P272 'Mandatory Half Hourly Settlement for Profile Classes 5-8' Second Assessment Consultation Responses

Consultation issued on 4 November 2011

What stage is this document in the process?

01 Initial Written Assessment

02 Definition Procedure

03 Assessment Procedure

04 Report Phase

We received responses from the following Parties

Company	No BSC Parties / Non-Parties Represented	Role of Parties/non-Parties represented
Power Data Associates Ltd	0/1	Meter Administrator
SmartestEnergy Limited	1/0	Supplier/ Trader/ Consolidator
Northern Powergrid	2/0	Distributor
Western Power Distribution	4/0	Distributors
IMServ Europe	0/5	HHDC, HHDA, NHHDC, NHHDA and MOP (HH and NHH)
Ecotricity (The Renewable Energy Company Ltd)	2/0	Supplier & Renewable Energy Generator
Stark Software International Limited	0/1	HH and NHH DC/DA
IBM for and on behalf of ScottishPower	3/0	Supplier and Distributor
SSEPD and SHEPD	6/1	Supplier/Generator/ Trader / Party Agent / Distributor
SSE	6/1	Supplier/Generator/ Trader / Party Agent / Distributor
G4S Utility Services (UK) Ltd	0/3	NNHDC,NHHDA and MOp
Electricity North West Limited	1/0	Distributor
RWE npower	10/0	Supplier/Generator/Trader/Consolidator/Exemptable Generator/Part Agent
First Utility	1/0	Supplier
EDF Energy	10/0	Generator / Supplier / Trader / Party Agent / Consolidator / Exemptable Generator
British Gas	1/0	Supplier

Question 1: The Profiling and Settlement Review Group estimated that the value of energy allocated to the correct settlement period from mandatory half-hourly settlement of Profile Classes 5-8 would total £17m per year. Do you agree with this assessment? If not, please explain why.

Summary

Yes	No	Neutral/Other
6	2	6

Responses

Respondent	Rationale
Power Data Associates Ltd	Cannot assess
SmartestEnergy Limited	Yes, we agree with this. Moreover, there are other, as yet unquantified, benefits such as: better risk management for Suppliers and less exposure to imbalance costs; more accurate demand forecast; more cost effective tariffs; reduced carbon emissions; peak load shifting and demand side reduction. If the decision to accept or reject the modification is purely about cost vs benefit, then it would be appropriate to attempt to quantify these benefits and include them in the calculation. We are, however, of the opinion that accurate settlement is not a matter of cost vs benefit alone; nobody questions the need for an Inland Revenue system to ensure that everyone pays their fair share of tax.
Northern Powergrid	We would need to understand the key elements of how this value was derived before we can provide relevant feedback.
Western Power Distribution	No, I believe that the majority of this benefit comes from obtaining accurate HH meter readings and using these in settlements and billing, which is due to smart metering and is not directly associated with moving them from Supercustomer to site specific billing.
IMServ Europe	Unable to comment.
Ecotricity (The Renewable Energy Company Ltd)	Confidential response
Stark Software International Limited	Not in a position to offer a response
IBM for and on behalf of ScottishPower	Do not agree. We do not agree that the value of energy allocated to the correct settlement period from mandatory HH settlement of PC 5-8 would total £17m p.a. The rationale behind this view relates to the original PSRG calculation where it was suggested that because PC5-8 covered

Respondent	Rationale
	10% of the NHH market, then it was appropriate that the error allocation was also 10%. This is an arbitrary judgement which we believe to be incorrect. PC5-8 is probably the most accurate area within the NHH market with regard to data collection, with anecdotal evidence within the ScottishPower group indicating that approximately 85% of customers are read on a monthly basis with data entered into Settlement by R1. In addition the continued introduction of AMR meters should continue to see an increase in accurate data being received with regard to the PC5-8 customer base. Furthermore, we have also had sight of the detailed calculations carried out by Elexon in determining the £17m figure above, and while we have no issue with the methodology used, the use of the arbitrary 10% figure in the calculation is probably the single most crucial figure in determining the value within the whole process and we would suggest that it is revised downwards, which will significantly reduce the £17m figure going forward. Also, this figure does not account for the potential data issues / exceptions that may occur in an increased HH market. Currently the majority of error is attributed to the NHH market but with an increased HH portfolio there is the potential for new errors to manifest as part of the newly established framework. Any calculations for the transfer of HH energy must either include this as a contingency or state the assumption that this type of error is yet to be calculated. It should also be noted that whatever the figure is assumed to be, this is no more than a re-allocation of existing units across different time bands, albeit more accurately. The true impact of this from a DNO perspective could remain insignificant, given that most of the time-bands pick up the same DUoS Tariff Rate.
SSEPD and SHEPD	yes
SSE	Yes
G4S Utility Services (UK) Ltd	No comment
Electricity North West Limited	Yes
RWE npower	Confidential response
First Utility	This would seem a reasonable assessment.
EDF Energy	There appear to be a number of assumptions in the analysis that led to the figure of £17m/year: A random error between total profiled NHH volume and

Respondent	Rationale
	corresponding actual half-hourly volume, sized according to observed GSP Group Correction. Suppliers collectively contract to the profiled volume, and so collectively create an imbalance, the cost of which would be SBP when a shortfall and SSP when a spill. This imbalance cost would be entirely avoided with half-hourly settlement. These assumptions are not realistic. Half-hourly settlement would not remove forecasting errors and other factors that lead to individual imbalances, and in aggregate to system imbalance. These depend on parties' ability to forecast their out-turn positions, of which profiling error is only part, and is probably usually considered statistically rather than additively. Half-hourly settlement would remove one uncertainty for individual suppliers, the effect of GSP Group Correction. However, it would add a new uncertainty, the use of actual half-hourly profile instead of a more predictable standard profile. Forecasting accuracy would vary from supplier to supplier, and the new "error" would be uncertain, but would certainly not be zero. Removal of one component of the uncertainties leading to imbalance should deliver some reduction, but not necessarily a volume corresponding to all the difference inherent in GSP Group Correction. Also, SSP and SBP are not necessarily the appropriate prices for imbalance cost reductions, because imbalance is due to many factors, not just profiling error, so a one-to-one correlation in direction cannot be assumed. Note that individual parties contract forward taking into consideration forecasts of the imbalance price and its uncertainty, and do not necessarily target perfect balance. The mean of a random error is zero, and if there were a single imbalance price, the materiality from the analysis would be zero (in the absence of consideration of correlation between profiling error and actual system imbalance). In practice, GSP Group Correction adjusts the net NHH volume in each half-hour to be correct. The analysis is estimating a net value for the net volume settled in GSP Group Correction. Imbalance amounts are re-distributed in cashflow reallocation, so that truly random errors in estimated NHH volume, if they were to lead to a corresponding imbalance, would have no competitive effect on suppliers over time. Individual parties would "win" and "lose" equally in proportion to their volume, with out-turn imbalance amounts re-distributed by volume. The larger the imbalances, the higher the balancing costs are for the System Operator (assuming energy when the system is short is on average more expensive than when the system is long), the higher the reserve requirement, and the larger the amount of imbalance and reallocation circulating. Even if imbalances due to profiling error were completely removed, a reduction in imbalance amounts would produce a corresponding

Respondent	Rationale
	reduction in “cashflow reallocation”. Half-hourly settlement might allow individual Suppliers to forecast their true demand more accurately and contract in advance for it at lower cost than the System Operator balancing the residual at short notice. However, some suppliers might find it more difficult to forecast actual half-hourly demand than to forecast a profiled demand, which could have an opposite effect on balancing costs. Note that the System Operator probably relies mainly on its own forecasts of demand and uncertainty, based on half-hourly metering at generator and Grid Supply Point level, for the purpose of carrying reserve and balancing the system. It probably places less reliance on individual Supplier’s forecasts of their demand and/or on NHH profiling forecasts. It could take some time before all the potential reductions in balancing costs materialise arising from better individual supplier forecasts. Even if suppliers contracted forward perfectly for outturn half-hourly volumes, so avoiding costs for System Operator balancing of any imbalance in those flows, this would not represent a saving of the entire cost of balancing that volume. The net saving would be the difference between the cost to a supplier contracting forward compared with the cost to the System Operator procuring close to real time. The difference would be that the supplier paid directly (and more cheaply, one hopes), rather than the System Operator procuring the volume and the supplier paying through the net of imbalance, reallocation and BSUoS. The most immediate effect of half-hourly settlement, apart from implementation and metering costs, would be that individual suppliers energy costs would more accurately reflect the cost of their individual portfolios, instead of uncertainties being shared in NHH profiling and GSP Group Correction. There would be “winners” and “losers” in this, and the amount of £17m/year described in the analysis might provide clues for the materiality of the likely redistribution between suppliers, being an indication of the difference between an average shape and an average shape with a random error.. However, the gross amounts for individual suppliers, with their own individual and possibly systematic deviations from average, is uncertain, as is the net amount resulting from their collective behaviour.
British Gas	We do not agree that the value of energy allocated to the correct settlement period from mandatory half-hourly settlement of Profile Classes 5-8 would total £17m per year. We believe this is an over estimation of the value of energy. A higher proportion of the profile class 5-8 market is remotely read than in the remaining profile class 1-4 market and this would mean the 5-8 market is currently settling on more accurate data than the 1-4 market. Therefore it is incorrect to pro-rata a straight 10% of the error to the profile class 5-8 customers. We believe that it would be

Respondent	Rationale
	more accurate to allocate 5% of the error to allow for the higher proportion of remotely read meters. This would reduce the overall value of energy allocated to the correct settlement period as a result of mandatory half-hourly settlement to £8.5m. Whilst recognising that £8.5 m will be more accurately allocated to the correct HH periods this should not be confused with an actual cost saving to the industry. The more accurate allocation of energy will create winners and losers across the PC 5-8 customer base. However suppliers will benefit from the ability to more accurately forecast their demand and reduce the risk premium. This reduction in risk premium will not be available immediately as the supplier will need to build up a history of HH data for each PC-5-8 site. This would also only materialise if we could guarantee 100% accuracy of metering data. Currently our experience of HH data from PC 5-8 customers is in the low 90%s.

Question 2: Are there any further benefits of implementing P272 that can be quantified?

Summary

Yes	No	Neutral/Other
7	7	

Responses

Respondent	Response	Rationale
Power Data Associates Ltd		If the larger NHH UMS is required to trade HH then there are benefits in correctly attributing this consumption to the period of use. See response to previous consultation.
SmartestEnergy Limited		It is a shame that, at this stage of the process, the original cost benefit analysis is being questioned. However, if necessary, we believe that, at the very least, reduced carbon emissions and peak load shifting and demand side reduction could be calculated by the PSR group. For instance, we have calculated that the saving associated with load shifting (assuming a flattening of PC5-8 load by 5%) would lead to annual savings of £10-20m. If, as a result of this consultation, industry costs appear high it may be worth revisiting all of benefits the PSRG has outlined to date and commissioning further work because there are further benefits which have not been translated into pound notes. However, this should not be allowed to delay the timeline such that

Respondent	Response	Rationale
		implementation cannot happen in 2013.
Northern Powergrid		None in addition to those that we have already highlighted within previous responses on this matter.
Western Power Distribution		Moving customers from Day/Night unit charges to Red/Amber/Green unit charges, though this could be achieved with a change to the CDCM.
IMServ Europe		We have nothing to add to our previous response however we request that all comments made in our previous responses are also considered in the review of this current consultation.
Ecotricity (The Renewable Energy Company Ltd)		Confidential response
Stark Software International Limited		Barriers to Interoperability and Competition include: • Large potential liabilities for settlement issues passed to consumer • Punitive administrative charges enforced on consumers who wish to change data collection partner • Lack of supplier pricing transparency over data collection frustrates effective competition and masks cross-subsidy • Commercial conflict of interests P272 is the prime opportunity for the industry to address these issues thereby ensuring that in an expanded HH market, healthy competition is maintained and both suppliers and consumers can benefit from the cost benefits that will result. 1) The newly introduced D0313 (nor the D0268) does not address two important issues 1) ownership of the SIM in the metering device 2) HHDC access to programme the meter with the correct internet address to support its collection process. a. Transfer of SIM ownership is easily effected through novation, a process supported by Orange, Vodafone and O2. An industry wide agreement needs to be put in place ahead of P272 approval. b. HHDC require access to change the meter's internal internet address (required

Respondent	Response	Rationale
		for most widely used advanced meter deployed in PC5-8 market) . This can be supported though HHDC being granted security level access to make this change. This needs to be accommodated in the D0313/D0268 . 2) As in the existing HH market, if a consumer nominates its preferred agent (HHDC/DA or HH Mop), neither the supplier nor the existing agent(s) may impose an administration charge to implement the requested change(s) on either the consumer or their nominated agent(s). 3) Lack of supplier pricing transparency over metering and data collection frustrates effective competition and masks cross-subsidy. This issue has been raised with OFGEM and is a show stopper for P272.
IBM for and on behalf of ScottishPower		**SP Energy Retail** Reduced NHH costs for read retrieval and data processing. However, this may be offset by the increased costs for the same type of work on the HH side. There is a large review of the Gross Volume Correction process currently taking place, which may lead to several changes in how Suppliers and DC agents manage their consumption data. These kinds of adjustments should be obsolete within a HH market and as such any costs that go into the running of this process or management of the associated error should be highlighted as a benefit. This can only be secured as a benefit if GVC is maintained within NHH market until PC 5-8 sites migrate to HH Settlements so if this benefit is attached to P272 the working group must consider the impact this will have on proposed modification P274 and the associated **CPs that have been raised (CP1360, 1361, 1362 and 1363).** **SP Distribution** The benefits of implementing P272 are fully dependent on how the customers will be billed. We believe that P272 should seek to actively remove any assumption that HH settlement will lead to HH site-specific DUoS via daily D0036 Flows. The affected customers can and should continue to be billed via the existing efficient Supercustomer method (using aggregated D0030 Flows based on actual data). While we would still need to identify PC 5-8 sites separately within MPRS and DUoS Billing

Respondent	Response	Rationale
		Systems, we believe this is already achieved and therefore all parties could avoid unnecessary changes to Market Domain Data, Registration Migrations and DUoS Billing Methodology and Systems. This would obviously further enhance any financial benefits of implementation.
SSEPD and SHEPD		No
SSE		No
G4S Utility Services (UK) Ltd		As an agent not currently in the Half Hourly market we can't see any further benefit.
Electricity North West Limited		No, we cannot identify any further benefits than those already mentioned.
RWE npower		Confidential response
First Utility		Mainly that the implementation of the Proposal would result in more accurate allocation of energy and associated costs which should then have a direct benefit to competition. However, this would be very difficult to quantify in value terms.
EDF Energy		The materiality of the benefits and other effects of Half-Hourly settlement are harder to determine: 1. Arising from more cost-reflective settlement energy costs for suppliers, there would be a transfer of value between them dependent on currently unknown differences in customer portfolio profiles. 2. Similarly, there would be new differences in the forecasting uncertainty in the cost of procuring wholesale energy for particular portfolios. 3. As in point 4 of our response to question 1, if suppliers demand forecasting is improved, there could be a reduction in balancing costs, both for suppliers and for the System Operator. 4. Provision of half-hourly data to customers might on its own promote more efficient energy use or energy economy, delivering benefit not only to those responding directly to more detailed usage information, but potential national benefits for all customers in the form of reduced marginal cost of generation, and of generation and network capacity. 5. Exposure of competing individual suppliers to costs more reflective of the time-of-use of their

Respondent	Response	Rationale
		particular customer portfolio should ultimately lead to more cost-reflective tariffs for customers and/or price segmentation according to load profile. Response of consumers to more cost-reflective time-of-use tariffs should reduce requirements for expensive "peaking plant" and expensive network capacity to support maximum flows. These effects are amenable to quantitative/probabilistic analysis, but this would be far more complex than the analysis undertaken for this assessment, and the results would necessarily be subject to some significant assumptions. We think the timescale for all the other developments required to deliver a clear material cost-benefit from half-hourly settlement is beyond the proposed implementation date for this proposal. We note that some of the benefits described in 3, 4 and 5 above might be achievable using coarser time-of-use metering and customer tariffs that do not specifically require half-hourly settlement. We also note that half-hourly settlement is currently possible on a voluntary basis, and increased use of it should eventually develop naturally as a result of competitive market forces.
British Gas		The real benefit of HH settlement will be realised once suppliers start to offer customers genuine Time of Use tariffs to customers. Currently we are able to offer basic time of use tariffs using SSC's with defined TPRs. As peak load and generation becomes more unpredictable in the future with the increase use of wind and load such as electric vehicles and heat pumps, suppliers will need to offer more sophisticated and dynamic time of use tariffs. At that time we will need to move away from profiling to a more sophisticated settlement regime. The existing HH settlement regime may be the answer or we may move to a completely new settlement system. It would not be cost effective to change systems and processes to migrate a relatively small section of the customer base to the existing HH settlement regime if this is not the final settlement system we need for a fully smart world.

Question 3: What costs will your business incur if P272 is implemented? Please provide a detailed breakdown of costs wherever possible,

specifying whether these are one-off or ongoing costs. Please also explain the assumptions underlying your costs estimates.

Responses

Respondent	Rationale
Power Data Associates Ltd	Initial cost £Nil On-going cost £Nil Any costs we incur from increased customers are a cost of sale and recovered from charges to customers.
SmartestEnergy Limited	SmartestEnergy will not incur any costs associated with transferring MPANs from NHH to HH as we are currently only operating in the HH sector. In the future any costs incurred would not be additional to a baseline of market entry costs. We are somewhat dubious as to the claims of high costs being made in relation to implementing P272. There are under 200,000 PC5-8 meters industry-wide. With a controlled migration this should be achievable using existing Change of Supplier processes. This is well within the realms of other migrations that have taken place.
Northern Powergrid	Initial cost: £100k (this is subject to change) On-going cost: Unknown Initial IT costs will include but are not limited to key activities such as amending the data load processing in order to address the increased resolution for HH meter data to 0.001kWh from 0.1kWh within the D0275. In addition, we would need to extend the database table space and server space to manage the increased volume of half hourly data. There may also be a need to amend the internal control in place that ensures registration data contained within the billing continues to be aligned with that held within the registration system. As yet we do not expect there to be any on-going costs however this could change as we get into the detail of the requirements stage.
Western Power Distribution	Initial cost £ 160,000 – £200,000 Ongoing cost £ 40,000 Initial cost consists of £80,000 - £120,000 in software upgrades to improve the billing process to be able to cope with the increased volume within reasonable system performance plus £40,000 for a server upgrade. The £40,000 ongoing is for two more whole time equivalents to deal with the increase in queries, rebilling, new sites, and longer billing run. I have included the first year's £40,000 ongoing in the above initial cost, taking initial cost to mean first year rather than just setup costs.
IMServ Europe	Initial cost £ c0 – c500,000 Ongoing cost £0 (i.e. no additional ongoing cost other than resource)

Respondent	Rationale
	We would estimate the initial cost of the investment in systems infrastructure to be anything from £0 to in the region of £500,000. Our system capacity and Data Retrieval infrastructure would not need to be increased until a certain 'tipping point' was reached, therefore this change would not necessarily require any investment cost. We believe that any capacity increase would be incremental and would depend entirely on the market rate of take up and the associated increase in our portfolio size. We would only make any investments at the point in time they become necessary. Furthermore we anticipate no overall increase to our ongoing costs due to economies of scale.
Ecotricity (The Renewable Energy Company Ltd)	Confidential response
Stark Software International Limited	Initial cost £100,000 Ongoing cost Nil Up front investment will be required in computer hardware, software and communications infrastructure to support anticipated migration and increase in volumes. Additional staff and staff (re)training will also be a significant up front and on-going cost.
IBM for and on behalf of ScottishPower	SP Energy Retail: Initial cost £120k Ongoing cost £286k pa SP Distribution: Initial Cost £6k Ongoing Cost - The initial projected cost is based on the system and process changes we would have to incorporate to support additional HH sites in Settlements. The ongoing costs projected above are based on an assessment of moving cica 17,000 Maximum Demand sites to HH AMR metering. This would be an **increased cost** from the current portfolio breakdown. These are conservative costs and may increase following a more detailed review of the specific metering contracts. In addition, there are several areas that still need to be considered: • The work being undertaken within DCUSA change DCP103 should be considered as part of any DUOS impact. There are several options still being discussed so these should be included in the full Impact Assessment for P272. • Increased costs for management of Measurement Class changes as all Suppliers may not be in the same position in terms of being able to support HH metering and the associated data. • Admin costs around the appoint process for agents and the

Respondent	Rationale
	implications this will have on billing if these appointments are not completed successfully. Should be highlighted as a risk at this stage in the absence of projected costs. **SP Distribution** We do not feel that we are able to provide a detailed breakdown of the costs incurred if P272 is implemented until agreement is reached regarding the Methodology of DUOS charges and the affected customers. As stated in our previous P272 submission, our preference, and also Suppliers' preference is for an aggregated Supercustomer bill for these customers based on the aggregated HH consumption values that will become available to Suppliers from Data Collection activities. This will provide for the most cost efficient option. All other options would lead to significant changes to the following: 1. DUoS Billing Costs (System and Operational) 2. Registration Changes (Migration of 16,000 Records) 3. Tariff Re-Modelling of Portfolio and Re-alignment of Cost Structures I have reattached our previous submission for clarification on the above points. In addition, costs that we have not quantified in detail but need to be considered are as follows: 1. Increased volumes of individual Dataflows (for SP additional 16,000 D0036's per day) will lead to higher DTN transactional costs 2. Increase in production and processing of DUoS invoices/payments (additional 16,000 per month) will require additional FTE resources (estimated at +2 FTE, £50k per annum) 3. Increased Supplier Costs to validate the additional site-specific invoices. 4. Increased EDI costs – EDI bills / payments associated with increased volumes 5. IT system costs to ensure increased volumes can be handled (estimated at £20k-£30k) **<u>MPRS Changes</u>** The impact of P272 implementation in MPRS is as follows: • The Profile Classes 5-8 and related SSC/PC combinations will NOT

Respondent	Rationale
	be end dated in MDD • Validation must be introduced to ensure any meter with a first registration on or after 6 April 2014 cannot be set to PCs 5-8 unless the meter is an export meter or the SSC/PC combination is a defined exception • A new table will be introduced to MPRS to store the industry defined exceptions The above changes are possible and assuming this would be made as part of a normal MPRS functional release this change, including development and all levels of testing, to take around 10 days. It is estimated that the development work would cost approximately £10k, with further internal UAT costs around similar levels. To summarise, we do not feel that we can carry out sufficient cost / benefit analysis until clarification is provided regarding the billing of Profile Class 5-8 customers following P272 implementation.
SSEPD and SHEPD	Confidential response
SSE	Confidential response
G4S Utility Services (UK) Ltd	Confidential Response
Electricity North West Limited	Initial cost £100,000 Ongoing cost £0.00 This is only a high level estimation of cost as we would need to carry out a full detailed analysis and design phase to identify more accurate costs. This cost covers; • Project Initiation • Requirements Specification (more storage for increased volume of data) • Detailed Design • Build and test • Acceptance Test • Implementation • Project resources Assumption has been made that once the requirements have been implemented then there would not be any ongoing operational costs.
RWE npower	Confidential response
First Utility	Given that First Utility is not currently half hourly accredited, it is difficult to assess the projected costs beyond those which would be

Respondent	Rationale
	required for us to achieve that status. However, we are firmly of the view that the benefits resulting from implementation of this Proposal would outweigh the associated costs to the industry as a whole.
EDF Energy	It is not obvious what is meant by "costs that parties will incur from investment designed to facilitate use of more accurate data in settlement". Our assumption is that affected sites would be migrated through existing central processes via a Change of Measurement Class (CoMC) and Agent to half-hourly settlement, and would be handled by central processes in essentially the same manner as existing half-hourly sites (except for performance measurement). Within our own systems, we currently envisage that these sites would be handled in a similar manner to existing half-hourly sites (but with different performance targets). That is, our expectation would be to have additional numbers of HH-sites using existing processes as far as possible. The estimated costs for doing this are as described in our response to the P272 Impact Assessment in August 2011, which are repeated here with a few minor revisions, indicated in italics. Setup Costs (a) Work is in progress that will increase the capacity of our IT systems to handle Half-Hourly metered sites including the number of sites currently in Profile Classes 5-8. This is expected to be completed before 6 April 2014. Additional system setup costs over and above this existing project should be minimal, assuming a managed transfer of current PC5-8 sites to Half-Hourly settlement using existing processes with no large step change. Additional work would be required to manage a large step change. (b) Supply Licence condition 12.22 makes an exception to the requirement for AMR metering at PC5-8 sites by April 2014 "where the licensee is unable to install or arrange for the installation of any advanced meter at the relevant premises in question despite taking all reasonable steps to do so". We assume that any BSC requirement for HH settlement would not extend to sites where AMR metering is not installed. A BSC requirement for half-hourly settlement that is more demanding than the licence requirement for AMR would have significant additional cost. A further issue brought into focus since our August 2011 response concerns those sites where an AMR meter can be installed, but there are difficulties with securing remote communications. Without remote communication, it is difficult to comply with Supply Licence condition 12.20 that requires Advanced Meter data to be made available to a customer in a timely manner. It would also be difficult to facilitate half-hourly settlement with performance targets that require frequent meter reads. For example, meters in remote or shielded locations such as basements or other "mobile blindspots", or secure establishments

Respondent	Rationale
	where remote communications are not permitted. The cost of installing and maintaining remote communication capability for such sites, such as aerials or new phone lines or, in extreme cases, reading manually, is significantly higher than for "straightforward" sites. Insufficient attention may have been given to the competitive effect on suppliers that have inherited a more costly portfolio in this respect than other suppliers. Many individual customers in these "difficult" sites, if faced with the full cost of remote communications, would not accept them. Therefore compliance with the licence condition in every circumstance might require sharing of costs in tariffs with other customers in order to avoid hostile individual customer reaction. An alternative approach could be that if the customer is not willing to pay for the necessary communications to a site, even if AMR installation itself is possible, that meter is exempted from the requirements for data reporting and HH settlement. We note that the P272 Modification Workgroup has been advised that AMR rollout is already 70% complete (as of September 2011). We question the accuracy of this assertion, and suggest the workgroup, in considering performance targets, more carefully consider the percentage of sites that will realistically not be able to have AMR metering and/or the communications necessary to support HH settlement. (c) To the extent that installation of AMR metering for PC5-8 is mandated by Supplier licence conditions, there should be no additional costs for metering equipment itself, except where communications upgrades might be required to better support HH data provision. (d) There may be significant additional setup cost for some sites to better support HH settlement, for example where NHH data collection is not currently performed remotely and extra communications equipment might be needed, or where site visits are required to reconfigure meters. Site access issues can add to these costs. (e) Changes to agent service costs reflecting different service levels for NHH and HH will occur, and there may be termination costs for existing NHH agent contracts and setup costs for new HH agent contracts. Where suppliers have contracted for agent services, these costs are likely to be passed through to customers. Customers that have contracted directly with agents will be subject to these costs directly. It is not clear how the variety of existing contractual arrangements would be accommodated under this proposal, nor exactly what the costs might be. (f) Some significant regulatory and contractual issues exist, for which a solution is not yet clear: a. As described above, customers may have direct contracts

Respondent	Rationale
	with NHH agents, for example fixed term contracts for combined MO/DC/DA service in which AMR installation and meter costs are recovered by the agent over a number of years. Customers may be reluctant to terminate such contracts and set up new ones with HH agents, for example: i. where additional cost is involved and/or ii. the customer's existing agent does not provide an equivalent HH service and/or iii. to avoid changes in agent data reporting to the customer. b. If as a supplier we were to appoint HH agents to support HH settlement against the wishes of a customer, we could anticipate legal challenge and complaints to consumer and regulatory bodies. (g) As a Supplier, we would expect a cost of £15-£20 per MPAN for initial change of measurement class and change of agent process, provided existing processes are used with no large step change. As a Supplier Agent, there are currently similar costs £15-£20/MPAN to administer change of measurement class, currently a relatively low volume activity. If this became a higher volume activity as a result of this proposal, it might be possible to reduce the per MPAN cost by modifying existing processes. The impacts of these possible changes have not yet been evaluated. (h) The process for settling BSC Trading Charges should not require change. (i) Changes to DUoS charging methodologies to create more equivalence between HH and NHH DUoS charges are expected, but the method of achieving this has not been specified. We may have to make system and process changes to accommodate this, the cost of which has not been identified. Any such changes are likely to affect many customer sites, not just those with AMR or settled half-hourly. Any such changes made during the lifetime of a supply contract will incur cost, either to revise the contract price to reflect the change and to manage and communicate the transition to the customer, or to re-balance the overall portfolio position. (j) Our current systems and processes would transfer pricing and billing for affected customers from non-half-hourly to half-hourly: a. There would be costs in informing and preparing customers for potential changes to their billing processes. b. Energy costs associated with half-hourly settlement would be more dependent on a customer's individual half-hourly load profile, instead of the shared profile. Although the uncertainty associated with GSP Group Correction would reduce, customer prices would in time become more reflective of individual load profile. Not all customers would benefit from this, and some customers may be unco-operative. Again, we might anticipate legal challenge and

Respondent	Rationale
	complaints to consumer and regulatory bodies. Potential changes to existing systems to avoid these issues, by facilitating half-hourly settlement in association with non-hourly customer billing have not been considered in detail at this stage, but the impact could be significant. (k) There will be an impact on transmission charges. The manner in which this is passed through to customers, particularly those on existing contracts, would need to be considered: a. Like energy, BSUoS charge liability would become dependent on actual loadshape rather than profile with GSP Group Correction. For in-contract customers, this could change the costs on which the contract was based. b. Customers currently contributing to non-half-hourly demand charges would instead contribute to more volatile half-hourly triad charges. The effect of these changes on us for customers on existing contracts would need to be considered. c. NHH demand charges incurred during the first part of a year combined with HH triad charges during the winter for the same site need to be considered. Is there a possibility of double charging? (l) For current PC5-8 customers on long term contracts, for example fixed price contracts, there could be an impact on our wholesale contracting strategy if the aggregate half-hourly shape of relevant customers turns out to be significantly different from that expected when the contracts were made. Adjustments to wholesale trading strategy may be required. (m) We note that amongst proposals for change to the Carbon Reduction Commitment (CRC) scheme, discussed in other fora, there are suggestions to base participation on whether a customer is settled half-hourly or not, instead of current criteria. We have not considered potential impacts in detail, but there is a possibility that some customers wishing to avoid inclusion in CRC for whatever reason could resist half-hourly settlement. (n) It is not yet clear how AMR meter services will interact with the introduction of smart metering and the DCC, and whether similar agent and customer contractual issues as described above will be created for customers, suppliers or agents. In summary, although in principle the proposed change appears relatively straightforward to deliver, in practice we anticipate many administrative and process difficulties in implementing it for all current PC5-8 sites with half-hourly capable meters by April 2014. Considerable further work would be required to place costs on the likely outcomes, which to some extent depend on customer response to mandatory changes, rather than technical issues.

Respondent	Rationale
	Ongoing Operational Costs (a) Agent Costs As a supplier, we observe that the current cost of HH agent services is generally considerably more than that of NHH agent services. Although the service levels for measurement class E are lower than for measurement C, and we would expect the per-meter cost of HH agent services to fall if fixed costs were shared more widely with expansion of the HH market, we have no firm information on likely meter agent costs. It should be noted that existing HH customers normally contract directly with a MOP and there is rarely a contractual relationship between the customer's MOP and Supplier. A PC5-8 customer currently with a combined NHH MO/DC/DA service but considering or required to move to HH service may opt or be required by limitations of existing contracts to follow this practice and use separate agents, which could result in significantly higher service and administrative cost for the customer. As a NHH Supplier Agent our experience of customer preference is generally to contract with a sole agent that can provide the full agent services of MO/DC/DA. Moving these from NHH to HH may require some customers to reconsider their agent selection or require agents to consider their service provision as not all will be able to provide the necessary full HH service. An issue the workgroup should consider is the proportion of "difficult" sites where remote communication or manual reads solely to support the proposed HH settlement performance timescales would be particularly expensive We think this proportion could be higher than anticipated, escalating the meter service costs if this proposal were to be approved in its current form, for limited real benefit. A significantly lower performance target, say 70-80% subject to periodic review, at least until the scale of the issue of "difficult" sites is more known, could avoid considerable cost, noting that the benefits are currently unclear. (b) Additional resource roughly proportional to the additional number of HH customers would be required for: a. pricing for individual or classes of customers, forecasting, billing and provision of reporting data. b. validating and correcting half-hourly meter data where necessary. Ongoing system and process improvements will offset some of these additional costs, but the net effect is currently uncertain. (c) There would be an increase in DUoS charges in most distribution areas and profile classes, unless DNOs change their charging methodologies. We would expect an equivalence of HH and

Respondent	Rationale
	NHH charges to be implemented before this proposal. (d) For DUoS, we would anticipate additional processing charges of approximately £20k a year, offset with a very slight reduction in NHH process costs. Additional points: • Additional data storage • Customer DUoS pass through/pricing • Interaction with CDCM/EDCM developments. (e) There would be a small change in BSCCo charges. Potential Benefits to Processes (a) HH is more accurate and straightforward in principle to administer from a supplier's operational perspective. There may be an increase in the quality of bills, arising from availability of more detailed meter data. (b) Real HH data for sites currently in Profile Classes 5-8 will assist more accurate demand forecasting (reducing risk premia associated with wholesale contract imbalance, pricing and credit). (c) HH data could also assist with more innovative value added benefits to customers such as load monitoring and and energy management. Although this does not necessarily require HH settlement, there is potential for more direct feedback of customer response into prices. However, more detailed data for individual sites means increased volume of data and potential for more complexity in dealing with customer pricing, queries, billing and data provision. Potentially, customers could receive more accurate contract prices (but this is not necessarily the same as cheaper prices). Some customers will represent a higher energy cost and/or uncertainty for suppliers than others, dependent on invidual half-hourly measured loadshape and its predictability. Ultimately, there are likely to be winners and losers among customers, as among suppliers, if actual half-hourly loadshape is used in settlement instead of shared profiles.
British Gas	Confidential response

Question 4: What do you expect the direction and magnitude of any change in metering charges to be as a result of P272?

Summary

Up	Down	Neutral/Other

Responses

Respondent	Response	Rationale
Power Data Associates Ltd		If you mean HH settlement charges, then if they change there would be an equal and opposite corresponding change to the NHH charges. There are no further costs to Elexon from implementing this change.
SmartestEnergy Limited		Data retrieval costs, we believe will reduce quite significantly as it will mean a doubling of the HH market sector. However, data collectors are best placed to answer this question.
Northern Powergrid		Our expectation is that if implemented the change should have built in an appropriate timescale to allow us to update the relevant billing systems with circa 30,000 meter records.
Western Power Distribution		This is best answered by meter operators.
IMServ Europe		The only change that we envisage is a potential increase in maintenance costs for the metering. There would be no increase in the cost of the actual metering as the requirement for the installation of AMR metering in these profile classes is independent of this proposed change and is already mandatory. The potential cost that we envisage is as a result of any more onerous service lines that may be required to be met in the HH Market. However there would be economies of scale to factor into this therefore we would anticipate the Meter Operator maintenance charges to be somewhere between current NHH and HH rates.
Ecotricity (The Renewable Energy Company Ltd)		Confidential response
Stark Software International Limited		Provided Elexon and OFGEM address the barriers to interoperability and competition highlighted above, then having created a healthy and robust competitive market place, one can expect an expanding market to result in price reductions.
IBM for and on behalf of		There are several metering charges areas that will be impacted:

Respondent	Response	Rationale
ScottishPower		• Meter Rental Costs are likely to increase if providers (appointed MOP) decide to charge a higher rate for rental. Some early indications are that this is true. Currently, if a customer moves from NHH to HH there is an increase in metering rental. The question that needs resolving – which can only be answered by Metering Agents is how much will their costs differ for charging for new technology as opposed to the current charging methodologies for both NHH and HH? • Changes to some data flows are likely e.g. Meter technical details to make a site HH i.e. D0268 would replace D0150. In addition, possible data items within flows may need updating or adding. Additional costs expected in managing the outputs from this process • Meter Life – uncertain whether the life expectancy is going to be any greater than 10 years due to unproven technology • Meter maintenance costs – unknown if Smart meters will cause greater volumes of call outs due to the dependency on the communications unit and a greater likelihood of fault (meter and comms as opposed to just meter).
SSEPD and SHEPD		n/a
SSE		We assume that the existing AMR charges will prevail rather than the current HH charges.
G4S Utility Services (UK) Ltd		As mandatory move to smart metering has an implementation deadline of April 2014 the cost compared to the infrastructure in April 2014 would not differ, however it is expected that meter reading costs would increase with the increased comms traffic for half hourly data retrieval.
Electricity North West Limited		N/A
RWE npower		Confidential response
First Utility		We believe that, if the Proposal is implemented, metering charges within these profile classes should logically fall over time as the usage of AMR becomes more widespread once half hourly settlement for these profile classes becomes compulsory and systems are standardised in line with this.

Respondent	Response	Rationale
EDF Energy		We expect the metering charges for HH data collection would be higher than they are currently for NHH. How much higher depends on the proportion of "straightforward" sites relative to "difficult" sites. We think effort so far may have focussed on installation at straightforward sites. The population, and therefore the cost, of installing remote communications at difficult sites is not yet well known. For "straightforward" sites, we expect HH agent costs would be slightly higher than for NHH, as described confidentially in response to question 3, due to the extra data volume processing costs and the more demanding performance targets for timely collection of data, as compared with periodic reads and EAC/AA/profiling processing costs. For sites with "difficult" remote communications, the cost could be considerably higher, as described confidentially previously and in response to question 3. Whether the additional cost is incurred anyway to allow Supplier licence condition 12.20 to be fulfilled is debatable. A customer faced with the costs of the necessary communications equipment might not request the data, in which case there would be no non-compliance with LC12.20. In that case, a BSC obligation for HH settlement for an AMR meter could be the cause of the additional costs being incurred by the Supplier to avoid any performance charges. For example, sites where the customer does not wish to pay for, or otherwise objects to the use of remote communications, or they would be very expensive. The supplier may have to incur considerable costs to procure the necessary communications, or to read manually, or to pay supplier charges, or even to pay regulatory penalties. These can all be considered additional costs arising from a HH settlement requirement. As mentioned previously, we think the workgroup should consider carefully the precise circumstances in which HH settlement would be mandatory, and/or subject to performance measures. A supplier that absorbs the cost of necessary communications equipment, sharing it amongst other customers, would avoid this situation. But its customers would face higher tariffs in general to support that cost.
British Gas		We expect our overall metering budget to increase as a result of transferring our existing portfolio of PC 5-8

Respondent	Response	Rationale
		customers to HH. Currently it is more expensive to extract data on a HH basis than to use monthly readings which is what we currently do for our PC 5-8 customers. We have looked at the prices we have been offered by our HH agents for a substantial increase in volumes and have been quoted indicative prices which would mean an overall increase in metering charges of some 2.67 times that of a NHH customer.

Question 5: What are the potential impacts on customers if P272 were to be approved, for example contract renegotiation or appointment of agents?

Responses

Respondent	Response	Rationale
Power Data Associates Ltd		If unmetered customers are affected by mandating the trading of large UMS as HH, then there will be some changes for the minority of large UMS customers still trading NHH, but this is little different from the impact on metered customers.
SmartestEnergy Limited		We would expect suppliers and direct customers to renegotiate their contracts with their agents. We believe there will be re-openers in all contracts in the event of significant industry change. We do not believe that suppliers will be unable to transfer any increase in costs to customers and once P272 is implemented we believe that the customers will be in a position to reduce their overall energy consumption. N.b. Strictly speaking the “appointment” of agents is and will remain the supplier’s responsibility even if the contract is between the customer and the agent.
Northern Powergrid		Not applicable
Western Power Distribution		This is best answered by suppliers.
IMServ Europe		Unable to comment
Ecotricity (The Renewable Energy Company Ltd)		Confidential response

Respondent	Response	Rationale
Stark Software International Limited		Provided Elexon and OFGEM address the barriers to interoperability and competition highlighted above, consumers will welcome price competition from agents for the provision of metering and data collection services. If these issues are not addressed, then all that will happen is that consumers' costs will increase without any benefits being achieved.
IBM for and on behalf of ScottishPower		There would be significant change to contract and appointments for all customers as part of this migration and as such Suppliers would be responsible for the management of all the exceptions that occurred within it. While this may not have a direct financial cost associated with it, the cost on resources, time and potential customer losses will be significant. Customers may simply look to move Supplier if they are presented with issues during the migration process.
SSEPD and SHEPD		n/a
SSE		It's hoped current AMR Metering would remain installed with existing Agents continued to be appointed, thus making it a seamless transfer to HH. Any changes to cost would be reflected in their new HH contract terms.
G4S Utility Services (UK) Ltd		Nothing other than already reported in previous consultations.
Electricity North West Limited		N/A
RWE npower		Confidential response
First Utility		We do not believe that there would be any appreciable impact as half hourly settlement coupled with half hourly metering is likely to lead to more accurate billing and allocation of energy which will be of significant benefit to consumers. As already mentioned in our answer to Question 4 we believe that metering charges are also likely to fall over time and this should also be of significant benefit. The customer's right to appoint its own agent will be unaffected.
EDF Energy		If a customer has contracted with NHH agents directly on a long term contract, but the supplier were to be required to appoint a compliant HH agent as a result of P272, the Supplier or the agent would have to approach the customer for a revision. The cost of an

Respondent	Response	Rationale
		HH service is likely to be higher than for an NHH service. Currently, costs could be considerable higher, though we expect these could fall. Therefore a customer may not willingly change. The customer could face exit charges from its existing agent contract, and increased charges from its new agent contract. Its supplier should have a clause in its supply contract allowing it to appoint a compliant agent at the customers expense if the customer does not, and P272 could result in this having to be invoked. As a Supplier wishing to foster good relations with our customers, this is not ideal. Customer relationship management would be required, and the possibility of legal challenge cannot be ruled out. Similar issues exist where a Supplier may have an existing arrangement with particular agents. For a long term fixed price customer supply contract, the supplier may have to absorb exit charges and increased ongoing agent charges NHH agents with existing service contracts that recover set-up costs over an extended period could be left with stranded costs, if termination charges do not cover all their costs. This is one of the reasons why we prefer a later implementation, or a staggered implementation, so that existing contracts can be completed. Another reason is that the changes to data collection that are expected with Smart metering could provide a more cost-effective and equitable transition route to Half-Hourly settlement.
British Gas		If P272 were to be approved we would need to contact each of our existing PC 5-8 customers individually to explain the change and to discuss options for them regarding their existing contract. There could be a number of different scenarios depending on customer preference. We could continue to bill on a monthly read but settle HH or our preference would be to move the customer to full HH billing to ensure our settlement charges and customer bills align. We would not want re-negotiate customers contracts mid term and would definitely want to include these discussions at the end of the contract term. This exercise would incur additional costs. With regard to the appointment of agents many of our existing PC 5-8 customers are used to paying for their agent charges bundled into their total bill. Under the

Respondent	Response	Rationale
		proposal we would need to appoint HH metering agents for all these customers. I would anticipate that we would negotiate some bulk supplier direct metering contracts so we could continue to offer a bundled price. However some of our larger customers or group accounts may wish to procure these contracts direct. This will add additional complexity for this group of customers that we do not have currently.

Question 6: Do you believe that the progression of P272 should be viewed as a matter of costs vs benefit, or whether we have to make the changes regardless of cost because it is a matter of reflecting appropriate allocation?

Summary

Yes	No	Neutral/Other

Responses

Respondent	Response	Rationale
Power Data Associates Ltd		It is really a matter of principle. But many of these customers have a very unique load profile and therefore they should be settled based upon their own specific profile, rather than an average. It is not clear the purpose of this consultation, other than delay. Most of these questions/issues were covered in the previous consultation responses.
SmartestEnergy Limited		In our view P272 is all about reflecting appropriate allocation of costs. It is a natural extension of other developments in the industry; profiles should be seen as an interim measure which were put in place until half hourly metering became more achievable. The licence condition to install half hourly meters in all PC5-8s is part of this progression and P272 is making half hourly settlement for this tranche of customers a reality. If it were not the intention to settle data on a half hourly basis we do not believe the licence condition would have been imposed to install AMR.
Northern Powergrid		We think that there is a definite need to reflect appropriate allocation however, there must also be a need to understand the costs associated to get us there as these costs can be mitigated against the benefits. However, we must acknowledge that there

Respondent	Response	Rationale
		must be a ceiling to these costs.
Western Power Distribution		We believe the benefits must be established to justify the move, in particular a view needs to be taken as to what the potential customer benefits are for moving PC 5-8 customers to site specific billing versus allowing them to share the smart metering solution agreed for PC 1-4.
IMServ Europe		Obviously cost v benefit is important however the risks and associated costs of inaccuracies are borne by all parties including the customer and it is important that the benefits of eliminating these should be factored into the rationale for the change. With the full implementation of half hourly enabled metering for Profile Class 5 – 8 customers and the 'blanket' availability of half hourly interval data we believe it is logical and will become necessary, as a result of customer led demand, that the customer be given the benefit of accurate billing calculated from this data.
Ecotricity (The Renewable Energy Company Ltd)		Confidential response
Stark Software International Limited		Both.
IBM for and on behalf of ScottishPower		We believe that the change should be looked at as a whole package, and while we believe there are benefits in transferring PC5-8 customers into the HH Settlement process, however it should not be at any cost. The cost v benefit analysis should be used to assist the overall decision process, though if the cost considerably outweighs the perceived benefits then serious consideration needs to be given as whether the change is progressed. In addition in determining the decision consideration should be given as to who will pick up the final cost, it will be very difficult in the current economic climate to justify a change to internal industry processes if the result is an increase in charges to the end customer. Regardless of the accuracy that this modification could bring to the market, if the changes are not affordable then alternate measures must be put in place to make the most of the new data that will be available.
SSEPD and SHEPD		We believe this is a matter of cost vs benefit and we hope over time the benefits will outweigh the costs. In

Respondent	Response	Rationale
		addition we believe appropriate allocation is one of the benefits
SSE		We believe this is a matter of cost vs benefit and we hope over time the benefits will outweigh the costs. In addition we believe appropriate allocation is one of the benefits
G4S Utility Services (UK) Ltd		Cost vs benefit as ultimately any additional costs would have to be passed onto the end consumer.
Electricity North West Limited		We think the progression of P272 should not be viewed as costs vs benefits, and the changes should be made regardless of cost due to the benefits this change will provide (a few listed below); • The functionality of Advanced Meters being utilised and providing more accurate data. • Accurate Demand Forecasting • More accurate DUoS Billing • Better reporting of Losses
RWE npower		Confidential response
First Utility		We believe that this falls more into the area of appropriate allocation. At the same time, however, we feel that the benefits deriving from implementation of the Proposal are likely to outweigh the costs.
EDF Energy		We think P272 should be viewed as a matter of cost vs benefit, but the main benefit of cost saving by facilitating demand response cannot be easily quantified. We think there will be a cost-benefit of Half-Hourly settlement in future, but it will be many years before it materialises. Therefore we prefer a later implementation that would allow a more managed and less costly introduction of mandatory HH settlement. We do not believe the change should be made regardless of cost. Many costs and uncertainties are currently shared, and this is an appropriate allocation when the capability of individual participants to manage the appropriate risk is limited. Historically, suppliers have had little knowledge of the load profile of their individual smaller customers or of their portfolio of such customers, and little ability to manage the load profile. Customers themselves may not know. Consequently, suppliers have been content

Respondent	Response	Rationale
		to share the uncertainty, in standard profiles and GSP Group Correction. P272 would remove this sharing for Profile Classes 5-8, exposing suppliers to the actual time-of-use volumes of their particular customers in those profiles. The correct question is whether the benefits of exposing suppliers to the actual volume of their customers in PC5-8, identified in our response to question 2, outweigh the implementation and operational costs, including the potentially increased risk on individual suppliers. Quantitative analysis of the benefits is more difficult than estimation of the costs. Qualitatively, we think the benefits of half-hourly settlement will eventually outweigh the costs. However, we think it will be several years before significant benefits materialise, with or without P272, as customer time-of-use demand response, and the tariffs to reward it, evolve. Also, there are several other major developments in progress, including the smart metering project and potential initiatives originating from Europe. Therefore we prefer a later implementation that would allow a more managed and less costly introduction of mandatory HH settlement. We support the increased adoption of half-hourly settlement in the long term. We consider it as a practical step to enable more customer demand response in the future. Demand response allows the generation and delivery of electricity to be undertaken with increased economic efficiency, with an individual consumer paying for what it wants, and reducing the contribution it makes to or receives from other consumers. This in turn should reduce the total costs and increase overall consumer benefit, although those consumers that continue to have expensive load profiles may pay more despite savings on average. Energy prices vary by half-hour, and generation capacity and network capacity are driven by maximum demands at particular times. Half-hourly settlement provides a route to expose customers to the costs of providing them with energy at particular times, and to provide them with means to manage that usage in response to price signals. However, suppliers provide the interface between customers and the costs/prices arising from generators and network operators, and appropriate tariffs and services will take time to

Respondent	Response	Rationale
		evolve. We think increased electrification will be required in future as cheap and flexible fossil fuel sources dwindle. Unless unforeseen discoveries or major behavioural changes in energy usage occur, expensive increases in generation and network capacity will be required. We think demand response supported by time-of-use measurement will become a significant factor in limiting the costs of these developments in the longer term future. Time-of-use charging will allow customer to participate more directly, in a more typically supply-and-demand role, in determining the cost of development that is undertaken. We think the benefit of half-hourly settlement will start to become significant towards the end of the decade as demand grows, the generation mix changes, and network constraints increase, all increasing the spread in time-of-use costs. This will drive increased time-of-use demand response, assisted by smart metering, with more time-of-use energy and network tariffs, and more active management by network operators. However, the amount and materiality of potential demand response in PC5-8 is highly uncertain at this stage.
British Gas		This should definitely be viewed as a matter of costs V benefits. We could have the most accurate settlement system money could buy but if this cost outweighs the benefits there would be no value to end customers. At a time when energy prices are under high scrutiny we must ensure that any changes made by the industry offer real benefits to end customers. As stated previously the current profiling system provides an efficient, cost effective mechanism for apportioning energy costs to suppliers. We recognise it is not perfect and will not meet the needs of dynamic time of use pricing but until these types of tariffs are needed we should not be unnecessarily adding additional costs to customers bills.