

Theft of electricity and gas

Discussion Document

April 2004 85/04

Summary

The theft of electricity and gas by dishonest customers can increase the prices that are paid by honest customers for their gas and electricity. Theft can also create safety risks. Ofgem is publishing this document to initiate a review of the current arrangements in place to detect, investigate and prevent the theft of gas and electricity.

The scale of the existing problem of theft of electricity and gas is not clear. Estimates of the total value of gas and electricity stolen from the networks each year vary widely but are in the order of £100m per year. There is some evidence that the number of cases of theft being identified by gas and electricity suppliers has decreased since competition was introduced five years ago.

The existing regulatory arrangements place a number of obligations on electricity and gas suppliers and network operators to detect, investigate and prevent theft. There are also a number of industry agreements and codes of practice with the same aim.

In the electricity market, a number of suppliers and network operators have argued that the current arrangements do not provide the correct incentives on companies to detect, investigate and prevent theft. They have suggested that the arrangements would also benefit from review in the light of: some network operators ceasing to provide directly Revenue Protection (RP) Services for use by suppliers, developments in metering competition and the introduction of Independent Distribution Network Operators (IDNOs).

In the gas sector, the current arrangements for the detection, investigation and prevention of theft have been in place since the opening of domestic gas competition. The purpose of this review is to find out whether these arrangements are effective given: the low levels of detection of theft compared to the electricity sector, the forthcoming introduction of gas metering competition and potential sale of individual gas Distribution Networks (DNs) by Transco.

In this document, Ofgem has set out: a summary impact assessment of why we believe the review is necessary, a summary of the current arrangements in place to detect and prevent theft, an assessment of the effectiveness of these, some high level principles that any improvements to the current arrangements can be assessed against and a work programme for the review.

Ofgem would also be particularly interested in any international experience that companies who operate in a number of different countries can share as part of this review. Given current problems with assessing the scope of the problem, Ofgem would be interested in information on theft levels in other countries. Ofgem would also be interested in what arrangements other countries, with competitive retail markets, have to detect, investigate and prevent theft of gas and electricity.

If Ofgem concludes that changes are necessary to the current arrangements, we would like the industry to lead in identifying and implementing changes to improve the incentives to detect and prevent theft. Ofgem would also prefer that any new arrangements are incentive-based so that they avoid the need for more detailed monitoring and/or enforcement by Ofgem.

If, however, the industry is not able to, it may be necessary to underpin any new arrangements with new and/or modified licence obligations and more active monitoring and enforcement by Ofgem.

Views are invited on the issues raised in this document by 24 June 2004. In particular, comments are invited on the draft work programme set out in Chapter 9 and the principles, to be used in judging the success of current and potential future arrangements, proposed in Chapter 8. Comments are also requested on the merits of taking forward any of the proposals set out in Chapter 7 where it has been suggested that improvements could be made.

A seminar is proposed for 7 June 2004 to discuss the initial views of Ofgem, the industry and other interested parties.

In September 2004, Ofgem intends to issue a further paper that provides a summary of responses to this document, the outcome of the seminar and either:

- ◆ a timetabled set of proposed changes to the current arrangements
- ◆ a proposal to set up working groups with an indicative timetable to deliver recommendations on the key areas identified, or
- ◆ the conclusion that no further action is required.

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1. Introduction

- 1.1. In August 2001 Ofgem committed to a review of the arrangements in place to detect, investigate and prevent theft of gas and electricity.
- 1.2. This work has primarily been stimulated by concerns raised by electricity suppliers and distribution network operators (DNOs) that the current arrangements are not effective. There is particular concern that they do not provide adequate incentives on electricity suppliers to detect and prevent the theft of electricity.
- 1.3. In addition, changes to the market structure since the introduction of the present arrangements to detect and prevent theft mean that it is sensible to review these arrangements.
- 1.4. At this stage Ofgem does not consider that there is a clear understanding of the effectiveness or otherwise of the current regime for the detection, investigation and prevention of theft of electricity and gas.
- 1.5. To inform this debate, Ofgem is issuing this discussion document and seeking views on the issues raised. Ofgem is also asking for views on any other issues that respondents consider relevant.

Purpose of this document

- 1.6. The purpose of this document is to:
 - ◆ provide a summary of the existing obligations on industry participants with regard to theft and outline the incentives on them to meet their obligations
 - ◆ provide a critique of the performance of industry participants in meeting their obligations in relation to theft
 - ◆ highlight a number of areas where it has been suggested that improvements to the current arrangements could be made.

- ◆ set out Ofgem's proposed work plan for reviewing the current arrangements for detecting, investigating and preventing the theft of gas and electricity; and
- ◆ propose a set of draft principles to assist in determining the appropriateness of the current arrangements and any amendments to these arrangements.

Responses

- 1.7. Comments are invited on the issues raised in this document. Responses should be submitted by 24 June 2004 and should be sent to:

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- 1.8. If there are any questions regarding this document please contact either Andrew Wallace or Ian Anthony (Tel: 020 7901 7441, email: ian.anthony@ofgem.gov.uk)

- 1.9. All responses will normally be published on the Ofgem website and held electronically in the Ofgem Research and Information Centre unless there are good reasons why they must remain confidential. Where possible, any confidential material should be placed in appendices in responses. Ofgem prefers to receive responses in an electronic form so they can easily be placed on the Ofgem website.

2. Summary Impact Analysis

Definition

- 2.1. For the purposes of this review, theft is a generic term used to describe a supply of gas or electricity taken illegally through meter tampering, restoration of supply without consent and in cases where a supply is taken on a deemed contract by customers who are not the lawful occupants of premises and do not intend to pay for it.
- 2.2. This review does not consider the wider issue of customers' failure to pay for electricity or gas obtained by legitimate means.

Scale and impact of theft

- 2.3. Theft of electricity and gas increases the cost of energy to honest customers. Under the current arrangements, the costs of any energy stolen are recovered from other customers. In the electricity market, energy charges are smeared across Non-Half Hourly¹ (NHH) customers. In the gas market, costs are smeared across the Smaller Supply Point² market. This is reviewed in detail in Chapters 5 and 6.
- 2.4. It is not possible to simply and accurately measure the extent of theft in the gas and electricity markets. Theft is one of a number of causes for electricity and gas to be lost from the distribution networks and not metered. Distinguishing theft from other network losses therefore requires estimation and/or sampling to gauge its extent.
- 2.5. The total value of stolen electricity and gas is not known precisely. In the electricity sector, some DNOs have estimated that 0.2% to 0.6% of distributed units are being illegally taken. The value³ of this electricity lies

¹ NHH (Non Half Hourly) meters are those meters that provide measurements otherwise than on a half hourly basis for energy settlement purposes.

² A Smaller Supply Point is defined under Transco Network Code as "a Supply Point in respect of which the Annual Quantity is not greater than 73,200kWh".

³ These calculations are based on the median unit price of approximately 7.473p/kWh in the domestic electricity market and the volume of distributed units across all DNO networks. The unit price is based on the medium consumption bill (3,300kWh over one year) for a domestic electricity customer on the Standard Theft of gas and electricity

between £44m and £132m per annum. The UKRPA⁴ considers that this figure should be more like 1% to 1.5% of all distributed units, giving an estimated value of between £220m and £330m annually.

- 2.6. In the gas market, the value of theft is estimated at 0.3% of DN throughput for the purpose of shrinkage⁵ calculations. The value⁶ of this gas is approximately £37m. Further information on these estimates is provided in Chapter 4.
- 2.7. Interference with gas and electricity meters also has implications for safety. The DTI Safety Inspectorate recorded 3 cases of injury caused by illegal electricity meter tampering in 2002 and 2 cases in 2003. One of the cases in 2002 was thought to have been caused by the previous tenant. An equivalent statistic is not available for the gas market. However the HSE has indicated that, in a trawl of reported dangerous gas fittings for the period between 2000 and 2002, there were 8 incidents where meter tampering was identified.
- 2.8. Theft of energy does not appear to create significant environmental impacts. Customers who take an illegal supply of electricity and gas may however consume more energy than they otherwise would as they are not exposed to any cost.
- 2.9. Ofgem does not believe that there are specific social impacts associated with the current theft arrangements.

Legislation and industry compliance

- 2.10. The gas and electricity legislation, licences and industry agreements contain provisions for detecting, investigating and preventing theft. A summary of the relevant legislation (including safety legislation) is set out in Chapter 3.

Credit payment method in February 2004.

⁴ The United Kingdom Revenue Protection Agency (UKRPA) is an organisation that represents the interests of the electricity Revenue Protection Service providers.

⁵ In Transco's Network Code, shrinkage is defined as gas in the pipeline network which is used by Transco in connection with the operation of, or which is unaccounted for as offtaken from the network.

⁶ This calculation is based on the median unit price of approximately 1.686/kWh in the domestic gas market and the volume of distributed units across all DN networks. The unit price is based on the medium consumption bill (19,050kWh over one year) for a domestic gas customer on the Standard Credit payment method in February 2004.

Ofgem recognises the need to establish what actions licensed companies are taking to comply with their licence obligations and whether these obligations are effective. Theft levels are likely to increase if the current arrangements are inappropriate or licensees fail to comply with their obligations. This will increase costs to customers and may also impact on public safety.

- 2.11. In response to a survey conducted by Ofgem in November 2001, both the gas and electricity industries reported that the number of incidents of suspected theft identified had shown a general decline from the start of domestic competition. However, the actual number of theft cases identified has, after an initial decline, increased to near its original level in both markets (see Chapter 4). The exact picture is difficult to determine because of poor quality data. The survey results suggest that suppliers' efforts to meet their obligations on theft have varied.
- 2.12. Supplementary data provided by Transco and a number of DNOs has shown a further decrease in the number of incidents of suspected theft and an increase in actual theft identified during 2002 compared with 2001. Some DNOs argue that successful theft detection is largely the result of efforts by their own revenue protection teams rather than by most suppliers.
- 2.13. The evidence available suggests that the reported incidence of theft in the gas market is considerably lower than in the electricity sector, the highest number of cases being 763 in 1998 compared to 18,045 in 2001 in the electricity market.
- 2.14. From the evidence available, Ofgem is not able to determine whether the level of theft has increased or decreased.

Current arrangements

- 2.15. DNOs have traditionally provided an in-house RP Service within their distribution services area. This has been used by suppliers to discharge their licence obligations to detect and prevent theft. A number of distribution companies have now ceased to provide these services directly. For example, WPD South West included the RP Service with the sale of the SWEB supply

business to London Electricity whilst NEDL and YEDL included the RP Service with the sale of their metering businesses to Innogy. Several other DNOs have sold or outsourced their metering business and included the RP Service within these arrangements (see Appendix 3).

- 2.16. By comparison, gas suppliers make their own arrangements for the provision of RP Services and will therefore need to provide this function as part of their business or procure it externally.

Reason for review

- 2.17. The industry needs to tackle, and be seen to be tackling, the issue of theft so that this activity does not become more widespread given the cost to customers and the potential safety risks.
- 2.18. This project is being undertaken now in response to concerns raised by some electricity suppliers and DNOs that the current framework does not offer the correct incentives to ensure that suppliers seek to detect and prevent theft. When an electricity supplier identifies a case of illegal abstraction, they may become liable for the settlement and Distribution Use of System (DUoS) charges⁷ for the stolen units and will also incur the costs of investigation. The supplier may seek to recover the money from the customer and could apply through the courts, for example for breach of contract, but this may be costly, time consuming and there is no guarantee that all costs will be fully recovered.
- 2.19. Several DNOs have indicated that they are not providing, or do not intend to provide, RP Services for their networks. It is possible that some RP Services could be withdrawn from the market. In these distribution areas, suppliers would need to make alternative arrangements to meet their obligations to detect and prevent theft of electricity. It is also unclear whether new electricity IDNOs entering the market or existing DNOs operating networks out of their Distribution Services Areas will establish a RP Service for these networks.

⁷ The charges levied by the DNO on suppliers for the distribution of electricity across their networks and the services associated with the distribution of such electricity.

- 2.20. Following evidence gathered on the performance of the gas industry, this is also an appropriate time to review the gas industry arrangements. A number of potential improvements have been identified and work has been undertaken by the Transco-led Theft of Gas Work Group, with Ofgem involvement. This review should consider whether the arrangements continue to be effective, especially in light of the low levels of detection compared to the electricity sector. Other changes, such as metering competition and the potential sale of several DNs, mean that it is sensible to review whether the theft of gas arrangements are effective and consistent with the requirements of the market.

Objective

- 2.21. The purpose of this review is to ensure that there are incentives and arrangements in place, regulatory or otherwise, so that cases of theft are identified, accurately recorded and effectively dealt with quickly by the appropriate parties.
- 2.22. The review will seek to quantify the effects of theft on companies and customers in both the gas and electricity markets. In carrying out the review, Ofgem will seek to ensure that the costs of prevention are proportionate and that the costs of prevention fall where they can be managed most effectively.
- 2.23. Ofgem will also seek to ensure that there is an appropriate evaluation of the performance of the industry against their current regulatory obligations and any new or revised obligations which may result from this review.

Policy

- 2.24. Ofgem's aim is to put in place cost-effective arrangements for the detection, investigation and prevention of theft of gas and electricity. This will reduce the costs faced by honest customers and the safety risk.
- 2.25. To assist in achieving this aim, Ofgem intends to establish high-level principles that will be used to judge the appropriateness of the current theft

regime in delivering these outcomes. The principles will also be used to analyse the benefits of any potential changes to the regime.

- 2.26. It has been argued that suppliers have weak financial incentives to seek to detect theft. If suppliers face weak financial incentives under the current arrangements then this needs to be addressed by improving the incentives, by changing the obligations or by enforcing existing obligations on licence holders.
- 2.27. Ofgem believes that it is appropriate to restate what is expected of the industry, to raise the profile of detection, investigation and prevention of theft, as well as to review current performance and areas for improvement.
- 2.28. Ofgem considers that this review flows from its primary duty to protect the interests of customers, in particular in terms of safety and the price paid for energy consumed.

Potential areas for review

- 2.29. To assist in respondents' consideration of the current arrangements, this document identifies a number of areas where improvements could potentially be made. Comments are requested on these suggestions, which are examined in detail in Chapter 7, or on any other alternatives identified.
- 2.30. The currently identified options are as follows:
 - ◆ amending the regulatory framework on suppliers, DNOs and GTs to provide more effective or stronger financial incentives on licensed companies to detect, investigate and prevent theft of energy, or to remove any disincentives to do this
 - ◆ considering whether there should be obligations on certain licensed companies to provide services for use by others in meeting their obligations to detect, investigate and prevent theft of gas and electricity

- ◆ considering whether the current arrangements for codes of practice⁸ are appropriate or require updating and whether the governance structure of the codes is correct, and
 - ◆ amending the existing processes and obligations and/or modifying Ofgem's approach to enforcement of these obligations to ensure that they are sustainable.
- 2.31. The proposed improvements are not mutually exclusive and will need to be judged against the high level principles. Ofgem would also welcome alternative and/or complimentary suggestions from interested parties in response to this document.
- 2.32. If Ofgem concludes that changes are necessary to the current arrangements, we would like the industry to lead in identifying and implementing changes to improve the incentives to detect and prevent theft. Ofgem would also prefer that any new arrangements are incentive-based so that they avoid the need for more detailed monitoring and/or enforcement by Ofgem.
- 2.33. If, however, the industry is not able to, it may be necessary to underpin any new arrangements with new and/or modified licence obligations.

⁸ Codes of practice exist in the gas and electricity markets. In the gas market, schemes made by the GT are also in operation. These arrangements set out the roles, responsibilities and actions to be taken by market participants when dealing with suspected and actual cases of theft.

3. Overview of current arrangements

- 3.1. The current regulatory obligations relating to the theft of electricity and gas are set out in the Electricity and Gas Acts and associated statutory instruments⁹ and in the standard conditions of the gas shipper, gas and electricity supplier, GT and distribution licences. These are backed up by codes of practice which operate in both the gas and electricity industries.
- 3.2. This chapter provides a brief overview of the current arrangements for the detection, investigation and prevention of theft of gas and electricity. A detailed analysis of the current regulatory obligations is provided in Appendix 1 and 2 and analysis of the performance of market participants is shown in Chapter 4.

Electricity

- 3.3. Electricity suppliers are obliged by their licences to inspect all NHH meters for meter tampering, damage and other interference at least every two years where they are continuously the supplier for that metering point. Where a customer changes supplier, it is possible that the interval between these meter inspections will be greater than two years. Meter inspections are intended, amongst other things, to identify suspected theft.
- 3.4. The electricity supply licence requires that this inspection is carried out by a person with appropriate skill and experience.
- 3.5. Suppliers are obliged by the Balancing and Settlement Code (BSC) to have in place accredited Data Collectors (DCs) to read meters for customers that they supply. Under BSC subsidiary documents, the DC is required to check for evidence of tampering with the meter or associated equipment every time that the meter is physically read. They are also required to check for evidence that a supply has been taken whilst the meter is de-energised. Such information should be passed to the supplier, DNO or owner of the meter as appropriate.

⁹ The Electricity Safety Quality and Continuity Regulations 2002 and Gas Safety (Management) Regulations 1996.

- 3.6. Electricity suppliers are obliged by their licences to take all reasonable steps to detect and prevent theft of electricity. Suppliers have traditionally sought to discharge these obligations in a number of ways. Typically a supplier has in place an arrangement with a RP Service within each distribution services area.
- 3.7. The RP Service will undertake functions such as investigating a suspected theft incident. In some cases, the RP Service will actively seek to identify potential cases of theft. The specialist skills of RP Services involve interacting with customers who are suspected of illegal abstraction, gathering evidence and providing technical evidence in court cases.
- 3.8. The role of RP Services and manner in which they operate with suppliers is set out in the RP Code of Practice. This code has a defined governance structure but there is no role for Ofgem.
- 3.9. Prior to 2001 all DNOs provided a RP Service under their DUoS Agreements¹⁰. Since 2001, the terms of the DUoS Agreements have been amended so that the DNO is able to choose whether or not to provide a RP Service.
- 3.10. Some DNOs have decided that they no longer wish to provide RP Services on their networks. Currently all licensed distribution networks are covered by a RP Service although not all are provided by DNOs. In some areas the RP Service is provided by a supplier or a metering business. A summary of the provision of RP Services across the existing distribution services areas is shown in Appendix 3.
- 3.11. Distributors charge for RP Services on a transactional basis and they therefore fall outside general DUoS charges. In general, income relating to revenue protection activities relating to theft is excluded from the price controls and is likely to remain outside for the next price control period. Appendix 3 shows those DNOs that have provided a schedule of transactional charges for RP Services in their DUoS statements. Those

¹⁰ Distribution Standard Licence Condition 4B requires DNOs to offer to terms to persons for use of their distribution system. These terms are known as the Distribution Use of System (DUoS) Agreement.

DNOs that do not include such a schedule in their DUoS statements typically do not directly provide RP Services.

- 3.12. Under the BSC arrangements¹¹, if a RP Service provides a revised estimate of consumption to a NHH Data Collector (NHHDC), then this revision should be entered into settlement. By contrast, the RP Code of Practice requires the RP Service to provide a revised estimate of consumption directly to the supplier. The supplier is then obliged under the RP Code to pass this information to the DC who will then seek to enter this data into settlement. Ofgem intends to clarify this anomaly in data provision as part of this review.
- 3.13. Where the supplier concludes that theft has taken place, they are not required by the BSC to provide an estimate of the number of units taken for settlement and DUoS purposes. However they may choose to do so. In such instances their settlement and DUoS charges will be adjusted accordingly.
- 3.14. DNOs can seek to recover the cost of electricity which is taken by any person in conveyance through illegal restoration of supply, meter tampering, or where there is no contract or deemed contract in place. However it does not appear that any DNOs have published a scheme under Schedule 6, paragraph 4 of the Electricity Act 1989 setting out how they would do so.
- 3.15. Several applications for new distribution licences have been received by Ofgem. As there is no obligation to do so, it is unclear whether newly licensed IDNOs will provide RP Services for use by suppliers on their networks.
- 3.16. The Electricity Act 1989 (as amended) grants right of entry to DNOs and suppliers in certain circumstances relating to the theft of electricity by consumers. In particular, DNOs have rights of entry to inspect electric line and plant and suppliers have rights of entry to inspect electric meters. In addition, the DNO has rights of entry to be able to disconnect any premises or cut off or discontinue the supply where their customer is responsible for

¹¹ Party Service Line (PSL) 120. A Party Service Line (PSL) is a document under the BSC which sets out

damage to electric line or plant provided by them. A supplier is able to disconnect any premises or cut off or discontinue the supply where, for example, the customer is responsible for damage to, or has interfered with, their meter.

Gas

- 3.17. Gas suppliers are required by their licences to use reasonable endeavours to ensure that each meter for all premises that they supply are inspected for evidence of theft at least every two years by a person with appropriate expertise. These endeavours include, in particular, the seeking of a warrant to gain access to the meter where necessary to do so.
- 3.18. Where the GT separately records the inspection of meters, they will inform the supplier 4 months in advance of the end of the 2 year period that an inspection is due. If the GT informs the supplier that they do not provide this reminder service then the supplier is required to inspect the meter each time that it is read and at least every two years where they are continuously the supplier.
- 3.19. Gas shippers and suppliers are required to notify suspected theft cases to the GT. This includes a requirement to provide an estimate of the volume of gas taken and any other relevant particulars which the GT may reasonably require. The GT may ask the supplier (through the shipper) to investigate the suspected theft.
- 3.20. The Reasonable Endeavours Scheme is drawn up by the GT in consultation with shippers and suppliers and is approved by the Authority. The scheme defines the circumstances in which a supplier shall be presumed to have used their reasonable endeavours to attempt to recover charges for gas illegally taken and will be allowed to claim reimbursement of the cost of doing so where they not been able to recover such charges from the customer.

- 3.21. Where, following a request from the GT, the shipper has asked the supplier to investigate the theft incident and they have done so but failed to recover the gas charges then, should they meet the criteria set out under the Reasonable Endeavours Scheme, their shipper's charges can be adjusted. This adjustment will account for the transportation charges for that site together with the cost of the investigation. For Transco this will be done in accordance with the values set out in the Transco (Allowances for Gas Taken Illegally) Scheme 1997.
- 3.22. If gas is taken whilst in the course of conveyance, the GT is required to investigate and make efforts to recover the value of the gas taken. If the GT is not able to recover this money from the customer, it can adjust its transportation revenue so that it is not financially disadvantaged. Transco makes this adjustment in accordance with the Transco (Allowances for Gas Taken Illegally) Scheme 1997 noted above.
- 3.23. IGTs are required to make the schemes referred to above to demonstrate that reasonable endeavours have been undertaken by suppliers and setting out the values of adjustments to be made to shipper charges. To date, not all IGTs have made the required schemes. Ofgem will review this area of licence compliance with IGTs.
- 3.24. The Gas Act 1986 (as amended) grants right of entry to GTs and suppliers in certain circumstances relating to the theft of gas by customers. In particular, GTs and suppliers have rights of entry to inspect gas fittings. In addition, GTs and suppliers have rights of entry to disconnect any premises, or cut off or discontinue the supply of gas to a premise, where this is allowed for under other provisions of the Act for example, where the customer interferes with the meter and prevents it from correctly recording the number of units consumed.

4. Industry Performance and Cost of Theft

Industry performance

- 4.1. Ofgem issued a questionnaire to electricity and gas suppliers, DNOs and GTs in November 2001 on performance in detecting and investigating the theft of electricity and gas under the current arrangements. Data was provided from 1996/7 up to September 2001. Subsequently, data for 2001 and 2002 has been provided by Transco and six of the distribution companies in selected areas.
- 4.2. This chapter provides a summary of data received from GTs and DNOs. In general, data provided by gas and electricity suppliers was of poor quality, was not able to support trend analysis and has therefore not been included.
- 4.3. It is Ofgem's intention to request further information from suppliers, GTs and DNOs to support our analysis as part of this review. The information requested will include actual and suspected theft incidents reported during all of 2001, 2002 and 2003 and compliance with the meter inspection requirement. Ofgem intends to present this information at the seminar to be held on 7 June 2004.
- 4.4. The overall view provided by the data is that, in both gas and electricity, the number of suspected cases of theft reported to or identified by transporters and DNOs since 1999 has fallen. In both markets, the number of suspected cases that have subsequently been identified as actual theft fell from a high in 1998 (gas) and 1997 (electricity) before rising back to a similar level by 2002.

Gas

- 4.5. Two gas transporters, Transco and the Gas Transportation Company, submitted data indicating that activity in relation to theft had occurred on their networks. The seven other GTs that responded indicated that no suspected incidents on their networks had been identified.

- 4.6. Data from the Gas Transportation Company was provided up to September 2001. For the purpose of the calculations, this figure has been uplifted to provide an estimated value for the whole year. Transco have provided data from 1996 to 2002.
- 4.7. The total suspected incidents of theft identified by and reported to Transco increased to 0.84 per 1,000 customers in 1999 before falling to 0.28 per 1,000 in 2002. There has also been a fall from 1.34 to 0.46 suspected cases per 1,000 customers identified by and reported to the Gas Transportation Company from 1999 to 2001. These figures are shown below in Figure 1.
- 4.8. The number of suspected incidents notified to Transco by suppliers or shippers rose to 1,312 in 1999 and 1,485 in 2000 before falling to 937 in 2002. The number of cases notified by suppliers and shippers to the Gas Transportation Company followed the same overall trend, falling from 35 in 1999 to 25 in 2001.
- 4.9. The number of suspected incidents identified by Transco over the same period also rose to 16,042 in 1999 before falling to 4,961 in 2002. It is possible that the liberalisation of the meter reading market may have impacted on the number of suspected cases directly identified by Transco as meter readers are thought to be a central source of leads for suspected theft incidents. The Gas Transportation Company identified 4 suspected cases in 2001.
- 4.10. Transco has reported that the number of actual theft cases that were identified fell considerably from 763 in 1998 to 98 in 2000 (see Figure 5). This came after a steep rise from 206 in 1996. The figure then rose back to 736 in 2002. It is unclear why this has occurred. The number of actual cases of theft per 1,000 metering points identified to Transco by suppliers is shown in Figure 1. No cases of actual theft were identified on Gas Transportation Company networks.

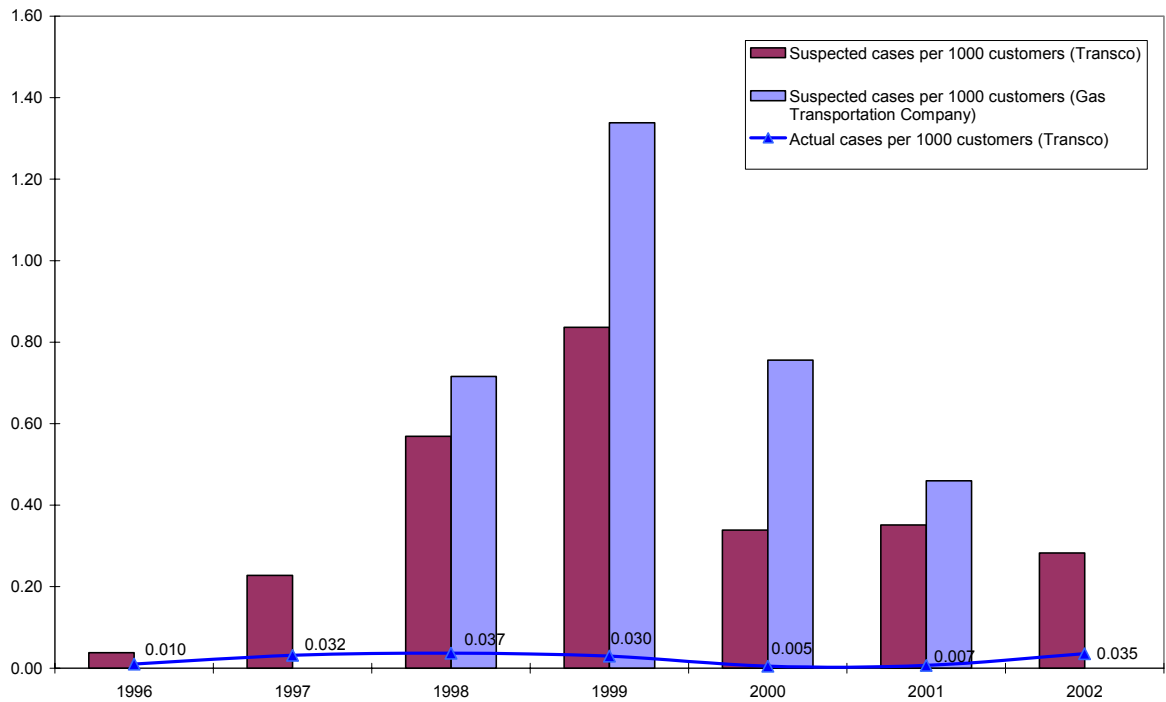


Figure 1: Suspected and actual incidents of theft of gas per 1,000 metering points on GT networks (Source: GTs).

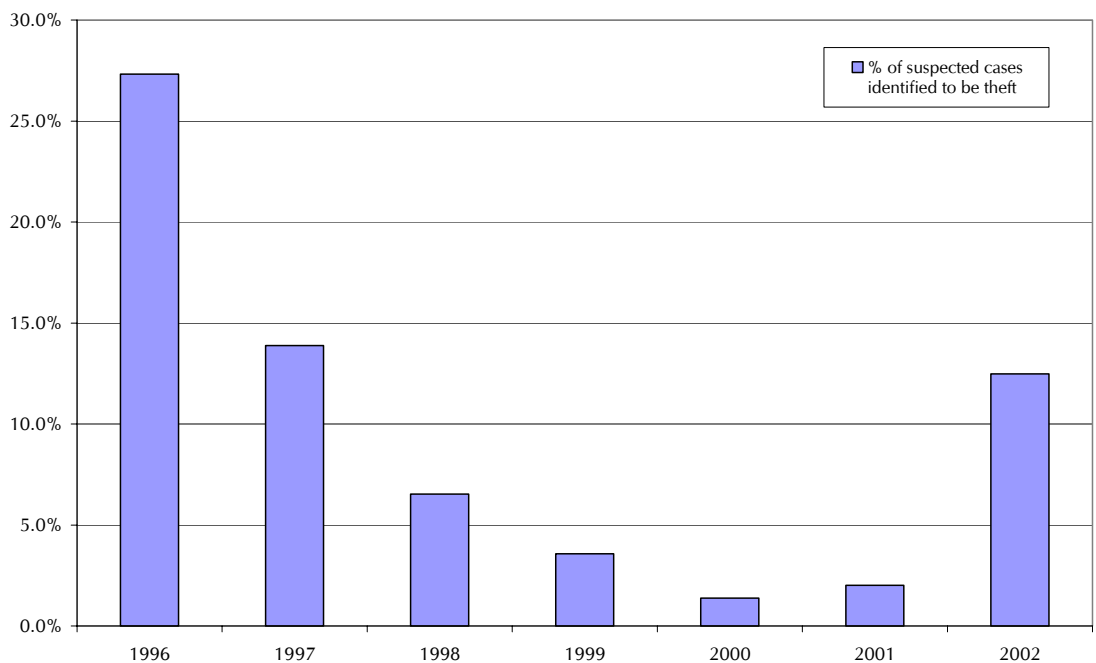


Figure 2: Proportion of suspected cases where theft was identified on Transco's network (Source: Transco)

- 4.11. The proportion of suspected cases that were identified to be theft fell from 27.3% in 1996 to 1.4% in 2000 before rising sharply to 12.5% in 2002 (see Figure 2).
- 4.12. In summary, the number of cases in the gas market that have been found to be theft in 2002 has returned to the same level as in 1998 but the number of suspected cases has reduced significantly from a peak in 1999.

Electricity

- 4.13. The quality of data submitted by distribution companies varied. On request, five DNOs have provided full data up to 2002. These DNOs tended to be those who have been active in the provision of RP Services. Another DNO has provided data on the actual number of cases identified to be theft in 2002 but has been unable to provide the number of suspected cases in that year. The remaining companies have submitted figures up to September 2001. Their data for 2001 has been uplifted to provide an estimate for the full year.
- 4.14. In response to the Ofgem questionnaire at the end of 2001, nine DNOs said that they wanted to maintain their RP Service and three indicated that they did not. Two DNOs said that they had not determined their position either way.
- 4.15. The number of suspected cases of theft per 1,000 metering points reported by DNOs since 1997 is provided in Figure 3 below. Figure 3 also shows the number of suspected cases per 1,000 metering points that have subsequently been identified as actual theft cases.
- 4.16. This shows an overall decline in the number of suspected cases from 4.66 to 3.26 cases per 1,000 metering points. The figures from the five DNOs that have provided 2002 data for suspected cases show a lower proportion of suspected cases which has continued to fall very slightly in 2002.
- 4.17. One distribution company has, according to the submitted data, investigated considerably more cases than the others. This DNO reports that there were 17.24 suspected cases per 1,000 metering systems in 1997, falling to 11.39

in 2001. This will have the result of skewing the figures for the whole the industry upwards.

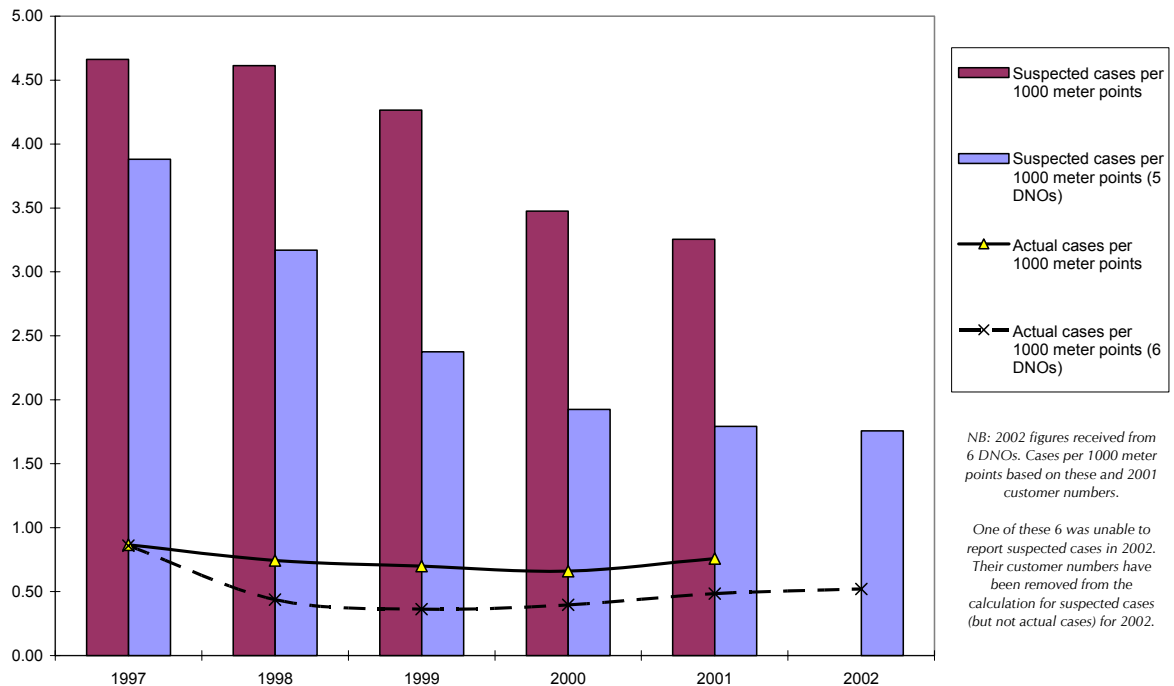


Figure 3: Suspected and actual cases of theft of electricity per 1,000 metering points identified on distribution networks (Source: DNOs)

- 4.18. The figures for the whole industry and for the six DNOs providing data up to 2002 show that the number of actual cases of identified theft fell slightly from 1997 up until 1999/2000 before rising again in 2001/2002.
- 4.19. Figure 4 below shows the proportion of suspected cases that have been identified as actual theft. This shows that an increasing proportion of suspected cases identified by DNOs and suppliers have been identified as theft, rising from 12.4% of cases in 1998 to 19.7% in 2001. The five DNOs providing data up to 2002 have increased more than the rest of the industry since 1998 with 35.4% of all suspected cases proving to be actual theft in 2002.

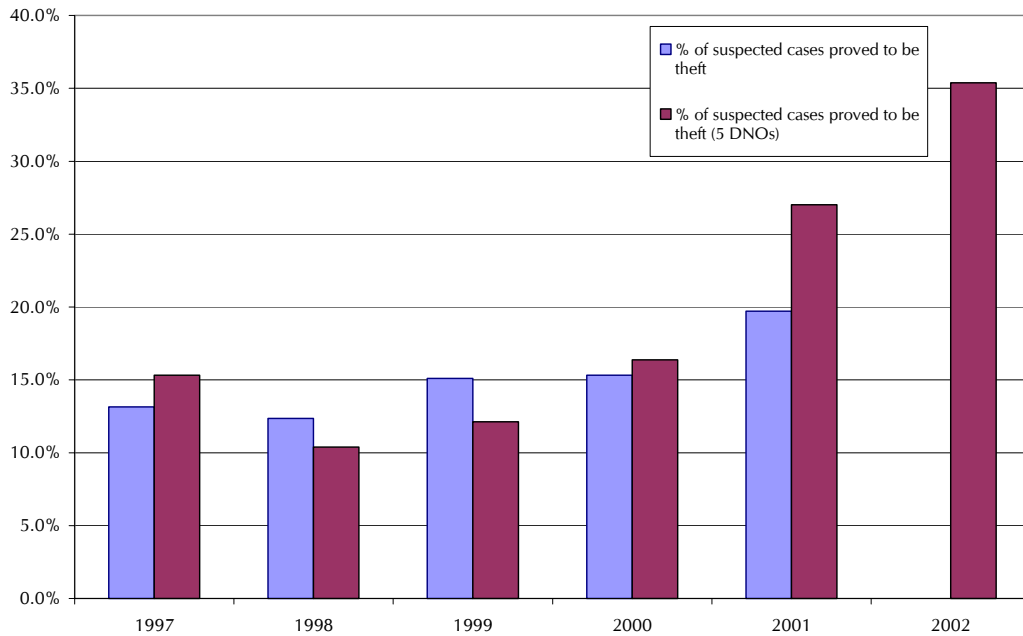


Figure 4: Proportion of suspected cases where theft was identified (Source: DNOs)

4.20. In summary, the electricity data shows that, as with the gas market, the number of suspected cases has fallen in recent years while the number of actual cases fell and then rose to levels comparable to the start of the measurement period. Again, this could have resulted from changes in industry behaviour, for example in being more effective at detecting cases of theft, or that theft is becoming more widespread and parties are only investigating the more certain cases. Significantly, some DNOs have indicated that the volume of theft leads from suppliers has substantially reduced and that they increasingly rely on self-generated investigations.

Industry Comparison

4.21. Figure 5 below compares the number of suspected cases and actual cases of theft in the gas and electricity markets. This data shows that there is a considerably higher incidence of proven theft in electricity than in gas (a highest figure of 18,045 in 2001 compared to the highest of 763 in 1998 in the gas market).

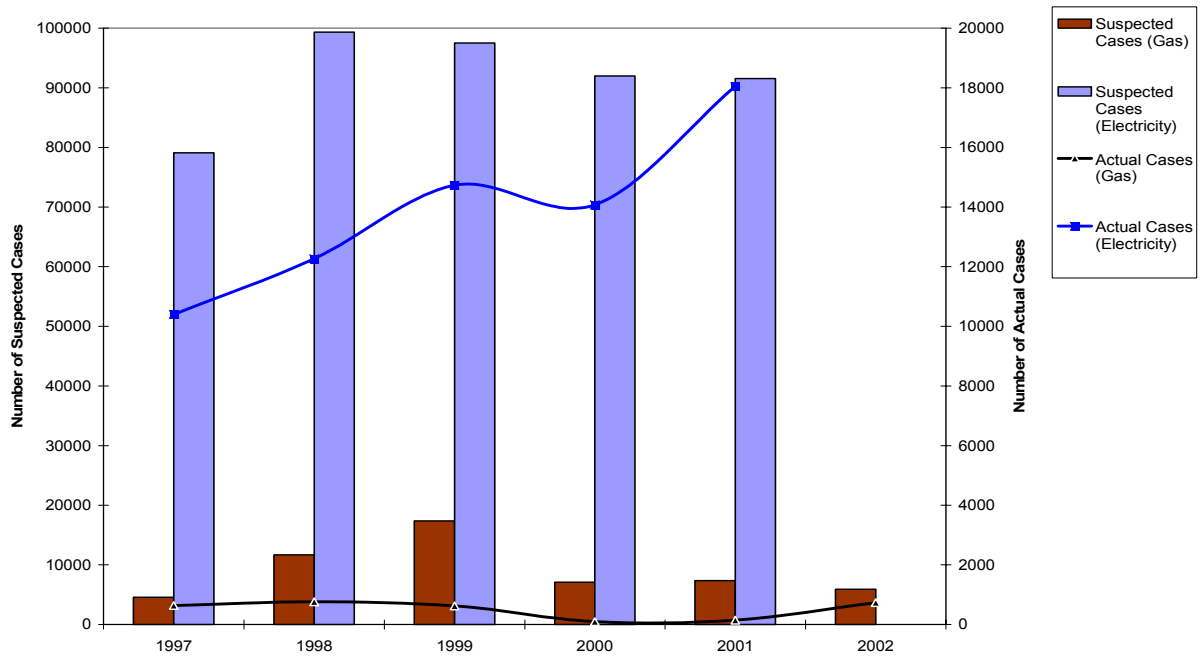


Figure 5: Comparison of suspected and actual cases of theft between the gas and electricity markets

- 4.22. Similarly, the number of suspected cases of theft in electricity is considerably greater than in the gas market, with a high of 99,332 cases in 1998 compared with the highest figure seen in the gas market of 17,389 in 1999.
- 4.23. This difference between the two markets could be caused by a number of factors such as: more metering points in the electricity sector (approximately 26 million compared with 21 million in gas); ease of theft and differing customer perception of risk between the two markets; and differences in the incentives and efforts made by parties to detect and prevent theft in the two sectors.
- 4.24. It should also be noted that, as shown in Figure 6, the number of disconnections due to theft reported to Ofgem is also significantly higher (and increasing) in the electricity market compared to gas indicating a greater level of activity by DNOs and suppliers in this sector.

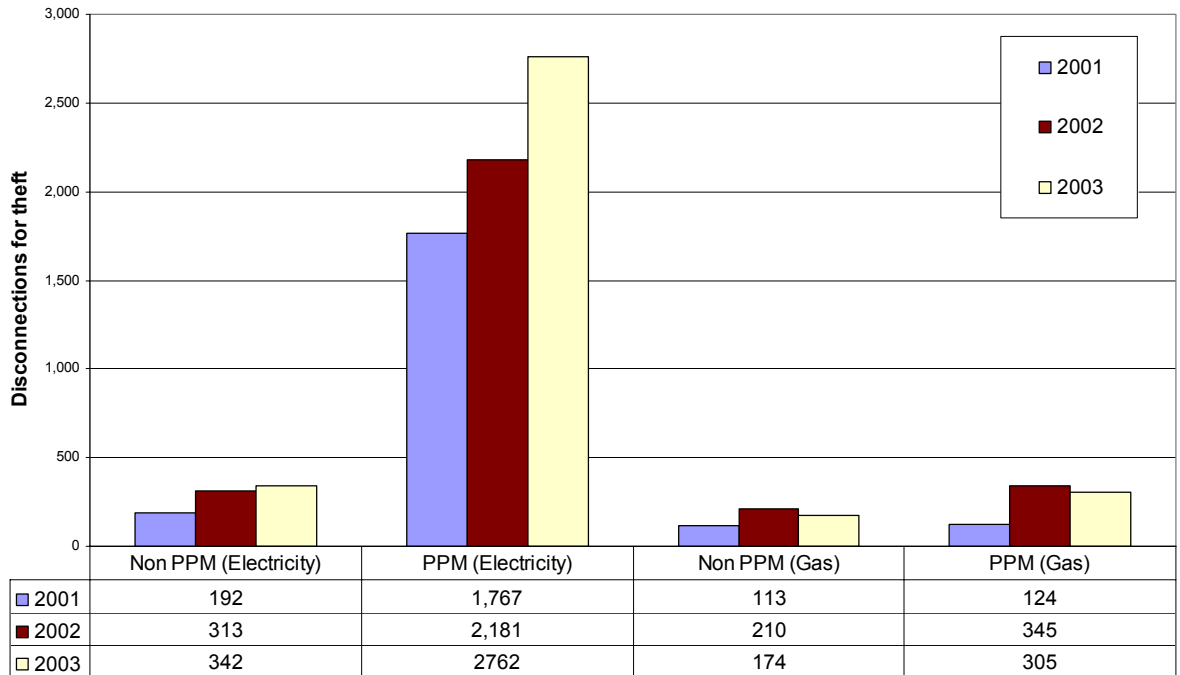


Figure 6: Disconnections for illegal abstraction and theft 2001 to 2003 (Source: Suppliers)

Cost of theft

- 4.25. To help determine the likely impact of theft on customers and the industry, Ofgem has requested information from some market participants on the cost of theft. It should be stressed that all figures presented here are estimates.
- 4.26. As part of work conducted by Ofgem on the distribution losses project, some DNOs provided estimates of the volume of stolen units. These have typically ranged between 0.2% and 0.6% of units distributed. Assuming a median unit price of approximately 7.473p/kWh¹² in the domestic market this would provide a retail value for stolen units of between £44m and £132m.

¹² This figure is based on the medium consumption bill (3,300kWh over one year) for a domestic electricity customer on the Standard Credit payment method in February 2004. The methodology is consistent with that used in Ofgem's 'Domestic Competitive Market Review 2004' April 2004.

- 4.27. The UKRPA considers that this figure should be more like 1% to 1.5% of all distributed units, giving an estimated retail value of between £220m and £330m.
- 4.28. One electricity supplier has indicated that the average charge made by a RP Service was £232 in 2003 for each case of theft identified. Suppliers may seek to recover these costs from customers.
- 4.29. In the gas market the volume of theft has historically been estimated at 0.3% of DN throughput for the purpose of shrinkage calculations. Assuming that this is correct and, for the purpose of this calculation, assuming that all stolen gas is taken by domestic customers with a median unit price of 1.686p/kWh¹³, this would provide a retail value of nearly £37m. In reality, gas may also be illegally taken in the industrial and commercial (I&C) market with a lower unit price so the figure of £37m is likely to represent the maximum retail value for this illegally taken gas with these stated assumptions.
- 4.30. The estimates provided above consider the retail value of energy stolen based on a view of the unit price and the amount of energy taken. It could be argued that there are further costs, for example in the provision and procurement of RP Services. **Comments are welcomed on the cost of theft of gas and electricity.**

¹³ This figure is based on the medium consumption bill (19,050kWh over one year) for a customer on the Standard Credit payment method in February 2004. The methodology is consistent with that used in Ofgem's 'Domestic Competitive Market Review 2004' April 2004.

5. Incentives in the electricity industry

- 5.1. This chapter provides a summary of the electricity settlement and DUoS charging arrangements. It then sets out the impacts and incentives on electricity suppliers, DNOs and customers that result from the current arrangements for the detection, investigation and prevention of theft of electricity.

Settlement

- 5.2. In the electricity market, supply companies contract bilaterally with generators to meet their customers' electricity demand. The settlement bodies¹⁴ ensure that suppliers settle any imbalances between their customers' metered demand and their notified contract volumes. To facilitate this, suppliers are required to provide meter readings to the settlement bodies to identify their settlement charges. In the NHH market, demand profiles are applied to these meter readings to provide half-hour consumption estimates for each meter point. In the HH market, actual data is provided for each half-hour period.
- 5.3. For settlement purposes, a customer's half hourly consumption is uplifted to account for distribution losses. The DNO allocates a line loss factor¹⁵ to each metering point to allow this calculation to be made. In 2002/03, losses averaged approximately 6.2% of units exported from distribution networks. Part of the line loss factor associated with each meter point may be an adjustment to account for the expected amount of electricity that is illegally taken by customers on the network and not metered. Suppliers will therefore be required to pay an element in their settlement charges to account for the expected level of theft across distribution networks.

¹⁴ ELEXON and SESL are the settlement bodies for England and Wales and Scotland respectively. ELEXON is the Balancing and Settlement Code Company (BSCCo) defined and created by the Balancing and Settlement Code (BSC or 'the Code'). All licensed electricity companies are obliged to sign the Code, other parties may choose to do so. The Code places obligations on ELEXON. ELEXON procures, manages and operates services and systems which enable the balancing and imbalance settlement of the wholesale electricity market and retail competition in electricity supply in England and Wales. SESL is the equivalent for the electricity market in Scotland.

¹⁵ A Line Loss Factor is a multiplier which converts an export volume measured at the meter point into a

- 5.4. If there is a further difference in the total value of recorded consumption (incorporating line loss adjustments) compared to the electricity imported into the network and from distributed generation, the settlement bodies adjust all recorded NHH units in order that the aggregate adjusted volume of exports matches the total imports¹⁶. This adjustment is known as the GSP Group Correction Factor and may lead to an increase or decrease in a supplier's settlement charges. The amendment to settlement charges is smeared across all NHH suppliers depending on the number of recorded units in their portfolio. These suppliers will therefore bear a further smeared cost if there are unforeseen losses owing to the unanticipated theft of electricity.
- 5.5. Where an assessment of consumption illegally taken by a customer is made by the RP Service and passed to the DC, they are obliged to enter this data into the settlement process. The supplier will then be liable for the specific settlement charge associated with this consumption and the GSP Group Correction Factor will be adjusted for all suppliers in this GSP Group to account for this identified consumption data. However, as noted earlier, the supplier may not be compelled to enter revised data into settlement if they receive this information directly from the RP Service.

DUoS charges

- 5.6. The price control, set by Ofgem, determines the level of allowed revenue that a DNO may recover. The DNO collects its allowed revenue through DUoS charges, which are paid by suppliers. These charges contain fixed and variable elements. The variable charges may include unit charges based upon recorded consumption. The recorded consumption volumes are passed through to DNOs without any adjustments being made to account for losses and GSP Group Correction.
- 5.7. The supplier will face DUoS charges which may be based on the meter readings obtained. Where a customer has taken an illegal supply then any

deemed volume to account for distribution losses between the exit point and the Grid Supply Point (a connection point between the transmission system and a distribution system).

¹⁶ It is assumed that the frequency of metering on HH (Half Hourly) sites will ensure that meter read information on these sites is accurate and therefore should not be subject to GSP Group Correction.

meter reading will not reflect the true level of consumption and the supplier's corresponding DUoS charge may consequently be lower. If a supplier detects theft then they may be liable for revised DUoS charges associated with an estimate of the consumed units.

- 5.8. If a DNO does not recover their allowed revenue within a given year, it may make an adjustment to their DUoS charges in future periods to account for this under-recovery. However, due to the losses incentive and units driver mechanisms contained within the price control, their allowed revenue will be less than it would have been if the stolen units had been recorded.

Incentives on suppliers

- 5.9. Suppliers are obliged by their licences to take reasonable steps to detect and prevent the theft of electricity by their customers including through the inspection of meters. Where it can be shown that a supplier is not meeting its licence requirements then Ofgem can take enforcement action. This may result in, among other things, a financial penalty.
- 5.10. The current arrangements for settlement and DUoS charges do not appear to provide commercial incentives on suppliers to detect theft.
- 5.11. Where a customer has illegally taken a supply of electricity without detection, the supplier will not pay the full settlement charges for the electricity consumed by this customer. Instead they will pay settlement charges based on the recorded consumption, line loss factors and GSP group correction factor. Where theft has been detected, an assessment of the customer's estimated consumption may be provided into settlement. The supplier would then be liable for the settlement charges associated with this unmetered consumption, with no guarantee that it will be able to recover these costs from the customer.
- 5.12. The supplier's settlement charges include an amount which accounts for the undetected theft of electricity by customers. This may include a proportion of the line loss factor uplift and the GSP Group Correction Factor. As a general smeared cost, there appears to be little incentive or commercial

advantage in seeking to prevent theft by their customers under the current settlement arrangements.

- 5.13. Where a customer is taking an illegal supply that has not been detected, the supplier will not pay the specific DUoS charge associated with those stolen units. Where the supplier detects an illegal supply, it may become liable for the DUoS charges associated with the unmetered units with no guarantee of recovering this from the customer.
- 5.14. Where the supplier uses a RP Service then there are charges for this activity. The charges for RP Services are currently levied on suppliers in a number of ways. Typically, a DNO who maintains a RP Service will have a schedule in the DUoS charging statement which sets out both charges for actions that will be carried out by the RP Service where a suspected theft incident has been identified and charges for actions that will be carried out at the request/with the specific agreement of a supplier. Other charges may be levied through bilateral arrangements between suppliers and DNOs.
- 5.15. However, the exact position with regard to charging is unclear, particularly as some RP Services are no longer provided through arrangements set out in the DUoS Agreement. Appendix 3 lists those DNOs who have published transaction charges for RP Services as part of their DUoS Agreements. These costs further reduce the financial incentive on the individual supplier actively to seek to detect theft of electricity.
- 5.16. It is likely that suppliers will have an incentive to investigate theft of electricity if they are able to recover monies from individual customers as this will increase their revenue. However, the supplier will incur costs in making the investigation and may become liable for increased settlement and DUoS charges. It is possible that the supplier may recover these charges on the customer. However, customers may refuse to pay and some suppliers may not consider it worthwhile taking the matter through the courts. If the debt is placed onto the prepayment meter then it is also possible that some customers may move premises before the debt is fully repaid.

Incentives on DNOs

- 5.17. As described above, a DNO can recover their allowed income under its price control through DUoS charges to suppliers. These charges are derived from the recorded consumption data provided by suppliers. Where a customer has taken an unexpected and undetected illegal supply of electricity, the distribution company is not able to levy DUoS charges on the supplier for those lost units within that period. They may however adjust their DUoS charges in future periods to account for under recovery. However, due to the effect of the incentive mechanisms described below, their allowed revenue will be lower than would have been the case had the stolen units been recorded.
- 5.18. There are two incentives built into the price control which reward DNOs for a reduction in the level of theft on their networks. Firstly, under the symmetrical mechanisms of the loss incentive, distribution companies are entitled to recover an additional 2.9p/kWh that the annual losses figure is below the 10 year average loss proportion.
- 5.19. Secondly, the amount of revenue that the DNO can recover under the price control is affected by the volume of units recorded as being distributed across their network. Where theft of electricity occurs then the recorded volume of units is lower than the actual volume.
- 5.20. These two mechanisms are currently subject to Ofgem review as part of work on setting the next distribution price control to apply from April 1 2005¹⁷.
- 5.21. Evidence collected in Ofgem's November 2001 survey suggests that, for some DNOs, the provision of a RP Service is commercially viable. However, there are significant variations between companies. Some considered that there was not a commercial driver and they did not want to provide this service. It was suggested that this may result from the different characteristics of DNOs' networks.

¹⁷ Electricity Distribution Price Control Review - Policy Document, March 2004.
http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/6584_Consultation%20Final.pdf
Theft of gas and electricity

Impacts on customers

- 5.22. Under the current arrangements, customers who take a supply of electricity illegally without detection will benefit financially as they will consume unmetered units of electricity for which they are not billed by a supplier.
- 5.23. If the theft is detected then, as noted in Appendix 1, the customer may be prosecuted, fined and may separately be contractually liable to pay for the electricity illegally taken and associated costs of investigation and prosecution. In addition, customers who tamper with their meters when they are not qualified to do so put themselves, the other occupants of the property and the property itself, at physical risk.
- 5.24. Honest customers are also affected by illegal abstraction. As noted above, supplier settlement charges and DUoS charges may be increased to account for stolen units and there are other costs for a supplier in making investigations and procuring RP Services as well as lost revenue from unbilled customer charges. It is likely that these costs will be reflected in the charge levied by suppliers for electricity. As noted in Chapter 4, the estimates of the extent of electricity theft vary significantly from 0.2% to 1.5% of distributed units with the vast majority being undetected and unrecovered. Depending on whether either of these estimates is shown to be accurate, this could equate to an extra £1.70 to an extra £12.70 per year for each domestic electricity household.

6. Incentives in the gas industry

- 6.1. This chapter sets out the impacts and incentives on gas suppliers, shippers, GTs and customers that result from the current arrangements for the prevention, investigation and detection of theft of gas. To explain how these incentives impact on the gas market, this chapter first provides a summary of the GT transportation charging arrangements.

Transportation charges on Transco's network

- 6.2. GTs levy transportation charges on shippers for each of the sites supplied. For Transco these charges are made up of three main elements: a customer charge, capacity charges for the National Transmission System (NTS) and Distribution Network (DN) and a commodity charge.
- 6.3. The customer charge makes up around 30% of transportation charges, the NTS capacity charge makes up 20%, DN capacity charges make up 25% and the variable DN commodity charge makes up the remaining 25%.
- 6.4. Both the customer charge and the capacity charges are fixed for each end user category (EUC) within each DN. All domestic customers fall within the same EUC and so will attract the same customer charge and capacity charges within each DN.
- 6.5. For sites that consume more than 73,200kWh per year (includes Daily-Metered (DM) sites and Monthly Read sites and some Non-Daily-Metered (NDM) sites), the commodity charge is based on the value of the meter reads taken.
- 6.6. For NDM sites with an Annual Quantity (AQ) of less than 73,200kWh (Smaller Supply Points) the commodity charge varies in accordance with the value of the AQ. The AQ is an estimate of the annual volume of gas likely to be consumed at that metering point. It is derived from the meter read history for the site and is subject to an annual AQ review. This recalculation does not retrospectively affect the commodity charge.

- 6.7. The GT meters the total volume of gas input into a particular DN charging zone. Transco subtracts an allowance for shrinkage from this volume. DM, Monthly Read and some larger NDM sites with an AQ greater than 73,200kWh will pay a commodity charge based on their meter reads. Commodity charges for Smaller Supply Points are based on the difference between the gas input to the DN, allowing for shrinkage, and the metered off-takes. This is allocated between shippers in accordance with the size of the AQs for all of the sites in their portfolio and is known as Reconciliation by Difference (RbD).
- 6.8. Theft of gas is incorporated in DN shrinkage. The majority of shrinkage relates to leakage of gas through mains. The volume of DN shrinkage which Transco "provides" under the Network Code is determined by a DN shrinkage factor¹⁸.
- 6.9. It has historically been estimated that 0.3% of DN throughput relates to theft of gas. Using the agreed industry split, Transco is responsible for 10% of this amount. The total allowance within shrinkage for theft of gas is therefore 0.03% of DN throughput which Transco is therefore required to purchase and which was the equivalent of £1.7m in 2001. These costs are taken into account when assessing Transco's allowed revenues under the price control.
- 6.10. The shrinkage factor is reviewed each year. Transco has an incentive to reduce the volume of gas lost through shrinkage relative to this factor before each annual assessment. If Transco manages to reduce shrinkage volumes, the cost paid by Transco for shrinkage may be less than that which was assumed in setting the allowed revenues.

Transportation charges on IGT networks

- 6.11. The mechanism for levying transportation charges on IGT networks differs from that used by Transco. For sites on these networks, shippers will pay transportation charges to Transco for services up to the IGT network and will pay the IGT for transportation across their network.

¹⁸ The national average of the DN shrinkage factors is currently set under the Network Code as 0.7% of demand. Therefore, in effect, Transco has to buy 0.7% of DN gas throughput.
Theft of gas and electricity

- 6.12. Under the provisions of the relative price control (RPC) introduced in January 2004, the sum of transportation charges paid for sites on an IGT network (including the payment to Transco) has been capped. This charge has been capped at a level which has the overall effect that the shipper pays an amount which is broadly consistent with the Transco-equivalent charge for individual premises.
- 6.13. IGTs are typically associated with new build sites. Premises on new build sites are allocated an estimated AQ when they start to take a flow of gas. For domestic sites this AQ is taken from the Network Exit Agreement¹⁹ (NExA) AQ table which provides differing AQ values depending on the type of property and region. Non-domestic sites are allocated an AQ by agreement between the shipper and IGT.
- 6.14. A review of IGT AQ values will not affect the IGT's transportation charges as the AQ value is set over a ten year period for RPC purposes, however, the AQ values set out in the NExA AQ table may vary for new connections going forward.
- 6.15. If a customer is taking an illegal supply of gas then the supplier will collect less revenue from the customer due to the unrecorded usage. However, the IGT's transportation charges will not reflect this drop in recorded consumption but will be based on the static AQ value.

Incentives on shippers and suppliers

- 6.16. Suppliers are obliged by their licences to take reasonable steps to detect the theft of gas by their customers including ensuring that a meter inspection takes place at least every two years. Where it can be shown that a supplier is not meeting their licence requirements, Ofgem can take enforcement action. This may result in a financial penalty.
- 6.17. Suppliers bill customers based on meter reading information collected and estimation techniques. As noted above, on Transco's network around 75%

¹⁹ In this context the NExA refers to an agreement between Transco and an IGT setting out the terms of use for off-take of gas from Transco's network.

of the transportation charge is fixed and 100% is fixed between AQ review periods for all Smaller Supply Point customers. Suppliers therefore have an incentive to maximise their revenue from these customers by preventing theft to minimise the proportion which they then have to then pay in transportation charges.

- 6.18. Following an AQ review, a shipper's transportation charge for a site that has started taking an illegal supply of gas will fall where they have supplied a meter read to Transco but will remain the same where they have not²⁰. Suppliers have an incentive to submit meter reads to Transco where the AQ is likely to change downwards as this will lower their transportation charges for that site.
- 6.19. Where a supplier has investigated an instance where a customer has illegally taken a supply of gas but has not been able to recover the gas charges and cost of the investigation, they can apply to Transco to have their shipper's transportation charges amended to account for these costs. Transco will make this adjustment where the supplier can demonstrate that it has met the requirements of the Reasonable Endeavours Scheme.
- 6.20. The Reasonable Endeavours Scheme and associated scheme of allowances guard against the disincentive on suppliers to actively seek to detect theft. Instead, theft is treated as an industry issue so that an individual supplier's efforts to prevent theft are not shouldered solely by that supplier. Instead they are included as a general industry cost.
- 6.21. However, only very limited use has been made of this facility. In 2003, Transco received 19 claims for adjustments to shipper charges under the reasonable endeavours arrangements of which five were rejected for not meeting the stipulated criteria. Improvements have been sought to these arrangements through the Transco-led Theft of Gas Working Group to ensure that the process for claiming allowances associated with the reasonable endeavours payments is not excessively onerous or unwieldy. Ofgem has been asked to review the Transco (Allowances for Gas Taken

²⁰ There is an obligation to provide Transco with an actual meter reading for 70% of sites within a given year. However this means that up to 30% of sites may not be adjusted during the yearly AQ review.

Illegally) Scheme 1997 to ensure that the values of the adjustments made by Transco are appropriate.

- 6.22. One of the outcomes of allocating commodity charges using RbD for Smaller Supply Points is that suppliers in this part of the market, and potentially the customers, pick up all of the charge for transportation of stolen units over and above that associated with shrinkage. This means that any theft in the DM, Monthly Read and larger NDM Supply Point market is smeared onto Smaller Supply Point market and the commercial incentives to detect theft in this part of the market are weakened.
- 6.23. Shippers interact with both suppliers and GTs. They have contractual liabilities to pay the Transportation charges to the GT, to pay producers for the gas input into the network and to charge suppliers for their shipping services. The extent to which there is an economic incentive on shippers to reduce the level of theft will depend on their contractual arrangements with the supplier. These arrangements will dictate, for example, whether they pass transportation charges and gas costs through to suppliers directly or whether their shipping charges for sites are fixed.
- 6.24. As the transportation charges on IGT networks appear to be static and do not reflect any drop in recorded consumption, the supplier is incentivised to maximise the recorded usage against each of its sites on IGT networks and therefore detect and prevent theft.
- 6.25. Few IGTs have put in place a Reasonable Endeavours Scheme to allow rebate of Transportation Charges to shippers where the supplier has failed to recover charges from a customer who has taken an illegal supply of gas. Given the static nature of the transportation charges, any allowances made by IGTs are only likely to cover the costs of investigation and remedy where this has not been recoverable from the customer.

Incentives on GTs

- 6.26. When a Smaller Supply Point customer begins to take an illegal supply of gas, Transco will still collect the same transportation charge from the shipper as before the theft. In such instances the GT will not have an incentive to detect and prevent theft of gas.
- 6.27. Following an AQ review, those sites where theft has occurred and a meter read has been submitted to Transco will have their AQ revised downwards and the commodity charge for the site will fall. A supplier's individual transportation charge for that site will be lower but the value of the decrease in the shipper's commodity charge will be smeared across all shippers through RbD.
- 6.28. Unlike the electricity distribution price control where there is an incentive to increase the number of units measured at the meter point, Transco's volume driver measures the number of units input into each DN minus shrinkage. This volume driver does not appear to offer an incentive on Transco to detect and prevent theft.
- 6.29. Transco is required to purchase gas to cover shrinkage of which stolen gas is a component. Transco is incentivised to reduce theft to reduce its shrinkage costs. However, theft appears to be a small part of the overall shrinkage cost and the direct incentives associated with detection may therefore be weak.
- 6.30. Where it is identified that a supply of gas has been illegally taken in conveyance and Transco is unable to recover these charges from the customer, it is entitled to make adjustments to shippers' charges to account for the cost of the failed investigation, any loss in revenue and the cost of any associated balancing action taken. This mechanism appears to remove any negative incentives on Transco from seeking to detect and prevent theft of gas in conveyance.
- 6.31. IGTs do not appear to have incentives to detect actively and prevent theft under the RPC as their revenue is not dependent on the number of units recorded as off-take from their networks.

Impacts on customers

- 6.32. The impacts on gas customers from theft of gas are broadly the same as those described for electricity customers in Chapter 5.
- 6.33. Customers who take an undetected illegal supply of gas will benefit financially as they will consume units of gas that are not metered and not billed for by a supplier.
- 6.34. However, these customers run the risk of being detected. Where the taking of an illegal supply has been detected then, as noted in Appendix 2 the customer may be prosecuted, fined and may separately be contractually liable for the gas illegally taken. In addition, customers who tamper with their meters when they are not qualified to do so put themselves, the other occupants of the property and the property itself at physical risk.
- 6.35. Honest customers are also affected by theft of gas. As noted above there is uplift to transportation charges to account for stolen gas and this cost is smeared back across Smaller Supply Point customers. There are other costs for a supplier in undertaking investigations and in lost revenue from unbilled customer charges. It is likely that these costs will be reflected back to customers in the price they pay for gas. As noted in Chapter 4, the cost of theft of gas is estimated at approximately £37m per year. If this estimate is correct, the average domestic household may be paying an extra £1.76 per year to cover the cost of theft.

7. Effectiveness of current arrangements

- 7.1. Ofgem is not consulting on a specific set of proposals nor does it consider that it is appropriate, at this stage, to restrict the scope of this review. The outcome could be a fundamental change to the current arrangements or it could be confirmation that the current arrangements in both sectors are effective.
- 7.2. This chapter sets out some of the potential areas of change that have been identified following discussions with industry participants. This list is not exhaustive. Ofgem invites comments on these potential areas of work as well as views on other alternative proposals.

Responsibilities and incentives

Electricity

- 7.3. Suppliers currently have licence obligations to detect and prevent illegal abstraction of electricity and to inspect meters for evidence of theft. However they have weak commercial incentives to undertake these activities. Where a supplier identifies theft, they may become liable for the associated DUoS and settlement charges, the cost of employing a RP Service and other internal administrative costs, without any guarantee of being able to recover these costs from the customer.
- 7.4. Chapter 5 indicates that there are incentives for DNOs to reduce the level of theft and increase the volume of units recorded on their networks. Where theft is detected and prevented then this increases their DUoS income through the losses incentive and the unit driver in the price control.
- 7.5. **Comments are invited on whether the responsibilities and incentives on electricity suppliers and DNOs are correct or should be amended. If respondents consider that the responsibilities and incentives should be amended then views are requested on what changes should be made.**

Gas

- 7.6. In the gas market, suppliers are obliged by their licences to inspect meters for evidence of theft. They are also required to investigate suspected cases but there does not appear to be an explicit obligation to prevent theft.
- 7.7. The reasonable endeavours and allowances schemes required under the GT licence conditions attempt to negate the negative financial incentives on suppliers to undertake detection and investigation activity. However, in practice the number of payment claims received by Transco from suppliers is very small (19 claims in 2003). It should also be noted that number of actual and suspected theft cases is significantly lower in the gas market compared to electricity.
- 7.8. It has previously been suggested that the reasonable endeavours arrangements are unduly onerous and complex and that this has led to the low number of claims for financial recompense being made by suppliers. Ofgem notes the role of the Theft of Gas Work Group in updating the claim forms, the process for suppliers to submit claims under the Reasonable Endeavours Scheme and improving the theft of gas communication mechanism. If changes are required to the Reasonable Endeavours Scheme itself then Ofgem will consider designation following Transco consultation with suppliers and shippers. Ofgem will also consider whether to review the values for the adjustments to shipper charges set out in the Transco (Allowances for Gas Taken Illegally) Scheme 1997.
- 7.9. Ofgem notes that most IGTs have not put in place reasonable endeavours arrangements for their networks. This is likely to weaken the incentives on gas suppliers to seek actively to detect and prevent theft on these networks as there is no mechanism to recoup costs from failed attempts to recover charges from customers.
- 7.10. **Comments are invited on whether the responsibilities and incentives on gas suppliers, shippers and DNOs are correct or should be amended. If respondents consider that the responsibilities and incentives should be amended then views are requested on what changes should be made.**

- 7.11. **Specific comments are requested on the effectiveness of the reasonable endeavours and allowances schemes in place and the role of IGTs in providing a mechanism for suppliers to recoup costs from failed attempts to recover charges from customers.**

Provision of Revenue Protection Services

- 7.12. In the gas market, suppliers provide or procure their own services for detecting, investigating and preventing the theft of gas.
- 7.13. In the electricity industry, this function has traditionally been provided for suppliers by DNOs although this is not a licence requirement. As described in this document, this arrangement can no longer be assumed to be true for every distribution network.
- 7.14. Some DNOs have suggested that they wish to continue to provide a RP Service as they believe that it is an effective tool in protecting their income. Other DNOs have suggested that this is not a distribution function and suppliers should be required to make their own revenue protection arrangements, as occurs in the gas market. Further, some DNOs point to the fact that they have sold their metering businesses and lost their expertise in this area.
- 7.15. Were all DNOs to be required to provide RP Services then those that have already disposed of this function would have to restore or acquire this service. Those DNOs who already outsource their RP Services may have to review their contracts.
- 7.16. Anecdotal evidence suggests that some electricity suppliers would prefer all DNOs to provide a RP Service for sites on their networks. These suppliers argue that DNOs should be required to provide an in-area RP Service because it is more economical to do so. RP units tend to be small and highly specialised with staff trained in detection, investigation, personal safety and in providing evidence in court. Some parties argue that RP provision benefits from local knowledge and therefore has a geographical relationship.

- 7.17. Newly licensed DNOs and existing DNOs operating outside of their traditional distribution services areas are also not required by their licences to provide a RP Service on these networks. It is currently unclear how suppliers intend to meet the requirement to prevent and detect theft on these networks and whether these DNOs will provide such RP Services.
- 7.18. **Comments are requested as to whether respondents consider that there should be a requirement on GTs and/or DNOs to provide RP Services for use by suppliers on their networks or whether this should be a supplier responsibility. In particular, it would be useful to understand any differences between the gas and electricity markets and in how the provision of RP Services on IGTs, IDNOs and DNOs operating outside of their distribution services areas should be treated.**

Codes of practice

- 7.19. Codes of practice exist in both the gas and electricity markets that set out the manner in which revenue protection services should be undertaken.

Electricity

- 7.20. Where a DNO provides a RP Service under the terms of their DUoS Agreement, the RP Service, and the suppliers who sign the DUoS Agreement, agree to abide by the rules set out in the RP Code of Practice.
- 7.21. Where a DNO is not providing a RP Service, as allowed for under the terms of their DUoS Agreement, a supplier will not be required under the terms of the DUoS Agreement, to comply with the RP Code of Practice. If a supplier has contracted with a RP Service for that distribution area then the supplier and RP Service could only be bound by the terms of the Code through a separate contractual agreement.
- 7.22. It has been suggested that the Code is outdated, for example it relates to the licensing arrangements prior to the Utilities Act 2000 and may also require updating in other areas. The Code itself makes provision for a Committee to meet quarterly to review the content of the Code. To date this Committee has not met.

- 7.23. **Comments are requested here on whether there is value in having a RP Code of Practice in the electricity market and, if so, whether and how it should be reviewed and updated. Views are also requested on whether it is sufficient or appropriate to maintain compliance with the Code through the DUoS Agreements or whether, for example, compliance should be voluntary or mandated by licence.**

Gas

- 7.24. The Theft of Gas Code of Practice is voluntary and has been developed under the auspices of the Gas Forum²¹. The Code summarises the supplier responsibilities for theft of gas and provides a common framework for suppliers in dealing with customers with regard to suspected and actual theft.
- 7.25. It is for discussion whether there should be a requirement in the gas (and electricity) market for a Code of Practice to set out the minimum requirements for suppliers to meet their licence obligations on theft. Potentially, the establishment of and adherence to such a Code could become a requirement of the gas (and electricity) supply licences.
- 7.26. **Comments are requested on whether there is a continued need for the Theft of Gas Code of Practice and, if so, whether it should be reviewed and updated and if so, who should carry out this review. Comments are also requested on whether adherence to the Theft of Gas Code of Practice should be voluntary or mandated, for example under the standard conditions of the licences.**

Compliance

- 7.27. The approach to enforcement is fundamentally a decision for Ofgem to take, whilst paying due regard to our statutory obligations.
- 7.28. The Electricity and Gas Acts and licence regimes set out the obligations on licence holders. Ofgem has powers to enforce compliance with these

²¹ The Gas Forum was established in 1994 to represent the views of UK gas shippers and gas suppliers. The Gas Forum has established a number of work groups covering a wide range of issues and has in place Codes of Practice for the Theft of gas and electricity

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obligations, to take action and, in particular, to consider whether it is appropriate to impose a financial penalty where compliance has not been achieved.

- 7.29. Evidence from the 2001 theft survey suggests that suppliers vary in their efforts to detect theft. Some suppliers may therefore not be making sufficient efforts in this area. It is possible that theft has been given a relatively low level of importance against other issues in the market.
- 7.30. Compliance with these arrangements not only impacts on the detection and prevention of theft but also impacts on the accuracy of customer billing, the accuracy of data going into the settlements processes and customer safety.
- 7.31. To date, Ofgem has not taken enforcement action against a licensed party in relation to the arrangements for the prevention and detection of theft and the requirement to inspect meters for evidence of theft.
- 7.32. Ofgem could undertake compliance work in two main ways. This could be either reactive, for example in response to complaints that a particular licence holder was failing to meet their obligations, or through proactive monitoring. Ofgem has not previously sought to undertake significant levels of proactive monitoring in this area. However, as an example of what could be done, Ofgem has recently set in place arrangements with Transco to receive reports on the time taken by suppliers to investigate suspected incidents of theft following a request from Transco. These reports show that, where suspected theft cases have been notified to Transco and Transco has asked the supplier to investigate, this is being done within an acceptable timeframe in nearly all instances.
- 7.33. The extent to which Ofgem will seek to impose regulatory incentives through proactive monitoring of licence compliance will depend on a number of factors. These include the impact on customers of not seeking to enforce these regulations proactively and the effectiveness of other incentives and arrangements in delivering the desired outcome.

- 7.34. Alternatively, the industry may wish to develop self-regulation and put in place its own processes and procedures to ensure compliance with their obligations with regard to the theft of gas and electricity.
- 7.35. Ofgem notes that several IGTs have not put in place a Reasonable Endeavours Scheme with an associated scheme of allowances, as required by their licences. On these networks, suppliers are therefore not able to apply for adjustments to their transportation charges should they be unsuccessful in recovering this from customers who have illegally taken a gas supply.
- 7.36. **Ofgem believes that an appropriate and effective regime for the detection and prevention of theft should not require regulatory action as a matter of course to ensure its success. However, action may be required where it can be demonstrated that a particular party has not met its regulatory obligations. Comments are requested here on this approach, in particular, whether respondents consider that the current arrangements are sustainable or would require ongoing compliance enforcement by Ofgem to ensure that parties meet their obligations.**

8. Principles for arrangements to detect, investigate and prevent theft

- 8.1. In carrying out this review, Ofgem's overall aim is to see cost-effective arrangements and incentives for the detection and prevention of theft of gas and electricity. This will help to keep the costs associated with theft that honest customers face at a minimum. It will also reduce any safety risk.
- 8.2. This chapter sets out a number of draft principles. These principles should assist in determining:
- ◆ whether the current arrangements are effective at delivering this outcome, and
 - ◆ the merits of any potential changes in meeting this desired outcome.

Draft principles

- 8.3. The draft principles proposed are:
- ◆ **Principle 1:** Customers who are taking an illegal supply of gas or electricity face a high risk of being detected and prosecuted. These customers should also face effective sanctions where theft is detected.
 - ◆ **Principle 2:** Commercial incentives on suppliers, GTs and DNOS should actively encourage the detection and prevention of theft of gas and electricity. Where appropriate commercial incentives cannot be put in place there should be effective regulatory safeguards in place.
 - ◆ **Principle 3:** The arrangements should not require detailed monitoring as a matter of course or require regular Ofgem intervention to ensure compliance and their overall effectiveness.
 - ◆ **Principle 4:** The arrangements should be cost effective and should take into account the impact of theft on customers both in terms of cost and safety.

9. Work Programme

- 9.1. This chapter sets out the proposed work programme and timetable for this review.
- 9.2. Ofgem proposes to hold a seminar on 7 June 2004 to discuss the issues raised in this document and to review the comments received from respondents. To assist with the debate, Ofgem will also invite a number of parties to present their views at this seminar.
- 9.3. At the seminar, it is Ofgem's intention to highlight any further information obtained on the performance of industry parties against the current obligations and arrangements.
- 9.4. Ofgem intends to use the seminar to explore possible ways forward. At this stage Ofgem is not able to prejudge the outcome. In September 2004 Ofgem intends to issue a document that provides a summary of responses and outcome of the seminar together with either:
- ◆ a timetabled set of proposed changes to the current arrangements
 - ◆ a proposal to set up working groups with an indicative timetable to deliver recommendations on the key areas identified, or
 - ◆ the conclusion that no further action is required.
- 9.5. In summary, the proposed timetable for the key events in this draft work programme is as follows:
- | | |
|----------------|--|
| April 2004 | Publish a discussion document. |
| 7 June 2004 | Seminar. |
| 24 June 2004 | Responses requested to discussion document. |
| September 2004 | Publish a summary of responses, seminar outcome and identified next steps. |

10. Way forward

- 10.1. In this document Ofgem has set out a summary of the current arrangements for the detection, investigation and prevention of theft together with an analysis of the incentives that these arrangements place on licensed companies. Ofgem has also attempted to set out draft principles against which the current arrangements, and any amendments to these arrangements, should be judged and to review some of the potential areas where it has been identified that improvements could be made.

Views requested

- 10.2. Ofgem is now asking for views on whether respondents consider that the current arrangements in the market for the prevention and detection of theft of electricity and gas are fit for purpose.
- 10.3. The views of respondents are requested on whether there is merit in establishing principles to assist in delivering successful arrangements for the prevention and detection of theft of gas and electricity and, if so, whether the draft principles set out in Chapter 8 are appropriate.
- 10.4. Ofgem are also challenging the industry to identify what changes, if any, should be made to secure cost-effective arrangements for the detection, investigation and prevention of theft of gas and electricity. Views are sought on the specific questions raised in Chapter 7 on areas of potential improvement to the current arrangements.
- 10.5. Ofgem would also be particularly interested in any international experience that companies who operate in a number of different countries can share as part of this review. Given current problems with assessing the scope of the problem, Ofgem would be interested in information on theft levels in other countries. Ofgem would also be interested in what arrangements other countries, with competitive retail markets, have to detect and prevent theft of gas and electricity. Ofgem would be particularly interested if companies would be willing to share any relevant international experience in a presentation at the June seminar.

- 10.6. Views are sought on the cost and prevalence of theft of gas and electricity and any other issues raised in this document.

Next steps

- 10.7. It is Ofgem's intention to request further information on activity in the electricity and gas markets to update the survey conducted in November 2001.
- 10.8. It is Ofgem's intention to hold a seminar on 7 June 2004 to review the issues that have been raised in this document and the responses received to it. The seminar will also aim to provide a summary of the information provided in response to the data collection exercise mentioned above.
- 10.9. Subject to the responses received to this discussion document, Ofgem will publish a further document in September 2004. This document will summarise the views of respondents, the views expressed at the June seminar and either consult on or recommend improvements, propose workgroups to take forward suggested amendments or conclude that no further work is required.

Appendix 1 Electricity Regulations

1.1 The following chapter sets out the regulatory framework for the prevention and detection of theft of electricity²². In particular it provides: a summary of the related areas of the Electricity Act 1989 (as amended), the licence requirements before and after the Utilities Act 2000, the link to DUoS Agreements and specific related safety legislation.

Electricity Act 1989

1.2 Under Schedule 6, paragraph 4 of the Electricity Act the DNO is entitled to recover the value of the electricity taken by the “customer”:

- ◆ if the customer takes a supply of electricity which is in the course of being conveyed by the DNO
- ◆ if the customer restores their supply without consent following disconnection, or
- ◆ if a supply is taken in cases where there is not a contract or deemed contract in place with a supplier.

1.3 The DNO is required to publish a scheme setting out how they will recover this money. In practice, Ofgem does not believe that any DNO has published such a scheme and so is not currently permitted to recover the value of electricity taken by the customer under these circumstances.

1.4 Under Schedule 6, paragraph 5 of the Electricity Act it is an offence, with a maximum fine not exceeding level 3 on the standard scale²³, to reconnect a premises that has been disconnected by the supplier or DNO without permission from the supplier or DNO. The supplier or DNO that originally disconnected the premises is entitled to disconnect it again.

²² This summary should be used as a guide only and licensed parties should ensure that they comply with their obligations.

²³ The maximum fine to be levied under level 3 on the standard scale is currently set at £1000.

- 1.5 Under Schedule 6, paragraph 6 of the Electricity Act it is an offence, intentionally or by culpable negligence, to damage an electric line, plant or a meter with a maximum fine not exceeding level 3 on the standard scale. The DNO is entitled to disconnect where an offence has occurred.
- 1.6 Under Schedule 7, paragraph 11 it is an offence, with a maximum fine not exceeding level 3 on the standard scale, for a customer to alter a meter register or prevent it from correctly registering the quantity of electricity supplied. The supplier is entitled to disconnect if such an offence has occurred and to remove the meter.
- 1.7 Section 3C of the Electricity Act 1989 (as amended) requires Ofgem to consult with the Health and Safety Executive (HSE) on safety issues and take account of the advice given by the HSE and the Secretary of State. Ofgem's interaction with the HSE is set out in a Memorandum of Understanding published on the Ofgem website²⁴.

1998 Licence Arrangements

- 1.8 The licence arrangements for the prevention and detection of the illegal abstraction of electricity were amended to accommodate the introduction of domestic competition in 1998.
- 1.9 Under the 1998 licence arrangements the PES²⁵ licence holders and second tier suppliers²⁶ (including their agents) had an obligation to take reasonable steps to detect and prevent:
- ◆ the theft of electricity at premises which were supplied by it,
 - ◆ damage to any electrical plant, electric line or electricity meter through which such premises were supplied, and
 - ◆ interference with any electricity meter through which such premises were supplied.

²⁴ http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/3173_hse_mou.pdf

²⁵ Public Electricity Suppliers (PESs) were licensed under the Electricity Act 1989. A PES combined both functions of electricity supply and distribution within a geographically defined area.

²⁶ In 1998, the electricity market was opened to competition. Suppliers who were licensed to operate in another company's PES service area were known as second tier suppliers.

- 1.10 A PES was required to inform the owner of electrical plant, electric lines or the meter (if different from themselves) and second tier suppliers if they suspected that there had been damage to such equipment or that there had been interference with the meter to stop it from registering properly. Second tier suppliers had an obligation to inform the relevant PES (and owner of the meter if different) when they suspected cases of damage to equipment or interference with the meter.
- 1.11 Second tier suppliers had an obligation to provide the PES with relevant information where they suspected that there had been a criminal act associated with meter interference or damage to equipment for the purpose of investigating and resolving any safety concerns.
- 1.12 The second tier supplier was also required to inform the PES of its policy with regards to meter interference or damage to equipment and whether they required the PES to remedy the situation, in particular by changing the meter, installing a prepayment meter or discontinuing the supply at the premises.

Post Utilities Act 2000 Licence Arrangements

- 1.13 Under the current licensing arrangements resulting from the Utilities Act 2000, which came into effect on 1st Oct 2001, the PES and second tier Supplier obligations were amended and split between the new supply and distribution licences. The obligation to detect and prevent illegal abstraction of electricity was placed in the supply licence.

Standard Condition 16 of the Electricity Supply Licence

- 1.14 The electricity supply licence requires that the supplier and its agents take all reasonable steps to detect and prevent:
- ◆ the theft or abstraction of electricity at premises which are supplied by it
 - ◆ damage to any electrical plant, electric line or metering equipment through which such premises are supplied, and
 - ◆ interference with any metering equipment through which such premises are supplied.

- 1.15 The licence obliges suppliers (and their agents) to inform the DNO and, if different, the owner of the electrical lines, electric plant or meter where they suspect that there has been damage to such equipment or interference with the meter to stop it correctly registering (unless they consider that the owner has caused the problem).
- 1.16 Where the supplier believes that the meter has been interfered with or altered, or where the supplier is told by the DNO that this has occurred as a result of a criminal act, they must provide the DNO with any information that the DNO reasonably requires to investigate the incident and resolve any safety issues.
- 1.17 The supplier must tell the DNO what its policy is in relation to meter interference or damage to equipment, in particular whether it requires the DNO to take any remedial action by fitting an alternative meter, providing a prepayment meter or discontinuing the supply.

Standard Condition 17 of the Supply Licence

- 1.18 Under this condition, a supplier is required to inspect NHH meters at least once in every 2 years where they have continuously been the supplier. The inspection must be carried out by person of appropriate skill and experience and must include a visual inspection of the meter and associated installation for the purpose of assessing whether:
- ◆ the meter, electric line or electrical plant associated with the meter has been damaged
 - ◆ there has been interference with the meter register, and
 - ◆ the meter has deteriorated which might affect its safety or proper functioning.

Standard Condition 7 of the Distribution Licence

- 1.19 Under condition 7 of the distribution licence, the DNO is obliged to inform the owner of any electrical plant, electric lines or meter where they suspect that there has been meter interference or damage to such equipment (unless they have reason to believe that it is caused by the owner).

- 1.20 If the DNO, acting on behalf of the supplier in relation to premises directly connected to its distribution system, has reason to believe that there has been damage to the electrical line or electrical plant or metering equipment, or that there has been interference with metering equipment, they are required to inform the supplier as soon as reasonably practicable.

DUoS Agreement and the Revenue Protection (RP) Code of Practice

- 1.21 Under SLC 4B of the distribution licence, all DNOs must offer terms for connection and use of their distribution networks. These terms are known as the Distribution Use of System (DUoS) Agreements.
- 1.22 Prior to 2001, all DUoS Agreements between DNOs and suppliers required suppliers who entered into the DUoS Agreement to use the DNO-provided RP Service for sites on their networks. The manner in which RP Services were provided was set out in the RP Code of Practice. In 2001, DNOs varied the terms of their DUoS Agreements so that they were able to decide whether to provide a RP Service for the use of suppliers²⁷. However, under the revised terms in the DUoS Agreements, if DNOs determined to provide a RP Service then this must be provided in accordance with the RP Code of Practice.
- 1.23 The objectives of the RP Code of Practice are set out in the Code as follows:

*“[The RP Code of Practice] sets out the responsibilities of each PES to investigate and provide initial remedy where, as a result of information received, interference with a meter, associated supply equipment or any other physical form or illegal abstraction of electricity is suspected.....
[The RP Code of Practice] also sets out the corresponding obligations of*

²⁷ The revised terms of the DUoSAs are typically as follows:

1) Where the Company provides a revenue protection service it shall do so in accordance with the provisions of the Revenue Protection Code of Practice and charges for the services shall be calculated as follows:

- ◆ “standard services” (as described in the Revenue Protection Code of Practice) shall be calculated in accordance with the charges set out in Part 1 of Schedule [x], or if no such charges are set out, in accordance with the Condition 4 Statement; and
- ◆ “Transactional Services” (as described in the Revenue Protection Code of Practice) shall be calculated in accordance with the charges set out in Part 1 of Schedule [x] and all such charges shall be paid in accordance with Part 2 of Schedule [x].

2) The User shall comply with its obligations under the Revenue Protection Code of Practice.

Suppliers in relation to such matters. It does not deal with other types of theft or fraud, or the recovery of bad debts, or the abstraction of electricity from meters which are only used to measure the flow of electricity on a private network.”

- 1.24 Amongst other things the RP Code of Practice requires a committee to be established with a Chairman, Secretary and defined voting structure to manage change control to the Code. The committee is required to act as a forum for debate, to review related reports and to recommend changes to the Code to accommodate the PES licence split in 2000. The committee is also required to meet quarterly and publish minutes. The committee has not been established.
- 1.25 For the purpose of levying charges, the RP Code of Practice sets out three types of activity by the RP Service. These are:
- ◆ Standard Services which are provided in all cases, for example in undertaking an investigation into suspected interference and reporting to the supplier
 - ◆ Transactional Services, for example in replacing a meter that has been interfered with or installing a prepayment meter, seeking warrants and providing witness statements for court proceedings, and
 - ◆ Optional Services, which are provided through separate agreements between the supplier and DNO.
- 1.26 There is no allowance within the distribution price control for RP Services and it is therefore treated as excluded income. To recover the cost of this activity a distribution company should set charges for any RP work carried out under the terms of the DUoS agreements and associated RP Code of Practice.

Electricity Safety Quality and Continuity Regulations 2002

- 1.27 As noted above, Section 3C of the Electricity Act 1989 (as amended) requires Ofgem to consult with the HSE on safety issues and take account of the advice given by the HSE and the Secretary of State. A Memorandum of Understanding sets out Ofgem’s interaction with the HSE.

- 1.28 In addition, Ofgem meets regularly with the DTI Engineering Inspectorate which is responsible for the Electricity Safety Quality and Continuity Regulations (ESQCR) 2002. These Regulations impose requirements regarding the installation and the use of electrical networks and equipment owned or operated by generators, DNOs (including transmission licensees) and meter operators, and the participation of suppliers in providing electricity to consumers. Agents, contractors and sub-contractors of duty holders also have duties under these Regulations. The Regulations replace the Electricity Supply Regulations 1988 (SI 1988/1057 as amended).
- 1.29 Of specific relevance to this review, the ESQCR 2002 require, under regulation 3, that DNOs and meter operators ensure that their equipment is so constructed, installed, protected, used and maintained as to prevent danger and interference with or interruption of supply, so far as is reasonable practicable. Under regulation 5, DNOs are required to inspect their networks, so far as is reasonably practicable, with sufficient frequency to allow them to comply with their requirements under these regulations.
- 1.30 Under regulation 26, the DNO may issue notice to the customer requiring them to conduct remedial work where they are not satisfied that the customer's installation is so constructed, installed, protected, used and maintained as to prevent danger, or interference with the network or the supply to any customer installation. If it can be justified in terms of safety then the DNO can disconnect the customer's supply without such notice.
- 1.31 Also of note is regulation 24 which, amongst other things, includes a requirement that the main fuse on a consumer's premises must be sealed. Inspection of sealing arrangements has traditionally been important in identifying meter interference and theft of electricity.

Appendix 2 Gas Regulations

- 2.1 The following chapter sets out the regulatory obligations on licence holders in the gas market²⁸. In particular, a summary is provided on the related provisions of the Gas Act 1986 (as amended), the GT, shipper and supplier licence obligations and the relevant gas safety legislation.

Gas Act 1986 (amended)

- 2.2 Under Schedule 2B paragraph 9 of the Gas Act, the GT is entitled to recover the value of the gas taken by the “customer” if the customer takes a supply of gas which is in the course of being conveyed. The GT is also entitled to recover the value of the gas taken where the customer’s supply is restored without the relevant consent following disconnection and if the supply is taken otherwise than in pursuance of a contract or deemed contract with a supplier. The GT is required to publish a scheme²⁹ setting out how they will determine the number of kilowatt hours taken in these circumstances.
- 2.3 Under Schedule 2B paragraph 10 of the Gas Act, it is an offence, intentionally or by culpable negligence, to damage any gas fitting provided by the GT or supplier or service pipe, to alter the meter index used for measuring the amount of gas consumed or to prevent the meter from registering gas consumption, with a maximum fine not exceeding level 3 on the standard scale. The GT or the supplier can disconnect or may cut off the supply where such an offence has occurred.
- 2.4 Under Schedule 2B paragraph 11 of the Gas Act, it is an offence to reconnect or restore supply to a premise that has been disconnected by the GT or cut off by the supplier without its permission with a maximum fine not exceeding level 3 on the standard scale. The supplier or GT can then disconnect or the supplier can cut off supply depending on who originally undertook this action.

²⁸ This summary should be used as a guide only and licensed parties should ensure that they comply with their obligations.

²⁹ Transco have in place such a scheme which is entitled the “British Gas Taking of Gas Scheme 1996.”
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Licence Arrangements

Standard Condition 16 of the Supply Licence

- 2.5 The supplier is obliged to provide information reasonably requested by a GT to allow it to detect theft of gas in conveyance and recover the charges for the gas taken. The supplier is also required to investigate suspected cases of theft where requested to do so by the GT.
- 2.6 The supplier is required to inform the GT of any actual or suspected cases of theft that they become aware of, providing an estimate of the volume of gas stolen where possible, as well as any other particulars that the GT may reasonably require.
- 2.7 The supplier does not have to provide any information that would seriously and prejudicially affect their commercial interests unless required to do so by the Authority. The supplier does not have to provide any information that it could not be required to provide in evidence in civil proceedings in court.

Standard Condition 17 of the Supply Licence

- 2.8 Suppliers must use all reasonable endeavours, including seeking a warrant where necessary, to ensure that each meter and associated installation at premises where they are the supplier is inspected at least every two years by a person with appropriate expertise.
- 2.9 Where the supplier has not been continuously the supplier for two years, the GT will issue a notice four months in advance of the end of the two year period notifying that an inspection is due. If the GT does not separately record the inspection of meters and meter reads then, if they have told the supplier of this fact, the supplier must make sure that the meter is inspected every time that the meter is read and at least every two years³⁰. Unlike the requirement in the electricity licence, this obligation to inspect is not limited to certain types of meter.

³⁰ Transco have confirmed that they separately record the inspection of meters and provide suppliers with notice four months in advance of the end of the two year meter inspection period.

- 2.10 The meter inspection includes: reading the meter, checking for evidence of tampering, inspecting for evidence that the meter has been removed for any period, notifying the GT of any gas leakage, checking for meter deterioration that might affect its proper functioning and safety and, where necessary, changing the meter batteries.

Standard Condition 9 of the Shipper Licence

- 2.11 Shippers are subject to similar obligations to those which fall on suppliers under Standard Condition 16 of the supply licence. In practice, shippers pass on the responsibility for information gathering to suppliers.

Standard Condition 5 of the GT Licence

- 2.12 GTs must maintain a record of the most recent meter inspection carried out by the supplier in pursuance of Standard Condition 17 of the Gas Supply Licence noted above and notified to them.

Standard Condition 7 of the GT Licence

- 2.13 Where a GT suspects that: a supply of gas has been taken which was in the course of being conveyed, or if the customer's supply was restored without the relevant consent following disconnection, or the supply has been taken otherwise in pursuance of a contract or deemed contract with a gas supplier, then the GT is obliged to investigate and to attempt to recover charges that a customer would have been likely to pay as if there had been a deemed contract.
- 2.14 The revenue a GT is permitted to derive for transportation by their Price Control will be modified to take into account the cost of the investigation, any amount recovered, the cost of any such recovery or attempted recovery and any costs associated with any gas acquired or not being disposed of related to the gas illegally taken. The GT should, under this mechanism, suffer no financial detriment or receive any financial benefit for this activity. The mechanism for adjusting such revenue is set out in a scheme³¹ designated by the Authority.

³¹ The scheme made by Transco and designated by the Authority is known as the Transco (Allowances for Gas Taken Illegally) Scheme 1997.
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- 2.15 There is provision for the charges levied on a shipper to be amended to account for charges that the supplier is unable to recover from the customer and any unrecovered costs associated with the investigation. This applies where:
- ◆ a person has illegally taken a supply of gas either by tampering with the meter or reconnecting their site without the appropriate consent, or
 - ◆ where gas is being taken by someone who is not the lawful occupier of the premises and who does not intend to pay for those charges.
- 2.16 If the shipper informs the GT that they have asked the supplier to investigate the suspected theft incident and recover the associated charges and the supplier has complied but failed to recover the charges, the GT will adjust the shipper's charges so that they are not required to pay for the gas illegally taken. These charges are also adjusted to take into account the reasonable costs incurred by the supplier in attempting to recover the money owed by the customer. The arrangements for adjusting the shipper's charges are framed by the same scheme, designated by the Authority as noted above.
- 2.17 The licence requires the GT to establish a further scheme (the Reasonable Endeavours Scheme) which sets out the requirements on a supplier, by way of an investigation and an attempt to recover charges from the customer, for there to be an adjustment to gas charges and reimbursement for the costs of failing to get recompense from the customer. The scheme is drafted by the GT in consultation with suppliers and shippers and is approved by the Authority. Any question over whether a supplier has used reasonable endeavours shall be determined by the Authority³².
- 2.18 On request from the shipper, the GT is required to make safe any meter associated installation work which has been rendered unsafe by damage to any gas fitting provided by the GT or supplier or service pipe, alteration of the meter index used for measuring the amount of gas consumed or prevention of the meter registering gas consumption, or the restoration of supply without consent.

³² The scheme made by Transco and designated by the Authority on 17 October 1997 for this purpose is entitled "Gas Illegally Taken – Reasonable Endeavours to be used by Gas Suppliers to investigate the illegal taking of gas". In this document this scheme is referred to as the Reasonable Endeavours Scheme.

Amendments to Reasonable Endeavours Process

- 2.19 Work has been undertaken recently by the Transco-led Theft of Gas Working Group. This group identified a number of areas where improvements were required. In particular, the group has agreed revisions to the content of the forms and process for claiming Reasonable Endeavours payments which took effect from September 2003. This resulted from concerns from suppliers that the existing requirements to provide Transco with information on investigations were either onerous or required further clarification. Note: If any changes are proposed to the Reasonable Endeavours Scheme itself then Ofgem will consider the Scheme for re-designation following Transco consultation with relevant suppliers and shippers.
- 2.20 Transco has also made efforts to improve the communication framework which supports the notification of suspected theft cases and the Reasonable Endeavours Scheme. In May 2003 Transco moved from using fax for communication flows with shippers and suppliers to using Conquest. Conquest is an online query resolution mechanism between Transco and shippers/suppliers.
- 2.21 The group has also undertaken work to streamline the requirement to provide evidence under the Reasonable Endeavours Scheme. Transco is not requiring that suppliers provide evidence of reasonable endeavours to support each claim before adjusting shipper charges. Instead Transco requires that suppliers provide a sample of cases to ensure that the process is not being abused and may reject claims or require that evidence is provided in all cases as necessary.

Gas Safety (Management) regulations 1996

- 2.22 The Gas Safety (Management) Regulations 1996 (GSMR), which are administered by the DTI, provide for several obligations, predominantly on persons who convey gas (i.e. GTs). These include, for example, preparing a safety case and complying with it. It also imposes obligations on Transco specifically in relation to gas escapes and investigations.
- 2.23 Under the Gas Safety (Management) regulations 1996, where there has been a gas escape, Transco must attend as soon as reasonably practicable after having been informed and, within 12 hours, stop the gas from escaping.

2.24 Additionally, Ofgem has set a related Overall Standard of Performance. Under Overall Standard 7³³ (OS7), where Transco receives a report of a gas escape or other gas emergency, including a significant spillage of carbon monoxide or other hazardous situations, it will attend as quickly as possible within the following timescales:

- ◆ all uncontrolled gas escapes or uncontrolled gas emergencies within 1 hour; and
- ◆ all controlled gas escapes or other controlled gas emergencies within 2 hours.

Code of Practice

2.25 In the interests of customers, a Code of Practice was established in the gas market to ensure consistency of treatment by gas suppliers. The Code also recognises the “serious threat which the illegal use [of gas] and interference poses to the safety of life and property and integrity of the UK gas supply network.”

2.26 The status of this Code is voluntary and requires suppliers to become signatories. It is stated in the Code that failure to comply would reflect badly on suppliers and could attract adverse publicity.

2.27 Change control of the Code is undertaken by the Gas Forum in consultation with Ofgem (formerly Ofgas), energywatch (formerly the GCC) and Transco.

2.28 The Code attempts to set out both the reasonable requirements on suppliers when dealing with cases of suspected or actual theft of gas together with their requirements under the related legislation. Examples of principles under the Code are:

- ◆ the individuals who undertake RP activity should meet the minimum standards set out in the Code
- ◆ investigations are carried out in accordance with the Code guidelines

³³ http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/2780_1903gastransporters_guidance.pdf.

- ◆ all disconnections resulting from actual interference are reported to the police, and
- ◆ unpaid charges where the consumer has taken greater than 73,200 kWh per annum should be pursued through the civil courts.

2.29 The Code also sets out the types of charges which will be sought from the customer before restoration of supply. These include the cost of the gas used together with instruction on how this calculation is to be made, disconnection charges and reconnection charges. Where these charges are not recoverable from the customer, the Code makes reference to the ability to make claims under the Reasonable Endeavours Scheme and the Transco (Allowances for Gas Taken Illegally) Scheme 1997.

Appendix 3 Provision of RP Services

3.1 Following is a table showing the RP Services available for each distribution area. The table also shows ownership of this service and notes whether the DNO has published charges for the RP Service as part of their DUoS charging statement.

Distribution Area	Business Area / Service Provider	RP Service Ownership	Transactional schedule in most recent DUoS statement
WPD South Wales	Metering	Scottish and Southern Electric	No
WPD South West	Supplier	LE Group (SWEB)	No
NEDL	Metering	Innogy (Supply)	No
YEDL	Metering	Innogy (Supply)	No
Aquila Networks	Distribution	Aquila Networks	Yes
United Utilities	Distribution	United Utilities	Yes
Scottish Hydro-electric Power Distribution	Metering	Scottish and Southern Electric	Yes
Southern Electric Power Distribution	Metering	Dataserve	Yes
East Midlands Electricity	Metering	Siemens	Yes
EDF Energy Networks (EPN)	Metering	Siemens	Yes
EDF Energy Networks (LPN)	Metering	ECS	Yes
Scottish Power Distribution Ltd	Metering	Dataserve	No
Manweb	Metering	Dataserve	No
EDF Energy Networks (SPN)	Distribution	LE Group	Yes