Promoting choice and value for all gas and electricity customers

Early replacement of electricity PPMs and removal of electricity metering obligations: Proposed licence amendments

Document type: Consultation

Ref: 29/07

Date of publication: 20 February 2007

Deadline for response: 20 March 2007 for response to licence modification notices.

Target audience: This document may be of particular interest to electricity distribution network operators (DNOs), suppliers, competitive metering businesses, consumer groups and other interested parties.

Overview:

This document sets out Ofgem's rationale for a series of proposed amendments to the electricity distribution licence, relating to both the premature replacement of electricity prepayment meters (PPMs) and the removal of certain obligations and price controls on electricity metering services. The PPM amendments are designed to replace the existing asset-life adjustment mechanism with a simpler, more transparent arrangement that will allow DNOs to recover certain stranding costs through a tariff uplift across all price-controlled meters. The remaining amendments clarify the ongoing obligations on DNOs once controls on new/replacement electricity meters and meter operation services fall away on 31 March 2007.

In accordance with our statutory obligations, licence modifications have now been issued for statutory consultation in conjunction with this document. Licensees and the Secretary of State have 28 days in which to object or make representations on our proposals.

Contact name and details: Rachel Fletcher, Head of Retail Markets

Tel: 020 7901 7194

Email: rachel.fletcher@ofgem.gov.uk

Team: Duncan Mills (020 7901 7443; duncan.mills@ofgem.gov.uk)

Context

Since 2000, Ofgem has taken measures to facilitate metering competition in both gas and electricity in order to reduce costs, improve service levels and encourage innovation through the use of smarter forms of metering. In this context, we decided in October 2006 to allow the obligations on DNOs relating to electricity meter operation and the provision of new and replacement electricity meters to fall away from 31 March 2007, along with the price controls for these services. Price controls will however be retained on meter asset provision for legacy electricity meters installed prior to 31 March 2007.

As long as controls on legacy meters remain in place it is important that they provide appropriate price signals and, as far as possible, do not distort competition. It is also essential that the removal of controls on new/replacement meters and meter operation enables an orderly transition to competitive metering provision. This document sets out Ofgem's rationale for a series of licence amendments which we consider will meet the commitments made by Ofgem on electricity PPM stranding at the time the price controls were set, while also ensuring that the ongoing regulatory requirements on DNOs with respect to metering services are clear and transparent.

Associated Documents

- Treatment of the early replacement of prepayment meters in the electricity metering price controls. 29 September 2006 (Reference 175/06)
- Licence amendments relating to PPM premature replacement and removal of electricity metering obligations. 11 January 2007 (open letter)
- Proposed amendments to the electricity distribution licence in light of removal of electricity metering obligations. 20 December 2006 (open letter)
- Ofgem's decision on the future of the gas and electricity metering price controls. 13 October 2006 (Reference 187/06)
- Metering price control review. June 2006 (Reference 108/06)
- Electricity distribution price control review: Final proposals. November 2004 (Reference 256/04)
- Electricity distribution price control review: Update paper. September 2004 (Reference 222/04)
- Review of Transco's price control for 2002: Final proposals. September 2001 (Reference 56/01)

Table of Contents

Summary

The electricity metering price controls contain a provision allowing distribution companies to apply for an increase in the price they charge for prepayment meters (PPMs), if suppliers decide to prematurely replace existing PPMs with another PPM technology. This mechanism was introduced at the time the electricity metering price controls were set in 2005, in response to a very particular set of circumstances: specifically, previous regulatory decisions had allowed investment by distribution companies in a range of PPM technologies (token, key and smartcard), each with an associated payment infrastructure. This created a risk of asset stranding in the transition to metering competition, as suppliers moved towards technological consolidation in order to minimise infrastructure costs.

Unlike the situation in gas metering (or electricity credit meters), the existence of PPM infrastructure costs markedly reduces the ability of a DNO to mitigate the risk of premature replacement via its commercial decisions. For example, even if a DNO were to lower its prices on a particular PPM technology to encourage continued use, suppliers might still elect to change out these meters in order to consolidate infrastructure provision within one preferred technology. For this reason, Ofgem took the view that additional stranding protection for electricity PPMs was warranted at the time the price controls were set.

Ofgem is fully committed to meeting agreements made on stranding cost recovery at the time of the price control decision. However, it is now apparent that the current electricity PPM arrangements have a number of problems which could potentially distort incentives around PPM replacement. These issues have come to the fore recently, with many electricity suppliers announcing accelerated replacement programmes for token PPMs, and with the first application from a DNO for cost recovery under the current licence mechanism.

Accordingly, on 29 September 2006 we consulted on an alternative to the current mechanism, which would allow PPM stranding costs to be recovered through a tariff increase spread across all price controlled meters - rather than loaded solely onto the type of PPM technology facing premature replacement. We also proposed moving to an explicit cost-sharing arrangement between DNOs and suppliers, whereby DNOs would be allowed to recover up to 30% of PPM stranding costs from suppliers and their customers.

We have carefully considered all responses to our initial consultation paper, as well as to the follow-up open letters we issued on 20 December 2006, 11 January 2007 and 23 January 2007. In light of these comments, we think that amending the current licence mechanism in order to allow recovery of stranding costs via a tariff increase across all price-controlled meters represents, on balance, the best option available. Moreover, we continue to believe that a ceiling of 30% recovery of PPM stranding costs to DNOs is appropriate, and is broadly in line with Ofgem's commitments at the time the price controls were set. We have however listened to respondents and made a number of modifications to our initial proposals as follows:

- stranding protection will be retained for all three of the main existing PPM technologies (token, key and smartcard), in cases where they are replaced due to

technological consolidation with one of the other technologies listed. Stranding protection will not be offered (either under our proposals or within the existing licence mechanism, should it remain in place) in cases where token, key or smartcard PPMs are replaced with an entirely new technology

- a separate price cap will be retained for multi-rate PPMs, but the licence will be amended to make it clear that stranding protection for these meters will operate in the same fashion as for single-rate PPMs

- guidelines will be published setting out the methodology that should be used by DNOs to calculate their PPM stranding costs, and also outlining the process DNOs should follow when making an application to Ofgem for cost recovery.

In addition to our proposals on the PPM premature replacement issue, we have also been consulting with DNOs on a series of licence amendments relating to our decision to allow price controls on the provision of new/replacement electricity meters and meter operation services to fall away from 31 March 2007. These amendments consist primarily of clarifications, as well as "tidying up" to remove now-redundant licence provisions. In our 20 December 2006 letter we also proposed amending the distribution licence to make it clear that basic metering services (other than the provision of legacy meters) would no longer fall within the definition of a "distribution business" after 31 March 2007. This would have had the consequence that DNOs who wished to continue providing such services would need to do so via a separate subsidiary, if they exceeded the *de minimis* thresholds.

After consideration of responses from DNOs and others, we have now decided not to amend the definition of a distribution business at this time. Rather, basic metering services will continue to fall within this definition, and will be classified as "excluded services" under Special Licence Condition A2. We still think there are likely to be advantages to separation of metering from distribution over the longer term - in particular, increased transparency, and an improved ability for metering businesses to respond to the needs of suppliers - and we expect that integrated businesses may move in this direction as the competitive metering market beds in. However, we accept that requiring separation at this stage would not be a proportionate response. We will reassess the case for separating metering from distribution following completion of our review of the competitive electricity metering market, which we have undertaken to complete within 18 months of removal of the price controls.

Our proposals on both the PPM premature replacement issue and the removal of electricity metering obligations are reflected in draft modifications to both the Standard and Special Conditions of the distribution licence, which we have notified for statutory consultation in conjunction with this document. In accordance with Ofgem's statutory requirements, DNO licensees and the Secretary of State now have 28 days in which to object or make representations on these changes.

Aside from responding to the statutory licence modification notices, we do not require any further response to this consultation document. However, a draft set of guidelines on the methodology and application process for PPM stranding cost recovery is included as an appendix to the document. We would welcome any additional feedback from DNOs and others on these guidelines, in order that they can be finalised and published by the time the licence modification process is completed.

1. Introduction

PPM Premature Replacement

1.1. The electricity metering price controls contain a provision allowing distribution companies to apply for an adjustment to the asset life of prepayment meters (PPMs), in circumstances where these meters are replaced at an accelerated rate due to supplier action. Under the price control formula, reducing the asset life of a specific type of PPM (eg, token PPMs) has the effect of increasing the tariff cap on those meters for the time that they remain in use - thereby allowing DNOs to recover some of the costs of premature PPM replacement from suppliers and their customers. The relevant provisions are set out under Special Condition F1 of the distribution licence, Parts A and E.

1.2. This mechanism was put in place at the time of the last distribution price control (DPCR4) in 2005, in response to a particular set of circumstances relating to electricity PPMs. Specifically, due to the existence of competing electricity PPM technologies (token, key and smartcard) there was a risk of meter asset stranding as suppliers moved towards technological consolidation in order to minimise infrastructure costs. Since this risk had arisen in part due to previous regulatory decisions to allow investment in a range of PPM technology, Ofgem accepted that DNOs had a legitimate case for some form of protection. This was however an exception to the usual regulatory practice, where stranding risks are dealt with at the time of separation and thereafter the risk of technology change and loss of market share is borne by the competitive entity[1].

1.3. Ofgem received the first application for an adjustment under this provision (from EDF Energy Networks) last summer. On consideration of this application, we realised that the current mechanism has a number of problems and could potentially distort incentives with respect to PPM changeout. We therefore reached agreement with EDF Energy Networks that they temporarily withdraw their application for PPM asset-life adjustment while we carried out a consultation process with interested parties.

1.4. An initial consultation document was released on 29 September 2006. In this document, we proposed removing the existing PPM asset-life adjustment mechanism from the distribution licence and replacing it with an alternative mechanism, which would:

[1] Indeed, Ofgem did address stranding in a general sense at the time the electricity metering price controls were set through valuing the meter asset base at replacement value and allocating the difference between this and historic value to the monopoly distribution businesses.

- allow premature replacement costs for token PPMs to be recovered through a temporary uplift in the price cap across all price-controlled meters (ie, credit meters as well as all types of PPMs)

- calculate the recovery of premature replacement costs based on a pre-agreed allocation between DNOs and suppliers/consumers, rather than through an adjustment to the asset life of PPMs. In the consultation document, we proposed allowing DNOs to recover 30% of stranding costs from suppliers, and

- provide stranding protection for token meters only – the existing protection for key and smartcard meters in the licence would be removed.

1.5. In addition, we proposed that as part of the licence amendments, the current control on multi-rate PPMs should be brought within the same framework as the control for single-rate PPMs, in order to increase clarity and transparency.

Responses to the PPM Consultation

1.6. Ofgem received 14 responses to the PPM premature replacement consultation - primarily from DNOs, but also from consumer groups and commercial metering businesses, as well as Centrica and National Grid. These responses (excluding confidential information) are available on the Ofgem website. In addition to the written responses, we undertook follow-up discussions with all DNOs to discuss their views in more detail. Furthermore, we issued an open letter on 11 January setting out our proposed way forward and seeking comment on this, and also provided DNOs and others with an opportunity to comment on an early draft of our proposed licence changes.

1.7. Overall, the majority of respondents agreed with our analysis of the problems with the current asset-life adjustment mechanism for electricity PPMs, and supported our proposal to amend it. However, a number of concerns were raised regarding the details of our proposal - including the mechanism itself, the cost-sharing arrangement between DNOs and suppliers/consumers, and the proposal to remove stranding protection from other PPM technologies. Some DNOs also requested that Ofgem provide further guidance as to how stranding costs should be calculated. We have carefully considered all the issues raised and, where appropriate, factored these concerns into the draft licence amendments which are being notified for statutory consultation in conjunction with this document.

1.8. Our proposed licence amendments are broadly similar to what was outlined in the initial consultation document: we still intend to allow cost recovery via a tariff uplift across all price controlled meters, up to a ceiling of 30% of stranding costs. However, in light of comments from respondents, we have maintained protection for all three of the main PPM technologies (token, key and smartcard) in cases where meters are replaced with another of the technologies listed. We have also decided to retain a separate price cap for multi-rate PPMs, but have modified the licence in order to make it clear that the stranding compensation mechanism applies equally across single and multi-rate meters.

Licence Amendments Relating to Removal of Electricity Metering Obligations

1.9. The PPM premature replacement issue relates to legacy meters, which will continue to be subject to price control as long as they remain on the walls. However, from 31 March 2007 the controls on provision of new/replacement meters and on meter operation services will fall away, along with the obligations on DNOs to continue providing these services.

1.10. In light of the metering obligations falling away, Ofgem wrote to DNOs on 20 December 2006 proposing a number of consequential amendments to the distribution licence. These proposals primarily involved tidying up and clarifying various aspects of the licence and removing redundant licence provisions. However, as part of this we also proposed to remove metering services (other than the provision of legacy meters) from the definition of a distribution business. This would mean that DNOs that wished to continue providing metering services on a competitive basis would need to do so via a separate subsidiary, if the activity exceeded the *de minimis* thresholds.

1.11. Our proposals for clarifying the licence and removing redundant licence provisions were generally welcomed by DNOs, and are reflected in the amendments that have now been issued for consultation. However, our proposal to remove metering services (other than the provision of legacy meters) from the definition of a distribution business met with considerable opposition from some DNOs, for reasons that are discussed in more detail in Chapter 3. In light of these concerns, we have modified our position and now propose to leave basic metering services within the definition of a distribution business at this stage, and to classify these as excluded services under the distribution licence. The attached licence amendments have been drafted to reflect this revised approach.

1.12. We will reassess the case for separating metering from distribution following completion of our review of the competitive electricity metering market, which we have undertaken to complete within 18 months of removal of the price controls.

Structure of the Document

1.13. Chapter 2 of this document summarises the main concerns raised by respondents regarding our PPM premature replacement proposals, and sets out Ofgem's analysis of these issues and the changes we have made to our proposals as a consequence. Chapter 3 follows a similar approach with respect to our proposals for consequential amendments to the distribution licence in light of the metering obligations falling away.

1.14. Finally, Chapter 4 of the document describes the amendments to the distribution licence that we are notifying for statutory consultation in conjunction with this document. Chapter 4 also outlines the process and next steps from here.

2. Key Issues Raised in PPM Premature Replacement Consultation

Chapter Summary

This chapter outlines the key concerns raised by respondents regarding Ofgem's PPM premature replacement proposals, and sets out Ofgem's response to these concerns. We also discuss evidence on the scale of PPM stranding costs across Great Britain, and the methodology that should be used to calculate these costs.

Overview

2.1. Consideration of the responses to our initial consultation document has reinforced our view that it would be beneficial to modify the current asset-life adjustment mechanism for dealing with PPM premature replacement costs. Moreover, on the whole we believe that our proposed alternative of a tariff adjustment across all price controlled meters is workable and represents the best option available among the alternatives that have been suggested.

2.2. The comments received from DNOs and others have been very helpful in improving our understanding of the PPM stranding situation within GB, particularly from the perspective of DNOs. A number of modifications and improvements have been made to our initial proposals based on the concerns raised by respondents. A detailed assessment of these concerns, and Ofgem's response to them, is set out below.

Key Issues Raised by Respondents

Mechanism for Recovery of PPM Premature Replacement Costs

2.3. The proposal to deliver stranding cost recovery via a temporary tariff increase across all price-controlled meters was supported by around half of DNO respondents, and the majority of non-DNO respondents. Among those who did not support the proposed mechanism, the main criticisms were:

- the new mechanism still fails to provide efficient price signals, since the costs and benefits of PPM replacement are spread across all suppliers rather than focused on those who are undertaking the meter changeout. Furthermore, the supplier instigating the changeout may be able to avoid bearing its share of the costs by choosing to replace price-controlled meters with non-price controlled meters
- National Grid argued that the proposed mechanism effectively creates a cross-subsidy between the price caps for electricity PPMs and credit meters (similar to

that which they contend currently exists in gas metering), and that this could distort the market and reduce incentives to invest in new PPM services

- finally, the mechanism introduces an unnecessary level of complexity to the licence.

2.4. The two main options put forward as alternatives by those who did not support the proposal to recover costs through a smeared increase in the meter tariff caps were: (1) recovery of stranded costs through distribution charges and (2) allowing termination charges on PPMs. We have given serious consideration to both of these options. On balance however, we consider that recovering costs through distribution charges would be inconsistent with Ofgem's previous decisions to progressively separate metering from distribution. Similarly, recovering costs through termination charges risks sending mixed signals to suppliers regarding the importance of changing out token PPMs – which Ofgem has strongly supported to date because of the potential benefits to vulnerable customers. To the extent that there are social and industry-wide benefits to token PPM replacement, it is not necessarily the case that termination charges will provide optimal price signals regarding change out of these meters[2].

2.5. In terms of the argument that our proposed mechanism introduces a cross-subsidy which could distort incentives in the electricity metering market, we would note that the required tariff uplift across the electricity meter base is small in most cases, and is also time-limited - we estimate that on average, the increase per meter will be around 55p over a one-year period, although in some regions the figure will be higher. Moreover, the arrangement will apply only to legacy meters, since the price controls on new and replacement meters are due to fall away on 31 March 2007.

2.6. For similar reasons, we also think it is unlikely that our proposed mechanism will trigger a significant shift away from price-controlled meters (thus allowing some suppliers to avoid bearing their share of the stranding costs). The likely uplift per meter is small in comparison with the costs incurred in meter replacement, and we do not expect it to create significant distortions in the market.

2.7. Overall, we continue to believe that our proposal to allow DNOs to recover PPM premature replacement costs via a tariff increase across all price-controlled meters represents, on balance, the best mechanism available.

[2] A legitimate case could be made on efficiency grounds for allowing stranding cost recovery via termination charges for other types of PPM technology (key and smartcard), given the lack of any social imperative for changing out these meters. However, for the sake of administrative simplicity, we believe it is preferable to maintain the same cost recovery mechanism across all types of PPMs.

Forward-looking vs Retrospective Approach to Cost Calculation

2.8. We have considered the suggestion put forward by one DNO respondent (and supported by several others in the course of subsequent discussions) that stranding costs due to premature PPM replacement could be calculated on a retrospective rather than a forward-looking basis. While this approach has a number of advantages - in particular, increased transparency - the key disadvantage is that it may not allow sufficient time for adequate cost recovery before the price controls on legacy meters are reviewed in 2010. It is also likely to be administratively complex.

2.9. Our proposed licence amendments therefore retain the forward-looking approach, but as set out in our guidelines on the PPM premature replacement application process (see Appendix 2) we will allow DNOs to apply for subsequent adjustments to the price control if suppliers' PPM changeout plans accelerate faster than anticipated. Conversely, the guidelines also specify that we will expect DNOs to reduce the rental they charge for token PPMs if they remain installed beyond the anticipated replacement period.

2.10. In order to address the concerns raised by some DNOs regarding the availability of forward-looking information on suppliers' changeout plans, we will cross-check the information we receive from DNOs when they make an application for price control adjustment against details we hold (and/or intend to obtain) from suppliers regarding their PPM change out plans.

Stranding costs incurred prior to application

2.11. A related issue is that of stranding cost compensation for PPMs that have already been replaced prematurely, prior to any application being made for price control adjustment. (For example, Centrica's competitive meter operators had already begun replacing token PPMs prior to Ofgem's receipt of the first application for adjustment from EDF Energy Networks.)

2.12. Under the existing asset-life adjustment mechanism, it was the responsibility of DNOs to approach the Authority for a price control adjustment if it became apparent that they were incurring costs from the premature replacement of PPMs. The fact that no DNOs had made such an application prior to EDF Energy Networks' approach to us in July 2006 suggests to us that the scale of PPM premature replacement costs was limited up until that point.

2.13. However, we recognise that some DNOs may have been preparing to make an application for asset-life adjustment when the current consultation process was launched, and moreover that DNOs may not have had full information to hand regarding suppliers' PPM change out programmes. We therefore intend to take the following approach to stranding costs incurred prior to application:

- PPM premature replacement costs incurred from the date the consultation was launched (29 September 2006) will be fully eligible for cost recovery at the agreed level of 30%[3]

- applications for recovery of premature replacement costs incurred between 1 April 2005 (the start of the current price control period) and 29 September 2006 will be considered on a case-by-case basis. We would expect a materiality test to apply in such instances, and will also expect DNOs to provide supporting information as to why they did not approach the Authority for a price control adjustment under the existing licence mechanism during this period.

Cost-sharing Arrangement between DNOs and Suppliers/Consumers

2.14. The majority of DNO respondents to our consultation document argued that the proposal to allow recovery of only 30% of PPM premature replacement costs from suppliers and their customers was inadequate. In contrast, some consumer groups argued that 30% was too high, and that consumers should not be expected to bear any of the cost of early PPM replacement.

2.15. The main arguments put forward by DNOs in favour of a higher level of cost recovery included:

- a 30% cost-sharing arrangement is not equivalent to a 30% cap on asset-life adjustment under the current licence mechanism. Indeed, a 30% asset-life adjustment is not inconsistent with full recovery of PPM stranding costs under some circumstances

- the 30% cap on asset-life adjustment under the existing mechanism was not translated into the licence and/or was never formally agreed to by DNOs

- at the time of DPCR4, the social and political concerns over debt buildup for token PPM customers had not yet emerged. The risk of early PPM replacement has therefore increased considerably since the time the price controls were set

- suppliers and consumers stand to gain the most from PPM technology change, so it is therefore only fair that they bear the bulk of the costs.

2.16. In developing the PPM licence proposals, one of our overriding goals has been to honour the commitments made at the time of the last price control review. We see this as vital in order to maintain regulatory certainty. In this context, we accept the point that a 30% cost-sharing arrangement under our proposed smearing mechanism is not functionally equivalent to a 30% asset-life adjustment under the existing licence mechanism[4]. Nonetheless, our analysis suggests that given the pace

[3] In the case of EDF Energy Networks, cost recovery will be allowed from the date on which we first received an application for asset-life adjustment.
[4] Assuming a 30% cap on asset-life adjustment, the current mechanism effectively provides

of changeout of token meters that suppliers are currently planning, most DNOs would if anything be somewhat better off under our proposals than under a 30% asset-life adjustment for token meters within the existing licence – particularly in light of the increased certainty over revenue recovery provided by the tariff uplift across all meters.

2.17. We also do not accept the argument that the 30% cap on asset-life adjustment under the existing licence mechanism was never formally agreed to by DNOs. While the licence does not refer to it directly, the 30% cap was explicitly mentioned on two separate occasions, in the Distribution Price Control: Final Proposals document and the September 2004 Update Paper that preceded it. DNOs agreed to the distribution price control at this time, and in our view they would (or should) have taken into account Ofgem's stated intentions with regards to the asset-life adjustment mechanism in deciding whether to accept the overall price control offer. In light of this, we do not think it makes sense to re-open an argument over who stands to gain most from PPM technology change and how this relates to who should bear the costs.

2.18. We accept that the likelihood of rapid PPM premature replacement has increased since the time of DPCR4 - primarily because of unexpectedly high wholesale and retail price increases over the last few years, and the associated problem of debt buildup for token PPM customers. While DNOs could not have been expected to foresee this, they nonetheless accepted a degree of risk in the arrangements put forward by Ofgem. We do not believe it would be appropriate to now shift the burden of this risk onto suppliers and consumers. The need for regulatory certainty applies as much to the legitimate expectations of suppliers as it does to DNOs. To the extent that suppliers have been implementing PPM changeout plans based on a particular set of arrangements around cost and risk-sharing, it would be undesirable to significantly alter this framework on an *ex post* basis.

2.19. Conversely, we do not agree with the position put forward by some consumer groups that suppliers and their customers should not be expected to bear any of the costs of PPM premature replacement. The distribution price control settlement was agreed with DNOs on the basis that some stranding protection would be available for electricity PPM replacement. To remove this protection now would undermine regulatory certainty, which would be detrimental to consumers over the longer term.

2.20. Finally, we note that the current licence mechanism gives Ofgem the final say on the allowed reduction in asset-life for prepayment meters in cases of premature replacement - which would have to be applied taking into account our previous clear statements relating to a 30% cap. We intend to apply similar cost-sharing principles whichever stranding protection mechanism is in place, and therefore a 30% cap (on

full stranding protection for premature replacement up to an actual meter life reduction of 30% - and zero protection after that. The risk profile is therefore different to the 30% cost-sharing arrangement proposed under our new mechanism, which provides 30% protection across any level of stranding cost.

either asset life adjustment under the existing mechanism, or cost recovery under our proposed alternative) will remain our indicative benchmark.

Stranding Protection for Other PPM Technologies (Key and Smartcard)

2.21. Concerns were expressed by many DNO respondents regarding our proposal to remove stranding protection for other PPM technologies (ie, key and smartcard). Having looked into this issue in more depth, we now accept that there is a genuine risk of stranding for smartcard PPMs due to technological consolidation, since infrastructure for these PPMs is not in place on a national basis. There may also be some risk of older key PPMs being replaced with newer key PPMs due to software compatibility issues.

2.22. We therefore propose to retain stranding protection for the three main PPM technologies (token, smartcard, and key) but only in cases where they are replaced prematurely for reasons of technological consolidation, in favour of another of the technologies listed. In general we do not intend to allow stranding protection (either under our proposals, or in our application of the existing mechanism should it remain in place) in cases where token, key or smartcard PPMs are replaced with an entirely new technology such as "smart" meters.

2.23. We are aware that a number of DNOs do not support this approach, and have argued that stranding protection should be available for installed PPMs under all eventualities. However, we do not believe this was the intention of the mechanism currently in the licence. The September 2004 Update Paper issued by Ofgem in advance of the distribution price control final proposals is clear that the key argument for allowing stranding protection for PPMs was the existence of competing technologies with associated infrastructure costs. These costs mean that "if a supplier decides on a particular PPM technology then it is possible that the installed PPM will be replaced… even if the DNO lowers the price to encourage its continued use.[5]" Because these meters had been provided under regulatory obligation, Ofgem considered that it would be inappropriate for the burden of this risk to fall solely on DNOs.

2.24. In contrast, we see the risk of stranding due to new technology as a normal commercial risk, which can be managed by DNOs through their behaviour in the market - for example, in setting prices on legacy PPMs. In this context, it is worth noting that the current price controls on electricity credit meters (and also on gas metering) do not afford any specific stranding protection.

Control Arrangements over Multi-Rate Meters

[5] See Ofgem (2004), Electricity distribution price control review: Update paper. Reference 222/04, p4.

2.25. Mixed views were expressed by respondents regarding our proposal to bring the price control and stranding recovery mechanism for multi-rate PPMs into line with that for single-rate PPMs. Several DNOs argued that the current control over multi-rate PPMs is already sufficiently robust and does not require modification, and most indicated that they intended to seek approval from Ofgem for any adjustment to multi-rate PPMs in the same way as for single-rate PPMs. Moreover, DNOs highlighted cost differences between multi-rate and single-rate PPMs in some cases, which would justify differences in the price cap.

2.26. We have no wish to artificially align price caps in cases where there are legitimate cost differences between different meter technologies. Therefore, we no longer propose to bring the control on multi-rate PPMs within that for single-rate PPMs. Nonetheless, for the avoidance of doubt we would prefer to set out more explicitly in the licence how the asset life and any adjustment for stranding should operate in the price control over multi-rate PPMs. Our proposed licence amendments include some minor drafting changes, which make it clear that price control adjustments will apply in the same way to both single and multi-rate PPMs[6].

Stranding Protection in Gas vs Electricity Metering

2.27. Finally, several concerns were raised by National Grid regarding our analysis of the treatment of stranding in gas metering by comparison with electricity. In particular, National Grid argued that it was incorrect for Ofgem to assume that aspects of the price control treatment of National Grid's metering business - such as the use of a higher cost of capital, and an accelerated depreciation period - gave NG effective protection from meter stranding.

2.28. We believe that this criticism does not accurately convey the position set out in our consultation document. In fact, we explicitly acknowledged in the document that the decisions made by Ofgem on the gas metering price control did not guarantee any stranding protection to National Grid for its gas meters. Ofgem did, however, set a price cap based on a higher cost of capital and an accelerated depreciation rate. This provided National Grid/Transco with some flexibility to recover their historic investment in gas metering assets more quickly in the early years of competition.

2.29. The decision on whether to provide any protection against stranded gas meter assets was also taken in a very different context. Specifically, the decision was made against a background of using an unfocused approach to value National Grid Gas/Transco's assets (ie, in both metering and transportation), which significantly benefited shareholders. The treatment of the gas metering business needs to be considered in this light.

[6] This also includes "dual element" PPMs which are currently in use in some DNO regions.

Scale of PPM Stranding Costs

2.30. In addition to our proposals for revising the licence mechanism, we also sought feedback from DNOs regarding the likely scale of PPM stranding costs across Great Britain. While this information was provided on a confidential basis and cannot be discussed in detail, it appears that overall the likely size of token PPM stranding costs is in line with the figure presented in our initial consultation document - namely, around £26m altogether or £1 per electricity customer (30p per customer under our proposed 30% cost-sharing arrangement). There may however be additional stranding costs associated with smartcard PPMs, which could amount to a maximum of around £12m GB-wide.

2.31. Moreover, because the proportion of token PPMs within the total meter asset base varies across regions, in some areas the uplift per customer required to enable recovery of 30% of token PPM stranding costs could be well above 30p - up to a maximum ceiling of £1.20 in the region with the largest proportion of token PPMs. To deal with such cases, our proposed licence amendments allow Ofgem to specify that the cost recovery period will extend over a longer timeframe, so that the uplift in each year is reduced. This could mean that in some cases, stranding costs will continue to be recovered after all token PPMs have been removed.

Guidance on Calculation of Stranding Costs

2.32. Some DNOs have sought guidance from Ofgem on the methodology that should be used for the calculation of PPM stranding costs. We agree that this would be beneficial and help to ensure fairness and consistency. Accordingly, a draft set of guidelines is included with this document at Appendix 2. Aspects of these guidelines have already been discussed with DNOs and we do not intend to modify the broad parameters at this stage. However, we would welcome any additional feedback from DNOs and others, in order that the guidelines can be finalised and published by the time the licence modification process is completed.

2.33. In broad terms, the guidance states that stranding costs should be based on a net book value approach – using the asset value (MEAP) of the relevant PPM as set out in the price control formula, depreciated on a straight line basis over the life of the meter assumed in the price control. A forecast of the revenues (based on the expected period that the meters will remain on the walls, discounted to net present value) should be deducted from the book value to give an estimated stranded cost figure.

2.34. In addition to the methodology for calculating stranding costs, the guidelines also cover some other issues relating to the application process for PPM stranding cost recovery. For example, we will expect DNOs to provide supporting evidence regarding the age profile of their installed meter base.

3. Licence Amendments Relating to Removal of Electricity Metering Obligations

3.1. On 22 December 2006, we sent an open letter to DNOs regarding consequential amendments to the distribution licence, which we believed were necessary in light of the obligations on new/replacement electricity meters and meter operation services falling away. These amendments fell into three main categories:

- changes to the definition of a distribution business, to clarify that basic metering services (other than the provision of legacy meters) would no longer fall within this definition from 31 March 2007. This would have the consequence that DNOs who wished to continue providing these services would need to do so through a separate subsidiary, if the activity exceeded the *de minimis* thresholds

- clarifying ongoing obligations on DNOs after the 31 March 2007 sunset date - in particular, making it clear that the price controls on new/replacement meters and meter operation will fall away on 31 March with no requirement for a disapplication request from DNOs, and also that legacy meters must continue to be provided by DNOs until such time as the meters are changed out and removed from the walls

- "tidying up" the metering sections of the distribution licence and removing redundant licence provisions, such as the price controls on meter operation services.

3.2. The latter two categories of amendments were not controversial and were generally welcomed by DNOs. However, our proposal to remove metering services from the definition of a distribution business - while supported by some DNOs, as well as Centrica and Capital Meters - was strongly opposed by others. In particular, the following points were raised:

- there are other ways in which the licence could accommodate the removal of obligations on meter operation and the provision of new/replacement meters - for example, these activities could remain within the definition of a distribution business but be specified as "excluded services"

- removing non-legacy metering services from the definition of a distribution business is a substantive policy decision by Ofgem, which was not foreshadowed at the time we made our decision on the metering price controls last year. As such, it requires a full and thorough consultation process

- it is inappropriate for Ofgem to mandate a particular corporate structure for metering services. While DNOs may independently decide that it makes sense to separate their metering businesses, this should be a commercial decision made as and when appropriate for the DNO rather than imposed by the regulator

- there are currently no allegations or evidence of any anti-competitive practices by vertically integrated metering companies. As such it is inappropriate to require separation at this stage on the basis that it could help to deter any such practices in future

- there are potentially significant costs involved with restructuring and business separation (such as novating contracts etc), and the case for the benefits has not been well established by Ofgem

- finally, if metering services are removed from the definition of a distribution business, provision will need to be made to ensure that DNOs can continue carrying out metering work where this is essential to another DNO function - for example, the provision of emergency services and revenue protection activities.

3.3. We have considered these objections carefully, and believe that respondents have raised some valid concerns. We still share the views put forward by Centrica, Capital Meters and others that there are likely to be advantages to separation of metering from distribution over the longer term - for example, increased transparency regarding costs and information flows, and an improved ability for metering businesses to respond to the needs of suppliers. These benefits have already been recognised by some DNOs, and we expect that other integrated businesses may move in this direction as the competitive metering market beds in. However, we accept that imposing separation at this stage in the development of the market is probably not a proportionate response. We also agree that a more thorough consultation or market review process should be carried out before taking any regulatory decisions in this area.

3.4. Accordingly, we have modified our position and now propose to leave basic metering services within the definition of a distribution business, and to classify non-legacy metering as an excluded service under Special Condition A2 (Appendix 1) of the distribution licence. The licence amendments have been redrafted to reflect this revised approach.

3.5. We will however keep the situation under review and have not ruled out requiring separation of metering from distribution at some future point, if problems emerge (either in the electricity supply market or the metering market) that appear to be linked to the integration of competitive metering businesses with distribution. As set out in our price control decision document of 13 October 2006, Ofgem has committed to carrying out a review of the competitive electricity metering market within 18 months of removal of the price controls. In this review, we will be particularly interested in understanding the extent to which consumers are benefiting from metering competition, in terms of price, service levels and the framework for metering innovation. Having completed the review we will reassess the case for metering separation.

4. Conclusion and Next Steps

Chapter Summary

This chapter describes the licence amendments we believe are necessary in order to give effect to our proposals as set out in the preceding chapters. We also set out the way forward in terms of the licence modification process.

Description of licence amendments

4.1. In order to give effect to the proposals set out in the preceding chapters, we intend to make a number of changes to both the Standard and Special Conditions of the Distribution Licence. These amendments are summarised below. A full draft of the revised licence conditions is set out in the statutory licence amendment notification notices, which have been published in conjunction with this document.

Licence Amendments Relating to PPM Premature Replacement

4.2. Our proposals for modifying the price control adjustment mechanism for early replacement of prepayment meters will require the following amendments to Special Condition F1 of the distribution licence[7]:

- remove the asset-life adjustment factor (LRTPPMt) from the price control formulae for each type of single-rate PPM (token, key and smartcard)
- insert, at the end of all of the meter asset provision price control formulae (for credit meters as well as PPMs), a term for the "Adjustment Factor" (AFt) which will be the per meter uplift permitted as recovery for PPM stranding costs
- reword the current licence provisions relating to asset-life adjustment for PPMs (as set out in paragraphs 16 to 20 of Special Condition F1) in order to set out the process for determining the Adjustment Factor. Licensees will be allowed to apply for an adjustment to enable recovery of 30% of the efficient costs incurred, in cases where a token, key or smartcard PPM - either single or multi-rate - is removed prematurely due to supplier action, and replaced by another PPM from among these three existing technologies
- specify, in a similar fashion to the current licence, that the Authority may determine both the Adjustment Factor and the period over which the adjustment should apply, in such manner as it considers appropriate while having regard to the purposes of the condition. If it has not done so within 28 days of receiving

[7] The proposed amendments to Special Condition F1 are the same for all distribution licensees.

an application, the applicant may proceed to apply the requested Adjustment Factor without further involvement by the Authority

- add a provision to specify that applications for adjustment to the price control must have regard to Ofgem's methodological guidelines, a draft of which is set out in Appendix 2 of this document.

Licence Amendments Relating to Removal of Electricity Metering Obligations

4.3. Our proposals for consequential amendments to the distribution licence in light of the removal of obligations and price controls on new/replacement meters and meter operation services will involve the following amendments to the distribution licence:

Amendments to the Standard Conditions

- reword the definition of a "distribution business" in Standard Condition 1, to clarify that it includes the provision of basic metering services as specified in Standard Condition 36 of the distribution licence in the form in which it is currently in force

- amend Standard Condition 36 to clarify that the requirement to offer terms for basic metering services now only applies to the provision of meters installed on or before 31 March 2007 ("legacy basic meter asset provision")

- amend references to the current Standard Condition 36 elsewhere in the licence (ie, both Standard and Special Conditions), in line with the above amendment to Standard Condition 36 regarding legacy basic meter asset provision

- in Standard Condition 50, remove conditions 3.(d)(iii)(bb) and (cc), such that DNOs are no longer required to report price control information relating to meter operation services

Amendments to the Special Conditions

- in Special Condition A1, remove the definitions of "allowed meter operation revenue", "basic meter asset provision charges", and "basic meter operation revenue", and add in a new definition for "legacy basic meter asset provision charges"

- in Special Condition A2, amend the Excluded Services definition in Appendix 1 (ES9), to specify that all basic metering services (with the exception of legacy basic meter asset provision) are now excluded from the controls

- in Special Condition F1, remove all references to the controls on meter operation services.

Process / Next Steps

4.4. As already stated, a full draft of the revised licence conditions relating to both the PPM premature replacement issue and the removal of electricity metering obligations is set out in the licence amendment notification notices which have been published for statutory consulation in conjunction with this document. In accordance with Ofgem's statutory requirements, DNO licensees and the Secretary of State now have 28 days in which to decide whether to object or make representations on these changes[8]. Representations from other parties are also welcome.

4.5. Amendments to the Special Conditions are subject to agreement from each distribution licensee individually, while amendments to the Standard Conditions are subject to a collective threshold of agreement from 80% of licensees by market share. If agreement from licensees is not achieved on any of the proposed license modifications, Ofgem has the option of either making a reference to the Competition Commission, or leaving the relevant licence conditions unchanged. (In the case of the PPM premature replacement amendments, this would mean allowing any DNOs that object to our proposals to retain the existing PPM asset-life adjustment mechanism in the licence.)

4.6. Aside from responding to the statutory licence modification notices, we do not require any formal response to the contents of this consultation document. We would however welcome any final comments from DNOs and others on the methodological guidelines set out in Appendix 2, in order that they can be finalised and published by the time the licence modification process is completed.

[8] While standard Ofgem practice is generally to allow six weeks for statutory consultation on licence modifications, we consider that the statutory minimum of 28 days should suffice in this instance given the extensive consultation process that has already taken place. If there are no objections to our proposed amendments, this will also allow us to complete the modification process by 31 March 2007 when the controls on new/replacement electricity meter provision and meter operation services are due to expire.

Appendices

Index

Appendix 1 - Consultation Response and Questions

1.1. Ofgem is not seeking a formal response to the main body of this consultation document. However, formal objections or representations on the licence modifications that have been issued for consultation in conjunction with this document should be submitted to us within the statutory deadline of 28 days - ie, by **20 March 2007**. More information can be found on our website (www.ofgem.gov.uk).

1.2. We would also welcome any further comments, from DNO licensees and other interested parties, on our proposed methodology for calculating PPM stranding costs as set out in Appendix 2. Responses on the methodology should be received by **20 March 2007** and should be sent to:

- Duncan Mills, Regulatory Economist
- Ofgem
- 9 Millbank
- London SW1P 3GE
- 020 7901 7443
- duncan.mills@ofgem.gov.uk

1.3. Unless marked confidential, all responses will be published by placing them in Ofgem's library and on its website www.ofgem.gov.uk. Respondents may request that their response is kept confidential. Ofgem shall respect this request, subject to any obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004.

1.4. Respondents who wish to have their responses remain confidential should clearly mark the document/s to that effect and include the reasons for confidentiality. It would be helpful if responses could be submitted both electronically and in writing. Respondents are asked to put any confidential material in the appendices to their responses.

1.5. Next steps: Having considered the responses to the statutory licence modification notices, and any further comments on our proposed methodology for calculating stranding costs, Ofgem intends to proceed with directions to modify the relevant licenses as appropriate - if possible by 31 March 2007. We will also finalise and publish the PPM stranding guidelines by the same date. Any questions on this document should, in the first instance, be directed to:

- Duncan Mills, Regulatory Economist
- Ofgem
- 9 Millbank
- London SW1P 3GE
- 020 7901 7443
- duncan.mills@ofgem.gov.uk

Appendix 2 – Guidelines on Methodology and Application Process

Background

1.1. Some DNOs have sought more detailed guidance from Ofgem on the methodology that should be used for the calculation of PPM premature replacement costs. Ofgem considers that this would be beneficial and help to ensure fairness and consistency.

1.2. Accordingly, this document sets out our proposed methodology for stranding cost calculation. Aspects of these guidelines have already been discussed with DNOs and we do not intend to modify the broad parameters at this stage. However, we would welcome any final feedback on the methodology from DNOs and others, in order that the guidelines can be finalised and published by the time the licence modification process is completed.

1.3. As well as methodological issues, the guidelines also cover some other matters relating to the application process for PPM stranding cost recovery - such as the information that DNOs will be expected to provide when making an application to the Authority.

Status

1.4. These guidelines set out Ofgem's recommended approach on the methodology and application process for PPM stranding cost recovery. Under our proposed licence amendments, both DNOs and the Authority will be required to have regard to these guidelines in the course of the application process.

1.5. However, applications that deviate from these guidelines will not be rejected outright by Ofgem. Where DNOs can make a strong case on economic or other grounds for exceptions to the published guidelines, we will consider such applications on a case-by-case basis. Conversely, the Authority also reserves the right to deviate from and/or make alterations to the guidelines where it can make a strong case that the circumstances require it. We will consult with DNO licensees prior to making any changes to the published guidelines.

1.6. This guidance is a technical document and is intended primarily for DNOs. More general information about Ofgem's metering price control and the adjustment mechanism for PPM premature replacement can be found on Ofgem's website (www.ofgem.gov.uk).

Methodology for Calculating PPM Stranding

1.7. Ofgem's proposed methodology is based on a net book value approach, using the modern equivalent asset value (MEAP) of the relevant PPM, depreciated on a straight line basis over the economic life of the meter (ELA). The annual depreciation figure should be added to the "operations and maintenance" charge in the price control formula (£0.242 per annum, in 2001), and then multiplied by the remaining asset life of each meter to give a total book value for installed PPMs.

1.8. A forecast of the net present value of PPM revenues – based on the expected period that the meters will remain on the walls, discounted at 6.9% to reflect the cost of capital in the price control formula – should then be deducted from the book value to give an estimated stranded cost figure.

Derivation of MEAP

1.9. The asset value (MEAP) should be derived from the price control formula for the relevant PPM technology. For example, for single-rate token PPMs, the base MEAP in the price control formula is £59.00. The MEAP may be adjusted for inflation from 1 April 2002 (in accordance with the price control formula) up until the date of application.

1.10. For multi-rate PPMs, where the MEAP is not specified explicitly in the licence, the asset value should be that which has been used by DNOs in setting the tariff cap for the relevant meter (and that has been submitted to Ofgem in the past via DNOs' regulatory accounts).

Derivation of Remaining Meter Asset Life

1.11. There has been considerable debate over how the remaining meter life should be determined for the purposes of calculating PPM asset book values. Some DNOs have suggested simply using the economic life (ELA) of the meter as defined in the price control formula, and deducting the number of years that the meter has been on the walls. Others have argued in favour of using the certified meter life as the base value. One DNO has suggested that the remaining meter life needs to be calculated on a case-by-case basis with reference to the fault rates of the relevant meter type.

1.12. Ofgem's view is that the ELA term in the price control formula provides a simple and transparent benchmark for calculating meter asset lives and hence book value. However, we recognise that using the ELA approach to calculate the remaining life of installed meters may lead to an underestimate of stranding costs. This is because the economic life in the price control formula is effectively an "average", calculated across meters that are removed early due to faults or tariff changes, and those that last their full certified life. If the price control ELA is used on a forward looking basis to calculate stranded asset values, it will underestimate the remaining life of installed meters, particularly for meters that have been installed in earlier years.

1.13. We do not however believe that using the certified life of the meter provides an appropriate solution, since this simply leads to the opposite problem – namely, it will overestimate stranding costs on a forward-looking basis since a proportion of installed meters would not be expected to last their full certified life due to faults.

1.14. For these reasons, we intend to allow DNOs to use one of two different approaches for determining the remaining life of installed meters. The first is simply to use the ELA term in the price control formula, and subtract the length of time that each meter has been on the walls. (For multi-rate PPMs, where the ELA is not specified explicitly in the licence, the value should again be that which has been used by DNOs in setting the tariff cap for the relevant meter, and that has been submitted to Ofgem in the past via DNOs' regulatory accounts.)

1.15. Under the second approach, DNOs may estimate the average remaining asset life for installed PPMs using the certified life as a base, but factoring in the expected fault rate of the relevant meter type. Once the average remaining asset life has been determined, this can be converted to a book value using the following formula:

$$\text{Book Value} = \frac{\text{Average meter life remaining}}{\text{Full ELA}} * \text{number of meters} * \text{meter value}$$

1.16. In this case, we will expect DNOs to provide supporting evidence as to how they have arrived at their average remaining asset life figure and how they have derived the fault rate.

Derivation of Forecast Revenues

1.17. The forecast revenues should be based on the volume of PPMs that are expected to remain on the wall in each future year, multiplied by the inflation-adjusted tariff cap for that PPM in each year. (For future years, a five-year average RPI can be used to make the inflation adjustment.) The number of meters in each year should be an average of the forecast opening and closing volumes.

1.18. Forecast revenues should be discounted to present value based on a 6.9% cost of capital/discount rate, as assumed in the price control formula.

Cost of Capital in Revenue Forecasts vs Book Value

1.19. Some DNOs have questioned whether it is appropriate to incorporate the cost of capital into the forecast of revenues (via the tariff cap, which includes both depreciation and a 6.9% return on capital), while not allowing the cost of capital to be included in the estimate of the book value of installed meters. It has been suggested that Ofgem should either incorporate a cost of capital into the estimate of book value, or remove it from the calculation of forecast revenues.

1.20. We have considered this point but believe that our proposed approach is correct in economic terms. The reason for not allowing a cost of capital in the estimate of meter book value is that under our proposed mechanism, capital costs will be recovered early and can then be reinvested elsewhere to earn a rate of return. The return on capital is therefore not "stranded" in the same way as the cost of the meter asset itself.

1.21. We believe it is however correct to calculate the forecast revenues using the price control tariff cap, which incorporates a return on capital. Because the revenues are then discounted to present value using the cost of capital, we are effectively already adjusting for the cost of capital on the revenue side. If we were to base the revenue forecast on an annual depreciation figure only, AND then discount this figure by the cost of capital, this would effectively be a form of double counting[9].

Mathematical Formula for Calculation of Stranding Cost

1.22. The calculation of the stranding costs for each relevant PPM technology type i can be simply expressed in the following formula:

$$SC_i = AV_i - NPV(RAP)$$

where AVi = the asset value of the PPM technology i
NPV(RAP) = is the net present value of revenue under the accelerated replacement programme and current price cap

Worked Example

1.23. Attached to these guidelines are two worked examples of a stranding cost calculation using the methodology discussed above – one estimating remaining meter asset life based on the ELA in the price control formula (less the number of years each meter has been on the wall), and the other showing an estimate of average meter life remaining based on the certified life and an expected fault rate.

1.24. The first example is based on a DNO that has installed 1000 single-rate token PPMs in each of the years 1997-2006 (a total of 10,000 meters), and commences an accelerated 3-year replacement programme beginning in April 2007.

[9] Another way of looking at this issue is that we are effectively allowing early recovery of stranded capital costs (via the tariff uplift) which could be reinvested elsewhere to earn a rate of return. But the meters that are due for early replacement will nonetheless remain installed and earning a return over the forecast replacement period. If we were to remove the return on capital from the revenue forecast, this would effectively mean that DNOs were allowed to earn their cost of capital twice - once on the installed meters, and once through the early recovery of stranding costs which can then be invested elsewhere.

1.25. The second example is also based on a starting point of 10,000 installed meters in April 2007, with an accelerated 3-year replacement programme commencing from this date. It assumes that the statutory changeout profile for the meter base is evenly spread across a 15-year certified life, and that the meter fault rate is 6.5%.

1.26. The following terms and calculations have been used in the worked example:

Components of the stranding cost worked example

Modern Equivalent Asset Value (MEAP)	As defined in price control formula - £59.00 for single-rate token PPMs (in 2002 prices)
Economic Life of Asset (ELA)	As defined in price control formula – 9.72 years for single-rate token PPMs
Annual depreciation	MEAP depreciated on a straight line basis over the economic life - £59.00/9.72 or £6.07 for single-rate token PPMs (in 2002 prices)
Asset management / procurement cost	As defined in the price control formula - £0.242 per annum (in 2002 prices)
Token meter price Cap (TPPM)	As defined in price control formula - £8.56 per annum for single-rate token PPMs (in 2002 prices)
Inflation adjustment	Based on RPI figures for each year since 2002
Years of economic life remaining in 2007	This is calculated as the economic life of the asset less the time that it has already been on the walls or ELA – (2007 - installation year)
Depreciated asset value per meter, by year of installation	Calculated as the annual depreciation multiplied by the years of economic life remaining in 2007
Total depreciated asset value, by year of installation	The depreciated asset value per meter, multiplied by the number of meters in each installation year
Opening volume	The number of meters on the wall at the start of the year
Closing volume	The number of meters on the wall at the end of each year
Book value of assets under ELA approach	Sum of the total depreciated asset values for each year of installation
Estimated fault rate	The percentage of the meter asset base expected to be removed each year due to faults
Statutory changeout	The number of meters in each year that are expected to be changed out as they come to the end of their certified life
Estimated average remaining meter life	Calculated as the number of meters changed out in each year (due to stat changes and faults), times the estimated life of each meter from present day
Book value of assets under certified life/fault rate approach	The estimated life remaining as a proportion of the ELA, multiplied by the total number of meters and the meter value

Forecast annual revenue recovery	The number of meters in the relevant year (calculated as the average of opening and closing volumes), multiplied by the tariff cap in that year
Discount factor / discount rate	Used to arrive at the Net Present Value (NPV) of forecast revenues. The discount rate used to derive the discount factor is the 6.9% cost of capital assumed in the price control formula.
Stranding Cost	Calculated as the total book value of the assets, less the NPV of the forecast revenues

Methodology for Deriving the Adjustment Factor (AFt)

1.27. Once the PPM stranding cost has been agreed between the Authority and the relevant DNO, this figure will be used to derive the Adjustment Factor (AFt) for the price control uplift across all price-controlled meters.

1.28. The calculation of the Adjustment Factor can be expressed in the following formula:

$$AF_t = \frac{0.30 \times \sum_i SC_i}{\left(\left(MP_{initial} + MP_{final}\right)/2\right)} \times \frac{1}{TR}$$

where SC = stranding costs per type of technology i being replaced
MP initial = the estimated meter population at the start of the period TR
MP final = the estimated meter population at the end of the period TR
TR = the time period over which the costs are to be recovered.

The TR will be determined by the Authority on a case-by-case basis, and may be extended over more than one year in cases where the required uplift per meter would otherwise be unduly high. In such cases, we will allow DNOs to include an adjustment for both inflation and the cost of capital, in order to reflect the "time value of money" over the period in which stranding costs are being recovered.

Information Required from DNOs in Applying for Stranding Cost Recovery

1.29. The above discussion and attached worked example should provide a good summary of the type of information DNOs will need to provide when making an application to Ofgem for PPM stranding compensation. In general, we will expect to see evidence of the following (for each type of PPM that is being replaced):

- Supporting information on the age profile/year of installation of the PPM asset base

- supporting information on suppliers' change out plans in terms of the forecast period over which meters are expected to remain on the walls (for example, a documented request from suppliers to commence a PPM replacement programme)

- supporting information on the nature of the replacement programme – in particular, the type of PPM that is being removed (eg token, key or smartcard), and the type of PPM technology that is being put in its place

- in the case of multi-rate PPMs where the MEAP and ELA are not set out explicitly in the price control, supporting information on the value of the asset and the life used to set the tariff cap for that type of meter

- supporting information on the current and expected size of the meter base over which the price control adjustment factor will apply

- depending on the methodology used to calculate stranding, supporting information on the fault rate for the relevant PPM technology may also be required.

Other Issues

1.30. There are also some other points on which DNOs and others have sought guidance with respect to the PPM stranding compensation process.

Forecast vs Actual Replacement and Revenues

1.31. One issue is the procedure that should be followed if the actual rate of PPM replacement turns out to be significantly different to the forecast rate assumed in the application for price control adjustment. (Or similarly, if the assumed meter base over which the price control adjustment is applied changes significantly over the adjustment period - for example, due to an acceleration of competition - such that the expected revenues from the price control adjustment do not materialise.)

1.32. We would expect DNOs (and suppliers) to apply a common-sense "materiality test" in such instances. However, if the actual replacement rate is significantly faster than the forecast rate, we will allow DNOs to re-apply to Ofgem for further adjustments to the price control. A similar approach will apply if other events lead to a significant difference between forecast and actual revenues.

1.33. If on the other hand the actual replacement rate is significantly slower than the forecast rate (ie, meters remain on the walls for longer than anticipated), we will expect DNOs to discount their PPM charges in the years beyond the forecast period. The discount should be proportional to the stranding cost recovery that is allowed through the price control adjustment. For example, if a DNO applies to Ofgem on the basis that all token meters will be removed by the end of 2008, and receives a 30% compensation for stranding costs on this basis, we would expect any token

PPMs that remain on the walls beyond 2008 to be charged for at a 30% discount to the tariff cap.

Stranding costs incurred prior to application

1.34. Some DNOs have inquired as to whether stranding cost compensation will be allowed for PPMs that have already been replaced prematurely, prior to any application being made for price control adjustment. (For example, Centrica's competitive meter operators had already begun replacing token PPMs prior to Ofgem's receipt of the first application for price control adjustment from EDF Energy Networks.)

1.35. Under the existing asset-life adjustment mechanism, it was the responsibility of DNOs to approach the Authority for a price control adjustment if it became apparent that they were incurring costs from the premature replacement of PPMs. The fact that no DNOs had made such an application prior to EDF Energy Networks' approach to us in July 2006 suggests that the scale of PPM premature replacement costs incurred by DNOs was limited up until that point.

1.36. However, we recognise that other DNOs may have been preparing to make an application for asset-life adjustment when the current consultation process was launched, and moreover that DNOs may not have had full information to hand regarding suppliers' PPM change out programmes. We therefore intend to take the following approach to stranding costs incurred prior to application:

- PPM premature replacement costs incurred from the date the consultation was launched (29 September 2006) will be fully eligible for cost recovery at the agreed level of 30%[10]
- applications for recovery of premature replacement costs incurred between 1 April 2005 (the start of the current price control period) and 29 September 2006 will be considered on a case-by-case basis. We would expect a materiality test to apply in such instances, and will also expect DNOs to provide supporting information as to why they did not approach the Authority for a price control adjustment under the existing licence mechanism during this period.

[10] In the case of EDF Energy Networks, cost recovery will be allowed from the date on which we first received an application for asset-life adjustment.

Stranding Calculation Example 1
Single Rate Token PPMs - Remaining Life Calculated as ELA Less Years on Wall

Key Terms

Modern Equivalent Asset Value (MEAP) in 2002	£59.00
Modern Equivalent Asset Value (MEAP) in 2007 (RPI adjusted)	£66.47
Economic Life of Asset (ELA) in years	9.72
Annual Depreciation (MEAP/ELA) in 2002	£6.07
Annual Depreciation (MEAP/ELA) in 2007 (RPI adjusted)	£6.84
Asset Management/Procurement Cost	£0.24
Asset Management/Procurement Cost in 2007 (RPI adjusted)	£0.27
Asset Management/Procurement Cost over ELA	£2.65
Price Cap (TPPM) in 2002	£8.56
Price Cap (TPPM) in 2007 (RPI adjusted)	£9.64

Inflation Figures

RPI 2006/07	2.58%
RPI 2005/06	3.25%
RPI 2004/05	2.79%
RPI 2003/04	2.04%
RPI 2002/03	1.42%
5 year average RPI	2.42%

Asset Book Value by Year of Installation
[NB: April Years have been assumed throughout, eg 2006=1 April 2006 to 1 April 2007]

Year of installation	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
No of meters installed	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Years of ELA left on 1 April 2007*	0.22	1.22	2.22	3.22	4.22	5.22	6.22	7.22	8.22	9.22
Asset Value per Meter*	£1.56	£8.68	£15.79	£22.90	£30.01	£37.12	£44.23	£51.35	£58.46	£65.57
Asset Value per Year	£1,564.54	£8,676.08	£15,787.62	£22,899.16	£30,010.69	£37,122.23	£44,233.77	£51,345.31	£58,456.85	£65,568.39
Total Asset Book Value	£335,664.65									

* based on assuming an average installation date at the mid-year point of each year
** asset value per meter calculated as MEAP plus asset management cost over ELA (£69.12 in total), multiplied by years of ELA left

Revenue under forecast scenario

Year	**2007**	**2008**	**2009**
No of meters (opening vol)	10,000	6,666	3,333
No of meters (closing vol)	6,666	3,333	0
No of meters (average vol)	8,333	5,000	1,667
Annual Rental*	9.64	9.88	10.12
Revenue (Rental x avg vol)	£80,366.41	£49,381.92	£16,858.34
Discount factor (mid year)	0.967	0.905	0.846
NPV of Revenue (forecast)	£136,676.51		

*adjusted for inflation in out years based on 5 year average RPI

Total Stranding Cost
(Asset book value less NPV revenue) **£198,988.13**

Stranding Calculation Example 2
Single Rate Token PPMs - Remaining Life Calculated Based on 15-Year Certified Life and Estimated Fault Rate

Key Terms

Modern Equivalent Asset Value (MEAP) in 2002	£59.00
Modern Equivalent Asset Value (MEAP) in 2007 (RPI adjusted)	£66.47
Economic Life of Asset (ELA) in years	9.72
Annual Depreciation (MEAP/ELA) in 2002	£6.07
Annual Depreciation (MEAP/ELA) in 2007 (RPI adjusted)	£6.84
Asset Management/Procurement Cost	£0.24
Asset Management/Procurement Cost in 2007 (RPI adjusted)	£0.27
Asset Management/Procurement Cost over ELA	£2.65
Price Cap (TPPM) in 2002	£8.56
Price Cap (TPPM) in 2007 (RPI adjusted)	£9.64
Estimated Fault Rate	6.50%

Inflation Figures

RPI 2006/07	2.58%
RPI 2005/06	3.25%
RPI 2004/05	2.79%
RPI 2003/04	2.04%
RPI 2002/03	1.42%
5 year average RPI	2.42%

Forecast Meter Changeout Profile

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Opening volume	10000	8727	7577	6539	5605	4764	4009	3332	2726	2185	1702	1273	893	557	260
Stat change profile*	667	623	583	545	510	476	445	416	389	364	340	318	298	278	260
Fault @ 6.5%**	607	527	455	390	331	279	232	189	152	118	89	62	39	18	0
Closing volume	8727	7577	6539	5605	4764	4009	3332	2726	2185	1702	1273	893	557	260	0

* based on a 15 year certified life and meter population distributed evenly, so stat change in Year 1=opening vol/15, stat change in Year 2=opening vol/14, etc
** calculated as 6.5% of (opening volume less stat change) in each year

Calculation of Average Remaining Meter Life

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Years remaining (present day to mid year point)	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5	13.5	14.5
Meters changed out (stat change plus faults)	1273	1150	1037	935	841	755	677	606	541	482	429	380	336	296	260
Meter years remaining (changes x yrs)	637	1725	2594	3271	3783	4153	4401	4545	4601	4583	4504	4374	4204	4001	3773

Average remaining meter life* **5.51**

* calculated as total meter years remaining divided by opening meter population of 10,000

Calculation of Asset Book Value

Book Value = (average remaining meter life/ full ELA) x opening meter volume x meter value* £392,180.18

* meter value calculated as MEAP (RPI adjusted) plus asset management cost over ELA, or £69.12

Revenue under forecast scenario

NPV of Revenue, as per calculation in Example 1 £136,676.51

Stranding Cost
(book value less NPV revenue) £255,503.67

Appendix 3 – The Authority's Powers and Duties

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

1.2. The Authority's powers and duties are largely provided for in statute, principally the Gas Act 1986, the Electricity Act 1989, the Utilities Act 2000, the Competition Act 1998, the Enterprise Act 2002 and the Energy Act 2004, as well as arising from directly effective European Community legislation. References to the Gas Act and the Electricity Act in this Appendix are to Part 1 of each of those Acts.[11]

1.3. Duties and functions relating to gas are set out in the Gas Act and those relating to electricity are set out in the Electricity Act. This Appendix must be read accordingly[12].

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

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

- The need to secure that, so far as it is economical to meet them, all reasonable demands in Great Britain for gas conveyed through pipes are met;
- The need to secure that all reasonable demands for electricity are met;
- The need to secure that licence holders are able to finance the activities which are the subject of obligations on them[13]; and
- The interests of individuals who are disabled or chronically sick, of pensionable age, with low incomes, or residing in rural areas.[14]

[11] entitled "Gas Supply" and "Electricity Supply" respectively.
[12] However, in exercising a function under the Electricity Act the Authority may have regard to the interests of consumers in relation to gas conveyed through pipes and vice versa in the case of it exercising a function under the Gas Act.
[13] under the Gas Act and the Utilities Act, in the case of Gas Act functions, or the Electricity Act, the Utilities Act and certain parts of the Energy Act in the case of Electricity Act functions.
[14] The Authority may have regard to other descriptions of consumers.

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

- Promote efficiency and economy on the part of those licensed[15] under the relevant Act and the efficient use of gas conveyed through pipes and electricity conveyed by distribution systems or transmission systems;
- Protect the public from dangers arising from the conveyance of gas through pipes or the use of gas conveyed through pipes and from the generation, transmission, distribution or supply of electricity;
- Contribute to the achievement of sustainable development; and
- Secure a diverse and viable long-term energy supply.

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

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

1.8. The Authority has powers under the Competition Act to investigate suspected anti-competitive activity and take action for breaches of the prohibitions in the legislation in respect of the gas and electricity sectors in Great Britain and is a designated National Competition Authority under the EC Modernisation Regulation[16] and therefore part of the European Competition Network. The Authority also has concurrent powers with the Office of Fair Trading in respect of market investigation references to the Competition Commission.

[15] or persons authorised by exemptions to carry on any activity.
[16] Council Regulation (EC) 1/2003

Appendix 4 - Glossary

C

Credit meters

Credit meters record customers' use of energy on an ongoing basis and allow billing and payment to be made in arrears. This is in contrast to Prepayment Meters (PPMs) which require payment in advance via cards, keys or tokens.

D

Distribution Network Operators (DNOs)

DNOs came into existence on 1 October 2001 when the ex-Public Electricity Suppliers were separated into supply and distribution businesses. There are 14 DNOs covering discrete geographical region of Britain. They take electricity off the high voltage transmission system and distribute this over low voltage networks to industrial complexes, offices and homes. DNOs must hold a licence and comply with all distribution licence conditions for networks which they own and operate within their own distribution services area.

E

EDF Energy Networks

A distribution company which owns and operates DNOs in London, the South East and East of England.

G

Gas Transporter

A company, licensed by Ofgem, which transports gas through its network on behalf of a gas shipper.

G

Legacy Meters

Electricity meters installed on or before 31 March 2007 under the metering obligations in the distribution licence. These meters will continue to be subject to price control after 31 March 2007.

Legacy Meter Asset Provision

The provision of legacy electricity meters, ie metering equipment installed on or before 31 March 2007 under the metering obligations in the distribution licence.

M

Meter Asset Provision/Meter Asset Provider (MAP)

The ongoing provision of the meter installation at a meter point. In electricity the Meter Asset Provider is responsible for supplying electricity-metering equipment for the purpose of satisfying the electricity settlements process, the requirements of the relevant Use of System Agreement and the relevant primary and secondary legislation.

Meter Operation/Meter Operator (MOp)

Meter operation comprises all work associated with the installation, commissioning, testing, repair, maintenance, removal and replacement of electricity metering equipment.

Meter Provision

Shorthand term for Meter Asset Provision.

Metering Services

Metering Services has been used in this document as a shorthand term to refer to the full range of services relating to both gas and electricity meters, including meter provision, installation, repair, removal and maintenance. Metering Services are defined in the electricity distribution licence as comprising the services of both Meter Asset Provision and Meter Operation.

N

National Grid Gas (formerly Transco)

The major UK gas transporter which transports gas through its networks on behalf of shippers. NGG provides installs and maintains the vast majority of domestic gas meters in this country.

P

Prepayment meters

Prepayment meters currently use electronic tokens, keys or cards which require payment for energy to be made in advance of use. The customer therefore needs to be provided with a network of outlets where tokens can be purchased, or cards and

keys can be charged up. This network of outlets needs to be linked to a payment settlement system for suppliers.

Premature replacement costs

In the context of electricity prepayment metering, costs associated with the replacement of existing PPMs with an alternative PPM technology before the full cost of these meters have been recovered from suppliers and their customers.

Appendix 5 - Feedback Questionnaire

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

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

1.2. Please send your comments to:

Andrew MacFaul
Consultation Co-ordinator
Ofgem
9 Millbank
London
SW1P 3GE
andrew.macfaul@ofgem.gov.uk