Subject: Theft of electricity and gas
[Re: Ofgem's Discussion Document, ref 85/04, issued April 2004]

'A "Measured" Response including a Challenge to Ofgem'

This is part 2 of 2 of the Response from Box Ten Ltd and Don Stickland, PO Box 1010, Nottingham, NG5 8AL, Tel: 07973 110 010, 21 June 2004, [part 1 of 2 was the "Sherlock Holmes …" slideshow].

Q: What's in it for me? [i.e. in Box Ten Ltd's opinion]

A: For Suppliers:
- Lower costs to supply customers, as less theft or mistakes due to others will be paid for via you.
- Bills that cover a precise time period, so that bills for a NHH customer's group of sites can cover the same period, and aid consolidation and comparison.
- Value for money from Agents to the Supplier's Hub, as Agents' performance is better targeted & rewarded.

A: For Distributors:
- Higher revenues from distributing energy, as you can manage down theft or mistakes due to others.
- Metered data that cover a precise time period, so that measured data for the NHH etc MPANs on the same feeder element can cover the same time period, and aid consolidation and comparison, & fix of LLF errors.
- Distribution Control Revenue support from Ofgem, to fund the initial metering and process at low cost to shareholders.

A: For Customers:
- Lower costs for supply of energy, as less theft or mistakes due to others will be paid for by you.
- Bills that cover a precise time period, so that bills for different years, or for different NHH sites, can cover the same period, and can aid comparison, or consolidation.

A: For Thieves:
- Higher costs for supply of energy, as there will be more certainty of detection and of you being caught.

A: For energywatch:
- Honest customers pay less for theft, and are less likely to be falsely accused of theft.

A: For Ofgem:
- The Authority will have a higher likelihood of promoting cohesive energy supply market arrangements.

A: For DTI, and for Government generally:
- A more joined up energy policy, that recognises that energy supply cost drivers include – but are not restricted to – honest customers [supplied through hubs] & dishonest thieves [who work round those hubs].
- More likelihood of reducing greenhouse gas emissions, and meeting international targets.
- Improve the monopoly energy distributors' audit trails, and avoid an Enron like audit problem.

Notice:

For the avoidance of doubt, all statements in this Response are either expressions of opinion or suggestions of opinion either by Box Ten Ltd (also known as BoxTen) or by Don Stickland or both, unless they can be shown to be statements of fact, and are made in response to the invitation in Discussion Document 85/04 issued in April 2004 by the Gas and Electricity Markets Authority, the office of which is known as Ofgem

This Document (which is part 2 of 2 of an invited Response to Ofgem) is Printed, Published and Promoted by Box Ten Ltd., P O Box 1010, Nottingham, NG5 8TF, Telephone: 07973 110 010, as was the slideshow which formed part 1 of 2 of this Response, and which has already been released to Ofgem.

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As a prelude to the extensive "Box by Box" commentary set out in Appendix 3 to this Response, this brief introduction sets out three things:

- The essence of the Independent Annual Finite Element Oversight approach proposed by BoxTen;
- An explanation - based on risk analysis – as to why little innovation apparently has been done; and
- An explanation - based on 'principal-agent' relationship - why Ofgem enforcement action may have limited success in the absence of the "Top Down" goal setting, for example as realised in the Independent Annual Finite Element Oversight approach as proposed by BoxTen.

The essence of the Independent Annual Finite Element Oversight approach proposed by BoxTen is essentially contained in Patent GB2309086.

Essentially, the Patent proposes to have dual registers for each metered tariff (or price) rate; and switching occurs between the dual registers at the end date of an accounting period.

This allows the energy input and energy output of any "finite element" – for example a low voltage feeder – to be compared on a true basis; this comparison, using the "Sherlock Holmes principle that ""***When you have eliminated the impossible, whatever remains, however improbable, must be the truth***" allows the THEFT portion of the overall losses (i.e. the difference between allows the energy input and energy output) to be determined.

The alleged theft portion on different comparable finite elements can be compared, and then prioritised, to enable Revenue Protection Teams to focus their work sensibly, and thus increase the certainty of the detection of theft of energy.

The principle is set out in diagrammatic form in the slide show that forms Part 1 of 2 of this Response, and which was sent out earlier.

Copies of short explanations mad earlier are set out in Appendices 1 and 2 of this Response.

An explanation - based on risk analysis – as to why little innovation apparently has been done

- The "Interpersonal Risk Aversion" paper examines the nature of interpersonal risk, its propagation and how risk aversion can act as a barrier to learning and knowledge translation for innovation.
- A study of the social relations between a top management team (TMT) and director level staff in a high reliability organisation (HRO) frames the argument that the team's risk mitigation processes concerning new proposals are a factor in producing and maintaining a risk-averse corporate culture.
- This condition impedes organisational learning and knowledge processes when staff adjust their presentations to reduce risk exposure associated with new ideas, uncertainty and untested sense-making.

- A related risk to the firm arises when employees find presenting innovative proposals too risky, and cease making presentations on key corporate initiatives.
- The 'precautionary principle' is suggested as one factor that contributes towards risk-aversion in the firm's culture.

Ref: Risk Management: An International Journal 2004, 6(2), 31-47.

An explanation - based on 'principal-agent' relationship - why Ofgem enforcement action may have limited success in the absence of the "Top Down" goal setting, for example as realised in the Independent Annual Finite Element Oversight approach as proposed by BoxTen.

Eisenhardt KM, 1989, in his paper on "Agency Theory: An assessment and review" in Academy of Management Review, 8(1), 57 –74, indicated that the so-called 'principal-agent' relationship between a client and contractor may be prone to three fundamental problems: adverse selection, moral hazard, and risk allocation.

Unfortunately, each supplier of energy in Ofgem's market arrangements seems to work through a 'principal-agent' relationship, so failure to properly identify, etc, theft of energy may possibly be due these problems.

Adverse selection refers to misrepresentation of ability by the agent and the principal's difficulty in selecting an agent with appropriate skills, such as the difficult task of detecting theft. The agent may claim to have these skills when hired [or accredited] but the principal cannot completely verify these skills or abilities while the agent is working [as the old saying has it, a job unsupervised is a job undone].

Moral hazard refers to an agent's failure to put forth the contracted effort [e.g. if the meter reader is incentivised to read meters quickly, but has no monetary incentive to record doubtful metering set ups]. This can

be particularly difficult for the principal to verify if there is no overall framework [e.g. a Top Down estimate of losses due to theft] against which to measure progress.

Risk allocation refers to the principal and the agent perceiving risks differently. Either party is likely to manage uncertainty primarily to that party's benefit, and perhaps to the disadvantage of the other party.

It is the opinion of the writer that – if the uncertainty hinted above is minimised – then the negative effects of these fundamental problem areas can be minimised. In other words, if an additional market "framework" can be set up to enable both the principal and the agent to share a common vision of the likely theft in a distribution system, then the work of both parties is likely to be aligned, and any additional "regulatory incentives" promoted by Ofgem are more likely to be fruitful – as compared with untargetted regulatory exhortations.

Consequently, it is recommended that Ofgem give serious consideration to providing a reasoned "Cost Benefit Analysis" as to why an Independent Annual Finite Element Oversight approach is, or is not, viable.

LIST OF APPENDICES

"DATE BRITAIN" – ELECTRICITY TRADING TRUE-UP PROPOSAL, 2002-09-14

Introduction

The purpose of this 1-page Paper is to highlight a deficiency in the current controls of the New Electricity Trading Arrangements (NETA) and to propose a solution. Basically that a patented utility metering arrangement be adopted together with a business method to resolve the Renewable and other Embedded Generators', Suppliers' and Distribution Network Operators' problem of the present ambiguities due to uncontrolled uncertainties and risks regarding electrical losses and "lost meters" etc.

This solution is considered to be relevant to any strategic review of "Renewables & Networks" because it seems to the author that there may be gaps in the various Ofgem workstreams, and the work of the Distributed Generation Co-ordinating Group, due to this problem area. This is because the incentivising of the Distribution Network Operators is considered by the author to depend on accurate annual assessments of their distribution electrical losses, as well as other considerations.

Patent GB2309086 "Utility metering arrangement" and the GSP Group Correction Factor problem

This Patent can be viewed on the Patent Office website. [Here's a procedure to find it: Go to the Patent Office Website screen on http://www.patent.gov.uk; Click your mouse pointer on Patents; Click your mouse pointer on Search our Records; Click your mouse pointer on esp@acenet; Read the Conditions of use and, if ok, Click your mouse pointer on CLICK HERE and On the screen you will find 3 data entry boxes on the left-hand side, and you should Position your cursor in the middle box (titled "View a patent application") and type GB2309086 and then Click your mouse pointer on Go; Click your mouse pointer on GB2309086]. Basically Patent GB2309086 enables a precise meter reading to be held by a "quarterly etc" read meter register, by switching to another meter register at the end ***date*** of an Accounting Period.

This Paper proposes that – for all meters other than Half Hourly (HH) meters – as a minimum, a programme should be put in place for all meters to adopt Patent GB2309086 and switch at a common annual ***date*** (say 31st March). By comparing the total actual annual advances at all the exit points of any GSP (Grid Supply Point) Group with all the inputs to that GSP Group for that year, an accurate "True-Up" assessment could be made as to whether the assumptions for distribution electrical losses which support the profiling of the various NHH (Non-Half Hourly) Profile Classes are sensible. This would ensure that the bias of errors probably being dumped onto the NHH metered customers (as well as perhaps the NHH Renewable Generators) as opposed to HH customers etc, could be minimised in future – compared with the present relatively uncontrolled situation of the GSP Group Correction Factor. (Basically the present GSP Group Correction Factor seems to the author to put all the errors onto the NHH customers!) For simplicity, this proposed Business Method to "True-Up" is called "Date Britain" for electricity.

As the author understands that a test for the accuracy of the GSP Group Correction Factor and Profiling was the accuracy of each Profile Class reflecting the electricity prices of the "old" Electricity Pool – which ceased in 2001 – the time now seems right for the introduction of "Date Britain" for electricity.

Suggested Implementation Proposal for "Date Britain"

(1) A tapered introduction is suggested by gradually introducing the "Date Britain" 2-rate etc meters (e.g. "old" Economy 7 meters) that are released by the introduction of advanced metering elsewhere. As these 2-rate etc meters would effectively be "scrap" otherwise, they should be available at minimal costs.

(2) For those "quarterly etc" read meters which had not yet been upgraded to the "Date Britain" standards, Distribution Network Operators would have this Paper's identified problem of "risk" of not being able to accurately assess electrical losses and "lost meters" etc. There is a similar "risk" situation at present with un-metered public lighting etc supplies; this risk is currently handled by charging "unaudited" lighting etc inventories a distribution premium (on both standing charges and unit charges) compared with audited inventories, and it is proposed that analogous "incentivising" premia be charged to generators and customers whose meters had not yet been upgraded to "Date Britain" standards, in recognition of these risks – subject, of course, to DTI and ofgem support.

(3) This approach indicates that a change to NETA procedures is needed which would reflect 3 classes (HH, NHH with "Date Britain" standards, NHH without "Date Britain" standards). The proposed business method would also enable the recovery of the necessary patent licence fee(s). Elexon offered (NMTWG report to SVAG, 7 May 2002 etc) to "carry out walkthroughs of all applicable BSC Procedures, Service Lines and Settlement Requirements with manufacturers … to identify any issues with emerging" (new) metering technology applications, and Box Ten Ltd intends to take up this kind offer.

Don Stickland, MA (Oxon), ACMA, 14th September 2002, mobile telephone number: 07973 110 010.

"DATE BRITAIN" – GAS TRADING TRUE-UP PROPOSAL, 2002-09-14

Introduction

The purpose of this 1-page Paper is to highlight a deficiency – perceived by the author – in the current controls of the "new" Gas Trading Arrangements (NGTA) and to propose a solution. Basically that a patented utility metering arrangement be adopted together with a business method to resolve the Shippers', Suppliers' and Gas Distribution Network Operators' (e.g. Transco etc) problem of the present ambiguities due to uncertainties and risks regarding gas distribution losses and "lost meters" etc.

This solution is considered to be relevant to any strategic review of "Developing network monopoly price controls" etc for gas because it seems to the author that there may be gaps in the various Ofgem workstreams due to this problem area. This is because the incentivising of the Gas Distribution Network Operators (e.g. Transco etc) to reduce their emissions of methane etc to atmosphere is considered by the author to depend on accurate annual assessments of their gas distribution losses, as well as other considerations.

Patent GB2309086 "Utility metering arrangement" and the LDZ RbD problem

This Patent can be viewed on the Patent Office website. [Here's a procedure to find it: Go to the Patent Office Website screen on http://www.patent.gov.uk; Click your mouse pointer on Patents; Click your mouse pointer on Search our Records; Click your mouse pointer on esp@acenet; Read the Conditions of use and, if ok, Click your mouse pointer on CLICK HERE and On the screen you will find 3 data entry boxes on the left-hand side, and you should Position your cursor in the middle box (titled "View a patent application") and type GB2309086 and then Click your mouse pointer on Go; Click your mouse pointer on GB2309086]. The Patent covers – but is not restricted to – the gas and the electricity industries. Basically Patent GB2309086 enables a precise meter reading to be held by a "quarterly etc" read meter register, by switching to another meter register at the end ***date*** of an Accounting Period.

This Paper proposes that – for all meters other than "Daily read Meters" (DM) – as a minimum, a programme should be put in place for all meters to adopt Patent GB2309086 and switch at a common annual ***date*** (say 31st March). By comparing the total actual annual advances at all the exit points of any gas LDZ (Local Distribution Zone) with all the inputs to that LDZ for that Accounting Period, an accurate "True-Up" assessment could be made as to whether the assumptions for gas distribution losses are sensible. This would ensure that the bias of errors probably being dumped onto the twice yearly (or less frequently) meter read Domestic and other small consumption customers, as opposed to DM (and monthly read) customers, could be minimised in future – compared with the present relatively uncontrolled situation of the "Reconciliation by Differences balancing" (RbD) process. (Basically the present RbD approach seems to the author to put all the errors onto the twice yearly meter read Domestic etc customer class!). For simplicity, this proposed Business Method to "True-Up" is called "Date Britain" for gas.

As the author understands that methane leaks add to "Greenhouse gases" and therefore accelerate the rate of Earth's Climate Change – the time now seems right for the introduction of "Date Britain" for gas.

Suggested Implementation Proposal for "Date Britain"

(1) A tapered introduction is suggested by gradually introducing the "Date Britain" 2-rate etc upgraded "Not Daily read Meters" (NDM) that may be produced by new manufactures, or released by the introduction of advanced metering elsewhere. The costs of this option could be compared with the "Daily read Meters" (DM) current Transco extra costs, believed to be quoted as £352.17 pa ex VAT for Renting the DM's necessary Datalogger and also as £357.12 pa ex VAT for Reading that Datalogger.

(2) For those "Not Daily read Meters" (NDM) which had not yet been upgraded to the "Date Britain" standards, Gas Distribution Network Operators (e.g. Transco etc) would have this Paper's identified problem of "risk" of not being able to accurately assess gas losses and "lost meters" etc. There is a similar "risk" situation at present in the electricity industry at present, and it has been proposed by the author that "incentivising" premia be charged to customers whose meters had not yet been upgraded to "Date Britain" standards, in recognition of these risks – subject, of course, to DTI and ofgem support.

(3) This approach indicates that a change to NGTA procedures is also needed which would reflect 3 classes (DM, NDM with "Date Britain" standards, NDM without "Date Britain" standards). The proposed business method would also enable the recovery of the necessary patent licence fee(s). Finally, Box Ten Ltd is offering to assist the gas community (including Transco, Shippers, Suppliers etc) to "carry out walkthroughs of all applicable Procedures, Service Lines and Settlement Requirements, etc" with a view to proposing improvements.

Don Stickland, MA (Oxon), ACMA, 14th September 2002, mobile telephone number: 07973 110 010.

Comment on: Appendix 3: Box by Box comments on the issues raised in Ofgem "**Theft of electricity and gas**"

Column 1 [marked DP]refers to the printed page number in the Ofgem Discussion Document.

Column 2 is self-explanatory, as is

Column 3is self-explanatory, as is

Column 4 is self-explanatory,

Column 5 is for the Reader's use.

Appendix 3: Box by Box comments on the issues raised in Ofgem "**Theft of electricity and gas**" Discussion Document Ref 85/04, dated April 2004:

DP	Ofgem's Words in 85/04	BoxTen's Opinion and Comment	BoxTen's Conclusion	
1	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.	We are now in June 2004, and the delay of over 2 years since August 2001 is most unfortunate, because *Distributed Generation – encouraged by the DTI for the Government in order to reduce green house gas emissions – will radically alter the way in which electricity distribution networks perform, including their overall losses. Also, IDNOs apparently won't be metered at interconnectors with DNOs!*	As "overall losses" include theft, and interconnector error, it seems sensible to increase the tempo of this Theft Review. Hence the need for this "urging" Response, especially because any delay will increase green house gas emissions.	
1	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.	BoxTen notices that there currently seems to be no systematic analysis that performs a Top Down approach to systematically measure the overall losses including theft on either electricity or gas distribution systems, by each finite element. [Confirmed by a Seminar answer.] If such an analysis were to be in place, then this should facilitate the "clear understanding" which apparently currently eludes Ofgem.	This "urging" Response proposes the adoption of such an analysis, based on measured data, and which would be funded, in part at least, by Distribution Control Revenue support from Ofgem, to fund the initial metering and process at low cost to shareholders.	
1	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.	BoxTen welcomes this opportunity to add value to the Discussion. In particular, as asked, BoxTen is providing "views on any other issues that respondents consider relevant" by (a) recommending a specific technical innovation, and (b) circulating it.	Surely a specific technical solution to try to help distributors challenge suppliers – in order to assist to identify the level of theft on each element of a distributor's system – is an example of a view that "Ofgem is also asking for", isn't it?	
2	1.6. The purpose of this document is to: . propose a set of draft principles to assist in determining the appropriateness of the current arrangements and any amendments to these arrangements.	In view of the foregoing, DRAFT Principle 3 on Discussion Document page 44 seems contrary to rationality, and to be possibly part of an "hidden Ofgem Agenda", as it reads: . **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.	Either (a) DRAFT Principle 3 - on Discussion Document page 44 – should be re-cast in order to allow Distribution Control Revenue support from Ofgem to fund finite element analysis, Or (b) Ofgem should accept a CHALLENGE to provide evidence through a Cost Benefit Analysis as to why not to support such funding.	
2	1.7. Comments are invited on the issues raised in this document. Responses should be submitted by 24 June 2004	It is understood that Ofgem will accept "Comments submitted ***a few days after*** 24 June 2004", but obviously any Responder would be wise to verify this particular Comment from BoxTen first.	If any reader wishes to support part, or even all, suggestions of this BoxTen Response, then it would seem that you may have to do it!	
2	1.9. All responses will normally be published on the Ofgem website	This Response is not confidential in any way.	This Response is not confidential in any way.	
3	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	BoxTen notices that this definition seems to suggest that "theft is a generic term" which (a) for electricity is broadly in accord with the definition for illegal "Abstracting of electricity" as set out in Section 13 of the Theft Act 1968, and which (b) *mutatis mutandis* would apply to gas too. In addition, BoxTen notices that this definition seems to	So even Ofgem's Definition of Theft of Electricity and Gas seems to have an underlying need for measurement. Hence the pro-active suggestion of this Response, that a specific technical solution to try to help distributors	

DP	Ofgem's Words in 85/04	BoxTen's Opinion and Comment	BoxTen's Conclusion	
	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.	suggest that "theft is a generic term" which distinguishes (c) that use of energy which should have been measured but wasn't, from (d) that use of energy which was measured and billed for.	challenge suppliers – in order to assist to identify the level of theft on each element of a distributor's system – should be supported by Ofgem funding, etc.	
3	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.	The first sentence of this Ofgem assertion is not quite correct, because it is "possible to simply and accurately measure the extent of theft in the gas and electricity markets" if the cost of measurement and analysis – as proposed by BoxTen - is appropriately funded. In addition, application of the Sherlock Holmes technique - "***When you have eliminated the impossible, whatever remains, however improbable, must be the truth***" – indicates that the last sentence of this Ofgem assertion is not quite correct, either.	Ofgem's apparent stance of despair should not be accepted without a reasoned "Cost Benefit Analysis" as to why an Independent Annual Finite Element Oversight approach as set out in the Part 1 of 2 Slideshow "Response" is not viable. Consequently, Ofgem is CHALLENGED to provide this analysis as part of its September 2004 publication.	
3	2.5. The total value of stolen electricity and gas is not known precisely.	If an Independent Annual Finite Element Oversight approach were to be put in place, it may well be known, in retrospect.	As Churchill said "Action this day". Ofgem is again CHALLENGED to provide a reasoned "Cost Benefit Analysis" & risk assessment.	
4	2.7. Interference with gas and electricity meters also has implications for safety.	BoxTen finds it surprising that the implications for terrorism – as part of safety – seem to be ignored here, given the current "War against terrorism" for which we are asked to be vigilant.	Ditto.	
4	2.8. Theft of energy does not appear to create significant environmental impacts.	What is the evidence for Ofgem's assertion here? Speaking on behalf of a qualified scientist, just how do you know that an extra emission of green house gases - due to theft - will NOT damage our planet?	Ditto.	
4	2.9. Ofgem does not believe that there are specific social impacts associated with the current theft arrangements.	What is the evidence to support Ofgem's belief here? As Ofgem said "2.5. The total value of stolen electricity and gas is not known precisely", it would seem that Ofgem are acknowledging that there is no "certainty of detection of theft" at present.	If there is no "certainty of detection of theft" at present, then how can you say that theft is not being encouraged? Or does Ofgem take the view that we live in a mostly dishonest society?	
5	2.11. In response to a survey conducted by Ofgem in November 2001, … . The exact picture is difficult to determine because of poor quality data.	Hence this **"Measured" Response** including a Challenge to Ofgem.	Again Ofgem is CHALLENGED to provide a reasoned "Cost Benefit Analysis" as to why an Independent Annual Finite Element Oversight approach is not viable.	
5	2.14. From the evidence available, Ofgem is not able to determine whether the level of theft has increased or decreased.	So just how can Ofgem say "2.9. Ofgem does not believe that there are specific social impacts associated with the current theft arrangements"?	Ditto.	
6	2.17. The industry needs to tackle, and be seen to be tackling, the issue of theft so that this activity does not	A pity that this Ofgem statement omits to mention that Distributed Generation – as encouraged by the DTI etc – makes this need even more pressing. This is because the installation of Distributed	Ditto.	

DP	Ofgem's Words in 85/04	BoxTen's Opinion and Comment	BoxTen's Conclusion	
	become more widespread given the cost to customers and the potential safety risks.	Generation will fundamentally alter the way the energy supply industry performs.		
7	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.	"***Objective*** " is the heading of this para; unfortunately, it seems to BoxTen that 2.21 is ambiguous (as to extent). Some Ofgem staff – even when challenged – seem to think the wording as printed is ok; so for some at Ofgem, it's an ok objective to identify "cases of theft "; if that's Ofgem's thinking, then Ofgem's apparent objective seems stunted, .as it only seems to be " …, so that ***some*** cases of theft …".	BoxTen is appalled that Ofgem's apparent objective implies that (a) "honest customers pay for ***most*** of the theft" and (b) that its diminished objective can only produce a partial success vis-à-vis theft detection. Surely this cannot be right, given that the theft occurs on local monopoly distribution networks?	
7	2.21	QUESTION: Would Ofgem clarify the objective as be " …, so that ***all*** cases of theft …"? If not, why not, please?	If not, then there may be no "certainty of detection of theft, to society's detriment".	
7	2.22. … . 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.	Presumably Ofgem means "the costs of prevention are proportionate" to the benefits of the solution. If this were to be the case, then would Ofgem also count in benefits such as on the cover page of this Response vis-à-vis an Independent Annual Finite Element Oversight approach?	The additional benefits of pre-defined energy bill length for cyclically read customers, plus the ability to worry to solution other problems such as mistakes of all sorts, may be quite extensive – and to ignore them would seem dis-proportionate!!	
7	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.	Who is to do this work? This work could be very expensive, with no proportionate benefits! Why not just spend the money on something more sensible, such as an Independent Annual Finite Element Oversight approach?	Again Ofgem is CHALLENGED to provide a reasoned "Cost Benefit Analysis" as to why an Independent Annual Finite Element Oversight approach is not viable.	
7	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.	This "Policy" aim seems to BoxTen to be somewhat limited by either an Ofgem hidden agenda, or by a lack of imagination at Ofgem, e.g. regarding an Independent Annual Finite Element Oversight approach which, because it seems to Ofgem to be a specific technical solution to try to help distributors challenge suppliers – in order to assist to identify the level of theft on each element of a distributor's system – was apparently ruled out previously!	Again Ofgem is CHALLENGED to provide a reasoned "Cost Benefit Analysis" as to why an Independent Annual Finite Element Oversight approach is not viable.	
7	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.	As mentioned before, DRAFT Principle 3 on Discussion Document page 44 seems contrary to rationality, and to be possibly part of an "hidden Ofgem Agenda", as it reads: . **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. This is especially so if "the costs of prevention by detailed monitoring are proportionate" to the benefits of the solution!	Again Ofgem is CHALLENGED to provide a reasoned "Cost Benefit Analysis" as to why an Independent Annual Finite Element Oversight approach is not viable.	

DP	Ofgem's Words in 85/04	BoxTen's Opinion and Comment	BoxTen's Conclusion	
8	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.	The Ofgem conclusion is **WRONG**, in BoxTen's opinion. This is because theft takes place from the Distributor's distribution system, by thieves who do not conform to the codes of expected behaviour as set down by suppliers. If thieves are working round suppliers, then Ofgem's suggested solution [improving the incentives, etc] would be a waste of money – and also paid for by honest customers! However, if theft is not being detected because supplier's agent are being inappropriately incentivised – e.g. are not being paid a sensible bounty [to be refunded by the thief] for leads which are positively confirmed later – then that's another issue.	Again Ofgem is CHALLENGED to provide a reasoned "Cost Benefit Analysis" as to why an Independent Annual Finite Element Oversight approach is not viable.	
8	2.30. The currently identified options are as follows:	Sadly these options do not seem to include an Independent Annual Finite Element Oversight approach, even though you've had variations on this option previously! (E.g. to the Ofgem Losses Consultation.)	Ditto.	
9	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.	As indicated above, DRAFT high level Principle 3 seems to be inappropriate to be judged against, for a proportionate judgement. This is because it is not at all clear why "The arrangements should not require detailed monitoring as a matter of course or require regular Ofgem intervention to ensure compliance and their overall effectiveness – if they were to be cost effective, in line with DRAFT Principle 4". Ofgem have to be able to explain why they apparently wish to rule out some alternative suggestions, seemingly just due to Ofgem's laziness! Alternatively, is Principle 3 an attempt by Ofgem to diminish the audit trails of monopoly energy distributors?	Again Ofgem is CHALLENGED to provide a reasoned "Cost Benefit Analysis" as to why an Independent Annual Finite Element Oversight approach is not viable. In addition, Ofgem is CHALLENGED to defend their apparent wish to diminish the importance of fuller audit trails of local monopoly energy distributor networks.	
9	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.	Sorry, but it just does not seem reasonable that the Gas and Electricity Markets Authority should like the industry to lead, when the basic difficulty is that the market framework seems to have lead to the local monopoly distributor being denied any regulatory incentive – due to a regulatory need to strip out costs (e.g. 33kV meters) – e.g. regarding an Independent Annual Finite Element Oversight approach.	Ditto.	
9	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.	The Ofgem conclusion is **WRONG**, in BoxTen's opinion. This is because theft takes place from the Distributor's distribution system, by thieves who do not conform to the codes of expected behaviour as set down by suppliers. Distributors may need Distribution Control Revenue support from Ofgem to fund finite element analysis.	Ditto.	
10	3.4. The electricity supply licence requires that this inspection is carried out by a person with appropriate skill and experience.	Maybe, but with the best will in the world, this person cannot be a magician and be able to find all theft, or other errors made by the industry. This is especially so with multi supply premises, e.g. flats, where the initial set up may be highly ambiguous or incomplete.	Ditto.	
11	3.7. The RP Service will undertake functions such as investigating a	This bottom up approach inevitably cannot get a handle on the totality of theft, because it can only detect a partial view of the problem.	Ditto.	

DP	Ofgem's Words in 85/04	BoxTen's Opinion and Comment	BoxTen's Conclusion	
	suspected theft incident.			
11	3.7. …. In some cases, the RP Service will actively seek to identify potential cases of theft.	There is a real question here about how this activity is targeted.	Ditto.	
12	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.	Why not? Surely, if theft is found, then there is no reason why honest customers should continue to pay for it!!!	Ofgem is CHALLENGED to provide a reasoned "Cost Benefit Analysis" as to why identified theft is not routinely required to be recognised – and corrected for - by the BSC.	
15	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,	If the past data that could be "provided by gas and electricity suppliers was" routinely "of poor quality ", then it seems unlikely to BoxTen that this data quality situation would be improved in the future.	Attempts by Ofgem to take enforcement action against licensed suppliers (e.g. as suggested by Ofgem Discussion Document paragraph 7.31) would seem likely to be fruitless in the future, an a waste of national resources. So an Independent Annual Finite Element Oversight approach seems relatively more sensible.	
18	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.	On the other hand, DNOs – when incentivised – appear to provided sensible data!	Again Ofgem is CHALLENGED to provide a reasoned "Cost Benefit Analysis" as to why an Independent Annual Finite Element Oversight approach is not viable.	
23	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.**	The theft activity clearly gives rise to more costs than just the retail value of energy stolen. Because theft is contrary to the law of the land, then clearly the costs of detecting and processing leads to confront thieves has also to be recovered from those thieves, because there is no rationale whatsoever for recovering those costs from the honest consumers. There is a parallel to be drawn from the world of taxation: here not only is the tax evaded to be recovered, but there are also additional penalties which are recoverable too, which apparently may be up to 100% of the tax evaded, dependant on the amount of co-operation received by the tax authorities.	BoxTen recommend that, as an initial proportionate stance, changes should be made in the legal arrangements to allow for not only (a) the retail value of energy stolen to be recovered, but also (b) penalties of up to a further 100% of the retail value of energy stolen also to be recovered, in order to contribute towards the costs of detecting and processing leads to confront thieves – which would otherwise have to be borne by honest customers.	
24	5.3. For settlement purposes, a customer's half hourly consumption is uplifted to account for distribution losses. The DNO allocates a line loss factor [LLF] *15* to each metering point to allow this calculation to be made.	As footnote *15* explains (A Line Loss Factor [LLF] is a multiplier which converts an export volume measured at the meter point into a 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)). Unfortunately, neither the footnote nor the Ofgem text explains that there is currently no routine audit mechanism to double-check that a value for a LLF may be sensible! BoxTen's	Again Ofgem is CHALLENGED to provide a reasoned "Cost Benefit Analysis" as to why an Independent Annual Finite Element Oversight approach is not viable.	

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		proposed Independent Annual Finite Element Oversight approach does, of course!		
25	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 imports *16* . This adjustment is known as the GSP Group Correction Factor and may lead to an increase or decrease in a supplier's settlement charges.	Again Ofgem sadly fail to tell the whole story here! There is a major potential "undue discrimination" problem due to this approach (of only "adjusting all recorded NHH units ") because the HH units – i.e. the units of energy record for customers who are metered with more expensive Half Hourly meters – are currently NOT adjusted at all!! This is despite the fact that (a) the LLFs may be incorrect for HH customers, and also (b) theft may also occur at HH customer sites! BoxTen's proposed Independent Annual Finite Element Oversight approach could overcome these difficulties, of course!	Ditto.	
25	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.	So here [the ***further*** level of allowed revenue that a DNO may recover] is the mechanism for funding the implementation of BoxTen's proposed Independent Annual Finite Element Oversight approach by Distributors.	Ditto.	
26	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	A perverse incentive on suppliers, that cannot be depended upon to detect any further theft. BoxTen's proposed Independent Annual Finite Element Oversight approach could overcome these difficulties, of course!	Ditto.	

DP	Ofgem's Words in 85/04	BoxTen's Opinion and Comment	BoxTen's Conclusion	
	customer.			
27	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.	A further perverse incentive on suppliers, that cannot be depended upon to detect any further theft. BoxTen's proposed Independent Annual Finite Element Oversight approach could overcome these difficulties, of course!	Ditto.	
27	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.	A further perverse incentive on suppliers, that cannot be depended upon to detect any further theft. BoxTen's proposed Independent Annual Finite Element Oversight approach could overcome these difficulties, of course!	Ditto.	
28	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.	At last, we come to the heart of the matter! This is because of the damaging split in responsibilities which occur when a thief works round a supplier to illegally abstract electricity for a DNO's distribution system, because "a DNO's … charges are derived from the recorded consumption data provided by suppliers", and a DNO has no mechanism yet for challenging "the recorded consumption data provided by suppliers ". BoxTen's proposed Independent Annual Finite Element Oversight approach could overcome these difficulties, of course!	Ditto.	

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28	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.	This is a muddled incentive, because the DNOs performance is based on "the recorded consumption data provided by suppliers", and a DNO has no mechanism yet for challenging "the recorded consumption data provided by suppliers ". BoxTen's proposed Independent Annual Finite Element Oversight approach could overcome these difficulties, of course!	Ditto.	
28	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.	This is also a muddled incentive, because the DNOs performance is based on "the recorded consumption data provided by suppliers", and a DNO has no mechanism yet for challenging "the recorded consumption data provided by suppliers ". BoxTen's proposed Independent Annual Finite Element Oversight approach could overcome these difficulties, of course!	Ditto.	
29	5.24. Honest customers are also affected by illegal abstraction.	Yes, they're paying for the thefts, and the above perverse and also muddled incentives. And the green house gas emissions eventually, etc.	Ditto.	
30	**Chapter 6. Incentives in the gas industry**	***Mutatis mutandis***, the above remarks apply to Gas too.	Ditto.	
37	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.	In BoxTen's opinion "The outcome ***should*** be a fundamental change to the current arrangements".	Ditto.	
37	7.2. …. Ofgem invites … views on other alternative proposals.	Thank you. BoxTen has made an alternative proposal, in the form of an Independent Annual Finite Element Oversight approach.	Ditto.	
37	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**	BoxTen comments that: (a) **the responsibilities and incentives on electricity suppliers and DNOs are NOT currently correct, (b) the responsibilities and incentives on electricity suppliers and DNOs or should be amended.** BoxTen's proposed Independent Annual Finite Element Oversight	Ditto.	

DP	Ofgem's Words in 85/04	BoxTen's Opinion and Comment	BoxTen's Conclusion	
	incentives should be amended then views are requested on what changes should be made.	approach could overcome these difficulties, of course!		
38	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.**	**The responsibilities and incentives on gas suppliers, shippers and DNOs are NOT correct, currently – because honest customers pay for theft, and the detection of theft does not seem to be adequately incentivised.** **The responsibilities and incentives on gas suppliers, shippers and DNOs should be amended in order that honest customers do not pay for theft, and so dampen the incentive to seek out theft.** BoxTen's proposed Independent Annual Finite Element Oversight approach could overcome these difficulties, of course!	Ditto.	
39	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.**	Again "**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**" is diminished because honest customers pay for theft, and the detection of theft does not seem to be adequately incentivised. BoxTen's proposed Independent Annual Finite Element Oversight approach could overcome these difficulties, of course!	Ditto.	
40	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.**	If "**there should be a requirement on GTs and/or DNOs to provide RP Services for use by suppliers on their networks**" there is more likely to be a cohesive search for theft, especially if BoxTen's proposed Independent Annual Finite Element Oversight approach is also used to prioritise the work of Revenue Protection Teams, for example on a feeder by feeder approach. If "**this should be a supplier responsibility**" then such synergies would be lost. This is partly due to the fundamental problems of the so-called 'principal-agent' relationship - on which the supplier hub concept is based – of adverse selection, moral hazard, and risk allocation (as explained by Eisenhardt, 1989).	Ditto.	
41	7.23. **Comments are requested here on whether there is value in**	Yes, of course. It should be updated to reflect the implementation of BoxTen's	Ditto.	

DP	Ofgem's Words in 85/04	BoxTen's Opinion and Comment	BoxTen's Conclusion	
	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.	proposed Independent Annual Finite Element Oversight approach, of course!		
41	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.**	*Mutatis mutandis*, the same comment as above applies to 7.26.	Ditto.	
41	7.27. The approach to enforcement is fundamentally a decision for Ofgem to take, whilst paying due regard to our statutory obligations.	WRONG. The approach to enforcement is fundamentally a decision for the voters to take as, after all, Ofgem is a public servant which works under the sponsorship of the DTI.	Ditto.	
42	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.	The Conclusion is WRONG, because failure of suppliers may be due to the fundamental problems of the so-called 'principal-agent' relationship - on which the supplier hub concept is based – of adverse selection, moral hazard, and risk allocation (as explained by Eisenhardt, 1989). Furthermore, the reality – as seen by BoxTen – is that theft occurs on DNO's systems, and DNOs should be allowed regulatory funding by Ofgem to put in place BoxTen's proposed Independent Annual Finite Element Oversight approach.	Ditto.	
42	7.31. To date, Ofgem has not taken enforcement action against a licensed party in relation to the	Why not? Ofgem really must explain this "apparent indolence" in their Round Up Report, due out in September 2004.	Ditto.	

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	arrangements for the prevention and detection of theft and the requirement to inspect meters for evidence of theft.			
43	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.**	Ofgem really must explain their rationale for this "belief" in their Round Up Report, due out in September 2004, otherwise Ofgem would appear to be suffering from indolence. Ofgem apparently also fail to see that whinging on about failure to meet regulatory obligations may just be a waste of customer's money, because (a) perceived failure of suppliers may be due to the fundamental problems of the so-called 'principal-agent' relationship - on which the supplier hub concept is based – of adverse selection, moral hazard, and risk allocation (as explained by Eisenhardt, 1989). (b) Furthermore, the reality – as seen by BoxTen – is that theft occurs on DNO's systems, and DNOs should be allowed regulatory funding by Ofgem to put in place BoxTen's proposed Independent Annual Finite Element Oversight approach. Consequently BoxTen considers that "**that the current arrangements are**" NOT "**sustainable**", without DNOs being allowed regulatory funding by Ofgem to put in place BoxTen's proposed Independent Annual Finite Element Oversight approach.	Ditto.	
44	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.	Oh dear! Ofgem's objective seems to be lower than is fit for the purpose. This is because there should be "certainty of detection of theft" in BoxTen's opinion. Otherwise, honest customers will continue to pay for energy supply to dishonest thieves.	Possibly an inevitable result of an ambiguous and unambitious objective?	
	8.3. The draft principles proposed are: . **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	This would be ok if the Ofgem were to positively confirm in their September 2004 Round Up Report that "effective regulatory safeguards " includes – but may not be restricted to - BoxTen's proposed Independent Annual Finite Element Oversight approach, and its audit trail characteristics.	Again Ofgem is CHALLENGED to provide a reasoned "Cost Benefit Analysis" as to why an Independent Annual Finite Element Oversight approach is not viable.	

DP	Ofgem's Words in 85/04	BoxTen's Opinion and Comment	BoxTen's Conclusion	
	regulatory safeguards in place.			
	8.3. The draft principles proposed are: . **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.	This principle seems perverse, especially if it were to attempt to rule out any "cost effective arrangements which take into account the impact of theft on customers both in terms of cost and safety" as encouraged by DRAFT Principle 4. Unless Ofgem can give a rational explanation as to the merit of a "Principle" which endorses the indolence that Ofgem have shown so far in this area – please see paragraph 7.31 – then DRAFT Principle 3 should be dropped hurriedly.	DRAFT Principle 3 should be dropped hurriedly. And again, Ofgem is CHALLENGED to provide a reasoned "Cost Benefit Analysis" as to why an Independent Annual Finite Element Oversight approach is not viable.	
	8.3. The draft principles proposed are: . **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.	Ok	DRAFT Principle 4 should be re-named DRAFT Principle 3.	
45	9.4. Ofgem intends to use the seminar to explore possible ways forward. At this stage Ofgem is not able to prejudge the outcome.	Unfortunately, Ofgem took the stance that "I note that your [Box Ten Ltd.] presentation puts forward a specific technical solution to try to help identify the level of theft. While this information may be useful to suppliers in terms of how they go about detecting theft, it is not the aim of the seminar. An Ofgem seminar is not the appropriate forum for recommending any specific technical innovations."	Sadly, it seems to BoxTen that Ofgem did not wish to explore a "way" that apparently did not fit their agenda!	
46	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.	**BoxTen's considered view is NO.**		
46	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.	**BoxTen's considered view is YES to the first part of the sentence, and NO to the second.** This is because DRAFT principle 3 seems perverse, especially if it were to attempt to rule out any "cost effective arrangements which take into account the impact of theft on customers both in terms of cost and safety" as encouraged by DRAFT Principle 4.		
46	10.4. Ofgem are also challenging the industry to identify what changes, if	BoxTen's proposed Independent Annual Finite Element Oversight approach could overcome the current difficulties, of course!	And again, Ofgem is CHALLENGED to provide a reasoned "Cost Benefit Analysis" as	

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	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.	Please also see the specific Responses above to "the specific questions raised in Chapter 7 on areas of potential improvement to the current arrangements."	to why an Independent Annual Finite Element Oversight approach is not viable.	
46	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.	**Here's what "Final Demand" said:** ● Job creation and grey power, don't you just love it? ● [*Re Ofgem request for any international experience*:] The great man was intrigued to learn that one of BG Group's Indian subsidiaries uses a small army of 'senior citizens' and unemployed workers to monitor its pipeline network. ● **<u>They've helped reduce damage and leakage.</u>** ● Will anybody buying a local gas distribution network from Transco consider something similar? [***If not, why not?***] ● And how about the water industry, under pressure not to raise bills too much? Just a thought. ● [***And how about the electricity industry, too?***] . *Disconnector*, UTILITY WEEK 14 MAY 2004, p 35.	And again, Ofgem is CHALLENGED to provide a reasoned "Cost Benefit Analysis" as to why an Independent Annual Finite Element Oversight approach is not viable.	
47	10.6. Views are sought on the cost and prevalence of theft of gas and electricity and any other issues raised in this document.	**<u>Total Insured Theft Claims paid in 2000: £740m</u> (ABI, ISSN 13540734).** ● Ofgem assumes "***Electricity stolen between £44m & £132m, with Gas stolen as £37m.***" ● UKRPA considers "***Electricity stolen range is between £220m and £330m.***"	The various estimates of energy theft are considerable, when compared with total insured theft claims actually paid recently. This subject requires "Action this day" because distributed generation is coming onto DNOs' systems, in large quantities, now.	
47	10.8. It is Ofgem's intention to hold a seminar on 7 June 2004 to review	Sadly Ofgem said "An Ofgem seminar is not the appropriate forum for recommending any specific technical innovations" in response to	And again, Ofgem is CHALLENGED to provide a reasoned "Cost Benefit Analysis" as	

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	the issues that have been raised in this document and the responses received to it.	BoxTen's offer to explain its response at the June 2004 Seminar.	to why an Independent Annual Finite Element Oversight approach is not viable.	
47	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.	BoxTen will comment in October re "Ofgem will publish a further document in September 2004". BoxTen will report to UKRPA in November 2004. BoxTen will assist on a workgroup – if invited by Ofgem.	And again, Ofgem will be CHALLENGED to provide a reasoned "Cost Benefit Analysis" as to why an Independent Annual Finite Element Oversight approach is not viable.	

End of part 2 of 2 of an invited Response to Ofgem, dated 21 June 2004, titled '**A "Measured" Response** including a Challenge to Ofgem' on the topic of: **Theft of electricity and gas.**