DNPC03 - LDZ System Charges Capacity Commodity Split and Interruptible Discounts - Final Impact Assessment

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Target audience: This document is addressed to gas transporters, gas distribution networks, gas shippers, gas suppliers, gas customers and other interested parties.

Overview:

This final impact assessment (IA) concludes our assessment of a joint GDN proposal to increase the capacity element of gas distribution Use of System charges. The assessment supports the conclusion that a 95:5 capacity: commodity split would bring benefits including more stable distribution charges and more efficient use of network assets. Ofgem considers that such benefits would outweigh any additional costs associated with implementation. Furthermore our analysis suggests that any distributional effect on domestic supply points will be minimal. In general small industrial and commercial supply points will see charges increase slightly but there will be significant decreases for larger customers. This final IA has evolved from the information provided and views expressed in responses to our draft IA published in October 2007.

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Context

Use of System charges recover costs that relate to the provision, maintenance and operation of the distribution network. Revenue is collected from separate capacity and commodity charging functions. The former being collected on the basis of peak day capacity as measured by SOQ¹ with the latter being collected on the basis of actual annual consumption. At present the separate charging functions are set such that total revenue is split 50:50 between them.

Ofgem conducted a review of the structure of gas distribution charges between May 2004 and February 2006. This included an initial Impact Assessment (IA) on the issue of shifting the balance of Use of System charges towards a more capacity based charging system. Ofgem concluded that in principle such a rebalancing would allow the GDNs to fulfil better the objectives of their charging methodology, as set out in the gas transporter licence. However, Ofgem also concluded that rebalancing should only occur following reform of interruption arrangements on distribution networks. In addition, Ofgem committed to updating the IA prior to making a determination on any future proposal by GDNs to alter the existing balance of Use of System charges.

On 15 March 2007 Ofgem directed implementation of UNC Modification 90² introducing reformed interruption arrangements on distribution networks, commencing on 1 October 2011 with the first set of competitive tenders taking place in June 2008. Subsequently, on 13 September 2007 Ofgem received a final proposal from the GDNs to amend their charging methodologies from 1 October 2008 such that Use of System charging functions would be set to recover 95% of revenue from capacity charges and 5% from commodity charges. In addition interruptible supply points would only pay 47.37% of the capacity charge levied on an equivalent firm customer. This would retain the existing value of discount available to interruptible supply points that currently pay no Use of System capacity charges.

On 30 October 2007 Ofgem published a draft IA on the GDN charging proposal. The draft IA provided an opportunity for interested parties to provide information and views on our analysis, in all fourteen responses were received by the closing date of 26 November 2007.

Associated Documents

 DNPC03 - LDZ systems charges - capacity commodity split and interruptible discounts - draft impact assessment, October 2007 <u>http://www.ofgem.gov.uk/Networks/GasDistr/GasDistrPol/Documents1/Draft%20</u> <u>Impact%20Assessment%20on%20Cap%20Com%20Split1.pdf</u>

¹ Supply Offtake Quantity (SOQ) is the maximum daily consumption for a supply point

² UNC Modification 090 - Revised GDN Interruption Arrangements

- DNPC03 LDZ system charges capacity / commodity split and interruptible discounts. <u>http://www.gasgovernance.com/NR/rdonlyres/8EEEB2A2-610B-4497-B3CC-BEE022724FDC/19950/DNPC03ConsultationReport.pdf</u>
- Conclusions on the review of the structure of gas distribution charges, February 2006. <u>http://ofgem2.ulcc.ac.uk/temp/ofgem/cache/cmsattach/14067_3806.pdf</u>
- Structure of gas distribution charges. Initial proposals, July 2005 <u>http://ofgem2.ulcc.ac.uk/temp/ofgem/cache/cmsattach/11945_17305.pdf</u>
- Review of Transco's structure of distribution charges. Consultation paper, May 2004 <u>http://ofgem2.ulcc.ac.uk/temp/ofgem/cache/cmsattach/7068_10104.pdf</u>
- Review of Transco's LDZ Charging Methodology March 2000 <u>http://ofgem2.ulcc.ac.uk/temp/ofgem/cache/cmsattach/116_29march00.pdf</u>

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Summary

On 13 September 2007 Ofgem received a final proposal from the GDNs to amend their charging methodologies with effect from 1 October 2008 so that:

- the proportion of revenue collected from Use of System capacity charges increases from 50% to 95%, while the proportion collected from Use of System commodity charges decreases from 50% to 5%;
- interruptible supply points pay capacity charges equal to 47.37% of those paid by an equivalent firm connection, so maintaining the existing value of capacity charge discounts received by these supply points.

Key Issues

The Final IA considers the proposal in light of the charging methodology objectives set out in the GDNs licence as follows:

Cost Reflectivity

Ofgem accepts that the majority of Use of System costs, approximately 95%, are unaffected by system throughput. However the GDNs have failed to prove that this means that 95% of costs are related to system capacity. The average cost analysis provided by the GDNs in DNPC03 and an earlier Transco marginal cost analysis both indicate that, while a substantially greater proportion of costs vary with system capacity than with system throughput, there remains a large fixed cost element that varies with neither. Cost reflectivity alone does not justify acceptance of the proposal but there are substantial additional benefits from de-coupling collected revenue and system throughput.

Changing Transportation Business

Allowed revenue for the five year price control 2008-13 will be independent of system throughput. Having a large portion of collected revenue throughput related can lead to divergence between allowed and collected revenue that causes variability in the level of charges. In the past Ofgem has stated that increasing the capacity element of Use of System charges could only occur in conjunction with reform of the interruption regime. This reform has now taken place with the Ofgem decision on 15 March 2007 to direct implementation of UNC Modification 90. The GDN proposal will therefore satisfy this condition responding as it does to changes in the regulatory framework.

Competition

The proposal will reduce a major source of variability in the level of distribution charges. Such variability acts as a deterrent to potential market entrants and

discourages competition in general. The proposal will reduce the differing effects that variations in system throughput have on allowed and collected revenue that has led to increasing variability in the level of distribution charges in recent years.

Impacts

Ofgem has carefully considered the distributional effects of this proposal. Charges will increase for domestic supply points in some local distribution zones but will decrease in others. In all cases the change is marginal. For a 20,000 Kwh domestic the maximum increase is in Southern with £2.73 pa, while the maximum decrease in Wales North is -£3.49 pa. Small industrial and commercial supply points will see increased charges but again these increases are marginal. Larger supply points in general will see significant decreases although for an individual supply point this may not be the case depending on their specific load factor.

Our analysis also indicates that independent gas transporters (IGTs) will not be adversely affected by the proposal with Relative Price Control (RPC) charging margins decreasing in some local distribution zones, but increasing in others. In all cases, effects are marginal.

The proposal will not reduce the incentive to increase energy efficiency as Annual Quantity (AQ) will continue to determine the capacity charge for the vast majority of customers. In addition there may be benefits associated with more efficient network investment.

Cost Benefit Analysis

Our cost benefit analysis was informed by an information request to industry stakeholders in August 2007 and responses received to our draft IA. Implementation costs associated with IT system upgrades are minimal and would be outweighed by the benefits of increased competition in the supply market and more efficient network investment. Although it is impossible to be precise about the magnitude of these benefits experience suggests that they will not be insignificant.

1. Introduction

Chapter Summary

This chapter sets out the present situation and past deliberations on the issue before detailing the proposed amendment to the distribution charging methodology presented to the Authority in DNPC03.

Background

Use of System Charges

1.1. Use of System charges recover costs that relate to the provision, maintenance and operation of the distribution network. Revenue is collected from separate capacity and commodity charging functions. The former being collected on the basis of peak day capacity as measured by Supply Offtake Quantity (SOQ) with the latter being collected on the basis of actual annual consumption. At present the separate charging functions are set such that total revenue is split 50:50 between them.

Background to the Proposal

1.2. The structure of gas distribution charges and in particular the split of Use of System charges between capacity and commodity has been under discussion for a number of years. In March 2000, Ofgem published a consultation paper on the subject of "Transco's LDZ Charging Methodology", subsequent to which we expressed the following points in a letter to Transco:

- Ofgem believes that, in principle, there should be an increase in the capacity commodity split to 90:10;
- this would improve cost reflectivity and price signals; and
- however, as change in the capacity commodity split is likely to have a significant impact on the level of interruptible charges, Ofgem is presently minded that that a change should not take place

1.3. Subsequently over the period between May 2004 and February 2006 Ofgem conducted another review of the structure of gas distribution charges. This included an initial impact assessment on the issue of shifting the balance of Use of System charges towards a more capacity based charging system. Again Ofgem concluded that in principal such a rebalancing would allow the GDNs to better fulfil the objectives of their charging methodology, as set out in the Gas Transporter Licence. But, that rebalancing should only occur following reform of interruption arrangements on distribution networks. In addition, Ofgem committed to updating

the impact assessment prior to making a determination on any future proposal by GDNs to alter the existing balance of Use of System charges.

1.4. On 15 March 2007, Ofgem directed implementation of UNC Modification 90 introducing reformed interruption arrangements on distribution networks, commencing on 1 October 2011 with the first set of competitive tenders taking place in June 2008. Subsequently on 13 September 2007 Ofgem received a final proposal from the GDNs to amend their charging methodologies so that a greater proportion of revenue was collected by capacity charges.

1.5. On 21 September 2007, Ofgem notified industry that it intended to carry out an Impact Assessment on the proposal before publishing a final decision in December 2007. Subsequently on 30 October 2007 Ofgem published a draft IA providing an opportunity for interested parties to provide information and views on our initial analysis, in all fourteen responses were received by the closing date of 26 November 2007.

DNPC03 Final Proposal

1.6. On 13 September 2007 Ofgem received a final proposal from the GDNs to amend their charging methodologies with effect from 1 October 2008 so that:

- the proportion of revenue collected from Use of System capacity charges increases from 50% to 95%, while the proportion collected from Use of System commodity charges decreases from 50% to 5%;
- interruptible supply points pay capacity charges equal to 47.37% of those paid by an equivalent firm connection, so maintaining the existing value of capacity charge discounts received by these supply points.

2. Summary of Responses

Chapter Summary

This chapter summarises the responses to the draft IA and sets out Ofgem's response to these responses.

2.1. We have summarised below the comments made by respondents grouped under the chapter to which the questions related.

Key issues

Question 1 - What are respondent's views on our assessment of the proposal against the objectives of the distribution charging methodology?

Question 2 - What are respondents' views on which elements of Use of System costs are related to system capacity, system throughput or neither?

Question 3 - What are respondents' views on how best to recover costs that are neither related to system capacity or system throughput?

Responses

2.2. Three shippers and one consumer group were unconvinced that the proposal would result in a more cost reflective charging structure. One believed that with regard to NDM supply points the particular split between capacity and commodity charges would not alter the total charge paid by an individual supply point. Another believed that the GDN's should investigate whether a customer charge is necessary to recover the 30% of costs not directly related to either capacity or commodity. This shipper also believed that the proposal had failed to investigate the differing costs imposed on the system by various classes of supply point. The consumer group stated that there seemed to be no reason for attributing nearly all indirect costs to capacity.

2.3. Five shippers believed the proposal would improve cost reflectivity. One stated that while they were not convinced that 95:5 was cost reflective, the costs of more accurately determining the split would be inappropriate. One shipper did not comment specifically on this issue.

2.4. The four GDN groups believed the proposal was stronger in terms of the cost reflectivity criterion than acknowledged by Ofgem in the draft IA. In particular they considered that the indirect costs were more related to network capacity than to

system throughput. In particular formula rates which are related to the asset value of the business this which in turn is equivalent to system capacity. Also, other net overheads, it was suggested are activities typically undertaken in support of the direct cost activities and might therefore be regarded as being capacity related. The only significant cost directly related to system throughput, shrinkage, on the other hand requires very little over head support.

2.5. For these reasons three GDNs believed that indirect costs should be recovered through capacity charges. One stated that recovering such costs through commodity charges would promote a mismatch between allowed and collected revenue and would adversely affect stability in the level of charges. In any case a pro-rata allocation of indirect costs would generate a 93:7 split, similar to the 95:5 split proposed in DNPC03. This GDN also believed a fixed charge per customer would be regressive and costly to administer. Another GDN stated that DNPC03 did not claim that 95% of Use of System related costs were directly related to capacity, but rather that only a small proportion, 5%, were related to system throughput, and that it is appropriate for commodity charges to recover only these costs.

2.6. The fourth GDN believed that a pro-rata allocation of indirect costs would be appropriate for those cost items where there was no link between cost and system capacity, for example in the PGT licence fee.

2.7. Two GDNs stated that long run marginal costs were an impractical method of determining charges and that the average cost approach was more reliable. One believed that the proposed application of capacity charges to interruptible supply points would result in an improvement in the quality of data held with respect to these supply points, this should improve the cost reflectivity of transportation charges.

2.8. One shipper did not believe that the proposal would have an appreciable benefit in facilitating competition. This shipper argued that the degree of variability in the level of distribution charges is only in small part due to inaccurate projections of system throughput. Providing more information to shippers to enable them to predict future charges would be more effective means of facilitating competition. Two others stated that while the proposal would improve charging stability, allowing GDNs to smear any under or over recovery over a multi-year period would have a more beneficial effect.

2.9. All GDNs were satisfied with our assessment that the proposal removes an apparent discrepancy in the regulatory regime. One stated that since allowed revenue is currently unaffected by system throughput, this suggests a very low ratio of commodity to capacity charges.

Ofgem's response

2.10. Increasing the capacity element of Use of System charges increases the importance of load factor in determining the transportation charges paid by a supply point. Those supply points with a more seasonal pattern of consumption will

therefore pay higher charges than those with a flatter consumption pattern. Ofgem would expect that for larger supply points that can influence their load factor this will act as an incentive to reduce peak demand and consequently the demand for system capacity.

2.11. Ofgem is minded that developing a new charging function to recover indirect costs would be inappropriate as there would appear to be little to gain from the additional complexity. At present the differing costs imposed on the network by various classes of supply point are reflected in the non linear nature of Use of System charging functions.

2.12. Ofgem analysis has shown that the divergence between collected and allowed revenue in response to fluctuations in system throughput is a significant cause of recent variability in the level of distribution charges, and that the proposed rebalancing of Use of System charges will largely remove this effect. However it is recognised that variability will continue into the future but at a level below that which would otherwise have been the case. For the 2008-13 price control period a deadband of + or - 3% of allowed revenue has been introduced before the GDN is penalised for breaching its revenue cap. This will permit a limited degree of smoothing with regard to under and over recoveries between formula years.

2.13. Ofgem accepts that formula rates are related to network capacity but does not accept that this is the case for other indirect costs. Ofgem continues to be of the view that cost reflectivity on its own is not sufficient grounds for permitting the implementation of the proposal.

Distributional impacts

Question 1 - What are respondents' views on the methodology used to determine the distributional impacts of this proposal?

Question 2 - Can respondents identify any additional impacts that have not been included in our analysis?

Question 3 - How do respondents view the proposal as it relates to interruptible supply points?

Responses

2.14. One shipper believed that the proposal by increasing regional differentials could encourage shippers to adopt regional tariffs for domestic supply points. Another stated that because the AQ review process for domestic supply points lagged consumption by 18 months, there is always a gap between demand and capacity. By not accounting for this in the draft IA Ofgem underestimated distributional impacts. Another believed that the use of the default Winter Annual Ratio related load factor in the analysis meant that only a partial analysis had been carried out.

2.15. Two shippers opposed the introduction of interim capacity charges for interruptible supply points. One stated that the regional variation within EUC bands would be difficult to explain to interruptible supply points, and that 35% commodity charges would allow these supply points to make an appropriate contribution to network costs. Another stated that, as the proposal recognised that capacity had greater value than previously identified, then interruptible supply points were more valuable than previously thought and should continue to receive full capacity discounts. Another shipper suggested that since SOQs are written into contracts and many of these extend beyond October 2008, it may be better to leave the existing arrangements in place for interruptible Supply points.

2.16. Three shippers supported the introduction of interim capacity charges for interruptible supply points. One believed that GDNs should aid shippers in educating interruptible supply point customers about the new charging arrangements, while another believed that the new arrangements should be delayed until October 2009.

2.17. The GDN respondents were satisfied with the methodology employed by Ofgem. Two did advise however that the adjustment factors provided were indicative but that final outcomes were unlikely to be very different.

Ofgem's response

2.18. Our analysis demonstrates that the impact of the proposal will vary across regions. Whether or not this leads to the introduction of regional tariffs by shippers and suppliers will be determined by market forces.

2.19. It is recognised that as the capacity element of Use of System charges increases the accuracy of a supply point's nominated AQ also increases; SOQ being a derivative of the AQ and load factor. The many issues that exist with regard to the AQ review process are at present being addressed by various proposed modifications to the Unified Network Code.

2.20. As part of our analysis we did consider the effects the proposal would have on supply points with load factors taken from Winter Annual Ratio bands other than the default. We therefore did recognise that this had an important impact on the distributional effects of the proposal.

2.21. The distributional effects for interruptible supply points will depend on individual load factors. Ofgem believes that explaining such changes to interruptible customers will not be unduly difficult and further notes that some of the burden for such education may be shared with the GDNs.

Other impacts

Question 1 - What are respondent's views on our analysis of the impacts that might result from implementation of the proposal?

Question 2 - Do respondents have any additional information with regard to possible environmental impacts?

2.22. One shipper stated that while it was possible to agree that there would be no dramatic impact on sustainability issues, the proposal must be seen in the context of other developments in the direction of more capacity based charging. This shipper also believed that Ofgem had understated the environmental impacts by focussing the analysis on average supply points. Another advised that Use of System charges accounted for 20% of a domestic supply points final gas bill rather than the 15% we had stated in our analysis. This shipper accepted however that the price of gas is the strongest incentive to reduce consumption. Another believed that the draft IA was contradictory because on one hand it stated that the proposal would have no effect on incentives to increase energy efficiency but on the other that it would encourage more efficient use of network capacity.

2.23. One consumer representative commented that Ofgem made no reference to carbon costs and that all fixed costs should be attributed to commodity charges in light of the need to reduce carbon emissions.

2.24. One shipper believed that Ofgem was confusing on the issue of improved security of supply by contending elsewhere in the draft IA that the proposal would have only marginal impacts on charges.

Ofgem's response

2.25. The analysis in the draft IA was extensive, covering supply points in each End User Category and each local distribution zone; by necessity average supply points in each were considered. However in the case of domestic supply points, various levels of annual consumption were considered. And in the case of large industrial commercial supply points the effect of load factor taken from various Winter Annual Ratio bands was also considered. This gave a breadth of analysis well beyond simply looking at average impacts.

2.26. Ofgem analysis confirms that Use of System charges represent approximately 15% of the final gas bill for a domestic supply point and that total distribution charges represent approximately 20%.

2.27. The environmental effects will be primarily determined by whether more or less gas is consumed. A more efficient use of network assets would be primarily achieved by a less peaked consumption pattern over the year. Therefore benign environmental impacts and efficiency gains are not mutually exclusive.

Unintended Consequences

Question 1 - Can respondents identify additional significant unintended consequences?

Question 2 - What analysis would respondents like to see with regard to biannual adjustments to charges?

Responses

2.28. Five shippers were opposed to an October 2008 implementation date. One proposed an interim 70:30 split from October 2008 with full implementation from October 2009. This would allow shippers to fully evaluate and respond to the change and would reduce the impact on existing fixed term contracts. Two others acknowledged the considerable amount of on going work reviewing the gas settlement system. These shippers were concerned however that changes arising from the review groups would not be implemented until after October 2008. One of these proposed a phased introduction. The other proposed either phased implementation or delay until October 2009 in order to align contractual obligations.

2.29. One shipper was in favour of an October 2008 implementation date on condition that indicative charges are available from February 2008, and that amendments to distribution charges were limited to once per year.

2.30. One shipper and one consumer representative believed it was likely that suppliers would reflect the increased fixed element of distribution charges in their tariffs. Another shipper stated that the potential reintroduction of standing charges for industrial commercial supply points should be considered as well as for domestics.

Ofgem's response

2.31. An October 2008 implementation date will coincide with the traditional date for the re-negotiation of supply contracts and should provide sufficient time for shippers to update systems and communicate with customers. Ofgem is not convinced that the benefits of more stable, predictable and cost reflective charges should be delayed beyond this date.

2.32. Ofgem remains of the view that it will be for participants in the market to decide whether or not to extend standing charges more widely. Ofgem remains of the view that strong competitive pressures offer the best protection for gas consumers and that standing charges will only be re-introduced if acceptable to consumers.

Cost Benefit Analysis

Question 1 - Do respondents agree that we have identified all relevant costs and benefits?

Question 2 - Do respondents believe that our quantification of costs and benefits is correct?

Responses

2.33. Five shippers and one consumer representative believed that the proposal would reduce the revenue collection risk faced by GDNs, transferring it to shippers and that this should be reflected in the 2008-13 price control in the form of a lower cost of capital. Two of these shippers stated that shippers had a higher cash flow risk premium than did GDNs but that this was not reflected in the draft IA.

2.34. One shipper criticised the reliance on cost benefit analysis when the benefits associated with more efficient use of network assets and increased competition were not quantified. One shipper stated that Ofgem had failed to recognise the impact on supplier contracts and had not evaluated the cost and or benefit of altering the implementation date.

2.35. One consumer representative stated that Ofgem had made no attempt to quantify the impact on competition and the benefits to consumers.

2.36. One shipper believed that Ofgem was correct to exclude the estimated cost of amending retail tariff structures as there would be many factors in such a decision.

Ofgem's response

2.37. Ofgem recognises that there will be a transfer of cash flow risk between GDNs and shippers. While some shippers have suggested that they have a higher risk premium than the GDNs we have received no evidence to support this. Also, in determining the allowed revenue for the 2008-13 price control, year on year deviations between allowed and collected revenue were excluded from the risk analysis as they will not impact on the GDN cost of capital.

2.38. Ofgem recognises that a quantitative estimate of benefits from competition and efficient network investment would be preferred to the qualitative analysis contained in the draft IA. However such quantification is difficult and by necessity is static in nature and may therefore ignore the dynamic benefits that have been witnessed following other reforms of the regulatory regime.

3. Key Issues

Chapter Summary

The GDN proposal to increase the proportion of Use of System revenue collected by capacity charges is judged against the objectives of a distribution charging methodology as set out in the Gas Transporter Licence.

Conceptual Framework

3.1. The principal objective of the Authority is to protect the interests of consumers. This duty is put into effect through among other things the Gas Transporter Licence that governs the activities of the GDNs. By ensuring that the distribution charging methodology is in compliance with the appropriate licence conditions, the Authority is acting in a manner that promotes the interests of consumers.

3.2. Standard Special Condition A5 of the Gas Transporters licence establishes a number of objectives that must be facilitated by the licensees charging methodology. Any proposed amendments must be judged against these objectives. The relevant objectives are as follows:

- to reflect the costs incurred by the licensee in operating its transportation business;
- to take account of changes in the transportation business; and
- to facilitate effective competition between shippers and suppliers.

Criterion One - Cost Reflectivity

3.3. Cost reflective charges create a symmetric link between the consumption decisions of consumers and the investment requirements of producers. The charges thus represent an economic signal which informs the wider gas industry about the cost relationship between gas consumption and provision. Such information allows consumers to take into account the actual costs of their choices e.g. where to connect to the system, or when to consume gas. More informed decision making on behalf of consumers results in more efficient investment costs incurred by the GDN. This efficiency gain can then be passed on to all consumers via lower transportation charges.

3.4. Table 3.1 below contains data provided by the GDNs in their June 2007 Business Plan Questionnaire³ (BPQ) submission to Ofgem, in support of the premise that costs do not vary with system throughput. Also included is data presented at the Distribution Charging Methodology Forum, 24 May 2007, in support of the DNPC03 proposal.

Table	3.1	GDN	Cost	Data
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	DNPC03	BPQ June 07
Operational costs	21%	30%
Replacement Expenditure 50%	18%	18%
Depreciation	23%	20%
Direct Capacity Costs	62%	68%
Shrinkage	5%	5%
Odorant	0%	0%
Direct Commodity Costs	5%	5%
Direct commonly costs	370	570
PGT Licence Fee	1%	1%
Other Overheads	12%	10%
Service Agreements	5%	1%
Formula Rates	15%	15%
Indirect Costs	33%	27%
Total Costs	100%	100%

3.5. While both these sources indicate that only a small proportion of costs are related to system throughput (5%) and a large proportion (95%) are not. They do not appear to indicate that non commodity related costs are entirely related to system capacity. Of non commodity related costs while over 60% are designated as being directly related to system capacity approximately 30% are not. On this basis Ofgem did not accept that GDNs have proved that 95% of costs are related to system capacity.

3.6. In their response to the draft IA, GDNs argued that indirect costs could be strongly related to network capacity. In particular "formula rates", approximately half of indirect costs, being dependent on the asset value of the business, are closely related to system capacity. The GDNs also argued that since overheads are functions in support of the direct cost activities, it seemed reasonable to allocate them as being capacity related.

3.7. Ofgem accepts that formula rates are related to system capacity and this strengthens the cost reflectivity argument. It would seem more difficult to make the same connection between overhead functions such as IT, HR, Finance etc and

³ BPQ for GDPRC 2008-13

system capacity. It would appear more reasonable to assume that such costs are fixed, remaining unaffected by either system capacity or throughput.

3.8. Ofgem accepts that the majority of Use of System costs, approximately 95%, are unaffected by system throughput. The average cost analysis provided by the GDNs in DNPC03 and an earlier Transco marginal cost analysis, PD04, both indicate that while a substantially greater proportion of costs vary with system capacity than with system throughput, there remains a large fixed cost element that varies with neither.

3.9. Given that fixed costs are independent of system throughput it would appear inappropriate to recover them through commodity based charges. Commodity based charges within a regime where allowed revenue is independent of system throughput result in undesirable year on year variability in the level of distribution charges. Fixed costs should therefore be recovered on a non commodity basis.

3.10. While the Authority remains unconvinced that the proposal is fully justified on the basis of cost reflectivity alone, the absence of a volume driver from the calculation of allowed revenue and the evidence that 95% of costs remain unaffected by system throughput, mean that there are substantial benefits from increasing the capacity element of Use of System charges. It is therefore recognised that recovery of these fixed costs will be better achieved through increased capacity charges.

Criterion Two - Developments in the Transportation Business

3.11. As it has become clear that the majority of costs are independent of throughput, the link in the price control between system throughput and allowed revenue, as expressed by the volume driver, has been steadily weakened. For the 2008-13 price control the volume driver has been removed entirely. A divergence between the effect of throughput on allowed and collected revenues not only suggests a discrepancy in the regulatory regime, but also necessitates continual adjustment of distribution charges to align collected with allowed revenue.

3.12. By proposing a reduction in the level of revenue subject to throughput related variation, the GDNs are not only removing an apparent discrepancy in the regulatory regime but also facilitating stability in the level of distribution charges.

Criterion Three - Facilitating Competition

3.13. Charges that are more cost reflective will have a beneficial effect on competition because end users are only being charged for the costs they impose upon the system. In addition, since DN sales gas distribution charges have shown an increasing degree of variability, as licensees adjust charges to align collected and allowed revenue within the formula year.

GDN	Oct 2005	Oct 2006	Oct 2007
East	12.0%	12.3%	2.6%
North West	-5.9%	19.7%	23.1%
London	4.7%	-12.1%	64.3%
West Midlands	4.2%	12.2%	20.8%
Scotland	4.5%	5.0%	23.9%
Southern	2.7%	6.3%	30.8%
Wales & West	3.5%	4.0%	26.0%
North	8.5%	-1.0%	27.0%

Table 3.2 Adjustments to Distribution Charges since DN Sales

3.14. Table 3.3 below shows how the misalignment between the proportions of collected and allowed revenue subject to system throughput has moved over recent years. During the 2002-07 price control there was a 37% gap between these proportions, during the 2007-08 price control this was reduced slightly to 35%. Although the volume driver was entirely removed from the calculation of allowed revenue this was compensated for by the extension of a capacity based customer charge function to domestic supply points. This gap would be maintained during the 2008-13 price control in the absence of the DNPC03 proposal; however implementation of the proposal from 1 October 2008 would significantly reduce the gap to 3.5%.

	Subject to System Throughput			
Structure of Charges	ructure of Charges Allowed Collected D			
Pre 1 April 07	25%	62%	37%	
1 April 07 – 30 Sept 08	0%	35%	35%	
Post 1 Oct 08	0%	3.5%	3.5%	

3.15. Ofgem has carried out an analysis of the impact these various regimes would have had on K during the final three years of the 2002-07 price control. Actual throughput data was used and the effects were calculated for a typical GDN with allowed revenue of £300m per annum. This analysis, summarised in Table 3.4 below, clearly demonstrates that implementation of DNPC03 would almost entirely remove fluctuations in system throughput as a contributing factor to K and consequently as a source of variability in the level of distribution charges.

		Formula Year		
Structure of charges	Volume / Revenue	2004/05	2005/06	2006/07
	Total Volume as % SNT ⁴	99%	103%	85%
Pre 1 April 07	Under / Over Recovery	-£1.1m	£3.0m	-£15.2m
1 April 07 - 30 Sep 08	Under / Over Recovery	-£1.0m	£2.1m	-£13.7m
Post 1 Oct 08	Under / Over Recovery	-£0.1m	£0.2m	-£1.4m

Table 3.4 Influence of system throughput on K

3.16. Greater stability in the level of charges will facilitate competition among shippers and suppliers. It promotes certainty about future costs and reduces the risk of creating arbitrary winners and losers that can have the most negative impacts on small non diversified shippers / suppliers. In particular this permits greater innovation and reduces barriers to market entry. Competition will thus be increased. Greater stability in the level of charges will also be valued by large consumers as it will facilitate business planning.

 $^{^{\}rm 4}$ SNT means seasonal normal temperature which is the basis on which GDNs forecast throughput for the year

4. Distributional Impacts

Chapter Summary

The proposal, through the effect it will have on distribution charges, has the potential to have significant distributional effects. This chapter considers specific impacts on domestic and industrial commercial supply points of various sizes both firm and interruptible as well as any impact there might be on Independent Gas Transporters.

Analysis

4.1. Although overall Use of System revenue is divided equally between capacity and commodity charges this is not the case at the individual supply point level. Smaller supply points pay higher capacity than commodity charges while for larger supply points the reverse is typically the case. Typically smaller supply points, as measured by Annual Offtake Quantity (AQ), have lower load factors, or a more peaked pattern of consumption, than larger supply points. Proportionately therefore they require larger diameter pipes than do their larger counterparts.

4.2. Increasing the proportion of Use of System revenue from capacity charges will therefore typically result in charges to smaller supply points increasing while those to larger ones decrease. Whether an individual supply point's charge increase or decrease will depend on whether its load factor is higher or lower than the local distribution zone average.

4.3. In the analysis that follows all comparisons are between Use of System charges as at 1 October 2007 and those same charges uplifted by the adjustment factors, which are given in table 4.1 below. The adjustment factors were presented at the Distribution Charging Methodology Forum on 13 August 2007 by the GDNs. The load factors used were those reported in the EUC tables effective from 1 October 2007.

DN	Commodity	Capacity
Eastern	0.0996	1.8632
London	0.1037	1.8055
North West	0.0981	1.8805
West Midlands	0.1054	1.7854
Scotland	0.0930	1.9600
Southern	0.1060	1.7700
Wales & West	0.1060	1.7880
Northern	0.1003	1.8692

Table 4.1 Charge Adjustment Factors

Domestic Supply Points <73.2 MWh per annum

4.4. The term domestic refers to a supply point's annual consumption being less than 73.3 MWh, and not the use of the property. Therefore many non domestic properties such as small retail outlets may be included in this category.

4.5. There are 21.4m domestic supply points directly connected to the distribution network, accounting for approximately 60% of throughput and 80% of collected revenue. The average domestic supply point consumes approximately 20,000 KWh per annum. This figure will vary with size of property and region, as illustrated in Table 4.2 below.

Table 4.2 Average Annual Consur	ption by Propert	y Type & Region
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<u> </u>			V
Property Type	South⁵	North	Rest
1 Bedroom	9,111	9,153	10,471
2 Bed flat / terrace	10,860	11,162	11,542
2 Bed semi / detached	13,545	13,879	14,446
3 Bed terrace / flat			
3 Bed semi / 2 Bed bungalow	14,835	16,390	14,446
3 Bed detached / bungalow	16,645	19,458	18,227
4 Bed detached / semi / terrace	20,091	21,835	22,712
5 Bed detached / semi / terrace	28,859	30,384	30,648

Independent Gas Transporter NEXA Data 2006

4.6. Occupants of the smallest properties, one bedroom flats consume approximately 10,000 KWh pa, with occupants of large five bedroom properties consuming approximately 30,000 KWh pa, whereas those in a typical three bedroom semi consume approximately 15,000 KWh pa.

4.7. Table 4.3 on the next page summarises an analysis of the effect the GDN proposal would have on domestic supply points of various levels of annual consumption across the thirteen local distribution zones.

⁵ South (SW, NT, WS & SO); North (SC & NO) and Rest (WN, SE, NW, EA, EM, WM & NE)

					pij i olitis			
LDZ	10,000	KWh	15,000 KV	Vh	20,000 KV	Vh	30,000 KV	Vh
	£ pa	%	£ pa	%	£ pa	%	£ pa	%
East	0.93	2.7	1.48	2.82	2.05	2.93	2.97	2.8
East Mid	-0.25	-0.8	-0.49	-1.0	-0.68	-1.0	-0.94	-0.9
London	0.57	1.3	0.65	1.0	0.92	1.1	1.49	1.2
West Mid	-0.26	-0.7	-0.59	-1.0	-0.72	-0.9	-1.00	-0.9
North West	-0.4	-1.1	-0.49	-0.9	-0.58	-0.8	-0.98	-0.9
Scotland	-0.02	-0.1	0.08	0.2	0.18	0.3	0.16	0.2
Southern	1.36	3.2	2.05	3.3	2.73	3.3	4.29	3.4
South East	0.21	0.5	0.12	0.2	0.21	0.3	0.43	0.4
Northern	0.92	2.4	1.39	2.5	1.85	2.5	2.76	2.5
North East	-0.33	-0.9	-0.70	-1.3	-0.87	-1.2	-1.20	-1.1
Wales North	-1.84	-5.6	-2.65	-5.1	-3.49	-5.0	-5.33	-5.1
Wales South	-0.34	-0.9	-0.4	-0.7	-0.66	-0.9	-1.00	-0.9
South West	0.42	1.1	0.73	1.3	0.85	1.1	1.25	1.1

Table 4.3	Distributional	Effects D	Domestic	Supply	Points
10010 1.0	Distributional	E110010 E	2011103110	Cappij	1 011103

4.8. Domestic supply points in Southern LDZ see the largest increase in Use of system charges with charges increasing by approximately 3.25% for all levels of consumption. For an average domestic consuming 20,000 kWh pa this means an increase of £2.73 per annum. The largest decreases are in Wales North where Use of System charges fall by approximately 5.0% which equates to £3.49 for a supply point consuming 20,000 KWh pa. Charges to domestic supply points either increase or decrease depending on whether the domestic load factor is above or below that of the distribution network as a whole. Potential increases and or decreases will be small because domestic and network average load factor will tend not to diverge to any great extent.

4.9. Given these impacts it is estimated that overall Use of System charges to all domestic supply points will increase by around £6.5m per annum or £0.30 per domestic supply point per annum.

Industrial & Commercial Supply Points >73.2 MWh per annum

4.10. Industrial & commercial supply points are defined as those with annual consumption greater than 73.2 MWh per annum. This group covers a vast range from small business customers to power generations and large industrial facilities. Based on annual consumption it is normal to distinguish between small, medium and large customers with further sub-divisions, known as End User Categories (EUC), within each of these broad ranges. Table 4.4 on the next page shows the number of supply points within each End User Category.

	EUCBand	AQ Therms	AQ MWh	Supply Points
Small	2B	2,500 – 10,000	73.2 - 293.1	285,806
	3B	10,000 - 25,000	293.1 - 732.7	53,023
Medium	4B	25,000 - 75,000	732.7 - 2,198	24,334
	5B	75,000 – 200,000	2,198 - 5,861	6,802
Large	6B	0.2 m – 0.5m	5,861 - 14,654	2,327
	7B	0.5m – 1.0m	14,654 - 29,307	893
	8B	1.0m – 2.0m	29,307 - 58,614	509
	9B	> 2.0m	> 58,614	505

Table 4.4 Supply Points by End User Category

4.11. Table 4.5 below illustrates the effect of the proposal on small industrial & commercial supply points across the thirteen local distribution zones. All supply points will see increases in Use of system charges except in the case of London and Wales North where small decreases occur for supply points in EUC2B and EUC3B respectively. This increase in charges reflects the lower load factors that small industrial & commercial supply points have relative to that for the distribution network as a whole. The largest increases for EUC2B supply points are in Northern where charges increase by 8.9% or £54.39 pa. With respect to EUC3B West Midlands has the highest rate of increase 8.5%, £225.06 pa. While unwelcome, increases in Use of System charges of this magnitude should have little effect on the sustainability of small business customers. The absolute sums involved are small and the effect on business costs will be marginal. Typically for such enterprises energy costs are less than 5%⁶ of total costs. And for supply points of this size Use of System charges are less than 10% of final gas bills.

	EUC2E	3	EUC3B		
LDZ	150 MWh		600 MWh		
	£ pa	%	£ pa	%	
East	38.99	7.6	98.07	4.9	
East Mid	27.38	5.2	75.57	3.7	
London	-1.88	-0.3	24.17	1.0	
West Mid	22.53	3.8	225.06	8.5	
North West	24.91	4.5	76.37	3.5	
Scotland	7.06	1.5	10.19	0.5	
South	3.67	0.7	104.13	4.3	
South East	6.71	1.2	26.68	1.2	
North	54.39	8.9	105.95	4.8	
North East	49.77	8.3	118.29	5.3	
Wales North	0.61	0.1	-17.93	-0.9	
Wales South	28.81	5.0	49.79	2.3	
South West	30.55	5.2	102.21	4.5	

Table 4.5 Distributional Effects Small I&C Supply Points

⁶ DTI Energy Price Scenarios in the Oxford Models May 2006

4.12. Given these impacts, it is estimated that overall Use of System charges to small industrial & commercial supply points will increase by c£10m per annum or £30 per supply point.

4.13. Table 4.6 below illustrates the effect of the proposal on medium sized industrial & commercial supply points across the thirteen local distribution zones. Varying load factors mean that there is no consistent pattern in the magnitude or direction of change. However, unlike small industrial & commercial supply points decreased charges are more likely than increased charges, especially for the larger EUC5B supply points. Again the magnitude of change is small in either direction with no decrease exceeding £440 and no increase exceeding £280. For supply points of this size such changes in Use of System charges are marginal.

	EUC4E	3	EUC5B		
LDZ	1,500 M	Wh	3,000	MWh	
	£ pa	%	£ pa	%	
East	181.12	4.4	154.33	2.2	
East Mid	146.96	3.4	-213.88	-3.2	
London	-43.78	-0.9	-407.78	-5.3	
West Mid	193.73	4.0	-50.31	-0.6	
North West	86.75	1.9	-156.99	-2.2	
Scotland	-226.72	-6.2	-349.22	-5.4	
South	54.75	1.2	276.33	3.4	
South East	-83.71	-2.0	-267.80	-3.8	
North	71.74	1.7	41.15	0.6	
North East	-109.26	-2.8	-300.17	-4.5	
Wales North	-106.27	-2.5	-433.50	-6.4	
Wales South	155.08	3.3	-283.31	-4.0	
South West	-25.64	-0.6	-283.31	-4.0	

Table 4.6 Distributional Effects Medium I&C Supply Points

4.14. Table 4.7 on the following page illustrates the effect of the proposal on large industrial & commercial supply points across the thirteen local distribution zones. In this case almost all supply points see decreases in Use of System charges with the magnitude of change increasing with annual consumption. It should be noted however that for the largest consumers Use of System charges account for approximately 2% of total gas costs. Therefore although decreases appear large their effect on energy costs will be marginal.

	Table 4.7 Distributional Effects Large rac Supply Points								
	EUC	JC6B EUC7B		EUC8B		EUC9B			
LDZ	10,000	MWh	20,000 MWh		50,000	50,000 MWh		200,000 MWh	
	£ pa	%	£ pa	%	£ pa	%	£ pa	%	
East	-492	-2.7	-2,883	-9.7	-8,932	-14.9	-34,658	-19.7	
East Mid	-1,020	-6.2	-3,287	-12.5	-10,462	-21.5	-36,013	-25.9	
London	-1,679	-8.9	-4,181	-13.6	-11,842	-20.3	-44,535	-27.5	
West Mid	-1,443	-8.0	-4,038	-14.1	-12,371	-23.5	-42,410	-28.2	
North West	-1,411	-8.2	-3,201	-11.2	-10,239	-19.1	-31,449	-19.7	
Scotland	-1,542	-9.8	-4,332	-17.6	-13,569	-30.6	-42,130	-32.2	
South	83	0.4	-1,873	-6.1	-9,454	-17.4	-40,075	-27.9	
South East	-1,874	-11.4	-4,362	-16.4	-12,182	-24.5	-45,779	-33.8	
Northern	-807	-4.7	-3,392	-12.7	-13,756	-30.6	-90,333	-65.4	
North East	-1,939	-12.5	-4,755	-19.3	-13,655	-30.3	-88,870	-67.7	
Wales North	-2,050	-12.7	-4,314	-16.1	-20,019	-41.9	-72,523	-49.8	
Wales South	-1,330	-7.7	-2,552	-8.6	-16,454	-30.5	-69,128	-46.9	
South West	-1,632	-9.7	-2,504	-8.4	-16,755	-31.4	-69,039	-46.8	

Winter Annual Ratio Determined Load Factors

4.15. Any supply point in EUC3B – EUC8B may have a number of different load factors applied to annual consumption depending on its Winter Annual Ratio (WAR), calculated as the ratio of winter and annual consumption. Each EUC has five possible load factors that can be applied to supply points within the EUC. The first is a default load factor representative of all supply points within the EUC. This is used when no appropriate consumption data is available. The other four load factors are applied depending on the WAR of the supply point, and the majority of supply points fall within one of these bands. In the above analysis the default load factor was used in all cases. It is instructive however to see the very different effects the proposal will have depending on the actual load factor applied to a specific supply point. Table 4.8 below looks at the differing results that would be possible within one distribution zone Eastern.

		Generic load	factor	WAR 1 High Load Factor		WAR 4 Low Load Factor	
EUC	Mwh	£ pa	%	£ pa	%	£ pa	%
3B	600	98	4.9	-270	-20.8	441	15.6
4B	1,500	181	4.4	-610	-20.0	962	16.8
5B	3,000	154	2.2	-1,455	-31.0	1,324	14.2
6B	10,000	-492	-2.8	-4,655	-42.3	2,620	11.5
7B	20,000	-2,,883	-9.7	-8,029	-42.0	3,649	9.6
8B	50,000	-8,932	-14.9	-19,194	-53.2	3,322	4.7

Table 4.8 Effect of Winter Annual Ratio on Distributional Effects (Eastern LDZ)

4.16. This illustrates that within any EUC, individual supply points may see charges either decrease or increase depending on which WAR band they fall into, independent of the change derived using the default load factor.

4.17. It should also be noted that many of the largest supply points, including those that are interruptible and all those with annual consumption >2.0m therms, EUC9B, are daily metered in which case they will have a supply point specific load factor.

Interruptible Supply Points

4.18. Supply points with annual consumption over 200,000 therms pa may choose an interruptible rather than firm supply contract. In return they avoid Use of System capacity charges. At present there are approximately 1,300 interruptible supply points connected to the distribution network. The proposal to set Use of System commodity charges to recover only 5% of revenue would have a major impact on these supply points. To mitigate the potential impacts of their main proposal GDNs are proposing that interruptible supply points pay 47.37% of the capacity charges paid by an equivalent firm supply point, thus maintaining the value of the existing discount.

4.19. It is recognised that this approach may not be regarded as cost reflective as it does not address the charging issues previously identified by Ofgem,⁷ that the present discounts received do not reflect the actual level of benefit provided to the distribution system by interruption. These and other issues are addressed through implementation of UNC Modification 090. The GDN proposal is an interim measure prior to the new interruption arrangements taking effect on 1 October 2011. In the absence of such an interim measure, increasing the capacity element of charges would result in interruptible customers making no contribution to the unallocated fixed costs of the GDN.

4.20. During the DNPC03 consultation process it became clear that there were a number of issues associated with the capacity bookings for interruptible supply points. For medium and large industrial & commercial supply points the unit rates of distribution charges are determined by a power function so that the rate decreases as SOQ increases. Given that interruptible supply points only pay Use of System commodity charges they have an incentive to over-state their SOQ. To prevent this interruptible supply points unit rates are calculated using a Bottom-Stop SOQ (BSSOQ), based on the previous years consumption levels. Over time booked capacity and BSSOQ at many supply points have diverged, so that the former is no longer representative. It is assumed that when interruptible supply points begin to pay capacity charges, even at the reduced rate, booked capacity and BSSOQ will converge. For this reason, the analysis summarised in Table 4.9 on the next page is based on the BSSOQ, rather than booked capacity. The data is provided by the GDNs.

⁷ Initial Thoughts on Interruption Arrangements on Gas Distribution Networks May 2006

Table 4.9 Distributional Effects Interruptible I&C Supply Points								
	EUC	6B	EUC	7B	EUC8B		EUC9B	
LDZ	10,000	MWh	20,000	MWh	50,000	MWh	200,000) MWh
	£ pa	%	£ pa	%	£ pa	%	£ pa	%
East	561	6.4	-2,924	-18.0	-6,120	-18.2	-33,555	-31.7
East Mid	561	6.0	-2,924	-21.9	-6,120	-22.2	-33,555	-46.4
London	-1,389	-14.8	-2,436	-15.0	-7,309	-22.8	28,132	20.8
West Mid	-1,469	-17.0	74	0.4	-8,744	-30.7	-36,262	-46.1
North West	-767	-8.5	705	4.1	-10,202	-37.6	-29,830	-36.3
Scotland	-1,479	-18.2	-5,493	-45.8	-6,241	-22.0	-34,642	-47.0
South	-429	-4.8	-4,832	-38.5	-8,342	-30.8	-15,484	-17.6
South East	4,273	33.6	3,284	17.6	-7,499	-27.1	12,041	11.1
Northern	-3,667	-55.9	-5,202	-42.9	-11,354	-46.2	-27,739	-35.5
North East	-2,020	-26.3	-5,692	-48.3	-12,825	-54.3	-46,903	-71.8
Wales North	3,403	28.2	6,637	30.8	6,289	16.3	-7,189	-7.5
Wales South	3,403	28.2	6,637	30.8	6,289	16.3	-7,189	-7.5
South West	3,403	28.2	6,637	30.8	6,289	16.3	-7,189	-7.5

Table 4.9 Distributional Effects Interruptible I&C Supply Po	oints
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4.21. In reality, because interruptible supply points are daily metered each will have a specific load factor and SOQ. The above figures should therefore be regarded as indicative. Although they do illustrate that interruptible supply points like large firm supply points will in aggregate see a significant decrease in charges.

Independent Gas Transporters (IGTs)

4.22. As of January 2007, approximately 850,000 supply points were connected to c17,700 IGT networks, known as Connected System Entry Points CSEP, over 99% of which are domestics. Table 4.10 on the next page shows the distribution of IGT networks by number of connected supply points.

No of Supply points per CSEP	No of CSEPs	%
<5	2,079	12
6 – 10	2,590	15
11 – 20	3,791	21
21 – 50	4,827	27
51 – 100	2,576	15
101 – 200	1,238	7
>200	611	3
Total	17,712	100

4.23. Under the Relative Price Control (RPC), effective from 1 January 2004, the charges an IGT can levy on a supply point are capped such that the supply points total transportation charge is no greater than if it were directly connected to the GDN network. Any adjustment to the structure of Use of System charges has the potential to squeeze the margin available to an IGT. Any margin squeeze however will only

affect the development of new IGT networks, since under RPC the available margin is established at the point when the network enters the control.

4.24. In assessing the potential impact on margins, two networks, Wales North and Southern, were considered. These are where domestic supply points would experience respectively the largest decreases and increases in Use of System charges.

Wales	Charges as	at 1 October	Charges a	s per GDN	
North	- C)7	Prop	osal	
		IGT Margin		IGT Margin	
Domestics	UoS CSEP	SSP –CSEP	UoS CSEP	SSP – CSEP	Difference
Per CSEP	£/Domestic	/Domestic	£/Domestic	£/Domestic	£/Domestic
1	69.86	33.80	66.37	33.80	0.00
5	64.70	38.96	61.47	38.70	-0.26
20	64.70	38.96	61.47	38.70	-0.26
37	61.19	42.47	58.13	42.04	-0.43
50	57.59	46.07	54.82	45.35	-0.72
100	50.01	53.65	47.90	52.27	-1.38
200	43.46	60.20	41.86	58.31	-1.89

 Table 4.11 Effect on RPC Margin Wales North LDZ

Table 4.12 Effect on RPC Margin Southern LDZ

Southern	Charges as at 1 October		Charges as per GDN		
	07		Proposal		
		IGT Margin		IGT Margin	
Domestics	UoS CSEP	SSP –CSEP	UoS CSEP	SSP –CSEP	Difference
Per CSEP	£/Domestic	£/Domestic	£/Domestic	£/Domestic	£/Domestic
1	82.82	41.98	85.55	41.98	0.00
5	76.70	48.10	79.29	48.24	0.14
20	76.70	48.10	79.29	48.24	0.14
37	69.37	55.43	71.81	55.72	0.29
50	65.26	59.54	67.72	59.81	0.27
100	56.75	68.05	59.17	68.36	0.31
200	49.32	75.48	51.69	75.84	0.36

4.25. The margin will either increase or decrease depending on the distribution zone within which the IGT network is located, however these effects are minimal. E.g. a CSEP in the Southern LDZ with 50 connected premises would see an increase in charges of £13.50. The magnitude does increase slightly with the number of supply points on the network. The proposal and its impacts will not adversely affect the future development of the IGT market.

5. Other Impacts

Chapter Summary

This chapter considers the impact of the proposal on other policy areas of concern to the Authority.

Small Business

5.1. Our analysis shows that almost all small industrial and commercial supply points will see small rises in their Use of System charges as a consequence of the proposal. While unwelcome, increases in Use of System charges of the estimated magnitude should have no effect on the sustainability of small business customers. The absolute sums of money involved are small and the effect on business costs will be marginal. Typically for such enterprises energy costs are less than 5% of their cost base. And for supply points of this size Use of System charges are between 10% and 15% of final gas bills.

Security of Supply

5.2. More cost reflective charging should have a positive impact on security of supply. As consumers receive more accurate economic signals about the costs their consumption places on the network, a more efficient use of the network will be encouraged. The infrastructure will therefore be better placed to ensure that gas supply reaches end users with more certainty.

Environment

5.3. The impact on customers will differ between non daily metered (NDM) and daily metered (DM) customers;

- Capacity charges to NDM supply points are responsive to variations in annual consumption through the AQ Review process and the use of load factors to calculate supply point SOQ. Therefore end users will continue to have an incentive to reduce consumption. However this linkage is not obvious to the majority of consumers, and only significant changes in annual consumption are reflected in the AQ review process.
- Capacity charges to DM supply points are dependent on measured peak demand and do not vary with annual consumption. Increasing the proportion of capacityrelated Use of System charges will therefore reduce the incentive to lower gas consumption.

5.4. Implementation of the proposal will not have an adverse impact on incentives to increase energy efficiency. Use of System charges are approximately 15% of a domestic supply points final gas bill and approximately 2% of gas costs for large industrial & commercial supply points. Distribution charges have traditionally been regarded as having only a slight effect on annual consumption. The commodity price of gas will continue to provide by far the stronger incentive to reduce consumption.

5.5. The proposal has the potential to deliver more efficient investment decisions and a reduction in pipeline construction. Environmental benefits would include reduced greenhouse gas emissions and destruction of habitat.

Health & Safety

5.6. The charging proposal does not have any health and safety issues.

6. Unintended Consequences

Chapter Summary

This chapter considers the unintended consequences relevant to the proposal.

Re-introduction of Standing Charges

6.1. Recent activity in the supply market suggests that competition is strong. Between January and October 2007 3.3m customers switched supplier compared with 3.3m for the same period in 2006. Ofgem believes that strong competition is the most effective means of protecting the interest of consumers. Ofgem does not believe that it should prescribe any particular tariff structure as being more or less appropriate. Ofgem recognises that for many the possibility of standing charges being re-introduced is a major concern. This was reflected in the responses to DNPC03 with five respondents specifically raising the issue.

6.2. Based on data collated by Ofgem, of the six major suppliers in the domestic market only two, Scottish & Southern Energy and Scottish Power, with a combined market share of 21%, apply standing charges. In both cases this tariff is optional. Among the remaining suppliers the practice is to charge a higher unit rate for the first approximately 4,500 Kwh of consumption with a lower rate thereafter. It will be for participants in the market to decide whether or not to introduce such a tariff more widely in response to a revised charging structure and presumably take into account the impact such a change would have on their competitive position.

Capacity Booking at Interruptible Supply Points

6.3. Since interruptible supply points have not been subject to capacity charges there has been no incentive for shippers to nominate correctly their booked capacity. This has resulted in a divergence between booked and actually capacity requirements. The GDN proposal includes an adjustment to the existing discounts available to interruptible supply points, so that the current nominal value of capacity charge discount is maintained. Under this arrangement interruptible supply points will be liable for 47.37% of the capacity charges paid by an equivalent firm connection. This will introduce an incentive for shippers to ensure that booked capacity matches actual requirements.

6.4. Having accurate capacity bookings will enable GDNs to better manage and develop their networks. It is also an important element in the successful introduction and operation of the reformed interruption regime as introduced under UNC Modification 090.

AQ Review Process

6.5. The accuracy of the AQ Review process will become more material with higher capacity charges. Inaccuracies implicit in the current methodology include, the fact that the AQ for domestic supply points is only reviewed on an annual basis. There is typically a time lag of 12 months between behavioural change and revision of supply point AQ. In addition, where meter reads are not submitted or where the change is less than 20% the previous AQ is maintained. These issues have been identified previously and Ofgem is minded that the proposed implementation date of 1 October 2008 will allow further progress to be made in resolving long outstanding issues.

Daily Metered Supply Points

6.6. Non domestic supply points may choose to be daily metered. In practice however the costs incurred mean that few other than those that must do so choose this option. A move to a more capacity based charging regime will increase the incentive to reduce peak consumption and have this recognised with daily metering. This should permit more efficient use of the network and more accurate energy allocation for charging purposes.

Reconciliation by Difference (RbD)

6.7. Implementation of the proposal will reduce the commodity element of distribution charges from approximately 35% to 3.5%. This will significantly reduce the materiality of transportation charges subject to the RbD process. This will reduce the level of risk faced by shippers to domestic supply points with beneficial effects for supply competition in this market.

7. Cost Benefit Analysis

Chapter Summary

The cost benefit analysis attempts to quantify the costs and benefits that will arise for shippers, GDNs and gas customers. In some cases however quantification is difficult and so a qualitative approach has been taken.

Information Request

7.1. Ofgem has attempted to quantify all the potential costs and benefits incurred by shippers, GDNs and customers as a result of implementing the proposal. Sources of information included DNPC03 and responses to it, responses to the July 2005 preliminary impact assessment, an information request to a selection of industry stakeholders in August 2007 and responses to our draft IA published on 30 October 2007.

7.2. Stakeholders were asked in the information request to:

- provide quantitative data on the estimated costs incurred in updating billing and other systems as a consequence of:
 - o amending Use of System capacity and commodity charging functions, and
 - o application of discounted capacity charges to interruptible supply points.
- provide quantitative data on potential savings from:
 - more efficient use of network assets and consequent reduction in future investment expenditure, and
 - o more stable distribution charges.

Costs

Shipper Costs

7.3. Four responses were received to the information request from shippers, with a focus on the domestic / small industrial & commercial market. Three responses contained cost estimations while the fourth did not, stating that costs would be minimal on their systems. The estimated one-off IT costs of introducing the necessary changes ranged from zero to £60,000 per shipper, depending on whether a new file format would be required by Xoserve. In their response Xoserve stated that this was unlikely although they could not be definitive prior to progression to the design stage.

7.4. Shippers stated that if implementation of DNPC03 required them to alter their tariffs, major costs would be incurred from the need to inform customers. Estimates of these costs ranged from £695,000 to £6.5 million. Our analysis suggests that Use of System charges for the bulk of supply points, domestic and small industrial & commercial, will change only marginally and that this would not necessitate altering existing tariff structures. In any case suppliers are continually in correspondence with existing and potential customers as part of the competitive process. We note that one supplier has adjusted tariffs three times so far this year.

7.5. We recognise that for medium and large sized supply points including those that are interruptible, individual Use of System charges may change markedly and that this will necessitate additional input from suppliers. One shipper estimated these cost at £20,000 for their portfolio.

7.6. No additional cost estimates were provided by shippers in response to the draft IA.

GDN Costs

7.7. All four GDN licence holders responded that Xoserve carries out billing and related data handling on their behalf. All Xoserve costs would be shared by the GDNs who anticipate no additional costs from alterations to internal systems. In total Xoserve costs were estimated as:

- changing the level of Use of System charges would have a minimal cost since this is something that is undertaken on a regular basis, and
- application of discounted capacity charges for interruptible supply points requires changes to core UK link systems with an estimated cost of £130,000.

7.8. Xoserve indicated that additional changes to UK link might be required, however further analysis was required to estimate these costs.

End User Costs

7.9. Individual supply points will experience either increases or decreases in Use of System charges, however these are distributional impacts and the aggregate impact will be zero. Any additional supplier costs passed on to end users are accounted for in the shipper costs section above.

Benefits

Shipper Benefits

7.10. None of the four shipper respondents believed there would be any significant savings or reduction in future investment as a result of this proposal. One

respondent stated that any efficiency saving would not be realised until 2013 at the earliest and would depend on Ofgem's view of efficient investment as part of the next price control.

7.11. None of the respondents regarded greater stability of charges as delivering any significant benefits. Two respondents believed that predictability was more important than stability and that the current proposal held little prospect for delivering either beyond a 12 month period.

GDN Benefits

7.12. One respondent noted that, there are significant differences between capacity booked by shippers on behalf of large industrial & commercial supply points and observed peak demand. These discrepancies are currently managed through a validation methodology within GDN planning and investment processes. The proposal would be expected to encourage shippers and large users to align booked capacity more closely with actual requirements. This would reduce uncertainty within planning and investment processes leading to more efficient decisions being made. However, the respondent was unsure as to the extent to which this would happen, but believed that in any case impacts would be minimal.

7.13. Two respondents felt there was potential for more efficient use of network assets since large industrial & commercial supply points in particular would be encouraged to change behaviour and lower peak demand. The extent of this reaction depending on, how sensitive end user behaviour is to the structure of Use of System charges, and how closely shipper tariffs reflected that structure. Any investment benefits however would take a number of years to materialise.

7.14. Another respondent believed that there would be no investment savings on their distribution network.

7.15. One respondent felt that the proposal would result in more accurate forecasts of the transportation revenue generated from new connections. This would improve the accuracy of the Economic Test and thus determine the appropriate level of contribution from the new connection. The respondent also felt that new connections would have a stronger incentive to apply for the true level of capacity they required.

Customer Benefits

7.16. Individual supply points will experience either increases or decreases in Use of System charges, however these are distributional impacts and the aggregate impact will be zero. Any long term reduction in distribution charges from reduced GDN investment are accounted for in the GDN benefits section above.

7.17. Greater stability in the level of charges will facilitate competition among shippers and suppliers. Competition not only has the potential to reduce end user prices but also to deliver innovative products and services more closely aligned with

customer requirements. This greater choice is a major benefit of competitive markets. While it is difficult to quantify such benefits within the framework of a static cost benefit analysis, experience has shown that dynamic benefits from increased competition can be substantial.

Cash Flows & Risk Transfer

7.18. In their responses to our August 2007 information request both shippers and GDNs identified major costs and benefits to their business from the perceived cash flow implications that arise from the proposal. For GDNs with an allowed revenue unaffected by actual throughput and penal interest charges on over recovery, the cash flow implications of further decoupling collected revenue from throughput were considered to be positive. On the other hand for shippers whose revenues are largely determined by throughput any increased decoupling was regarded as having negative cash flow implications.

7.19. Such cash flow impacts are important in particular for an individual business. However within the context of a cost benefit analysis they must be regarded as distributional impacts. Industry costs overall are neither increased nor decreased by these impacts. Unless it can be demonstrated that the overall level of risk has changed or that risk has been transferred to those with a different risk premium. While shippers have asserted that their risk premium is higher no evidence has been received in support of this assertion.

7.20. Overall the proposal would appear to transfer risk from the GDN to the shipper community and from future to current shippers. Fluctuations in throughput would cause minimal divergence between collected and allowed GDN revenues, removing that source of cash flow risk from them. This cause of year on year adjustments to distribution charges would therefore be removed and future shippers no longer carry the associated risk of arbitrary gains / losses. Current shippers however would carry the risk associated with divergence between allowed and collected revenue previously carried by GDNs and subsequently passed to future shippers.

7.21. Under the current arrangements GDNs carry throughput risk that is then passed onto future shippers in proceeding formula years, whereas under the proposal existing shippers carry the risk. It might be argued that the level of risk within the industry as a whole would be reduced as it is would no longer be passed between parties and time periods but contained within a single party and period.

Summary

7.22. The main benefits from this proposal will arise from more stable and predictable gas distribution charges. A more certain charging environment will promote effective competition between gas shippers / suppliers by removing a source of uncertainty from the market. Large and unpredicted variations in distribution charges can act as a barrier to market entry and hinder competition between existing participants. Another benefit will arise from the economic signals that capacity charges convey. Increased capacity charges will promote more efficient

investment in network assets. While it is difficult to quantify these benefits, it is clear that only very modest benefits would be required to compensate for the low level of implementation and ongoing costs identified.

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Appendix 1 – The Authority's Powers and Duties

1.1. Ofgem is the Office of Gas and Electricity Markets which supports the Gas and Electricity Markets Authority ("the Authority"), the regulator of the gas and electricity industries in Great Britain. This Appendix summarises the primary powers and duties of the Authority. It is not comprehensive and is not a substitute to reference to the relevant legal instruments (including, but not limited to, those referred to below).

1.2. The Authority's powers and duties are largely provided for in statute, principally the Gas Act 1986, the Electricity Act 1989, the Utilities Act 2000, the Competition Act 1998, the Enterprise Act 2002 and the Energy Act 2004, as well as arising from directly effective European Community legislation. The Authority also has other statutory duties in respect of the environment, as set out in various other Acts⁸. References to the Gas Act and the Electricity Act in this Appendix are to Part 1 of each of those Acts.⁹

1.3. Duties and functions relating to gas are set out in the Gas Act and those relating to electricity are set out in the Electricity Act. This Appendix must be read accordingly¹⁰.

1.4. The Authority's principal objective when carrying out certain of its functions under each of the Gas Act and the Electricity Act is to protect the interests of consumers, present and future, wherever appropriate by promoting effective competition between persons engaged in, or in commercial activities connected with, the shipping, transportation or supply of gas conveyed through pipes, and the generation, transmission, distribution or supply of electricity or the provision or use of electricity interconnectors.

1.5. The Authority must when carrying out those functions have regard to:

- The need to secure that, so far as it is economical to meet them, all reasonable demands in Great Britain for gas conveyed through pipes are met;
- The need to secure that all reasonable demands for electricity are met;
- The need to secure that licence holders are able to finance the activities which are the subject of obligations on them¹¹; and

⁸ For example, the Environment Act 1995 and the Countryside and Rights of Way Act 2000 ⁹ Entitled "Gas Supply" and "Electricity Supply" respectively.

¹⁰ However, in exercising a function under the Electricity Act the Authority may have regard to the interests of consumers in relation to gas conveyed through pipes and vice versa in the case of it exercising a function under the Gas Act.

¹¹ under the Gas Act and the Utilities Act, in the case of Gas Act functions, or the Electricity Act, the Utilities Act and certain parts of the Energy Act in the case of Electricity Act functions.

 The interests of individuals who are disabled or chronically sick, of pensionable age, with low incomes, or residing in rural areas.¹²

1.6. Subject to the above, the Authority is required to carry out the functions referred to in the manner which it considers is best calculated to:

- Promote efficiency and economy on the part of those licensed¹³ under the relevant Act and the efficient use of gas conveyed through pipes and electricity conveyed by distribution systems or transmission systems;
- Protect the public from dangers arising from the conveyance of gas through pipes or the use of gas conveyed through pipes and from the generation, transmission, distribution or supply of electricity;
- Contribute to the achievement of sustainable development; and
- Secure a diverse and viable long-term energy supply.

1.7. In carrying out the functions referred to, the Authority must also have regard, to:

- The effect on the environment of activities connected with the conveyance of gas through pipes or with the generation, transmission, distribution or supply of electricity;
- The principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed and any other principles that appear to it to represent the best regulatory practice; and
- Certain statutory guidance on social and environmental matters issued by the Secretary of State.

1.8. The Authority has powers under the Competition Act to investigate suspected anti-competitive activity and take action for breaches of the prohibitions in the legislation in respect of the gas and electricity sectors in Great Britain and is a designated National Competition Authority under the EC Modernisation Regulation14 and therefore part of the European Competition Network. The Authority also has concurrent powers with the Office of Fair Trading in respect of market investigation references to the Competition Commission.

1.9. The Authority has regard to all of its duties when carrying out its functions.

¹² The Authority may have regard to other descriptions of consumers.

¹³ or persons authorised by exemptions to carry on any activity.

¹⁴ Council Regulation (EC) 1/2003

Appendix 2 - Glossary

С

Capacity Charges

These charges account for 50 percent of the revenue recovered from UoS charges. Capacity charges are applied to the peak-day demand (in pence per peak day kWh per day)

Commodity Charges

These charges account for 50 percent of the revenue recovered from UoS charges. Commodity charges are applied to the annual demand (in pence per kWh)

Connected System Exit Point (CSEP)

A CSEP is a point on the distribution system that comprises one or more individual offtakes that are not metered supply points. These include connections to IGTs.

Ε

Economic Test (ET)

The ET is a financial assessment tool that was introduced by NGG in 1998 to identify whether a new load should pay a contribution towards the reinforcement required for its connection. It compares the incremental cost of connecting a customer to the gas distribution network with the expected revenue from distribution charges associated with that customer, using NPV calculations. A full description of the ET is contained in Ofgem's July 2005 initial proposal paper

End User Category (EUC)

The EUC of a supply point is determined by its AQ and for supply points with monthly meter readings by the ratio of winter to annual consumption

G

Gas Distribution Network (GDN)

GDNs transport gas from the NTS to final consumers and to CSEPs. There are currently eight GDNs in Great Britain which comprise twelve LDZs

L

Independent Gas Transporter (IGT)

IGTs own and operate small local gas networks and levy distribution charges on shippers

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Interruptible Supply Point

Demand that can be interrupted by direct action of the supplying system's system operator in accordance with contractual provisions at times of seasonal peak load. It usually involves commercial and industrial consumers. In some instances, the load reduction may be affected by direct action of the system operator (remote tripping) after notice to the consumer in accordance with contractual provisions

L

Load Factor

The ratio of average load to peak load during a specific period of time, expressed as a percent. The load factor indicates to what degree energy has been consumed compared to maximum demand or the utilization of units relative to total system capability. An electric system's load factor shows the variability in all customers' demands

Local Distribution Zone (LDZ)

LDZs are low pressure pipeline systems which deliver gas to final users and IGTs. There are twelve LDZs which take gas from the high pressure transmission system for onward distribution at lower pressures Draft Impact Assessment DNPC03

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Appendix 3 - Feedback Questionnaire

1.1. Ofgem considers that consultation is at the heart of good policy development. We are keen to consider any comments or complaints about the manner in which this consultation has been conducted. In any case we would be keen to get your answers to the following questions:

- **1.** Do you have any comments about the overall process, which was adopted for this consultation?
- 2. Do you have any comments about the overall tone and content of the report?
- **3.** Was the report easy to read and understand, could it have been better written?
- 4. To what extent did the report's conclusions provide a balanced view?
- **5.** To what extent did the report make reasoned recommendations for improvement?
- 6. Please add any further comments?
- 1.2. Please send your comments to:

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