracticable for IGTs.

2.30. Most shipper/suppliers rejected this option citing the unsuitability of adopting RPI-X to small networks. The significant costs and complexity of adopting a formal price review for each IGT would be too large to justify its use. There was also concern that competition would suffer if potential IGTs were dissuaded from entering the market. However, one shipper/supplier supported formal price regulation as the most effective means to encourage cost-reflective prices and efficiency improvements, provided the benefits would not be outweighed by the costs.

2.31. Formal price regulation has a number of theoretical attractions, such as providing a direct control on prices and encouraging efficiency. Nevertheless respondents have identified a number of difficulties in devising a system of RPI-X regulation for IGTs. These matters are considered further in Chapter five.

Option D: Relative price regulation for IGT transportation charges

2.32. This was the most popular option, with most IGTs who commented on this option supporting it. IGTs said relative price regulation would discourage excessive developer payments, which would allow UIPs to compete for connections. They also said that it would offer simplicity and transparency for shippers/suppliers in identifying and comparing transportation charges between GTs, while IGTs would be incentivised to increase efficiencies as cost reductions would boost profit margins. They suggested that capped charges would eliminate the need to regulate profit levels, but considered that higher transportation charges may be needed for IGTs to connect rural infills and some business consumers. Another respondent also registered support for this option, conditional on Transco's distribution charges becoming more cost-reflective.

2.33. On the opposing side, one IGT did not believe the option would encourage further investment and another questioned whether Transco's charges would be an appropriate benchmark, given the many differences that exist between Transco and IGTs.

2.34. Almost all shipper/suppliers who commented on relative price regulation supported it to some degree (either as the preferred option or an interim solution). They generally expressed similar views to the IGTs and said the advantages of relative price regulation would outweigh any disadvantages associated with the cherry picking of low cost sites by IGTs. The one shipper that opposed the option said that the regulatory input in pricing would be significant and as such would disincentivise market entry.

2.35. There is considerable support from respondents for relative price regulation and this system of regulation has a number of advantages. A more detailed assessment of relative price regulation is set out in Chapter five.

Option E: A revised approach to enforcing existing licence conditions

2.36. Some GTs supported a revised approach to enforcing existing licence conditions as they said it would improve consistency and transparency to the benefit of consumers and competition. One GT suggested it could be used as a short-term measure to eliminate excessive payments to developers until a more robust

solution is found. It also recognised potential difficulties in trying to harmonise IGT charging methods because of the weakness of existing licence conditions.

2.37. Some shippers/suppliers supported this option and suggested that it could be combined with measures to improve competition to provide greater transparency of on-going transportation charges. This combined option is similar to formal price regulation at a site level as it includes a clearly defined charging boundary with a control on prices and profits on a site-by-site basis. Other shipper/suppliers who did not support option E cited the difficulty in harmonising IGT charging practices given the existing licence conditions and expressed concern about the amount of regulatory intervention that would be required in charging arrangements.

2.38. There are a number of difficulties with the incentives created by the existing licence conditions and in a number of important areas obligations on licensees are either insufficient to protect the interests of consumers or are unclear. Given the range of difficulties with present arrangements set out earlier in this chapter it is clear that significant changes are required to existing regulatory arrangements.

Other proposed options

2.39. Two respondents did not fully support any of the five options above and proposed their own options. One IGT said that a number of elements of the five options were worthy of further consideration. These elements included establishing a formal boundary between connections and transportation, the removal of the 10m rule, the definition of reasonable profit for IGTs and the adaptation of standard methods for SCL 4C charges. The respondent proposed a debate on the merits of cost-reflective compared to average charging, the setting up of an industry working group to take matters forward, establishing separate accounting for certain IGT activities (such as payments to developers) and suggested a detailed review of Transco's use of system charges to the CSEP. There are a number of similarities between this approach and formal price regulation, which is discussed further in chapter five.

2.40. The second IGT proposed what it considered to be a simplified approach that would meet all 13 issues with the exception of issues 9 and 12. It suggested a

review of Transco's CSEP pricing in addition to measures designed to protect IGT income levels. These would include annual indexing on IGT charges, long-term certainty that IGT charges would remain unchanged, no changes to charges for existing and committed sites and an allowance for additional costs borne by IGTs for complying with any increased reporting requirements. Although there may be merit in some of these suggestions there is insufficient focus on protecting the interests of consumers for these arrangements to form the basis of a future system of regulation for IGTs.

Summary of views on options

2.41. Table 2.1 below gives a breakdown of the level of support shown by each group of respondents for the five options plus the combined option A&E put forward by some of the shippers/suppliers. Each respondent was given one point to allocate among the options it supported. As the results indicate, relative price regulation (option D) garnered the most support with six points while rate of return regulation (option B) registered the least support.

Table 2.1 Summary of views on proposed options

	A Franchise	A Others	B ROR	C Formal	D Relative	E Enforcing	A&E	None*	N/A**	TOTAL
GTs	0.75	0	0.5	0.75	2.75	1.25	0	2	1	**9**
Shippers/suppliers	0	0	0	1	2.25	0	2.75	1	0	**7**
Other	0	0	0	0	1	0	0	0	2	**3**
TOTAL	**0.75**	**0**	**0.5**	**1.75**	**6**	**1.25**	**2.75**	**3**	**3**	**19**

None* indicates that the respondent did not support any of the options
N/A** indicates no comment made on any of the options

2.42. The evaluation of the options is discussed in more detail in Chapter 5.

3. Analysis of IGT charging

3.1 Introduction

3.1. This chapter presents the results of the charging analysis undertaken on a sample of IGT networks. The chapter starts with an outline of the process used to compare IGT transportation charges with those for Transco and then goes on to discuss the results of this analysis. Then some of the factors that may cause variations in charges are discussed, with initial conclusions set out at the end of the chapter.

3.2 The charging analysis process

3.2. The main aim of the charging analysis is to compare IGT transportation charges against the equivalent charges that would result if Transco owned and operated the same part of the network – the 'Transco equivalent charge'.

Use of Transco as a benchmark

3.3. As the largest GT in Great Britain and the only one subject to full price control regulation Transco is used as a comparator against which to assess IGT charges. Transco is a natural comparator to the IGTs in the sense that if the IGTs did not exist, then Transco would provide and operate many of the IGT networks.

3.4. In calculating the Transco equivalent charge it is appropriate to focus on the element of Transco's charge between the Connected System Exit Point (CSEP) and Single Supply Point (SSP), as this relates to the sections of the network operated by IGTs.

3.5. The analysis is based on a random sample of 230 IGT sites. The sample size for each IGT, based on the total number of sites held, ranged from 60 sites for the largest IGT down to five sites for the smallest IGT. Each IGT was required to complete a spreadsheet for each site to enable the calculation of the Transco equivalent charge for the site. The IGT was also asked to provide the transportation charge for each property type, and if applicable the average up-front connection charge and any payments made to or received from the sites'

original developer. The charging template together with the guidance notes, which outline how to complete the spreadsheet, are included in Appendix 4. On receipt of the data Ofgem was able to calculate the annual transportation charge – from the CSEP to the SSP - for each of the IGT sites.

3.6. The structure of IGT charges is determined by the specific methodology or methodologies employed by the IGT. Generally IGTs determine their transportation charges on the basis of SLC 4C together with SLC 4, or on the basis of SLC 4 alone.

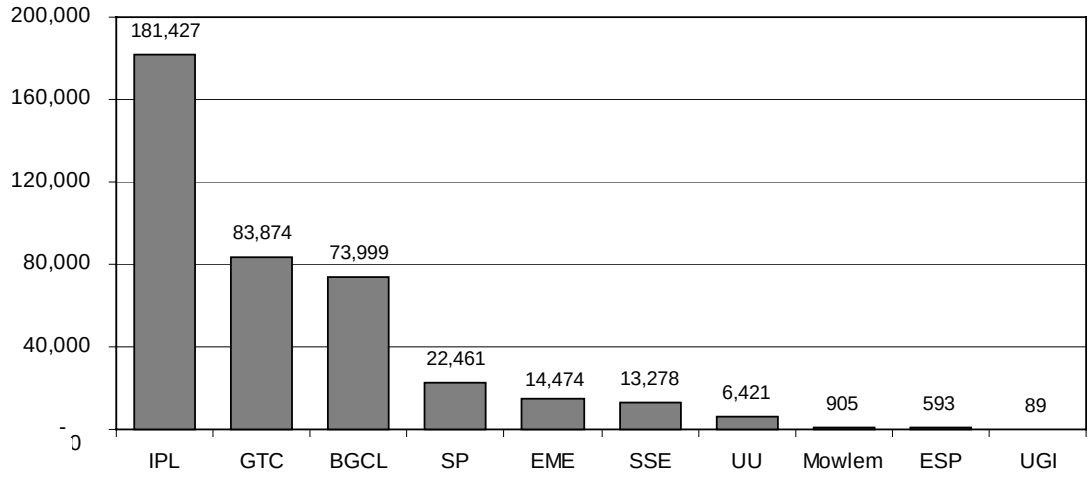
3.7. Each IGT site charge was then compared against the Transco equivalent charge, which was derived from Transco's April 2002 charging model (located on its website). The model can be used to calculate the difference between Transco's charge to a comparable supply point (SP) and to the local CSEP, based on the NExA AQ. This calculation was repeated for each supply point on each of the IGTs' sites and these were then summed to find the total Transco equivalent site charge.

3.8. Each IGT was given the opportunity to validate and comment on the results. Issues identified by the IGTs were considered and addressed where appropriate.

3.3 Results of the charging analysis

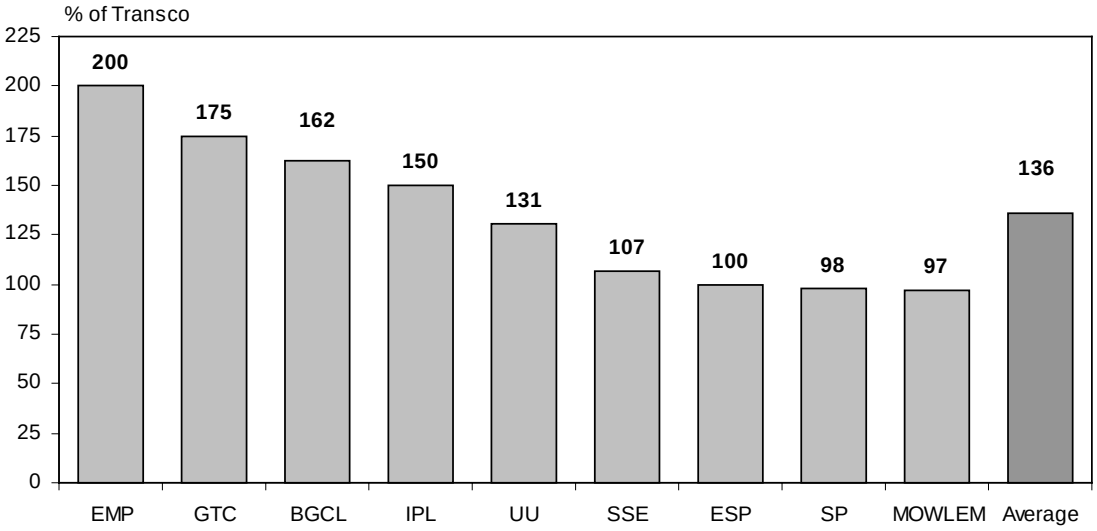
3.9. In order to assess the implications of the charging analysis it is appropriate to bear in mind that some IGTs are much larger than others and so have the potential to have a greater impact on the overall interests of consumers. The number of connections for each IGT provides an indication of the scale of operation of each company. Figure 3.1 below indicates the number of existing connections by IGT as of December 2002.

Figure 3.1: Total number of connections by IGT at December 2002



3.10. The average charge levied by each IGT as a percentage of the Transco equivalent charge as of June 2002 is illustrated in Figure 3.2 below.

Figure 3.2: Average IGT charges versus Transco-equivalent charges



Notes:
1. This figure is based on a snapshot of charges as of June 2002 and is subject to change as IGTs and Transco revise their charging methodologies.
2. BGCL has proposed reducing its operating charge from January 2003 and this would reduce the average difference between BGCL's charges and Transco-equivalent charges by approximately 20 percentage points.

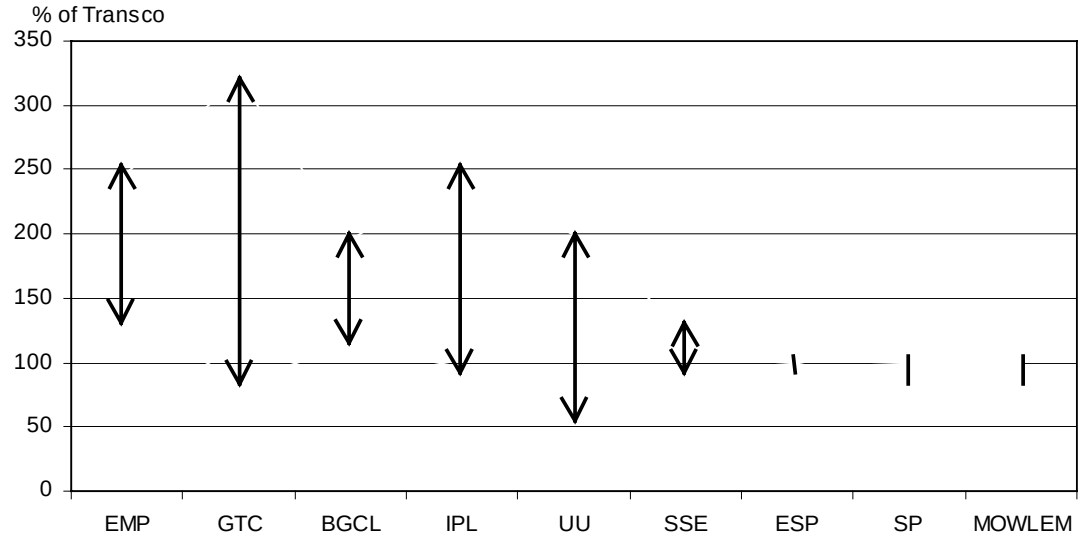
3.11. One of the most significant results from the charging analysis is that five out of the nine IGTs have average charges that are significantly in excess of the Transco equivalent charge. At the highest end, the average charge for EMP was found to be double that of Transco, while a further two IGTs (GTC and BGCL) were on average charging more than 160 per cent of the Transco equivalent charge.

3.12. Looking at two IGTs (Scottish Power and SSE) that aim to continually match Transco equivalent charges, the results from the charging analysis seems to confirm that Scottish Powers' methodology is effective while that of SSE slightly less so. SSE recorded an average charge of 107 per cent across its sample of sites, while ESP, Scottish Power and Mowlem were found on average to be charging the same as or slightly less than Transco.

3.13. One IGT said its higher charges reflect the fact that it does not charge an up-front connection charge and hence its transportation charge is used to recover the costs of connection. However only one IGT (ESP) levied up-front charges for the sites used in the charging analysis. Several IGTs are able to match Transco's charges without the need for significant up-front charges, which suggests that the recovery of up-front costs through transportation charges cannot alone explain the higher charges levied by some IGTs. Other factors - such as differences in cost efficiency, higher profits, payments to developers and differences in AQs – also contribute to the higher charges of some IGTs.

3.14. Figure 3.3 shows the range of charges levied by each IGT across the sites in its sample against the Transco equivalent charge.

Figure 3.3: Range of IGT charges versus Transco charge by site



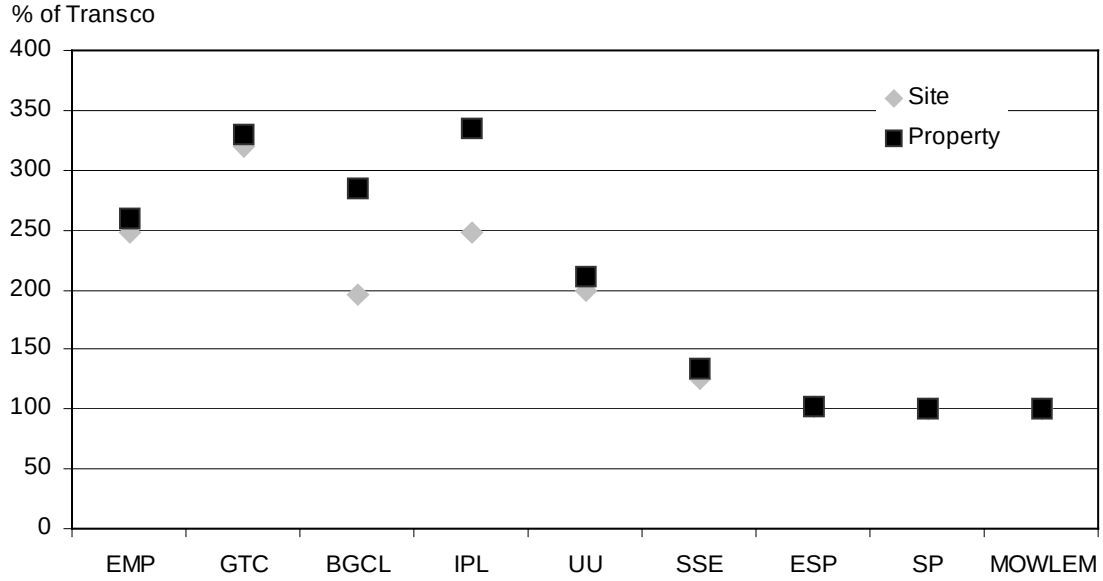
3.15. Five out of the nine IGTs have a relatively large range of charges. GTC has the widest spread in charges by site, ranging from 320 per cent of Transco's charge to 87 per cent of Transco's charge. However, it is worth noting that with the

exception of one particular site, charges for all of GTC's sites were found to exceed Transco charges.

3.16. Elsewhere, site charges for two other IGTs (EMP and BGCL) were found to exceed Transco's equivalent charge in every case, consistent with the high average charges seen in Figure 3.2. There is markedly less variation in the difference to Transco for both Scottish Power and SSE charges, which can be explained by their policy of tracking Transco's charges.

3.17. The above comparisons of charges between the IGTs against Transco have focused on the site level. Taking the analysis a step further, a comparison of charges was also conducted on the individual property bands for those sites found to be charging the highest over Transco for each IGT. The results showed that for most IGTs the maximum charges compared to Transco for the property bands were broadly similar to the overall difference for that particular site. However, this did not hold for IPL and BGCL where charges levied in respect of consumers in the property band with the biggest difference were significantly higher than the overall difference for the site.

Figure 3.4: Maximum charges by site and property



3.4 Factors behind the variation in charges

3.18. IGT charges may be higher than the Transco equivalent charges for the following reasons:

- differences in cost efficiency;
- higher profits;
- different charging methods;
- recovery of the costs of payments to developers;
- differences in the age of sites;
- asymmetries in the distribution of the IGT sites across geographic regions;
- differences in the average size of site; and
- differences in the Annual Quantities (AQs) used to calculate transportation charges.

3.19. Differences in cost efficiency are considered in chapter four. Given gas transportation is a monopoly activity it is not clear that differences in GT profits or charging methods should cause large and systematic differences in charges. These issues are discussed in more detail in chapter six.

3.20. The impact of the latter five of these factors has been explored as part of the charging analysis. The variation in charges was tracked against these five factors to see if there were any significant correlations. A brief summary of the findings of this analysis is presented below.

- **Payments to developers**. The analysis considered whether flows of payments between developers and IGTs have a bearing on the differences in charges. If IGTs are recovering the costs of excessive payments to developers then this would result in higher transportation charges. However, initial findings indicate little correlation between relative charging levels and the flow of money to and from developers.

- **Differences in the age of site**. The analysis aimed to establish if there was any significant correlation between the age of the site and the difference in charges. Older IGT sites might have higher charges for two main reasons. The first relates to those IGTs that align charges to Transco only at the point of bid, meaning that any subsequent drop in Transco's charges would not be accompanied by a corresponding fall in the IGT's charges. Secondly, for those IGTs that claim to use the NExA AQ for billing shippers, there might be higher charges for those sites that commenced charging prior to standard AQs coming into effect in 2000. However, the analysis suggests that there is little, if any, correlation between the age of the site and the level of charges incurred.

- **Geographic region**. There were no systematic differences in the relative price comparisons between IGTs and Transco across different regions of Great Britain.

- **Size of site**. The number of properties on each site did not provide a systematic explanation for differences in charging levels.

- **Use of AQs**. The use of inflated AQs by IGTs might result in transportation charges that are significantly higher than the Transco equivalent charge. In the analysis, an inflated AQ was identified as one that was in excess of the Transco NExA AQ for the same property type. The Transco NExA AQs came into effect in 2000, and although not compulsory, many IGTs choose to adopt them for billing purposes. Initial analysis indicates that in some cases sites with inflated AQs incur higher transportation charges than sites with AQs that match the Transco NeXA AQs. Further work may be required to confirm these results.

3.5 Implications for the IGT review

3.21. The results from the charging analysis indicate that the majority of IGTs are charging significantly more for the transportation of gas than would have been the case if Transco operated the same part of the network. These charges are levied on shippers/suppliers that may in turn seek to recover these costs from consumers. At least two suppliers (npower and SSE) have already introduced

additional charges to consumers on IGT networks. It is important that consumers are protected from any unnecessary increases in prices.

3.22. Another feature of existing IGT charging arrangements is the large level of variation in charges both between sites and between individual consumers. This suggests it may be necessary to better control the overall level and structure of IGT charges.

3.23. The analysis undertaken to explore the effect of possible factors (such as age of site, location and size) behind the variation in charges does not provide any obvious explanation for the differences.

3.24. There are several IGTs that appear to be able to sustain a viable business on the basis of Transco equivalent charges, even without making significant up-front charges. This raises the question as to what justification if any exists for those IGT charges that are significantly above the Transco equivalent charge. Chapter four assesses whether differences in relative efficiency might explain differences in charges.

4. Analysis of IGT cost efficiency

4.1. Chapter three suggests that IGT transportation charges are relatively high compared to similar charges made by Transco. This chapter sets out an assessment of the costs of IGTs and compares these costs with those incurred by Transco in similar situations. It then discusses the implications of this analysis for the review of IGT charging arrangements.

Structure of chapter

4.2. This chapter is organised into three sections:

- overview of the process supporting the cost analysis;
- initial cost analysis results; and
- initial conclusions.

4.1 Process supporting the cost analysis

Overview of the comparative assessment of relative cost efficiency

4.3. This analysis focuses on gaining a further understanding of the costs incurred by IGTs through network construction and acquisition. It compares up-front IGT capital and overhead costs to those of Transco and draws some initial conclusions on the implications for the future regulation of IGTs.

The comparative assessment of IGT costs

4.4. Transco was selected as the reference point for the comparison of IGT costs for similar reasons as for the charging analysis, set out in Section 3.2. Transco has substantial experience of constructing extensions to the gas network. In addition, Transco has full national coverage, with its contracts covering all regions in which IGTs operate. Transco is a natural comparator in the sense that if the IGTs did not exist, then Transco would provide and operate many of these extensions.

Reasons for variations in costs between the IGTs and Transco

4.5. In interpreting the results of this exercise, it is important to consider factors underpinning variations in costs. Cost differences may exist between GTs for a number of reasons including:

- efficiencies, both at the construction level and within the organisation;
- differences in cost allocations and attributions; and
- economies of scale factors (i.e. purchasing power may play a role in materials costs).

Selection of standard site profile used for the comparative exercise

4.6. In order to perform this analysis a selection of sites was identified from each IGTs portfolio. To facilitate accurate comparisons this selection process was constrained by stipulating the following criteria to characterise a typical site:

- sites containing only domestic properties;
- no multi-utility sites (i.e. gas connections only);
- sites comprising 20 to 80 properties;
- sites taking no more than three years to construct; and
- sites constructed between the years 2000 and 2002.

Selection of IGT sample sites

4.7. Each IGT was asked to undertake the analysis for either three or six sites. The IGTs were grouped into two size bands based on their total number of properties connected. The larger group was asked to complete six site questionnaires and the smaller group three site questionnaires. These were selected from the subset of sites used for the charging analysis, to facilitate cost and revenue comparisons. However, where sufficient numbers of typical sites were not available from the charging analysis, other sites were selected.

4.8. The selection process narrowed the scope such that six out of the ten IGTs were included in the analysis. It was not possible to include the other IGTs in the analysis since their sites did not conform to the typical site used for comparison. Of the six participating IGTs, three IGTs were selected to each submit details pertaining to six sites and three IGTs were asked to each provide information on three sites. The charging analysis includes the largest three IGTs, which are responsible for more than 85 per cent of IGT sites.

Overview of information request to IGTs

4.9. A site questionnaire, included in Appendix 5, was distributed to and completed by each participating IGT for each site. These questionnaires were returned together with a scale site plan for each site. The site questionnaire was organised into the following sections:

- site information – this included the site name, location and whether the site had been built or adopted. It also asked for the number of properties, property type and associated AQ for each year of construction;
- revenue – this asked for information relating to the transportation charges and revenue across a twenty-five year period, categorised by house type and by type of charge;
- upfront capital expenditure – this required information regarding upfront capital expenditure, disaggregated into its component parts and year of construction. Costs were separated into certain components (on site mains, off site mains, reinforcement mains, meters, services and connections, and miscellaneous costs). Costs were then further disaggregated within each of these components, including contractor charges, excavation costs and material costs. Other project specific capitalised costs were also identified such as design and marketing costs, along with any developer contributions;
- ongoing costs – this section of the questionnaire asked for projections of all ongoing costs expected to be incurred over the next 25 years. These were separated between ongoing operating expenditure and ongoing capital expenditure; and

- administration and overhead costs – this asked for any administration and overhead costs apportioned to the site together with an explanation of the allocations and attributions.

Transco's role in providing comparative costs

4.10. Upon completion of the site questionnaire the relevant construction and design information was despatched to Transco so that it could provide a comparable costing breakdown. Additional assumptions were made to maintain the equivalence and appropriateness of Transco's costing:

- to ensure consistency of comparison the Transco equivalent costs were estimated as per the IGT design, therefore design efficiency was not assessed;

- the feeder main and connected system exit point (CSEP) to the upstream GT were based upon the same geographical circumstances as at the point of construction; and

- the Transco equivalent costs were calculated at the midpoint of the IGT construction period.

Further assumptions

4.11. Several further assumptions were made to allow a like-for-like comparison between Transco's costs and those of the IGTs:

- since Transco's cost estimates include only capital expenditure and overhead costs incurred during the period of construction, IGT capital and overhead costs during the same period were included in the comparison (i.e. future estimates of IGT capital, operating and overhead costs were excluded);

- if a payment was made from a developer to an IGT then this sum was excluded from the cost analysis; and

- if a payment was made from an IGT to a developer for pre-excavation of trench, materials, and backfill, then this payment was included in the

IGT's costs and compared to an estimate of Transco's costs that included the same activities.

Validation of results

4.12. Each IGT was provided with the results of this analysis for each of its sites together with a validation checklist for their comment. The checklist required each IGT to confirm:

- that any discretionary allowances (marketing allowances paid by Transco for new sites) for any of the IGT sites were included in the costing spreadsheet;
- that all costs incurred, relating to feeder or approach mains and CSEP connection including reinforcement, were included in the costing submissions;
- that all developer contributions had been accounted for;
- that all capital expenditure values were calculated in nominal (money of the day) terms and that all revenue values and future costs were calculated in 2002 prices; and
- that the Transco total cost estimate allowed a reasonable comparison with the IGT estimates.

Caveats to the analysis

4.13. There are some limitations and caveats relating to this analysis. Issues to consider are:

- the relatively small sample size – this makes inter IGT comparisons particularly difficult;
- the assumptions that have been used throughout the process including, defining a typical site, assumptions regarding Transco's ongoing operating and capital expenditure, and the equivalent costing at the midpoint of construction;

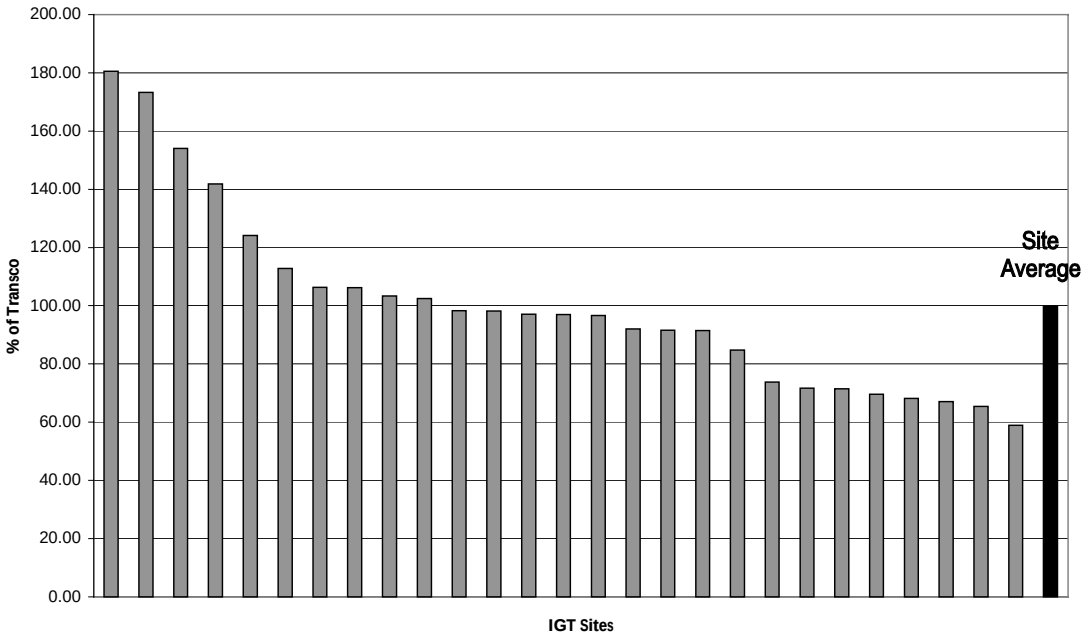
- the overhead costs submitted by the IGTs may not correspond to the same type of activities and costs included in Transco's overhead costs. Further analysis will be required to better inform the comparison of overhead costs; and

- some IGT costs may relate to specific site conditions (i.e. rock, imported backfill) that would not be accounted for in Transco's cost estimates.

4.2 Initial cost analysis results

4.14. For each of the 27 sites, the construction costs (capital expenditure and overhead costs incurred during construction) incurred either directly or indirectly by IGTs was compared to the Transco equivalent cost. Figure 4.1 below shows the initial results of this comparison.

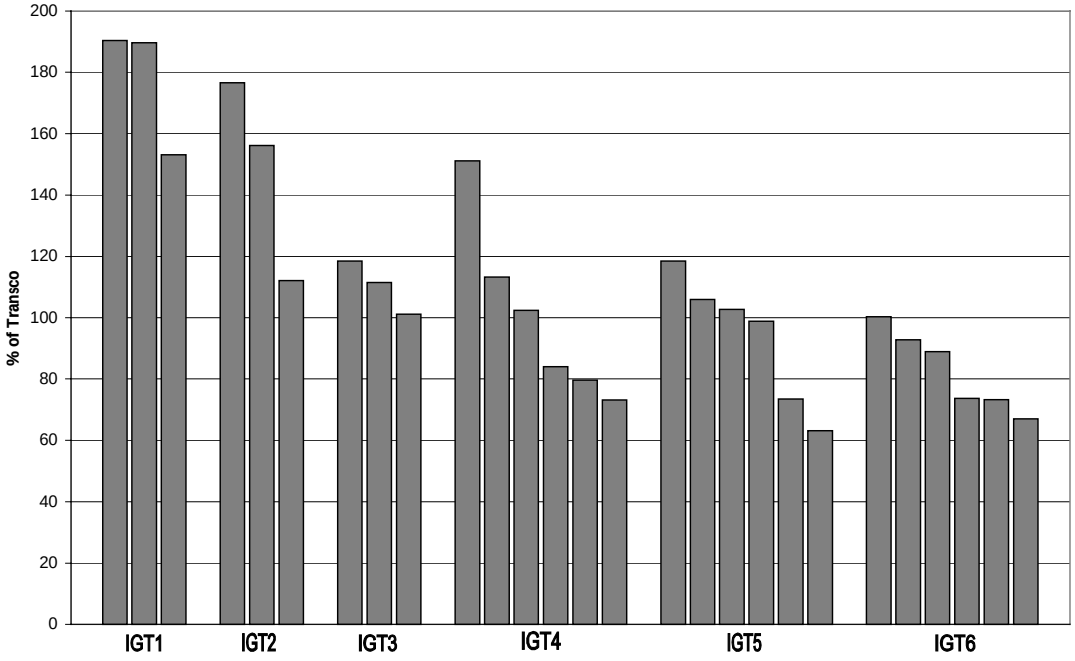
Figure 4.1: IGT site construction costs versus Transco equivalent cost



4.15. This graph shows a considerable range of costs but with only seven sites lying within five percent of the Transco equivalent. Over half of the sites fall within twenty percent of the Transco equivalent. The average IGT cost across all sites, as a percentage of the Transco equivalent, is almost 100 percent.

4.16. The site costs were then grouped by IGT to examine whether some of the site cost variation could be explained by inter-IGT differences. Figure 4.2 below shows the site costs as a percentage of the Transco equivalent by IGT.

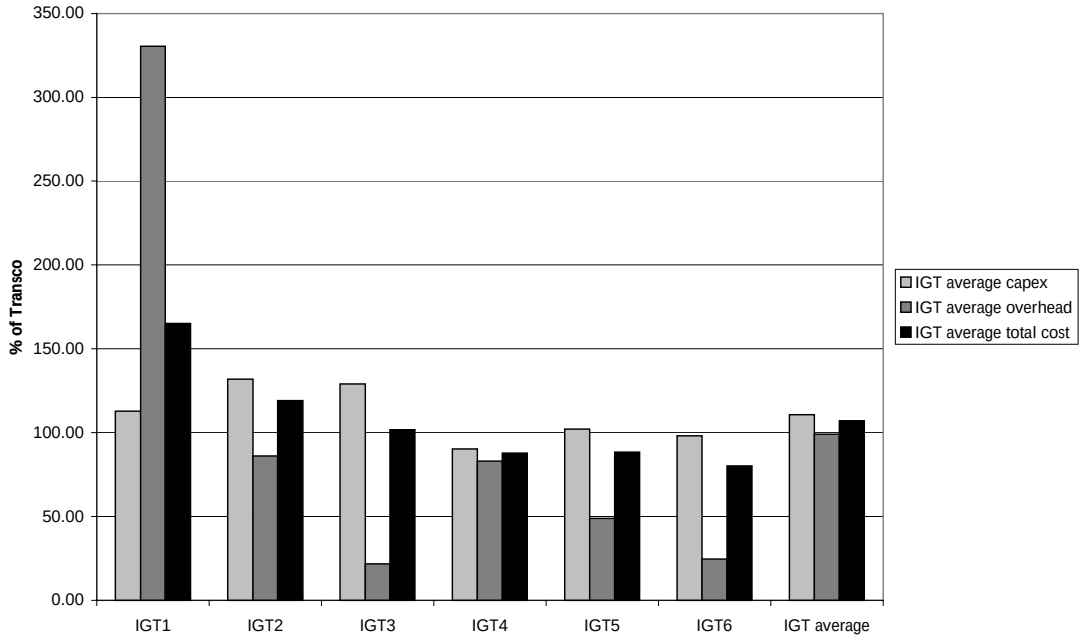
Figure 4.2: IGT site construction costs versus Transco equivalent cost



4.17. In the graph above, IGTs one to three are significantly smaller businesses than IGTs four to six. It appears that in general the smaller IGTs tend to incur higher costs than the larger IGTs. However, the small sample size used in this analysis prevents firm conclusions being drawn about economies of scale.

4.18. To refine this analysis, IGT costs were broken down into capital expenditure and overhead costs incurred during the construction period. This is particularly important given the caveats about overhead costs noted in paragraph 4.13. IGT capital expenditure and overhead costs were then compared to Transco's estimates of these two components for each site. Figure 4.3 below provides the results of this analysis.

Figure 4.3. Average IGT capital expenditure and overhead costs as a percentage of Transco equivalent costs



4.19. This graph shows that on average the capital expenditure of the larger IGTs (IGTs four to six) is marginally greater than that incurred by Transco. Capital expenditure for the smaller IGTs is both higher on average than Transco and more varied. IGT overhead costs varied significantly as a percentage of Transco equivalent costs, with all except one IGT incurring lower overhead costs than Transco on average.

4.3 Initial conclusions

4.20. The initial conclusions of the cost analysis are:

- IGTs incur broadly similar levels of costs to construct an equivalent network when compared with Transco;
- the larger IGT's have lower costs than the smaller IGTs; and
- IGTs may have lower overhead costs than Transco.

4.21. The cost analysis does not provide any significant evidence to support the need for IGTs to charge more than the equivalent Transco charges. Transco's charges also cover the costs of its extensive iron mains replacement programme. The IGTs do not face equivalent costs. Nevertheless, it is possible that if IGTs were

constrained to set transportation charges at a similar level to Transco's charges then they might seek to make higher upfront connection charges.

4.22. Views are invited on the scope of any further analysis that should be undertaken on charges, costs and profits. The intention is to complete any further analysis in time to inform final proposals.

5. Evaluation of options

5.1 Introduction

5.1. The May 2002 consultation set out the following five options for regulating IGTs' transportation charges:

A. increase the competitive pressure on IGTs;

B. introduce rate of return regulation for IGTs' gas transportation charges;

C. introduce formal price regulation for IGTs' gas transportation charges;

D. introduce relative price regulation for IGTs' gas transportation charges; and

E. develop a revised approach to enforcing the existing licence conditions.

5.2. A number of respondents suggested refinements to the proposed options, in particular option A, which included discussion of a competitive franchising scheme. In light of the analysis set out in chapters two, three and four, this chapter discusses the options for the future regulation of IGTs.

5.2 Initial assessment of options

5.3. **Option A, competitive franchise only:** this would require IGTs to competitively bid for a franchise to provide network extensions in a defined geographical area. The May 2002 consultation identified a number of weaknesses with this approach, including the limited experience with competitive franchising to date and the significant changes required for implementation. In addition, this proposal received little support from respondents, who cited concerns with the incentives on investment and the significant change to the current industry structure required to introduce franchising. Given the views of respondents this option will not be taken forward.

5.4. **Option A, excluding competitive franchising:** this would involve establishing a boundary between connection and transportation charges, extending the SLC 4A relevant methodology objectives to all methods of charging and modifying SLC 4C to apply in clearly defined circumstances. The separation of competitive

activities, such as provision of new connections, from the monopoly operation of gas networks would promote effective competition in the provision of connections through restricting the potential for cross-subsidy. This option could also limit overall profits of an IGT. However, this option would not directly address the problem of high transportation charges, and is not likely to promote efficiency or encourage efficiency gains to be shared with consumers. In addition, no respondents to the consultation supported the use of this option alone.

5.5. **Option A, excluding competitive franchising plus option E**: a number of respondents suggested that elements of options A and E could together provide greater transparency of ongoing transportation charges. However, there are a number of difficulties with the incentives created by the existing licence conditions and in a number of important areas obligations on licensees are either insufficient to protect the interests of consumers or are unclear. In addition, this approach would not directly control the level of IGT charges or provide incentive for IGTs to offer better levels of service.

5.6. **Option B, rate of return regulation:** this would involve introducing a formal boundary between transportation and connection charges and applying an allowed rate of return to capital expenditure associated with the monopoly transportation activities. There are a number of weaknesses with this approach, the majority of which were identified by respondents to the consultation who considered rate of return regulation a retrogressive step. The principal concern is the failure to promote efficiency, or share efficiency gains with consumers. This approach does not directly regulate charges to customers or provide incentives for quality of service. In addition, this approach may not promote greater transparency of IGT charging arrangements as it is concerned with overall profits, so further work on how IGTs structure their charges might be required.

5.7. **Option E, revised approach to enforcing existing licence conditions:** this would use existing licence conditions to address some of the issues raised in the consultation paper. In particular, this option would require Ofgem to clearly define the relevant objectives, including earning no more than a reasonable profit. There would be a number of difficulties of using this approach alone,

which include problems with harmonising current charging practices across IGTs, defining the relevant methodology objectives in an appropriate way and whether the existing licence conditions would be sufficiently robust to address the issues raised in the consultation. For example, the existing licence conditions are unlikely to adequately enable a clear charging boundary to be defined and promote efficiency amongst IGTs or to share such gains with consumers over-time. Very few respondents to the consultation supported the use of option E alone.

5.8. Eliminating the options above leaves option C, formal price regulation, and option D, relative price regulation, as the two most robust methods available to protect consumers' interests.

5.3 Discussion of two remaining options

5.9. Formal price regulation would involve the separation of connection and transportation charges and the price regulation of gas transportation charges. Relative price regulation would involve the setting of gas transportation charges by linkage to an external benchmark, such as Transco's charges. Each of the two remaining options could be implemented in a number of ways. Key parameters are summarised in table 5.1 and include:

- the starting point of the control, this includes the level at which the control is set and parameters that the control is applied to (i.e. total or average revenue);
- the path of revenue or charges over the period of the control;
- the period of review (i.e. the duration of the control before it is reviewed); and
- the basis on which the review shall take place, (i.e. reconciliation to an external comparator or adjustments to reflect relative or absolute performance).

Table 5.1: Price regulation options

Description of Control	Starting point	Path over control	Period of control	Basis of adjusting charges
Formal price regulation	♦ Price control could be set at: a) site level b) IGT level ♦ Set boundary between transportation & connection charges could be: a) deep b) shallow c) local ♦ Allowed transportation costs could be based on: a) actual costs b) assessed efficient costs c) standard efficient costs d) plus any pass-through costs (e.g. Transco connection charges) ♦ Profits based on fixed per cent cost of capital ♦ Control could be: a) total revenue control b) average revenue control (where IGT takes volume risk) c) price cap regulation ♦ Set design standards ♦ Set method for apportioning multi-utility project costs to gas ♦ Transportation charges could be: a) set by IGT based on defined principles b) set by prescribed method	♦ Indexation: a) RPI b) RPI – X per cent	Price control review could be undertaken: a) every five years b) every ten years c) rolling or set periods of review	♦ Reassess efficient costs ♦ Identify P_0 and X
Relative price regulation	Transportation charges could be based on: a) Transco equivalent charge b) Transco equivalent charge minus a fixed per cent	♦ Indexation: a) Track changes in Transco's charges b) RPI c) RPI – X per cent	Price control review could be undertaken: a) Every five years b) Every ten years c) At Transco price control review d) Rolling or set periods of review e) Review at five years based on performance and then at ten years to reconcile to Transco's charges	♦ Review Transco's structure of charges ♦ Adjust IGT charges based on: a) Transco's charges b) Transco's charges – X per cent c) IGT relative performance d) IGT absolute performance Performance measured by: IIP measures, supply competition, etc

Option C: Formal Price Regulation

5.10. To determine the **starting point of the control**, the following issues would need to be considered:

- **Control at IGT level or site level.** A control could be applied to revenues or prices at either the IGT level (i.e. company level) or at site-specific level. At the IGT level the control would be based on an assessment of costs for the whole IGT business. Once set, the control would apply to the overall revenue or prices charged by the IGT. A site level control would focus solely upon the costs incurred to develop and maintain an individual network extension. Site level charges would then be set on the basis of the costs allowed for each specific site. An IGT level control is unlikely to be suitable because IGTs are relatively new, small and rapidly evolving businesses, which would make meaningful projections of costs difficult.

- **Boundary between transportation and connection.** Appendix 1 sets out a number of possible definitions of boundaries to separate transportation from connection activities undertaken by a GT. A boundary would be necessary to identify the activities or assets that would be subject to a formal price control (the transportation activities) and those services that should be left open to competition.

- **Basis for cost evaluation**. There are three broad choices for specifying the allowed costs to be recovered by an IGT: a) actual costs, where the price control is set on the costs incurred by the IGT, b) assessed efficient costs, calculated by assessing ex-post whether actual costs were efficiently incurred and adjusting accordingly on a site by site basis, and c) standard efficient costs, based on benchmark prices for different cost categories, given agreed design standards, which would then set a cost allowance for each new network.

  Of these three methods, standard efficient costs are preferred since actual costs provides no incentive to achieve efficient costs and assessed efficient costs would be difficult to administer. Standard efficient costs would standardise the approach by setting cost allowances on a periodic

basis (perhaps every few years). Standard efficient costs would also offer more certainty to IGTs, as the published cost allowances would remain valid until the next review of standard costs.

- **Profits**. A reasonable return on a capital investment can be measured by the cost of capital. In February 2002 Ofgem published a consultation paper on IGT regulation and the cost of capital that set out a range for the reasonable cost of capital. An appropriate rate of return would need to be applied to the asset base of each new site.

- **Type of control**. A formal price control could be applied in three main ways: a) a total revenue control, where the amount of revenue earned by an IGT from an individual site cannot exceed a set amount within a particular period, b) an average revenue control, where an average revenue per unit of output is controlled and c) a price cap, where the control applies directly to a basket of tariffs. There are advantages and disadvantages to each type of control.

- **Design standards**. To derive the allowed revenue for each site based on standard efficient costs, it might be necessary to establish consistent design standards. Otherwise an IGT might have an incentive to under-invest, creating potential difficulties for consumers in the future.

- **Multi-utility networks.** It would be necessary to consider arrangements for multi-utility projects to ensure gas transportation costs were recovered in an appropriate way to avoid over-recovery of any common costs. The extent to which this might be necessary would depend upon the boundary between transportation and connection.

5.11. Once the allowed revenue for the formal price control is set, the **path over the control** would need to be specified. The movement of allowed revenue until the next review could either follow inflation (staying the same in real terms, by annually raising allowed revenue by the retail price index (RPI)), or fall in real terms by RPI – X. The X factor is usually a measure of expected future efficiency gains.

5.12. The **period of the control** would also need to be determined. For most price-controlled networks in GB the review period is typically every five years. It

might be appropriate that the review period for IGTs is shorter or longer than this, depending upon the stability of costs incurred by IGTs and the certainty with which future changes to cost drivers can be estimated. In addition, standard efficient costs would need to be reviewed periodically.

5.13. The **basis of adjusting charges** sets out the areas that would be open to review and the way in which the existing control would be adjusted. For example the price control review might need to consider the level of efficient operating costs and the cost of capital. The review of standard efficient costs might need to consider the relevant design standards applied to sites and changes to industry structure and practice.

Option D: Relative Price Regulation

5.14. The **starting point** of a relative price the control would relate to Transco equivalent charges between the connected system exit point (CSEP) and Single Supply Point (SSP). It might be appropriate that IGTs' charges are set at some level below the Transco equivalent charge. The amount by which IGTs could be expected to charge less than Transco will depend upon a number of factors, including their relative efficiency.

5.15. Once the starting point for relative price control is set, the **path over the control** must be determined. Broadly, the charges could either follow Transco's charges or take their own path until the next review period.

5.16. The **period of the control** is the duration between setting the starting point for the control and the implementation of new charging arrangements following a periodic review of charges.

5.17. The **basis of adjusting charges** sets out the areas that will be open to review and the way in which the existing control would be adjusted. For relative price regulation, the review could consider:

- if IGT charges continue to track Transco, whether any adjustments would be required;
- if any percentage efficiency factor remains at an appropriate level;

- if charges have followed their own path, whether they should be reconciled back to Transco; and
- if adjustments for absolute or relative performance are appropriate and if so to what extent.

5.4 Criteria to assess remaining options

5.18. To evaluate the two remaining options and select a recommended approach the following criteria have been used:

- **Criterion 1**: the objectives for the review and the main issues as set out in the May 2002 consultation paper, adjusted where appropriate to take account of the views of respondents;
- **Criterion 2**: whether the option is rational, proportionate and reasonable in addressing concerns with IGT charging; and
- **Criterion 3**: the practicability of implementing the option.

Criterion 1: Objectives of the review and main issues

5.19. The consultation paper set out two objectives for the review of GT charging:

- **Objective 1**: Promote effective competition where practicable, in the following markets:
  a) between connection providers;
  b) within gas transportation;
  c) between gas shippers; and
  d) between gas suppliers.
- **Objective 2**: Regulate where competitive pressure is not sufficient. This will involve:
  a) promoting efficiency of IGTs;

b) sharing efficiency gains with consumers to make sure consumers get value for money;

c) allowing a reasonably efficient IGT to make a reasonable profit and finance its activities;

d) promoting the efficient use of gas through cost-reflective charges; and

e) protecting the interest of consumers in rural areas

5.20. As discussed in Chapter 2, those respondents who commented upon the choice of objectives were broadly supportive of these objectives. Overall, the consultation responses suggested three main themes for the objectives of the review. First, consumers are best protected by a robust competitive market, particularly in respect of gas supply. Second, consumers should be able to make efficient choices when connecting to the gas network, and competition in the provision of connections must be effective. Third, gas consumers, shippers and suppliers should receive value for money for gas transportation services and be protected from monopoly charges.

5.21. The consultation issues 2, 7, 8 and 9 summarise the principle concerns expressed by respondents with the existing charging regime. Any proposed option should aim to address these issues. The issues are:

- **Issue 2**: Connection and gas transportation services are lacking clear and consistently applied definitions of: (i) the activities involved in each service, (ii) the costs (and relevant assets) of providing each service, and (iii) the structure of charges that separates the cost recovery of each service;

- **Issue 7:** The lack of transparency and consistency in IGT charging methodologies and statements may be distorting shipper and supply competition;

- **Issue 8**: There are insufficient incentives on IGTs to invest and operate efficiently; and

- **Issue 9:** There are insufficient incentives on IGTs to share efficiency gains with consumers, which may be reducing the value for money provided to consumers.

Criterion 2: Rationality, reasonableness and proportionality

5.22. The proposed approach should take account of due process, to ensure that the proposed form of regulation is rational, reasonable and proportionate to the scale and scope of the issues identified with IGT charging. The approach should be sufficient to meet Ofgem's main concerns and justifiable as a rational response to these concerns based on sound economic principles and Ofgem's statutory duties.

Criterion 3: Implementation

5.23. The option chosen to regulate GT charges must be practicable and not unduly difficult to implement. A new regulatory regime may require substantial administrative changes by IGTs and shippers, both before and after changes take effect. The cost and time required to implement these changes are an important consideration.

5.5 Assessment of remaining options

Criterion 1: Objectives of the review and main issues

Formal price regulation

5.24. This option would establish a clear asset-based boundary between transportation charges, and associated activities, and connection services. Transportation charges could be derived from site-specific standard efficient costs and levied on shippers according to clear principles.

5.25. Formal price regulation offers incentives to achieve efficiency gains with IGTs able to outperform standard efficient costs and share efficiency gains with consumers through regular reviews of the level of standard efficient costs. However, standard efficient costs would not be completely cost reflective, as they would be derived from benchmark costs incurred for each cost item.

5.26. Formal price regulation would reduce the incentives on IGTs to make excessive payments to developers and cross-subsidies between connection and transportation services.

Relative price regulation

5.27. Relative price regulation would provide a consistent financial boundary between transportation and connection for all GTs, including Transco. Transco's charges are typically used to measure the relative performance of IGTs. Formalising this relationship would offer shippers and suppliers more certainty about on-going charges, and promote supply competition across all gas networks. It would also establish transparent and verifiable charges that should enable shippers to validate transportation charges. A number of shippers have emphasised that verification of IGT invoices is important to facilitate effective shipping and supply competition and the introduction of a uniform charging approach would address these concerns.

5.28. By capping charges relative price regulation would encourage IGTs to improve efficiency. In addition, all consumers would benefit from the regular reviews of the level and structure of Transco's charges. Relative price regulation would also directly protect customers from excessive transportation charges and limit excessive payments to developers to acquire networks.

Criterion 2: Rationality, reasonableness and proportionality

Formal price regulation

5.29. Formal price regulation offers a clear and transparent arrangement for the regulation of IGT charging. However, due to the scale of the regulatory burden on IGTs and Ofgem, some IGTs suggested it may not be proportionate.

Relative price regulation

5.30. This approach focuses upon the level of IGT charges, using Transco as price comparator, and offers customers clear verifiable charges. The reason for selecting Transco as a comparator for all IGTs for this exercise is that Transco is the largest GT and has substantial experience at constructing extensions to the gas network. In addition, Transco has full national coverage, with its contracts covering all regions in which IGTs operate. Finally, Transco is a natural

comparator in the sense that if the IGTs did not exist, then Transco would provide and operate many of these extensions.

5.31. The relative price regulation approach has an existing precedent in the form of the interim arrangements introduced to regulate SLC 4C charges. Also, several IGTs explicitly derive their charges from Transco-equivalent charges, either on a one-off basis or through continual reconciliation to Transco's charges.

Criterion 3: Implementation

Formal price regulation

5.32. A number of legislative changes would be required to introduce a formal price control. These could include introducing special or modified standard licence conditions and amending SLCs 4 and 4A to clearly set out the principles on which charges would be derived. In addition, a number of steps would be required to introduce the initial price control, these include:

- establishing a formal boundary between transportation and connection;
- establishing an efficient cost allowance for capital and operating costs;
- identifying the appropriate pass-through costs; and
- introducing principles to underpin charging methodologies for new sites.

5.33. Formal price control requires an on-going commitment by Ofgem and the industry to update cost allowances and all components of the price control. IGTs would be required to provide a range of information on costs, and allowed revenues earned under the control would need to be audited on a regular basis to ensure correct recovery of allowed revenue.

5.34. Taken together all this would suggest a relatively complex process to develop, implement and monitor formal price regulation.

Relative price regulation

5.35. A number of legislative changes would be required to modify SLCs 4 and 4A and possibly amend SLC 4C to restrict its scope to specific or exceptional cases. However, the proposal is relatively simple to implement and monitor, and is not

very different from the existing interim arrangements for SLC 4C charges. In addition, a number of IGTs currently follow Transco's charges or use them as a benchmark when establishing their own charges. Given the relatively simple requirements, the proposal could be implemented relatively quickly following licence changes and modification of existing charging methods.

5.6 Conclusions and recommendation

5.36. Both formal and relative price regulation would address many of the principles, objectives and issues raised in the May 2002 consultation paper. However, relative price regulation offers a more straightforward approach to the regulation of transportation charging and establishes a more transparent and verifiable charging structure. This should facilitate effective competition between shippers and suppliers for consumers across all gas networks, regardless of who operates them. Relative regulation has received the most support from IGTs, with some IGTs arguing that relative price regulation protects consumers while enabling them to offer connection services to the benefit of developers and other consumers who require a gas connection. In addition, a number of IGTs already levy Transco equivalent charges or explicitly account for Transco's charges in their methodologies.

5.37. Licence modifications would be required for both proposals. However, formal price regulation clearly stands out as requiring the bulk of licence modifications and a concentrated regulatory commitment to establish the control and monitor it over time. At present there is no clear estimate of likely compliance costs across the industry. Although a number of IGTs have suggested that formal price regulation might involve disproportionate costs.

5.38. Both formal price regulation and relative price regulation rely to some extent on data containing a number of averages, across regions, assets and customer types. The formal price control relies on underlying cost data, which reflect competitive pressure on costs to some extent. The underlying data would be drawn together to develop a matrix of average costs applied across a number of scenarios, from which charges would be derived. Relative price regulation pegs IGTs' charges to Transco's charges, which are also subject to a number of averages (e.g. new and old assets, pressure tiers etc). It is not clear that focusing on average costs (the formal price control approach) would generate a more

efficient outcome than focussing on average charges (the relative price control approach).

5.39. The advantages and disadvantages of each option are summarised in table 5.2 below.

Table 5.2 Summary of options

	Advantages	Disadvantages
Formal price regulation	♦ Allowed costs reflect incremental costs of network extensions ♦ Establishes a consistent asset boundary, restricting cross-subsidies and excessive payments to developers ♦ Promote efficiency by IGTs for transportation services ♦ Share efficiency gains with consumers ♦ Costs broadly consistent with underlying assumptions of Transco price control	♦ Requires significant regulatory involvement to establish the control ♦ Requires on-going regulatory involvement to update efficient costs and monitor charges ♦ May result in complex IGT charging arrangements
Relative price regulation	♦ Establishes transparent and verifiable charges ♦ Establishes consistent financial boundary, restricting excessive payments to developers ♦ Prevents or controls cost over-runs by IGTs ♦ Approach easily adopted by industry ♦ Relatively straightforward to implement	♦ IGTs may tend to focus attention on lower cost sites where they will tend to make higher profits

5.40. In the light of the above considerations it is intended to develop a system of relative price regulation. The following chapter addresses issues relating to the implementation of relative price regulation.

6. Proposed approach to IGT regulation

6.1. Chapter 5 sets out the arguments for adopting relative price regulation as the basis for the future regulation of IGT charging. Nevertheless, there is considerable flexibility as to the precise form of a relative price control. This chapter discusses the form and scope of a relative price control and presents some additional issues for consideration.

6.1 Form and scope of relative price control

6.2. Table 5.1, price control options, sets out four parameters that define the form and scope of the relative price control. The options within each parameter are discussed below and views invited on the preferred approach in each case.

Starting point of control

Choice of relative comparator

6.3. As explained in paragraph 5.30, there are a number of reasons for considering Transco as an appropriate comparator to IGTs. Transco is the dominant Gas Transporter in GB and has substantial experience developing new system extensions. Transco's charges are commonly used by shippers and other customers to compare transportation services offered by IGTs. In addition, for most new system extensions Transco can be considered the default service provider, in the sense that if IGTs did not exist Transco would develop and operate many of these extensions. Therefore, Transco's transportation charges are the most appropriate relative comparator against which to control IGT transportation charges.

Basis of comparison

6.4. IGTs' charges should be compared to a Transco equivalent charge that accounts for Transco's charges for transporting gas through the new gas system extension. This can be measured as the difference between Transco's CSEP charge and single supply point charge.

6.5. It is also necessary to specify whether the relative price control would be applied to charges at site or property level. The interim arrangements, introduced in December 2001, apply to charges made under SLC 4 and SLC 4C and require that the charges are no more than the Transco equivalent charge to the site. For domestic sites, this has been calculated on the basis of a weighted average of the AQ of all properties on a site. This approach is relatively straightforward to calculate and allows IGTs some flexibility in structuring charges across properties on each site. However, it would also be possible to set relative price controls at the property level. Either approach would need to be refined to ensure the comparison method is clear and straightforward to administer.

Level of relative comparison

6.6. The results from the charging analysis presented in section 3.3 suggest that a number of IGTs' charges are significantly higher than Transco's equivalent charges. Chapters three and four set out a number of explanations for these differences, which are summarised below.

- **Differences in cost efficiency**. The analysis of IGT cost efficiency set out in Chapter 4 suggests that IGTs incur broadly similar levels of costs to construct network extensions when compared with Transco. Any differences in relative efficiency that exist do not provide a rationale for IGT charges to exceed Transco charges. Consumers should pay charges that reflect no more than reasonably efficient costs.

- **Higher profits.** As discussed in Chapter 3, given gas transportation is a monopoly activity, higher profits are not a sufficient or reasonable justification for higher charges.

- **Different charging methods.** As discussed in Appendix 2, there is a wide range of different charging methods amongst GTs. Relative price regulation would replace the different methods presently used by IGTs. This would ensure a consistent financial boundary between transportation and connection services and promote effective competition between GTs (including Transco). In addition, reviews of

Transco's structure and level charges should ensure that Transco's (and hence IGTs') charges are reasonably cost-reflective.

- **Recovery of developer payments.** A relative price control will cap available income from any particular site, and would constrain the level of any excessive payments to developers.

- **Differences in AQs.** Some IGTs levy higher charges for transporting gas to certain categories of consumers due to the differing use of AQs. A relative price control would require all IGTs to adopt a uniform approach to measuring consumption for the purposes of billing shippers.

6.7. Present differences in charging arrangements do not appear to be explained by these factors and it is not clear that these factors need to drive future differences in charging arrangements. This suggests that to protect the interests of consumers, IGT charges should be the same as or less than Transco equivalent charges.

6.8. The rationale for setting IGT charges below Transco equivalent charges could include:

- sharing current IGT cost efficiencies with shippers and consumers;

- an assessment of achievable IGT future efficiency savings;

- allowing for additional costs incurred by shippers which operate across IGT networks; and

- to reflect potential future reductions in costs if IGTs' charges are fixed for a period of time.

6.9. If evidence indicated that IGTs' costs were significantly lower than Transco or that IGTs could achieve further efficiency improvements, there may be a case for a lower relative charge. However, the initial conclusions drawn from the cost analysis suggest that IGT costs are broadly similar to Transco's, although further work is required to confirm these conclusions.

6.10. A difficulty with setting IGT charges below those of Transco would be the possible effect on competition in connections. IGTs might have to recover more

costs through up-front charges, possibly distorting competition in the connections market.

Path over control

6.11. There are three broad options for the path of charges over the control period:

- continually follow Transco-equivalent charges;
- stay constant in real terms (follow RPI) until the next review; or
- fall in real terms until the next review.

6.12. The first case has the advantage of being easily verifiable by shippers and delivering uniform benefits to consumers through regulation of the level and structure of Transco's charges. However, such an approach may leave IGTs open to windfall gains or losses if unexpected changes to the level or structure of Transco's charges occur. Also, some IGTs have suggested that some degree of certainty about flows of income is necessary for them to properly finance the development of new networks.

6.13. One approach to address this requirement would be for IGT charges to follow Transco equivalent charges, but within a fixed tolerance of the initial starting point, to provide IGTs with more certainty about the recovery of revenue. IGT charges for any given site would have a minimum level that would be guaranteed over the period until the next review.

6.14. Charges staying constant in real terms would provide IGTs with a high degree of certainty with regard to revenue. An RPI path would ensure that, after the initial charge is set, shippers pay no more in real terms for transportation services. This approach gives certainty to the IGT until the next review but does not allow consumers to share in any efficiency gains made by IGTs during the period. It would also result in divergence between IGT and Transco charges between review periods.

6.15. In the third case, to deliver on-going benefits to consumers, charges could fall in real terms during the course of the review period. The indexation would be similar to an RPI-X control, with the X factor reflecting expected future efficiency improvements.

Period of control and the basis for adjusting charges

6.16. Three broad options are available to establish the period of control of the relative price control:

- set periods, for example every 5 or 10 years;
- rolling review; and
- phased review.

6.17. In the first case all charges are reviewed across all IGTs' portfolio of sites at a fixed point in time. Typically regulated network businesses are reviewed every 5 years. The period between reviews would be determined by considering the degree of certainty required by IGTs to develop their business' and the timely delivery of benefits to consumers, through sharing efficiency gains. The advantages of this approach include certainty for IGTs and consumers as to when the existing regulatory approach will be reviewed. Disadvantages arise from the possible uncertainty for IGTs developing sites near the end of a review period.

6.18. In the second case, rolling review, specific sites would be reviewed after a set period of operation such as 5 or 10 years. In effect, there would be an on-going review of at least some of an IGTs sites and respective charges each year. This approach would address the uncertainty that may face IGTs developing sites near the end of a fixed period of review, however, it would require a continuing process of review for some of the IGTs' sites.

6.19. The third case would involve phases of review where the different phases are conducted on a different basis. For instance, an initial review after five years could make adjustments based on IGT performance, followed by a full reconciliation to Transco's charges after another five years. The timing of phases could be based on either a set period or rolling review approach. For the initial phase, sites would be reviewed at a relatively early stage, no more than 5 years, with a fuller review some period later.

6.20. In adjusting charges, it may be appropriate to consider whether performance measures could be used. Such an approach would provide incentive for IGTs to

deliver specific types of benefits to consumers and shippers. The development of the Information and Incentives Project (IIP) for electricity distribution businesses[6] is an example of a recent approach to linking allowed revenue to specific performance measures. The IIP uses both absolute performance measures, for example number and duration of supply interruptions, and relative measures, for example the quality of telephone enquiry services.

6.21. Issues which should be considered before adjusting a relative price control based on IGT performance include:

- the scope of services for consumers and shippers, since the performance measures should be relevant to address the main concerns and requirements of consumers and shippers;
- the measurement and auditing of performance standards, as robust systems would be required which may be costly. Also, given the small size of IGTs, statistically robust comparison between them may be difficult; and
- price-quality trade-off, since the impact of the performance measures on the relative price control should reflect how consumers' value quality of service versus lower prices.

6.2 Additional issues

Review of structure of Transco's distribution charges

6.22. Transco's existing distribution charges are averaged across assets, geography and time and do not necessarily capture the exact use of particular assets by different classes of consumer at specific locations. The averaging of costs and charges blunts the cost-reflectiveness of price signals delivered to consumers. However, as discussed in section 2.3, the costs of developing a system of fully cost-reflective charges is often prohibitive.

6.23. These issues and a number of others have been raised by IGTs in the context of Transco's LDZ structure of charges. An appropriate balance of charges between

[6] See www.ofgem.gov.uk/newprojects/iip_index.htm

CSEP and supply point, which properly reflects the costs imposed by users, is important if a relative price control is to send efficient price signals to consumers and IGTs. Ofgem addressed a number of these issues in the March 2000 consultation document 'Review of Transco's LDZ charging methodology'. However, introduction of a relative price control may suggest that it is timely to consider a further review of Transco's LDZ charging objectives, methods and boundary between connection and use of system.

6.24. There are several options for the timing of a potential review of Transco's structure of charges:

- before the introduction of relative price regulation based on Transco's charges;
- after the introduction of relative price regulation based on Transco's charges; and
- after the introduction of relative price regulation based on Transco's charges but with provision for adjustments to be made for any charges set during the intervening period.

Non-domestic and rural infill sites

6.25. Relative price regulation is appropriate to protect consumers, especially the case of those in new housing developments who are not responsible for selecting the IGT network to which they are connected. However, non-domestic consumers and domestic consumers in infill areas may be in a position to select a connection provider and gas transporter. Consumers in these cases may wish to enter into agreements that increase ongoing transportation charges and reduce up-front charges. In these cases relative price regulation may be an unnecessary constraint on consumers' ability to negotiate the level of up-front connection charges and on-going transportation charges. These cases could be addressed through either a derogation for the IGT such that it is not constrained by the relative price control in clearly defined circumstances or, through annualised connection charges offered by the IGT/UIP.

Annualised connection charges

6.26. As noted above, there may be some circumstances where certain consumers wish to enter into agreements that result in lower upfront connection charges and higher ongoing charges. In these cases, it may be appropriate for the consumer and IGT to negotiate for the payment of connection charges over time through *annualised connection charges*. In this way, the consumer and IGT could agree part payment of the connection charge up-front and the remainder to be paid over a number of years. This would allow consumers to smear the costs of connection over time but would not distort the charges made to shippers. In addition, the consumer would be fully aware of the arrangements and could make an informed choice as to whether a gas connection is cost effective.

Use of standard AQs

6.27. Annual quantity is a measure of gas consumption. It is used by IGTs and Transco to manage the Network Exit Agreements (NExA), that set out the terms of use for off-take of gas at a CSEP, and to invoice shippers where a charging method contains a consumption component. At present there is no uniform approach amongst IGTs to the use or estimation of AQs. However, many IGTs have adopted a standard matrix of AQs by domestic property type for use as part of the NExA and these standard AQs have been used as part of the SLC 4C interim arrangements.

6.28. Use of different measure of AQ for billing shippers can result in higher charges to shippers and difficulty for shippers to validate invoices. Overstating AQs may also enable a GT to earn more revenue, which may not be appropriate as such revenue reflects different processes or measurements rather than efficiency savings. It is apparent that there would be value if standard NExA values or some other appropriate and agreed measure of consumption were adopted by all IGTs for billing purposes.

Unbundling of metering and meter reading charges

6.29. Transco has formerly separated charges for its metering and meter reading services from those for other transportation services, and hence Tranco's

transportation charges do not recover the costs of these services. In some cases IGTs' transportation charges include the provision of a number of metering or meter reading services through a bundled charge. In other cases, IGTs charge separately for these services. Transco-equivalent charges account for transportation services alone and it may be appropriate to require IGTs to unbundle meter charges to make them more transparent and comparable to Transco's charges.

Governance of IGT charging arrangements

6.30. A number of shippers have complained about the existing range and form of IGT invoicing methods. At present, the ease with which a shipper can validate charges made for gas transportation varies but in no case does it appear to be straightforward. It will be important to consider what changes are necessary, including processes and data flows between IGTs and shippers, to ensure transportation charges made under a relative price control can be properly validated. This may include standardisation of invoicing across all IGTs.

Incentives and low cost sites

6.31. As noted in Chapter five, relative price regulation may encourage IGTs to focus attention on lower cost sites where they will tend to make higher profits. Further work on the analysis of IGT costs may cast additional light on these issues. It might also be possible to address these incentives in the review of the structure of Transco's distribution charges. In any case these distortion do not appear to outweigh the overall advantages of relative price regulation.

6.3 Summary of consultation issues

6.32. Views are invited on any aspect of the recommended approach, analysis and discussion set out in this chapter. In particular views are invited on the specific recommendations and issues set out below:

- that Transco is the most appropriate comparator against which to set a relative price control for IGTs;
- that IGT charges should be compared to Transco's incremental equivalent charges from CSEP to SSP;

- whether application of the relative price control should focus on site level charges or property level charges;
- the level of the relative price control, equivalent to Transco or below Transco;
- the path of charges over the relative price control, whether charges should track Transco's charges (possibly with fixed floor prices) or follow their own path between reviews;
- the scope and timing of the review of the relative price control, should reviews be based on set periods, rolling reviews or phased reviews and the length of time between reviews;
- the basis of the review, including whether performance measures are appropriate;
- whether a review of Transco's current structure of charges should be undertaken, including whether these charges provide the appropriate price signals to IGTs and consumers;
- whether any such review of Transco's charging structure should occur before or after the introduction of a relative price regulation and whether adjustments should be made to charges levied in the interim;
- whether the relative price control should apply to rural infill and non-domestic sites;
- whether annualised connection charges would be appropriate for non-domestic sites and infill sites as necessary;
- the most appropriate measure or approach for AQs used in determining transportation charges;
- whether metering and meter reading charges should be unbundled and clearly excluded from transportation charges, especially if Transco is used as a comparator;

- whether clear governance arrangements need to be put in place to ensure easy validation of IGT charges, including standardised invoicing by IGTs; and
- whether incentives for IGTs to focus on low cost sites is outweighed by the overall advantages of relative price regulation.

7. Treatment of legacy sites

7.1. Chapter 6 sets out draft proposals for the future regulation of IGT charging and identifies a number of remaining issues for consultation. It is envisaged that these new arrangements will come into effect after the publication of Final Proposals in the Spring 2003 and will apply to any new sites bid for or constructed after this time.

7.2. There would remain a significant number of legacy sites that would pre-date the new arrangements. It is also appropriate to consider whether revised arrangements for the treatment of legacy sites should be introduced. Where practicable these arrangements should lead to the consistent treatment and regulation of legacy sites with new sites. Possible arrangements for legacy sites are set out in this Chapter.

7.3. Where Ofgem has already given explicit consent for long term charging arrangements, there is limited scope for imposing new arrangements on companies. For example, SLC 4C methods specify charges for up to 20 years and are accepted on a site-by-site basis. However, Ofgem would need to consider carefully whether leaving existing arrangements in place is consistent with its principal objective.

7.1 Summary of existing arrangements

7.4. In general, IGTs' current transportation charges are based on either the use of SLC 4C and SLC 4 together or the use of SLC 4 alone. Ofgem has introduced arrangements for the regulation of both SLC 4C and SLC 4 transportation charges, as discussed below.

Arrangements for charges made under SLC 4C

7.5. Ofgem has introduced Interim Arrangements for all applications for charging methodology acceptances under SLC 4C received after 7 December 2001. These Interim Arrangements have established criteria for acceptance of SLC 4C methods for new gas networks. These criteria require that the combined SLC 4 and SLC 4C charges for transporting gas to IGTs' sites should not exceed the equivalent charge levied by Transco to similar sites on its network. These

arrangements will remain in effect until this review has been completed and new arrangements put in place.

7.6. The letters setting out these arrangements (dated 15 November 2001 and 24 December 2001) are located on Ofgem's website under the IGT Review.

7.7. These arrangements stipulate that charges should be based on the standard AQ. In subsequent years they will be allowed to vary with changes in the retail price index. Therefore, the interim arrangements will not require charges to be changed to reflect future movements in Transco's charges.

7.8. Approvals for charging methods that do not comply with these conditions will only be given in exceptional circumstances, such as for certain rural infill projects. No such approvals have yet been given.

7.9. There are no comparable arrangements in place governing SLC 4C charges for sites submitted prior to 7 December 2001.

Arrangements for charges made under SLC 4

7.10. SLC 4A requires that SLC 4 charging methods shall result in 'charges which, taking one charge with another and one year with another, permit the licensee to make a reasonable profit, and no more, from its transportation business...'[7].

7.11. Ofgem published a consultation paper on IGT charges and the cost of capital in February 2002. Views were invited on the overall approach to establishing the cost of capital and on the proposed range for the cost of capital for IGTs charging under SLC 4. A summary of the responses to this paper was published in the May 2002 consultation paper.

7.12. Ofgem has given careful consideration to the points made by respondents and Ofgem has carried out further analysis of the cost of capital. Ofgem wrote to all IGTs on 29 November 2002, setting out its interpretation of reasonable profit in SLC 4A. This letter is located on Ofgem's website under the IGT Review. It indicates that revised arrangements for the definition of reasonable profit should come into effect on 1 April 2003 and requests comments on any aspect of these matters by 27 January 2003.

[7] SLC 4A(6)

7.13. The letter suggests that returns above the range for the cost of capital (excluding the small company premium) set out in the February paper 2002 would appear to be a breach of SLC 4A for IGTs charging under SLC 4. The top of this range was a real pre-tax cost of capital of 7.7 per cent and the present intention is that this would form the basis for assessing reasonable profits. The letter also discusses how costs and revenues should be dealt with in calculating rates of return and judging compliance with SLC 4.

7.14. Ofgem has also indicated to all IGTs (in letters on 22 April 2002 and 12 November 2002) that the calculation of costs and profits for SLC 4 must exclude any excessive payments to developers that do not reflect the market value of goods and services provided by the developer to the GT.

Interaction between arrangements for SLC 4C and SLC 4 charges

7.15. Where IGTs use both SLC 4C and SLC 4 for setting transportation charges, they will be subject to both sets of arrangements set out above. The combined SLC 4 and SLC 4C charges for transporting gas to individual IGT sites (from 7 December 2001) should not exceed the equivalent charge levied by Transco to similar sites on its network. In addition, all SLC 4 costs and charges, taken together, should result in no more than a reasonable profit.

7.2 Arrangements for migrating legacy sites into the new arrangements

7.16. In future IGT charges would be based on one of the following sets of arrangements:

- where charges are based on SLC 4 alone;
- where IGTs charge on the basis of pre 7 December 2001 SLC 4C arrangements (that may include an SLC 4 component);
- where charges conform to the SLC 4C Interim Arrangements; and
- where charges conform to the revised arrangements that are formalised as part of this review.

7.17. It would be beneficial for shippers, consumers and the IGTs if the disparity between the different sets of arrangements could be minimised and a degree of harmonisation achieved. The options for addressing this issue include, but are not limited to, the following:

- maintain the existing arrangements by ring-fencing the costs and charges of legacy sites and maintaining the existing SLCs for regulating these sites;
- allow IGTs to migrate legacy sites to the new arrangements as and when they judge it to be appropriate; and
- provide a timetable for phasing in the new arrangements for existing sites. If an IGT chooses not to participate in the proposed arrangements then these sites would be ring-fenced under the existing arrangements.

7.18. The latter approach may be appropriate where IGTs charge on the basis of pre 7 December 2001 SLC 4C arrangements. These arrangements typically stipulate higher transportation charges for 20 or 25 years while capital costs are recovered, followed by significantly lower charges thereafter. If IGTs were given discretion as to when they could migrate these sites to the new arrangements, they may benefit from delaying migration until the end of the capital recovery period. This could result in increasing charges during a period when charges would otherwise be lower. In these cases, it may be appropriate to only allow migration to the new arrangements during a fixed time period (i.e. during the first ten years after a site is constructed) to deliver benefits to consumers.

7.19. Ofgem welcomes views on which approach to take and how best to achieve harmonisation between existing and future IGT charges.

8. Financial ring-fencing of IGTs

8.1. Financial ring-fencing provisions apply to licensed electricity distribution companies, electricity transmission companies and Transco. These provide important safeguards for the financial stability of these licensed companies and protect the licensee against financial pressures that might arise elsewhere in its group. There are two advantages for consumers in these arrangements:

- they should provide protection from certain events that might otherwise lead to the insolvency of the licensee and so protect consumers from the associated uncertainty and possible disruption; and
- they should allow the licensee to retain access to financial markets on reasonable terms and so facilitate the funding of future investment programmes.

8.2. At present SLCs relating to financial ring-fencing are contained in Section C of the GT licence. At present Section C conditions only apply to Transco. In order for these conditions to apply to IGTs it would be necessary for Ofgem to issue a Transportation Services Direction (conditional on consent from the licensee) pursuant to SLC 2 of the GT licence or propose a formal licence modification.

8.3. Issues relating to financial ring-fencing were not addressed in the May 2002 consultation paper on the regulation of IGTs. Nevertheless, given the importance of these matters it is appropriate that they should be considered alongside draft proposals for regulating the future charging arrangements of IGTs. Given that the extension of financial ring-fencing conditions to IGTs has not been the subject of earlier consultation then the suggestions for new arrangements set out in this chapter should be considered in the context of an initial consultation rather than as draft proposals.

8.4. The existing financial ring-fencing conditions restrict the activities of the licence holder and the uses for which it may raise and put financial resources. The conditions impose duties on the licensee relating to:

- the conduct of its business;

- the maintenance of adequate resources and of ready access to additional finance at reasonable cost (i.e. the maintenance of a investment grade credit rating);
- the payment of dividends;
- the basis of transactions with affiliates;
- the avoidance of cross-default obligations; and
- the obtaining of certain undertakings from its ultimate holding company or companies.

8.5. Companies licensed to operate gas and electricity networks have significant monopoly power and provide an essential service to consumers. In these circumstances regulation is needed to protect the interests of consumers. Financial ring-fencing conditions are an important part of these protections and as noted to paragraph 8.1 provide substantial advantages for consumers. While IGTs have fewer consumers connected to their networks than other licensed network operators it is not clear that the regulatory arrangements pertaining to IGTs should be any less effective than for these other licensees. This together with the importance of financial ring-fencing suggest that these arrangements should also apply to IGTs.

8.6. The GT licence Section C SLCs relating to financial ring fencing are:

- SLC 43 – restriction on activity and financial ring fencing;
- SLC 44 – availability of resources;
- SLC 45 – undertaking from ultimate controller;
- SLC 46 – credit rating of licensee; and
- SLC 47 – indebtedness.

8.7. Taken together these provide important safeguards for the financial stability of the licensed company and so for the protection of the interests of consumers. The full text of these SLCs is set out in Appendix 6. A brief summary of the conditions is set out below.

SLC 43 – Restriction on activity and financial ring fencing

8.8. SLC 43 prohibits the licensee, subject to certain exceptions, from conducting any business or carrying on any activity other than gas transportation. It also prevents the licensee, without the written consent of the Authority, from holding or acquiring shares or other investments except for:

> '(a) shares or other investments in a body corporate the sole activity of which is to carry on business for a permitted purpose;
>
> (b) shares or other investments in a body corporate which is a subsidiary of the licensee and incorporated by it solely for the purpose of raising finance for the transportation business; or
>
> (c) investments acquired in the usual and ordinary course of the licensee's treasury management operations, subject to the licensee maintaining in force, in relation to those operations, a system of internal controls which complies with best corporate governance practice as required (or in the absence of any such requirement recommended) from time to time for listed companies in the United Kingdom.'

8.9. Nevertheless, the licensee is able to undertake de-minimis business provided that limitations on the turnover (2½ per cent of transportation business turnover) and investment (2½ per cent of the sum of the licensees share capital, share premium and consolidated reserves) of these activities are not exceeded.

SLC 44 – Availability of resources

8.10. SLC 44 requires each licensee to 'at all times act in a manner calculated to secure that it has sufficient management resources, financial resources and financial facilities to enable it -

> (a) to carry on the transportation business; and
>
> (b) to comply with its obligations under this licence and such of its obligations under the Act as apply to the transportation business.'

8.11. Each licensee must submit an approved certificate to the Authority each year, which confirms that the directors have a reasonable expectation that the licensee

will have available to it sufficient financial resources and financial facilities to carry on the transportation business for the next year.

8.12. SLC 44 also prevents the licensee from paying dividends or making other forms of distribution without first issuing a certificate to the Authority that confirms that the licensee is in compliance with SLCs 24, 43, 44, 45, 46 and 47 and the making of the distribution will not cause it to breach any of these obligations in the future.

SLC 45 – Undertaking from ultimate controller

8.13. This SLC requires the licensee to procure a legally enforceable undertaking from the ultimate controller of the licensee that it will refrain from any action, and will procure that any person which is a subsidiary of or controlled by the ultimate controller will refrain from any action, which would be likely to cause the licensee to breach any of its obligations under the Act or the GT licence.

SLC 46 – Credit rating of licensee

8.14. SLC 46 requires the licensee to use all reasonable endeavours to ensure that it maintains at all times an investment grade issuer credit rating.

8.15. This condition was designed bearing in mind the circumstances of Transco and the existing electricity distribution and transmission licensees. These are all relatively large companies. Most IGTs are significantly smaller than these companies and it might be more difficult for smaller companies to comply with the requirement to maintain an investment grade issuer credit rating.

8.16. For any new electricity distribution licence holders Ofgem has suggested creating a special licence condition based on the existing SLC 46 but modified to allow Ofgem to give consent to alternative financial arrangements for compliance. It may also be appropriate to apply this modified version of SLC 46 to the IGTs.

8.17. Alternative financial arrangements that Ofgem would consider giving consent to might include an appropriate 'keep well' agreement. This would be a formal and legally binding agreement from an entity that has and agrees to maintain an investment grade issuer credit rating. The agreement would typically be an

undertaking given by a parent company in favour of its subsidiary. The parent would have to guarantee to make available to the subsidiary whatever financial resources are from time to time necessary for the subsidiary to maintain a minimum surplus of assets over liabilities and or a minimum level of liquidity. The licensee would need to be obliged to follow Ofgem's directions with respect to the enforcement of the undertaking.

SLC 47 - Indebtedness

8.18. SLC 47 restricts the ability of licensees from creating mortgages or other forms of security or encumbrance guaranteeing obligations of other persons, or undertaking any indebtedness to any other person, other than on certain specified terms and for a permitted purpose.

Summary

8.19. Currently, IGTs are not subject to financial ring-fencing provisions. It may be appropriate to extend financial ring-fencing provisions to IGTs. One approach would be to move SLCs 43 to 47 (including a modified SLC 46) from Section C to Section B of the GT licence. All GT licensees would then need to comply with these obligations.

8.20. Views are invited on any aspect of the issues raised in this Chapter and in particular on whether:

- financial ring-fencing provisions should apply to IGTs;
- the existing financial ring fencing provisions set out in SLCs 43 to 47 would be appropriate given the circumstances of IGTs;
- SLC 46 should be modified as suggested in paragraphs 8.16 ;
- the suggestions for keep well agreements in paragraph 8.17 are appropriate; and
- there should be any other changes to financial ring-fencing provisions for IGTs.

9. Way forward

9.1. Following publication of these draft proposals, Ofgem's review of IGT charging will:

- continue consultation with IGTs, shipper/suppliers and other interested parties on the proposals set out in this paper;
- consider what further analysis of IGT costs and charges is appropriate in the preparation of final proposals. Further analysis of IGT lifetime costs and revenues and comparison where possible to Transco's equivalent costs and revenues may be undertaken;
- consider responses received to this paper and to the 12 November 2002 letter setting out Ofgem's interpretation of reasonable profit for charging under SLC 4;
- consider whether and, if so, when to initiate a review of Transco's structure of distribution charges; and
- publish final proposals for the regulation of IGTs in the second quarter of 2003.

Appendix 1 : Boundary between connection and use of system of charges

1.1 In each of the gas and electricity network businesses – gas transportation, electricity transmission, and gas/electricity distribution – there is an established boundary between those activities and costs that are considered to be connection, and those that are considered to be use of system. Generally, some proportion of connection costs is recovered through up-front charges to the party requesting the connection, with any remainder recovered over time. Most use of system costs are recovered over time through use of system charges to the users of the network.

1.2 There are two broad approaches used to establish a boundary between connection and use of system charges. These approaches are:

- **Physical boundary** – which specifies those assets to be included in deriving connection charges and those to be included in setting use of system charges; and
- **Financial boundary** – which specifies a financial limit on either connection or use of system charges, with remaining costs recovered through other charges.

1.3 Using a physical boundary, there are five methods that are used to derive charges for connection to a network system. These methods are:

- **Deep connections charging policy** – involves the recovery of the total costs that will be incurred as a result of connecting new load or generation to the system, including all costs of network reinforcement, through an up-front connection charge;
- **Shallow connections charging policy** – involves the recovery of the costs of connection assets through an up-front connection charge, and the recovery of all reinforcement costs though use of system charges;
- **Local connections charging policy** – involves the recovery of only the costs of the service line or cable required to connect a customer to the

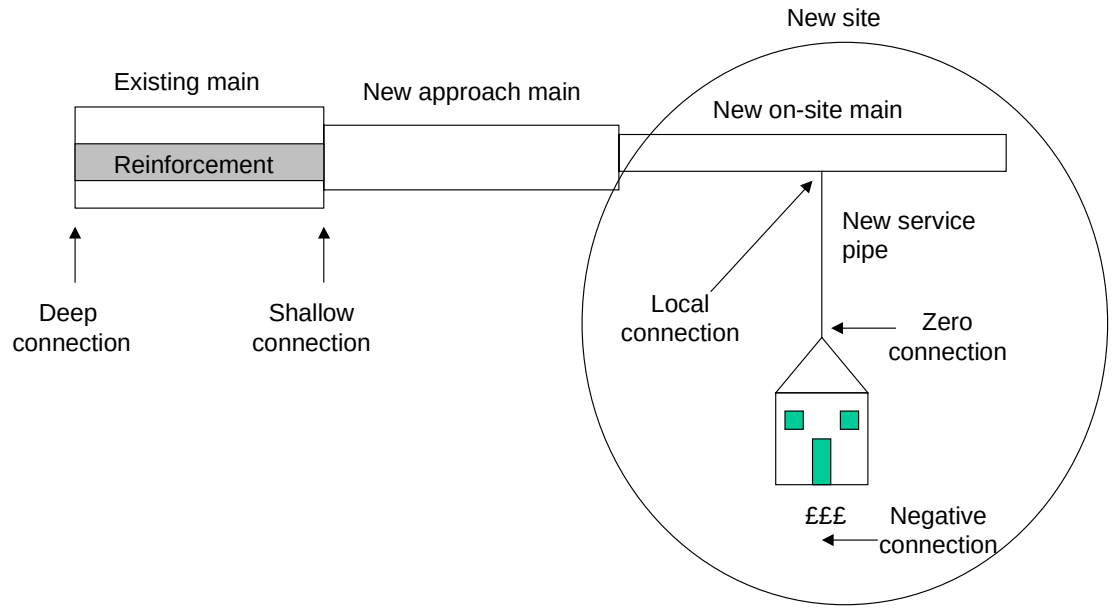
system, and excluding the costs of extension and reinforcement of the system, through an up-front charge. The remaining extension and reinforcement costs are recovered through use of system charges;

- **Zero connections charging policy** – involves the recovery of all connection, extension and reinforcement costs through use of system charges, with zero upfront connection charge; and

- **Negative connections charging policy** – involves a negative charge for connection (i.e. a payment made to the party requesting the connection), and the recovery of this payment together with all connection, extension and reinforcement costs through use of system charges. If the payment does not accurately reflect the value of any good or services rendered by the party requesting connection, this practise is not in the interest of the party paying the ongoing charges.

1.4 These five types of physical boundary are illustrated for the case of an extension of the gas distribution network to a new domestic site.

Figure A1.1: Types of physical boundary for gas distribution extension



1.5 The table below summarises some of the main advantages and disadvantages of each type of connection charging policy.

Table A1.1 Advantages and disadvantages of connection charging policies

Policy	Advantages	Disadvantages
Deep	• Produces cost-reflective connection charges and strong locational price signals to users • Provides investment signals to network owners to encourage efficient investment • Minimises risk of stranded assets for network owner	• Imposes all reinforcement costs on the marginal user that triggers reinforcement • May discourage new connection to the network • Lack of mechanism to reflect changing load patterns in charges over time
Shallow	• Reflects the costs incurred near the point of connection • Produces some locational price signals to users • Ongoing charges allow changing load patterns to be reflected in charges over time • Simplicity of application may facilitate competition in the connections and supply markets	• Increases costs of network companies • Increases the risk of stranded assets for network owner
Local	• Ongoing charges allow changing load patterns to be reflected in charges over time • May protect users in longer term since greater proportion of costs covered under price controls	• Does not provide locational price signals to users and may result in inefficient connection to the system • Significantly increases the risk of stranded assets for network owner • May reduce competition in connections market by reducing scope of activities open to competition
Zero	• Same as Local	• Same as Local, plus: • Eliminates competition in connections market by removing activities open to competition
Negative	• Same as Local	• Same as Zero, plus: • If the payment does not accurately reflect the value of goods and services rendered, this approach transfers value from the consumer to the party receiving the payment

1.6 These five types are not strictly adhered to and there are variants of these methods that fall between these five cases. It is useful to consider the approach used by Transco in its LDZ charges and by the IGTs.

Transco network boundary

1.7 Transco owns and operates most of the gas transportation network in Great Britain. Its network is divided into the National Transmission System (NTS) and the distribution system (8 regional networks). All of the IGT networks are extensions to parts of the distribution system (either through direct connection to Transco's network or through connection to another IGT network). Hence, it is directly relevant to consider the boundary between Transco's connection and use of system charges.

1.8 Transco follows the following broad steps to determine how the costs of connecting all new loads expected to consume in excess of 73,200 kWh per annum are recovered:

- the most economical point of connection (the "physical point") is determined, this is usually the closest point on the existing network to the proposed load;
- the point on the network which is deemed to have enough capacity to supply the new load disregarding the existing system load (the "charging point") is determined through network analysis. The charging point creates the financial distinction between the "connection" which is fully charged to the connecting customer and any associated "system reinforcement";
- if the charging point and the physical point are the same, then all costs downstream of this point are deemed to be connection costs and are charged in full to the customer;
- if the charging point is upstream of the physical point, then the costs of laying the pipe are apportioned between connection and reinforcement;
- Transco then applies the Economic Test to the reinforcement costs. A load is deemed to be economic and have passed the Economic Test if incremental transportation income for the new load exceeds the reinforcement costs of the new load. In this case, no reinforcement costs are recovered upfront from the customer; and

- where a proposed load fails to meet the Economic Test, the customer will have the option of providing a capital contribution to cover the difference between actual and allowable reinforcement costs if they wish to proceed with connection. Alternatively the customer may opt to connect at a position where sufficient capacity is available.

1.9 Transco's connection charging policy is a case of a mostly physical boundary based on a shallow connections policy with a financial boundary for reinforcement.

IGTs boundary

1.10 The IGTs employ a variety of different boundaries between connection and use of system (transportation) charges. As discussed in the May 2002 consultation document, the range of possible IGT charging combinations includes:

- using SLCs 4 and 4B to recover all connection and gas transportation costs, allocating the recovery of connection costs between upfront connection (4B) charges and ongoing transportation (4) charges depending upon the extent to which connection charges are described to be deep or shallow;

- using SLCs 4 and 4C to recover all initial connection and transportation costs through ongoing transportation charges (and SLC 4B to recover subsequent connection costs); and

- using SLC 4 alone to recover all initial connection and transportation costs through ongoing transportation charges (and SLC 4B to recover subsequent connection costs).

1.11 The current structure of charges also allows some IGTs to make payments to the person requiring the connection, and then to recover these payments through transportation charges. Hence the cost of connection is negative, in that instead of a charge being levied for connection, a payment is made instead. This is an example of a negative connections policy. Ofgem has indicated to IGTs charging under SLC 4 that excessive payments to developers should not be included with costs when calculating profit levels.

1.12 It can be seen from these combinations that Gas Transporters (including Transco) employ a wide range of approaches from shallow (plus reinforcement in some cases) to negative connections policies. The lack of consistency between charging boundaries - and the resulting variation in levels of ongoing charges – means that effective competition does not exist between GTs and UIPs at present. This makes meaningful comparisons between GTs difficult for developers, consumers and shippers. This also stifles effective competition between parties offering connection and transportation services and between shippers.

Appendix 2 : Structure of use of system charges

Principles of use of system charges

2.1 As discussed above in Appendix 1, the connections charging policy used by network businesses will determine the extent to which the costs of constructing and operating new networks are recovered through up-front payments and through ongoing use of system charges. This appendix considers the different approaches that are used by Transco and the IGTs in setting use of system charges (referred to as gas transportation charges).

2.2 To encourage efficient use of network systems, the charges levied for connection and use of system should, where practicable, reflect the costs and benefits that users impose. For example, the charges for transporting gas to a particular point on the network could reflect the incremental costs of providing assets at that location, including a contribution to the costs of network reinforcement necessary to supply the required quantity of gas. In addition to providing appropriate signals to encourage efficient use of network assets, cost reflective pricing may also encourage efficient investment decisions.

2.3 It is important that the approach taken for setting use of system charges strikes an appropriate balance between the following considerations:

- cost reflectivity;
- ease and cost of implementation;
- transparency and ease of verification; and
- stability of resulting prices.

Transco LDZ use of system charges

2.4 Transco is subject to a regular Price Control Review every five years that determines the total allowed revenue that can be recovered through Transco's charges. This allowed revenue includes a component to be recovered through

LDZ charges. Transco is then responsible for establishing a set of LDZ charges in accordance with principles set out in the GT licence. On a regular basis, Ofgem reviews the structure of LDZ charges to ensure that they continue to comply with the terms of the licence conditions.

2.5 In March 2000, Ofgem published a consultation paper titled "Review of Transco's LDZ charging methodology". In this paper, Ofgem assessed Transco's LDZ charging methodology against a set of charging principles and identified some issues with the current approach. Several potential improvements to the methodology were proposed and a subset of these was implemented. For ease of reference, a few sections of this paper have been summarised in this section.

2.6 In 1994, Transco introduced a 'postalised' system for charging for gas transported across its LDZ networks. This resulted in charges that are dependent on customer load size, which acts as a proxy for the average quantum of LDZ assets they use. LDZ charges are not dependent on customer location.

2.7 Transco levies two types of charge for use of the LDZs to recover the LDZ allowed revenue: LDZ use of system charges and LDZ customer charges. The proportion of allowed revenue to be recovered from each type of charge is determined by Transco's annual ABC cost analysis which derives the relative cost of providing the services covered by each type of charge.

2.8 The revenue to be recovered from the LDZ system charges is then split 50:50 into revenue from "capacity" charges and revenue from "commodity" charges. Generally capacity charges are applied to the peak-day demand and commodity charges are applied to the annual demand. For supply points with an annual quantity greater than 732,000kWh the unit rates of both charges are determined by the peak demand.

2.9 Both capacity and commodity charges are based on charging functions developed following analysis done by Transco in 2001. This analysis established the costs of using the different tiers of the LDZ system and the probability of different load bands being connected to these tiers. From this the share of the system costs attributable to each load band could be calculated. This analysis produced cost data points from which the charging functions for capacity and commodity charges were derived using regression analysis.

2.10 A separate analysis was done for CSEPs and separate charging functions were derived for them in order to take account of the differences between CSEPs and typical directly connected supply points.

IGT use of system charges

2.11 As discussed above in Appendix 1, IGTs employ a wide range of approaches for setting the boundary between connection and use of system (transportation) charges and for determining transportation charges. The approaches used by IGTs for setting transportation charges can be broadly described as:

- setting transportation charges through linkage to Transco's charges, either by matching Transco's equivalent charges precisely or by charging a fixed percentage above Transco. Some IGTs' charges match Transco's charges at a fixed point in time and then follow an independent trajectory thereafter, while other IGTs continue to reconcile to Transco's charges at regular intervals; and

- setting transportation charges to recover costs incurred at individual sites (network extensions). Several IGTs separate charges between a capacity component and a commodity component.

2.12 The table below summarises how each IGT sets transportation charges.

Table A2.1 IGT methods for setting gas transportation charges

IGT	Method for setting gas transportation charges
BGCL	♦ Recovers capital expenditure and profit on a site by site basis through SLC 4C Capacity charges ♦ Recovers ongoing operating costs and business set-up costs through SLC 4 Operating Charge (based on forecast costs)
EMP	♦ Recovers all costs including profit through SLC 4, using a standard premises charge based on peak hour load ♦ Additional (i.e. exceptional) network costs, if necessary, are recovered through site specific SLC 4C charges
ESP	♦ Sets SLC 4 charges close to Transco-equivalent charges ♦ Recovers remaining costs through up-front SLC 4B charges
GTC	♦ Recovers capital costs and return on capital for new housing developments through a fixed capital charge under SLC 4 ♦ Recovers other costs and other profit for new housing developments through a variable throughput charge under SLC 4 ♦ Recovers some connection costs for *existing* housing through SLC 4B (at cost plus 15%)
IPL	♦ For most sites recovers capital costs and profit through SLC 4C and operating costs through SLC 4 ♦ For other sites recovers all costs through SLC 4 ♦ Sets charges close to Transco equivalent when network contract secured with inflation applied thereafter
Mowlem	♦ Recovers site-specific capital costs, operational costs and profit through SLC 4 charges
SPG	♦ Uses SLC 4 to establish charges which continually track Transco-equivalent charges
SSE	♦ Recovers site-specific capital costs, operational costs and profit through SLC 4 charges ♦ Sets charges close to Transco equivalent
UGI	♦ Recovers capital and on-going costs through SLC 4, including capacity/commodity charges to recover network costs and profit, and customer charges to recover on-going costs
UU	♦ For designated sites, recovers capital expenditure through site-specific SLC 4C charges ♦ For sites that are not designated under SLC 4C, recovers capital costs through SLC 4 ♦ Recovers all ongoing operating costs and business set-up costs through SLC 4 charge

Appendix 3 : Length of price controls

3.1 The regulation of most of the network monopoly companies in Great Britain (the DNOs, Transco, NGC and the TO price control (when implemented) for the Scottish transmission companies) is based on five-year periodic reviews. Ofgem has published an initial consultation titled 'Developing network monopoly price controls' in August 2002 to review these arrangements.

3.2 In this paper, Ofgem noted that a number of different approaches have been put forward to provide companies with stronger incentives to achieve efficiency gains than the current arrangements. These have included increasing the duration of price control periods beyond the present level of 5 years and introducing a rolling adjustment mechanism so that companies retain the benefits of cost efficiencies for a fixed period of time regardless of when the saving is achieved.

3.3 When considering the appropriate regulatory arrangements for the IGTs, it is important to consider the wider review of network monopoly price controls also underway, and the appropriate duration of any price control period.

Appendix 4 : Charging analysis questionnaire

4.1 The guidance notes for completing the charging analysis together with the charging template that was sent to all IGTs are provided below.

Figure A4.1 Guidance notes for charging analysis

We have selected a sample of sites for the charging analysis. The list of sites is located in the spreadsheet **'List of sites'**.

Each site is allocated a site number (in shaded column) and a corresponding sheet (eg **'Site 1'**) where a table is located asking for specific information relating to that site. Please note that data should be inserted into the **yellow** cells only.

The **'Site'** sheet comprises three sections:

1. SITE INFORMATION

Please supply the following information for each site:

Site Name

Postcode: Full postcode, if possible.

LDZ

Adopt or build: if the network was adopted please insert 'A'. If the network was built by you (including the use of contractors) insert 'B'.

Site AQ (kWh)

Type of site: If the site is solely domestic insert 'D', insert 'I' if solely 'I&C' and insert 'M' if both types of consumers are located on the site.

2. DOMESTIC

This section should **ONLY** be completed if the site contains domestic consumers, either on a mixed site or exclusively domestic site.

That is, if either 'D' or 'M' was entered into 'Type of site' in Section 1. If the site contains only I&C customers please ignore this section and go to Section 3.

Phases : The table is separated into different phases to reflect the fact that a site may have developed in different stages, which resulted in different levels of charges for similar property types. If this is the case, please supply the information on a phase by phase basis.

If all properties of the same type have the same level of charges for all phases of construction, please enter all information under 'Phase 1'.

The existing table is split into 'Phase 1', 'Phase 2' and 'Phase 3'. Please insert additional phases if required.

Please supply the following information for each phase of the site's development:

Date of first meter installation

Assigned AQ per property

No of properties

Condition 4 charge per property: Please give the current pence/kWh charge (per property for each property type)

Condition 4C charge (if applicable) per property type: Please give the current pence/kWh charge (per property for each property type)

Condition 4B/customer contribution charge per property (£): Please give the average Condition 4B/upfront customer contribution in the money of the day (nominal value)

3. INDUSTRIAL & COMMERCIAL (I&C)

This section should only be completed if the site contains I&C customers on either a mixed site (both domestic and I&C consumers) or an exclusively I&C site.

Please supply the following information for each customer:

Customer name

AQ (kWh)

SOQ (kWh)

No of SSPs: Number of connections

Condition 4 charge: Please give the current pence/kWh charge

Condition 4C charge (if applicable): Please give the current pence/kWh charge

Condition 4B/customer contribution charge (£): Please give the Condition 4B/upfront customer contribution **in the money of the day (nominal value)**

Figure A4.2 Charging template

SITE No 1

1. SITE INFORMATION			
Site name		Adopt or build	
Postcode		Site AQ (kWh)	
LDZ		Type of site	

2. Domestic

PHASE 1

Date of first meter installation

Property type	AQ per property	No of properties	current charges per property: Condition 4 (pence/day)	current charges per property: Condition 4C (pence/day)	Cond 4B/customer contribution charge per property	Cont to/from developers
1 Bedroom property						
2 Bedroom flat						
2 Bedroom terrace						
2 Bedroom semi						
2 Bedroom detached						
2 Bedroom bungalow						
3 Bedroom flat						
3 Bedroom terrace						
3 Bedroom semi						
3 Bedroom detached						
3 Bedroom bungalow						
4 Bedroom detached						
4 Bedroom terrace						
4 Bedroom semi						
5 Bedroom detached						
5 Bedroom semi						
6 Bedroom detached						

PHASE 2

Date of first meter installation

Property type	AQ per property	No of properties	current charges per property: Cond 4 (pence/kWh)	current charges per property: Cond 4C (pence/kWh)	Cond 4B/customer contribution charge per property	Cont to/from developers
1 Bedroom property						
2 Bedroom flat						
2 Bedroom terrace						
2 Bedroom semi						
2 Bedroom detached						
2 Bedroom bungalow						
3 Bedroom flat						
3 Bedroom terrace						
3 Bedroom semi						
3 Bedroom detached						
3 Bedroom bungalow						
4 Bedroom detached						
4 Bedroom terrace						
4 Bedroom semi						
5 Bedroom detached						
5 Bedroom semi						
6 Bedroom detached						

3. INDUSTRIAL & COMMERCIAL (I&C)

	AQ	SOQ	Connected SSPs	current charges: Cond 4 (pence/kWh)	current charges: Cond 4C (pence/kWh)	Cond 4B/customer contribution charge
Customer name 1						
Customer name 2						
Customer name 3						
Customer name 4						
Customer name 5						

Appendix 5 : Cost analysis questionnaire

5.1 The cost analysis questionnaire distributed to all participating IGTs included the following sections.

Figure A5.1 Guidance notes

IGT Cost Analysis Model

Notes and Instructions - PLEASE READ PRIOR TO STARTING SPREADSHEET

General notes

1 This spreadsheet should be used to provide information for a project or phase of project identified by Ofgem
2 This spreadsheet should be used for sites that contain **only domestic properties** (no Industrial & Commercial properties)
3 This spreadsheet should be used for sites where the GT/UIP was only responsible for gas connections (**not multi-utility connections**)
4 This spreadsheet should be used for a project or phase of a project which spans **no more than three years construction**
5 This spreadsheet should be used for a project or phase of a project where **transportation charges have been set**
6 **Please input in yellow cells only**
7 **Please include all costs in one and only one cell in the spreadsheet (no double-entry or omission)**
8 For all revenues and costs prior to and including 2002 – state in **nominal prices** (money of the day)
9 For all revenues and costs after 2002 – state in **real (2002) prices**
10 **Do not include VAT.**
11 Do not insert any rows or columns
12 Do not change any formulas
13 Please provide a copy of the CSEP connection agreement between the IGT and Transco

Notes to the Site info worksheet

1 Provide the general information about the site at the top of this worksheet
2 In the New Build Properties section, provide information about connections made to newly constructed properties:
3 Year 1 is the First Calendar year of Construction, Year 2 the Second Calendar year of construction, etc
4 Under Year 1 Connections, provide the **Fully Occupied AQ per property** and number of connections made for each property type in the first year
5 Under Year 2 Connections, provide the **Fully Occupied AQ per property** and number of connections made for each property type in the second year
6 Under Year 3 Connections, provide the **Fully Occupied AQ per property** and number of connections made for each property type in the third year
7 The "Fully occupied AQ" should be the AQ which is used to derive IGT charges to shippers (or used by Transco to determine charge to CSEP)
8 Similarly, in the Pre-existing Properties section, provide information about connections made to existing properties (infills)
9 If this is part of a multi-phase project, provide the **capacity brought forward** from previous phases (at the beginninng of this phase) and **capacity carried forward** to future phases (at the end of this phase) in the yellow cells at the bottom of the sheet
10 Please do not enter anything under Total Diversified Load or Total Capacity

Notes to the Revenue worksheet

1 Please enter the **TOTAL revenue** from consumers for all properties in each property type (through Cond 4B, 4 and 4C payments)
2 Please do not enter any payments made to or received from Developers in this worksheet (these are included in the Upfront capex worksheet)
3 Please add any other revenue not already included received for this site (except for payments from Developers)

Notes to the Upfront Capex worksheet

1 Please provide a plan of the development and the network constructed indicating any provision for future load. Indicate clearly new and existing premises and premises type
2 Please include the costs of On-site mains and On-site service connections **for this phase of the project only** and explain any apportionment on a separate sheet
3 Please include the costs of Off-site mains, Reinforcement mains, Pressure regulators and Other upfront capitalised costs **for the whole site (all phases)**
4 Year 1 is the First Calendar year of Construction, Year 2 the Second Calendar year of construction, etc
5 Contractors Charges - Insert Contractor labour charges here IF identified separately (and include materials charges in the Materials column); or Insert Contractor labour + materials charges here IF not identified separately
6 Materials Costs - Insert materials costs NOT included elsewhere
7 Excavation Costs - Include any excavation costs that are incurred separately (i.e. payments to a developer for trenches or ducts). If part of a multi-utility excavation give the cost apportioned to gas and provide details of the total excavation costs and the method of apportionment on a separate sheet.
8 Meters - Include the cost of meter, housing, LP or MP regulators and fixing kit
9 Off-Site Mains - Include details of approach mains constructed by others or off-site mains directly contracted.
10 Reinforcement Mains - If constructed by an upstream GT provide total net cost (I.e. payable by you) and available details.
11 Pressure Regulators - Include district regulator construction costs (include any service regulators in services costs.
12 Other project-specific upfront capitalised costs - Incsert all other capitalised costs not included elswhere (including direct labour costs)
13 If this is part of a multi-phase project, provide the **cost of capacity brought forward** (at the beginninng of this phase) and the **cost of capacity carried forward** (at the end of this phase) in the yellow cells at the bottom of the sheet. This relates to the Capacity brought/carried forward on the Site info sheet

Notes to the On-going Costs worksheet

1 This worksheet is used to capture the **project-specific** ongoing capital and operating costs that relate to **this phase of the project** (and that are not included in the upfront capex worksheet)
2 Please explain how the ongoing operating and capital costs for this project have been apportioned to this phase of the project (if appropriate) on Tables 3 and 4
3 Please include all non project-specific costs on the Admin and Overhead sheet

Notes to the Admin and Overheads worksheet

1 In Table 1 , insert the total admin and overhead costs for the whole Gas Transportation company in each year
2 In Table 2, insert the total admin and overhead costs for the whole Connection/UIP/SLO company in each year if available
3 In Table 3, insert the admin and overhead costs for the Gas Transportation company in each year that are assigned to this phase of project or project
4 In Table 4, insert the admin and overhead costs for the Connection/UIP/SLO company in each year that are assigned to this phase of project or project if available
5 In Table 5, describe how the total admin/overhead costs for the GT company have been allocated to this phase/project
6 In Table 6, describe how the total admin/overhead costs for the Connection/UIP/SLO company have been allocated to this phase/project

Figure A5.2 Site information

1. General information	
Name of GT	
Name of Connection Provider(s)	
Name of Property developer(s)	
Site Name	
Address	
Postcode	
Start Date of Phase/Project	mm/yyyyy
Completion Date of Phase/Project	mm/yyyyy
Supply Pressure - CSEP mb	
Supply Pressure - Network mb	
Site built or adopted?	

	Year 1 Connections			Year 2 Connections			Year 3 Connections		
2. New Build Properties	AQ (kWh)	No. of properties	Total AQ	AQ (kWh)	No. of properties	Total AQ	AQ (kWh)	No. of properties	Total AQ
1 Bedroom property									
2 Bedroom flat									
2 Bedroom terrace									
2 Bedroom semi									
2 Bedroom detached									
2 Bedroom bungalow									
3 Bedroom flat									
3 Bedroom terrace									
3 Bedroom semi									
3 Bedroom detached									
3 Bedroom bungalow									
4 Bedroom detached									
4 Bedroom terrace									
4 Bedroom semi									
5 Bedroom detached									
5 Bedroom semi									
6 Bedroom detached									
Total New Properties									

	Year 1 Connections			Year 2 Connections			Year 3 Connections		
3. Pre-existing Properties (Infill)	AQ (kWh)	Number	Total AQ	AQ (kWh)	Number	Total AQ	AQ (kWh)	Number	Total AQ
1 Bedroom property									
2 Bedroom flat									
2 Bedroom terrace									
2 Bedroom semi									
2 Bedroom detached									
2 Bedroom bungalow									
3 Bedroom flat									
3 Bedroom terrace									
3 Bedroom semi									
3 Bedroom detached									
3 Bedroom bungalow									
4 Bedroom detached									
4 Bedroom terrace									
4 Bedroom semi									
5 Bedroom detached									
5 Bedroom semi									
6 Bedroom detached									
Total Existing Properties									
Total diversified load (capacity)									
Capacity brought/carried forward (kW)			kW						kW

Total capacity

Figure A5.3 Revenue (In submission this was extended to 2030)

Revenue Streams

Please enter the **TOTAL** revenue from consumers for all properties in each property type (in **nominal values/money of the day up to 2002** and in **real (2002) values after 2002**)

Revenue type	House type	Charge type	1998 nominal	1999 nominal	2000 nominal	2001 nominal	2002 nominal	2003 real	2004 real	2005 real
Transportation and upfront Charges	1 Bedroom property	4B/Cust cont								
		4								
		4C								
	2 Bedroom flat	4B/Cust cont								
		4								
		4C								
	2 Bedroom terrace	4B/Cust cont								
		4								
		4C								
	2 Bedroom semi	4B/Cust cont								
		4								
		4C								
	2 Bedroom detached	4B/Cust cont								
		4								
		4C								
	2 Bedroom bungalow	4B/Cust cont								
		4								
		4C								
	3 Bedroom flat	4B/Cust cont								
		4								
		4C								
	3 Bedroom terrace	4B/Cust cont								
		4								
		4C								
	3 Bedroom semi	4B/Cust cont								
		4								
		4C								
	3 Bedroom detached	4B/Cust cont								
		4								
		4C								
	3 Bedroom bungalow	4B/Cust cont								
		4								
		4C								
	4 Bedroom detached	4B/Cust cont								
		4								
		4C								
	4 Bedroom terrace	4B/Cust cont								
		4								
		4C								
	4 Bedroom semi	4B/Cust cont								
		4								
		4C								
	5 Bedroom detached	4B/Cust cont								
		4								
		4C								
	5 Bedroom semi	4B/Cust cont								
		4								
		4C								

Figure A5.4 Upfront Capital Expenditure
(In submission this was extended to also include year 2 and year 3)

Please include the costs of On-site mains and On-site service connections **for this phase of development only** and explain any apportionment on a separate sheet
Please include the costs of Off-site mains, Reinforcement mains, Pressure regulators and Other upfront capitalised costs **for the whole project/site (all phases)**
In the column titled "Contractors charges" please insert Contractor labour charges here IF identified separately (and include materials charges in the Materials column) O
Insert Contractor labour + materials charges here IF not identified separately

	Type of cost	Year 1						
		Surface Type	Length/ Quantity	Contractors Charges	Materials Costs	Excavation Costs	Total Cost	Unit Cost
	1. On-Site Mains							
	315 mm							
	250 mm							
	180 mm							
	125 mm							
	90 mm							
	63 mm							
	32/25 mm							
	Live Connection to Upstream GT							
Other Costs (Define)								
Other Costs (Define)								
Other Costs (Define)								
Other Costs (Define)								
	Total On-Site Mains							
	2. On-Site Service Connections							
	Meter Box							
	Meter Provision							
	32/25 mm Service Connections							
Other Costs (Define)								
Other Costs (Define)								
Other Costs (Define)								
Other Costs (Define)								
Other Costs (Define)								
	Total On-Site Service Connections							
	3. Off-Site Mains							
	315 mm							
	250 mm							
	180 mm							
	125 mm							
	90 mm							
	63 mm							
	32/25 mm							
	Live Connection to Upstream GT							
Other Costs (Define)								
Other Costs (Define)								
Other Costs (Define)								
Other Costs (Define)								
	Total Off-Site Mains							
	4. Reinforcement Mains							
	315 mm							
	250 mm							
	180 mm							
	125 mm							
	90 mm							
	63 mm							
	32/25 mm							
Other Costs (Define)								
Other Costs (Define)								
Other Costs (Define)								
Other Costs (Define)								
Other Costs (Define)								
	Total Reinforcement Mains							

	5. Pressure Regulators							
	Site acquisition							
	Kiosk and Foundations							
	Regulator Module							
	Connections							
	Commissioning Cost							
Other Costs (Define)								
Other Costs (Define)								
Other Costs (Define)								
Other Costs (Define)								
Other Costs (Define)								
	Total Pressure Regulators							

	6. Other project-specific upfront capitalised costs							
	Marketing Costs							
	Developer Contributions							
	Design Costs							
	Supervision of construction costs							
	Audit costs							
Other Costs (Define)								
Other Costs (Define)								
Other Costs (Define)								
Other Costs (Define)								
Other Costs (Define)								
	Total Other Upfront Capital costs							

Total Upfront Capital costs	

7. Estimate of cost of capacity brought/carried forward								

Figure A5.5 Ongoing Operating and Capital Costs (In submission this was extended to 2030)

Please include **project-specific** ongoing operating and capital costs that relate to **this phase of the project only** on Tables 1 and 2 of this sheet
Please explain how the ongoing operating and capital costs for this project have been apportioned to **this phase of the project** (if appropriate) on Tables 3 and 4
Please include all non project-specific costs on the Admin and Overhead sheet

		1998	1999	2000	2001	2002	2003	2004
	1. Ongoing Operating Costs	nominal	nominal	nominal	nominal	nominal	real	real
	Maintenance of Regulators							
	Emergency Service Provision:							
	Services contracted to Transco							
	Services contracted to Others							
	Direct Costs							
	Repairs following damage							
	Income from damage repairs							
Other costs (define)								
Other costs (define)								
Other costs (define)								
Other costs (define)								
Other costs (define)								
Other costs (define)								
	Total Ongoing Operating Costs	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00

		1998	1999	2000	2001	2002	2003	2004
	2. Ongoing Capital Costs	nominal	nominal	nominal	nominal	nominal	real	real
	Replacement of Regulators							
	Replacement of Meters							
Other costs (define)								
Other costs (define)								
Other costs (define)								
Other costs (define)								
Other costs (define)								
	Total Ongoing Capital Costs	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00

3. Method of allocating ongoing operating costs to project/phase of project:	

4. Method of allocating ongoing capital costs to project/phase of project:

Figure A5.6 Administration and Overhead Costs (In submission this was extended to 2030)

Please include the **Total GT company and Connection company** admin and overhead costs in **Table 1 and 2** of this sheet
Please include the GT company and Connection company admin and overhead costs that relate to **this project or phase of the project** on **Table 3 and 4**
Please explain how the GT company and Connection company admin and overhead costs have been apportioned to **this project/phase of project** on **Table 5 and 6**

		1998	1999	2000	2001	2002	2003
		nominal	nominal	nominal	nominal	nominal	real
	1. GT company admin and overhead costs						
	GT company admin costs						
	Other GT company overhead costs						
Other costs (define)							
Other costs (define)							
Other costs (define)							
Other costs (define)							
	Total GT company admin and overhead costs	**£0.00**	**£0.00**	**£0.00**	**£0.00**	**£0.00**	**£0.00**

		1998	1999	2000	2001	2002	2003
		nominal	nominal	nominal	nominal	nominal	real
	2. Connection company admin and overhead costs						
	Connection company admin costs						
	Other Connection company overhead costs						
Other costs (define)							
Other costs (define)							
Other costs (define)							
Other costs (define)							
	Total Connection company admin and overhead costs	**£0.00**	**£0.00**	**£0.00**	**£0.00**	**£0.00**	**£0.00**

		1998	1999	2000	2001	2002	2003
		nominal	nominal	nominal	nominal	nominal	real
	3. GT company admin/overhead costs for this phase / project						
	GT company admin costs for project						
	Other GT company overhead costs for project						
Other costs (define)							
Other costs (define)							
Other costs (define)							
Other costs (define)							
	Total GT company admin/overhead costs for phase / project	**£0.00**	**£0.00**	**£0.00**	**£0.00**	**£0.00**	**£0.00**

		1998	1999	2000	2001	2002	2003
		nominal	nominal	nominal	nominal	nominal	real
	4. Connection company admin/overhead costs for phase / project						
	Connection company admin costs						
	Other Connection company overhead costs						
Other costs (define)							
Other costs (define)							
Other costs (define)							
Other costs (define)							
	Total Connection company admin/overhead costs for phase/project	**£0.00**	**£0.00**	**£0.00**	**£0.00**	**£0.00**	**£0.00**
	Total admin/overhead costs for phase / project	**£0.00**	**£0.00**	**£0.00**	**£0.00**	**£0.00**	**£0.00**

5. Method of allocating GT company admin/overhead costs to project/phase of project:

6. Method of allocating Connection company admin/overhead costs to project/phase of project:

Appendix 6 : Financial ring-fencing SLCs

6.1 SLCs 43 to 47 of the GT licence are provided below.

Condition 43. Restriction on Activity and Financial Ring-Fencing

1. Subject to paragraphs 3 and 4, the licensee shall not conduct any business or carry on any activity other than the transportation business.

2. The licensee shall not, without the prior written consent of the Authority, hold or acquire shares or other investments of any kind except -

(a) shares or other investments in a body corporate the sole activity of which is to carry on business for a permitted purpose;

(b) shares or other investments in a body corporate which is a subsidiary of the licensee and incorporated by it solely for the purpose of raising finance for the transportation business; or

(c) investments acquired in the usual and ordinary course of the licensee's treasury management operations, subject to the licensee maintaining in force, in relation to those operations, a system of internal controls which complies with best corporate governance practice as required (or in the absence of any such requirement recommended) from time to time for listed companies in the United Kingdom.

3. Subject to the provisions of paragraph 2 nothing in this condition shall prevent:

(a) any affiliate in which the licensee does not hold shares or other investments or related undertaking from conducting any business or carrying on any activity;

(b) the licensee from holding shares as, or performing the supervisory or management functions of, an investor in respect of any body corporate in which it holds an interest consistently with the provisions of this licence;

(c) the licensee from performing the supervisory or management functions of a holding company in respect of any subsidiary; or

(d) the licensee from carrying on any business or conducting any activity to which the Authority has given its consent in writing.

4. Nothing in this condition shall prevent the licensee conducting de-minimis business as defined in this paragraph so long as the limitations specified in this paragraph are complied with.

(a) For the purpose of this paragraph " de-minimis business" means any business or activity carried on by the licensee other than the transportation business.

(b) The licensee may carry on de-minimis business provided that neither of the following limitations is exceeded, namely:

(i) the aggregate turnover of all the de-minimis business of the licensee does not in any period of twelve months commencing on 1 April of any year exceed 2½% of the aggregate turnover of the transportation business as shown by its most recent audited accounting statements produced under paragraphs 2(b)(i) and (c) of standard condition 30 (Regulatory Accounts); and

(ii) the aggregate amount (determined in accordance with sub-paragraph (d) below) of all investments made by the licensee in all its de-minimis business does not at any time after the date when this condition takes effect in this licence exceed 2½% of the sum of share capital in issue, share premium and consolidated reserves of the licensee as shown by its most recent audited historical cost financial statements then available.

(c) For the purpose of sub-paragraph (b) of this paragraph, "investment" means any form of financial support or assistance given by or on behalf of the licensee for the de-minimis business whether on a temporary or permanent basis including (without limiting the generality of the foregoing) any commitment to provide any such support or assistance in the future.

(d) At any relevant time, the amount of an investment shall be the sum of

(i) the value at which such investment was included in the audited historical cost balance sheet of the licensee as at its latest accounting reference date to have occurred prior to the date when this condition takes effect in this licence (or, where the investment was not so included, zero),

(ii) the aggregate gross amount of all expenditure (whether of a capital or revenue nature) howsoever incurred by the licensee in respect of such investment in all completed accounting reference periods since such accounting reference date and

(iii) all commitments and liabilities (whether actual or contingent) of the licensee relating to such investment outstanding at the end of the most recently completed accounting reference period.

Condition 44. Availability of Resources

1. The licensee shall at all times act in a manner calculated to secure that it has sufficient management resources, financial resources and financial facilities to enable it -

(a) to carry on the transportation business; and

(a) to comply with its obligations under this licence and such of its obligations under the Act as apply to the transportation business.

2. The licensee shall submit a certificate addressed to the Authority, approved by a resolution of the board of directors of the licensee and signed by a director of the licensee pursuant to that resolution. Such certificate shall be submitted in June of each year. Each certificate shall be in one of the following terms:

(a) "After making enquiries, the directors of the licensee have a reasonable expectation that the licensee will have available to it, after taking into account in particular (but without limitation) any dividend or other distribution which might reasonably be expected to be declared or paid, sufficient financial resources and financial facilities to enable the licensee to carry on the transportation business for a period of 12 months from the date of this certificate."

(b) "After making enquiries, the directors of the licensee have a reasonable expectation, subject to the factors set out below, that the licensee will have available to it, after taking into account in particular (but without limitation) any dividend or other distribution which might reasonably be expected to be declared or paid, sufficient financial resources and financial facilities to enable the licensee to carry on the transportation

business for a period of 12 months from the date of this certificate. However, they would like to draw attention to the following factors which may cast doubt on the ability of the licensee to carry on the transportation business..."

(c) "In the opinion of the directors of the licensee, the licensee will not have available to it sufficient financial resources and financial facilities to enable the licensee to carry on the transportation business for a period of 12 months from the date of this certificate."

3. The licensee shall submit to the Authority with that certificate a statement of the main factors which the directors of the licensee have taken into account in giving that certificate.

4. The licensee shall inform the Authority in writing immediately if the directors of the licensee become aware of any circumstance which causes them no longer to have the reasonable expectation expressed in the then most recent certificate given under paragraph 2.

5. The licensee shall use its best endeavours to obtain and submit to the Authority with each certificate provided for in paragraph 2 a report prepared by its Auditors and addressed to the Authority stating whether or not the Auditors are aware of any inconsistencies between, on the one hand, that certificate and the statement submitted with it and, on the other hand, any information which they obtained during their audit work.

6. The directors of the licensee shall not declare or recommend a dividend, nor shall the licensee make any other form of distribution within the meaning of section 263 of the Companies Act 1985, unless prior to the declaration, recommendation or making of the distribution (as the case may be) the licensee shall have issued to the Authority a certificate complying with the following requirements of this paragraph.

(a) The certificate shall be in the following form:

"After making enquiries, the directors of the licensee are satisfied:

(i) that the licensee is in compliance in all material respects with all obligations imposed on it by standard condition 24 (Provision of Information to the Authority), standard condition 43 (Restriction on Activity and Financial Ring-fencing), standard condition 44 (Availability of Resources), standard condition 45 (Undertaking from Ultimate Controller), standard condition 46 (Credit Rating of

Licensee) and paragraph 1 of standard condition 47 (Indebtedness) of the licence; and

(ii) that the making of a distribution of [amount] on [date] will not, either alone or when taken together with other circumstances reasonably foreseeable at the date of this certificate, cause the licensee to be in breach to a material extent of any of these obligations in the future".

(b) The certificate shall be signed by a director of the licensee and approved by a resolution of the board of directors of the licensee passed not more than 14 days before the date on which the declaration, recommendation or payment will be made.

(c) Where the certificate has been issued in respect of the declaration or recommendation of a dividend, the licensee shall be under no obligation to issue a further certificate prior to payment of that dividend where such payment is made within six months of that certificate.

Condition 45. Undertaking from Ultimate Controller

1. The licensee shall procure from each company or other person which is at any time an ultimate controller of the licensee a legally enforceable undertaking in favour of the licensee in the form specified by the Authority that that ultimate controller ("the covenantor") will refrain from any action, and will procure that any person (including, without limitation, a corporate body) which is a subsidiary of or controlled by, the covenantor (other than the licensee and its subsidiaries) will refrain from any action, which would then be likely to cause the licensee to breach any of its obligations under the Act or this licence. Such undertaking shall be obtained within 7 days of the company or other person in question becoming an ultimate controller and shall remain in force for as long as the licensee remains the holder of this licence and the covenantor remains an ultimate controller of the licensee.

2. The licensee shall:

(a) deliver to the Authority evidence (including a copy of each such undertaking) that the licensee has complied with its obligation to procure undertakings pursuant to paragraph 1;

(b) inform the Authority immediately in writing if the directors of the licensee become aware that any such undertaking has ceased to be legally enforceable or that its terms have been breached; and

(c) comply with any direction from the Authority to enforce any such undertaking;

and shall not, save with the consent in writing of the Authority, enter (directly or indirectly) into any agreement or arrangement with any ultimate controller of the licensee or any of the subsidiaries of any such corporate ultimate controller (other than the subsidiaries of the licensee) at a time when –

(i) an undertaking complying with paragraph 1 is not in place in relation to that ultimate controller; or

(ii) there is an unremedied breach of such undertaking; or

(iii) the licensee is in breach of the terms of any direction issued by the Authority under paragraph 2 of this condition.

Condition 46. Credit Rating of Licensee

1. The licensee shall use all reasonable endeavours to ensure that the licensee maintains at all times an investment grade issuer credit rating.

2. In this condition:

"investment grade issuer credit rating" means –

(a) a rating of not less than BBB- by Standard & Poor's Ratings Group or any of its subsidiaries or not less than Baa3 by Moody's Investors Service, Inc. or any of its subsidiaries or such higher rating as shall be specified by either of them from time to time as the lowest investment grade credit rating; or

(b) an equivalent rating from any other reputable credit rating agency which, in the opinion of the Authority, has comparable standing in the United Kingdom and the United States of America.

Condition 47. Indebtedness

1. In addition to the requirements of standard condition 29 (Disposal of Assets), the licensee shall not, without the prior written consent of the Authority (following the disclosure by the licensee of all material facts) -

   (a) create or continue or permit to remain in effect any mortgage, charge, pledge, lien or other form of security or encumbrance whatsoever, undertake any indebtedness to any other person or enter into any guarantee or any obligation otherwise than:

      (i) on an arm's length basis;

      (ii) on normal commercial terms;

      (iii) for a permitted purpose; and

      (iv) (if the transaction is within the ambit of standard condition 29 (Disposal of Assets)) in accordance with that standard condition;

   (b) transfer, lease, license or lend any sum or sums, asset, right or benefit to any affiliate or related undertaking of the licensee otherwise than by way of:

      (i) a dividend or other distribution out of distributable reserves;

      (ii) repayment of capital;

      (iii) payment properly due for any goods, services or assets provided on an arm's length basis and on normal commercial terms;

      (iv) a transfer, lease, licence or loan of any sum or sums, asset, right or benefit on an arm's length basis, on normal commercial terms and made in compliance with the payment condition;

      (v) repayment of or payment of interest on a loan not prohibited by sub-paragraph (a);

      (vi) payments for group corporation tax relief or for the surrender of Advance Corporation Tax calculated on a basis not exceeding the value of the benefit received; or

      (vii) an acquisition of shares or other investments in conformity with paragraph 2 of standard condition 43 (Restriction on Activity and Financial Ring-Fencing) made on an arm's length basis and on normal commercial terms;

   (c) enter into an agreement or incur a commitment incorporating a cross-default obligation; or

   (d) continue or permit to remain in effect any agreement or commitment incorporating a cross-default obligation subsisting at the date when this condition takes effect in this licence save that the licensee may permit any cross-default obligation in

existence at that date to remain in effect for a period not exceeding twelve months from that date, provided that the cross-default obligation is solely referable to an instrument relating to the provision of a loan or other financial facilities granted prior to that date and the terms on which those facilities have been made available as subsisting on that date are not varied or otherwise made more onerous.

(e) the provisions of sub-paragraphs (c) and (d) shall not prevent the licensee from giving any guarantee permitted by and compliant with the requirements of sub-paragraph (a).

(f) the payment condition referred to in sub-paragraph (b) is that the consideration due in respect of the transaction in question is paid in full when the transaction is entered into unless either:

(i) the counter-party to the transaction has and maintains until payment is made in full an investment grade credit rating; or

(ii) the obligations of the counter-party to the transaction are fully and unconditionally guaranteed throughout the period during which any part of the consideration remains outstanding by a guarantor which has and maintains an investment grade issuer credit rating.

2. In this condition:

"cross-default obligation" means a term of any agreement or arrangement whereby the licensee's liability to pay or repay any debt or other sum arises or is increased or accelerated or is capable of arising, increasing or of acceleration by reason of a default (howsoever such default may be described or defined) by any person other than the licensee, unless:

(i) that liability can arise only as the result of a default by a subsidiary of the licensee;

(ii) the licensee holds a majority of the voting rights in that subsidiary and has the right to appoint or remove a majority of its board of directors; and

(iii) that subsidiary carries on business only for a purpose within paragraph (a) of the definition of permitted purpose.

"indebtedness"	means all liabilities now or hereafter due, owing or incurred, whether actual or contingent, whether solely or jointly with any other person and whether as principal or surety, together with any interest accruing thereon and all costs, charges, penalties and expenses incurred in connection therewith.