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IN THE COMPETITION
APPEAL TRIBUNAL

Case No. 1099/1/2/08

Victoria House,
Bloomsbury Place,
London WC1A 2EB

27th January 2009

Before:

VIVIEN ROSE
(Chairman)
PROFESSOR PAUL STONEMAN
DAVID SUMMERS

Sitting as a Tribunal in England and Wales

BETWEEN:

NATIONAL GRID PLC

Appellant

- v -

THE GAS AND ELECTRICITY MARKETS AUTHORITY

Respondent

supported by

SIEMENS PLC
CAPITAL METERS LIMITED
METER FIT (NORTH WEST) LIMITED
METER FIT (NORTH EAST) LIMITED

Interveners

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HEARING (DAY 9)

APPEARANCES

Mr Jon Turner QC, Mr Josh Holmes, Mr Meredith Pickford and Miss Laura Elizabeth John (instructed by Pinsent Masons LLP) appeared for the Appellant.

Miss Monica Carss-Frisk QC, Mr Brian Kennelly and Mr Tristan Jones (instructed by Ofgem) appeared for the Respondent.

Mr Christopher Vajda QC and Miss Kassie Smith (instructed by Hill Hofstetter LLP) appeared on behalf of Siemens Plc.

Mr Christopher Vajda QC and Mr Ben Rayment (instructed by Slaughter and May) appeared on behalf of Capital Meters Limited.

Mr Fergus Randolph and Ms Sarah Abram (instructed by United Utilities Group plc) appeared on behalf of Meter Fit.

1 THE CHAIRMAN: Good morning, Professor Grout. Yes, Miss Carss-Frisk.

2 Professor PAUL GROUT, Recalled

3 Re-examined by Miss CARSS-FRISK

4 Q Professor Grout, you probably need your witness statement, bundle WS4 in front of you. A
5 general question, not specifically related to your statement: you were asked yesterday about
6 when you became involved in the case, and it was suggested to you that it was after the
7 appeal proceedings had begun. There is of course a distinction between involved as an
8 adviser prior to the Decision being made by Ofgem and on the other hand being involved as
9 an expert in the appeal proceedings. Are you able to clarify whether you were involved as
10 an advisor prior to the Decision being made? A. Actually, for my sins one of the things I
11 haven't checked up on is when I started to discuss with Ofgem about this case. So, pathetic
12 as it sounds, I think I am going to struggle to answer ----

13 Q You are not actually certain? A. I was involved in discussions with Ofgem as a general
14 adviser, I am pretty certain before the final decision was taken, and I'm sorry, I'm very poor
15 on the timing of these things.

16 Q The precise details probably do not matter. A. If somebody reminds me of the details I'm
17 sure it will all come back. I'm not being evasive, but I don't want to say something that
18 then is factually incorrect, which I already did yesterday, I think, when I made some remark
19 about Mr. Shuttleworth's report, which couldn't possibly have been correct when I went
20 back and checked my dates. I hadn't seen his report when I wrote comments about RAV.
21 I'm sorry, I don't want to sound evasive, but ----

22 Q No, not at all. A. I feel really awkward about answering this, but my recollection is that I
23 was talking to Ofgem before they made a final decision as an advisor.

24 Q You were then asked about a particular paragraph in the notice of appeal, which I would
25 like you to open, please. It was para.549, which is at CB1, tab 2, p.338. Do you remember,
26 it was put to you that if the gas suppliers had paid age related PRCs on the meters that they
27 in fact replaced in 2005 to 2007 then it would have been very expensive. That was the
28 thrust of the question. A. Yes, yes, I recall that.

29 Q You made the point that you did not know the details of how British Gas followed their age
30 based policy. My question to you is, do you know, as a matter of fact, what policy British
31 Gas followed in replacing these particular meters? A. No, I have no knowledge of what
32 policy they followed. I was told by counsel, Mr. Turner, that they had followed an age base
33 policy. I have no knowledge to disagree with that. The whole point I made was that British
34 Gas would have followed a policy which was presumably the best they could do, given that

1 the MSAs were in place. One couldn't then take the PRCs under age related and say,
2 therefore whatever followed from that because you would then need to look at what they
3 would optimally have done. I understand with British Gas, there were certain problems
4 with what happened, but, as I think I said, it was just getting well out of my area of
5 expertise.

6 Q Yes. Looking then, please, at a different point, now para.26 of your own report, WS4, tab
7 9, p.2139, you will remember that Mr. Turner invited you to look in particular at the final
8 sentence of para.26, looking at the direction in which the economic forces might be
9 pushing, and you complete your sentence there by referring to them pushing in the direction
10 of age related termination charges – do you recall that? A. Yes, I do.

11 Q Mr. Turner put to you that in the light of various factors, such as density and transaction
12 costs, etc, it could be the case that the economic forces pushed in the direction of a Legacy
13 MSA style contract, if you remember? A. Yes.

14 Q Your response was that you would say two things about that, and then you described how
15 probably the most critical thing for the CMOs was the absolute amount of work available in
16 the market? A. Yes.

17 Q I noted that you kicked off saying, "I could say two things about that", but then you actually
18 only mentioned one. You may not remember, but what was the second thing you had in
19 mind? A. The second point I think I had in mind – I'd probably know better if I'd read
20 the transcript, or if I get some point to do that – my view was a lot of the points that were
21 put by Mr. Turner were things that I was very aware of. I discussed various points with
22 Ofgem, particulars issues of density and things of that sort, and my second point was that
23 the call for – my second point would have been that I stand by that sentence, that the core
24 economic forces would push in the direction of an age related PRC for the stock that
25 National Grid are defining as perfectly well functioning meters, that is ones that aren't up
26 for maintenance, aren't policy meters, and aren't what I think Ofgem refers to as
27 functionality changes. I think National Grid give a different title to them, and I can't recall
28 what that was.

29 Q Yes, thank you. My final question relates to something that you were asked about Ofgem's
30 defence. You were not at that point referred to a particular paragraph in the defence, but I
31 would like you, please, to turn up para.231 of the defence. That is bundle CB1, tab 3,
32 p.573. Do you want to take a moment just to read para.231. A. (After a pause) Yes, I've
33 read that.

1 Q You were asked by Mr. Turner about what might be the position if, in fact, the P&M terms
2 had continued to apply, and in particular you were asked whether you agreed that it would
3 have been consistent with normal competition for Grid to have kept its prices at the highest
4 level permitted by the P&M terms? A. Yes.

5 Q You agreed that that would be so? A. Yes.

6 Q Now, it was then put to you in effect that that involved a disagreement with what Ofgem
7 had said in its defence. That is why I have asked you to look at para. 231, to see at the
8 bottom of p.573 in that paragraph it says:

9 “The no-PRC counterfactual is not restricted to lowering charges: it involves NG
10 setting rentals at a competitive level to address NG’s strategic objectives. This
11 may involve keeping prices close to or at the price-cap (as under the P&M
12 contract with EDF) or lowering prices where necessary.”

13 Now, looking at what Ofgem says there about this may involve keeping prices close to or at
14 the price cap, so you agree or disagree that that is something that Grid might have done?

15 A. Yes, it is something that Grid might have done.

16 Q So you are agreeing with the defence there? A. Yes.

17 MISS CARSS-FRISK: Thank you, those are all my questions.

18 THE CHAIRMAN: Thank you very much, Professor Grout, I can release you from the witness
19 box now. A. Thank you.

20 (The witness withdrew)

21 THE CHAIRMAN: Now, we have Mr. Keyworth, is that right? Mr. Pickford.

22 Mr. TIM KEYWORTH, Sworn

23 Examined by Miss CARSS-FRISK

24 Q Mr. Keyworth, I think you have in front of you the relevant bundle WS4 and your statement
25 should be the first tab in that bundle? A. Yes.

26 Q That is a statement, one sees from p.2129, the final page that you signed on 11th June last
27 year? A. That’s correct.

28 Q Are you happy for that statement to be your evidence to the Tribunal? A. I am, yes.

29 MISS CARSS-FRISK: Thank you, if you would wait there.

30 Cross-examined by Mr. PICKFORD

31 Q Just before beginning I think it is important to note that Mr. Keyworth’s analysis goes to
32 what is apparently an essential part of Ofgem’s case, and experience has shown this is a
33 relatively tricky and potentially quite subtle area so I am going to need to go through points
34 with Mr. Keyworth in some detail and therefore there should not be any expectation that we

1 will necessarily finish by lunch time, my expectation is that we will finish some point
2 during the afternoon, but I will obviously go as quickly as I can. Mr. Keyworth, you
3 describe yourself as an economist who has specialised in the assessment of regulatory and
4 competition policy issues? A. That's correct.

5 Q You do not claim to have any special expertise in engineering or the workings of gas
6 meters, do you? A. No.

7 Q And you do not claim to have any direct personal commercial experience of the market for
8 gas meters? A. No.

9 Q Now, you say you have read the decision that is challenged in these proceedings?
10 A. Yes.

11 Q Do you agree in all respects with the analysis of abuse contained in that decision insofar as
12 it is within your professional expertise to do so? A. I agree generally with the finding
13 that was made, if there were specific points that must be raised I would obviously have to
14 consider them point by point, but generally ----

15 Q In fact it is true to say that you had detailed involvement in the analysis that was presented
16 in the abuse section of the decision? A. That is correct, I assisted the case team on a
17 number of aspects here.

18 Q Were you involved at all in contributing to the drafting of that section of the Decision?
19 A. Yes, I was, yes.

20 Q If we look, please, at the decision at paras. 4.43 and following, that is at CB1, tab 1, external
21 numbering 74, and we look through from para. 4.43 to the end of 4.101, so that is the
22 section beginning: "Foreclosure", and ending just before "... the actual impact on
23 competition of costs of switching." If you just briefly familiarise yourself, just flicking
24 through those pages, is that the section with which you were principally involved?

25 A. Yes, that would be.

26 Q Would it be fair to say that you were the principal architect of that part of the decision?

27 A. "Architect" would certainly be going too far, I was assisting the case team, and
28 obviously had interactions and discussions and so on, but obviously I am not the decision
29 maker or a member of the case team.

30 Q If we look in particular at paras. 4.96 to 4.98 we see there some analysis setting out the
31 costs of discretionary replacement under an age related approach? A. Yes.

32 Q Were you responsible for those calculations? A. Yes, I was, yes.

33 Q So in your statement you were effectively giving us an insider's view rather than an
34 independent external view? A. I am explaining what I sought to do in the part of my

1 statement that dealt specifically with these was to set out as clearly as possible what exactly
2 was done, really that was the purpose of those parts of the statement as I understood them.

3 Q Thank you. Have you read the defence of Ofgem in these proceedings? A. I have, yes.

4 Q Were you given an opportunity to see it in draft and comment on it prior to it being
5 finalised? A. Yes, I was.

6 MISS CARSS-FRISK: I am concerned this really is going into sacred territory, somewhat.

7 THE CHAIRMAN: Yes, I think we need to be careful here not to go into privileged territory, Mr.
8 Pickford.

9 MR. PICKFORD: Well, madam, I do not consider the question I just asked was privileged, it did
10 not elicit any privileged information, it is merely to ascertain from the witness his precise
11 involvement and precisely what he can speak to and what he cannot speak to.

12 THE CHAIRMAN: Okay, thank you.

13 MR. PICKFORD: Do you agree in all respects of the analysis of abuse that is contained in the
14 defence, again insofar as it is within your expertise to do so? A. Again, I broadly support
15 it, if we were to be taken to particular places I could comment specifically, but broadly, yes.

16 Q Have you read Professor Grout's witness statement? A. Yes, I have.

17 Q And you agree in all respects with what is said in that statement? A. I would have to
18 make the same comment, I broadly agree with what Professor Grout said.

19 Q I understand. Can you recall what other documents you read since signing your report, in
20 particular did you have regard to the witness evidence attached to the notice of appeal?

21 A. Yes, I have read principally the expert reports. I had some regard to the expert reports.
22 I had some regard to the other witness statements as well, but principally the expert reports.

23 Q Did you have any regard to the subsequent witness statements that were filed on behalf of
24 National Grid after the filing of its notice of appeal? A. Are you referring to the reply
25 document? A. Yes.

26 Q Yes, the factual witness statements that accompanied that? A. Sorry?

27 Q The factual witness statements that accompanied the reply, did you have any regard ----
28 A. I have read them, yes. Obviously I read them after my statement.

29 Q I take it from your answer to a question that Miss Carss-Frisk asked you, that there is
30 nothing in your report that you would like to withdraw in the light of what you have read
31 since signing your report? A. No.

32 Q The focus of your report is on the comparative costs of the Legacy MSA and the age related
33 counterfactual in the replacement of DCMs, is it not? A. Well, comparison is one part of
34 the report, there is a specific initial assessment of the position with respect to the Legacy

1 MSAs in their own right in the first instance and then there is consideration of the
2 counterfactual, particularly an age related counterfactual after that and then there are other
3 various issues that I was asked to comment on also considered.

4 Q In each case you are focusing on DCMs, you are not focusing in your report on PPMs, that
5 is right? A. Certainly the principal focus is DCMs, although I clearly refer in a number
6 of places to PPM issues and I think set out the position as I understand it.

7 Q It would be true to say that in the Decision there is no explicit comparative analysis of the
8 costs of replacement parts of PPMs under the Legacy MSA as opposed to the age-related
9 counterfactual. That is right? A. Comparative analysis, yes. I believe that's correct.
10 There is an annexe which I think deals with some assessment of costs under the Legacy
11 MSAs and there is obviously also the separate issue of maintenance bundling which is a
12 particular issue in relation to PPMs. I am happy to talk about that, if that's helpful.

13 Q There is no equivalent analysis of the cost of replacement of PPMs under an age-related
14 counterfactual, is there? A. No, that's correct.

15 Q Now, for clarity, unless I indicate otherwise, my questions are going to be directed at
16 DCMs. So, if you could answer in the same spirit? (After a pause): Now, suppose you
17 have a contract for meter rental which has PRCs in it. It can be an age-related contract or it
18 can be a Legacy MSA. It does not matter which. Now, in any given year each contract
19 explicitly, in the case of the Legacy MSA, or implicitly in the case of the ARC - the age-
20 related counterfactual - has a number of meters that can be replaced for free, does it not?
21 A. That's the way those contracts operate, yes.

22 Q So, we see in the Legacy MSA that it is approximately 980,000 meters across all gas
23 suppliers and it is the same number for each year of the contract for its duration. A. It's
24 the same number for each of the eighteen contracted years. As I understand it, the contract
25 itself is indefinite.

26 Q I am sorry. I did not hear your answer, Mr. Keyworth. A. As I understand it, the contract
27 itself is indefinite. So, the arrangement for rental payments is simply set in place to
28 continue. There is a glidepath which defines, on actually a monthly basis, through an
29 eighteen year period the contracted commitment for payment, as it were - so, the necessary
30 guarantee from the perspective of National Grid level of revenue. But, the contract itself is
31 not limited to eighteen years.

32 Q The term under which there is an obligation to rent a particular number of meters is limited
33 to eighteen years, is it not? A. There is a defined commitment to payment for a number
34 of meters.

1 Q Yes - because once you are into Year 18, if you are a gas supplier, you are free to do what
2 you want. A. I've heard that reference made by Dr. Williams. That seems to me to be a
3 highly unsatisfactory description of the position. As I say, the glidepath defines a declining
4 monthly stock that's scheduled to be paid for, essentially. Now, it is not that at the end of
5 eighteen years all of a sudden you're out of the contract. Each month essentially a portion of
6 meters, were they to not be already replaced, would come out of this minimum contractual
7 level. So, gradually, over that eighteen years in each month a bit more comes out of the
8 contracted commitment. So, I find it rather unhelpful to define the eighteen year period as
9 though, all of a sudden, you are out. It's a progression.

10 Q If you had stayed on the glidepath for the eighteen years you would not be renting any
11 meters by the time you got t the end of it, would you? A. No, you wouldn't, no. No.

12 Q Another common feature of both a Legacy MSA and the age-related counterfactual is that
13 each contract has a cost for replacement above the free level in each year. That is common
14 ground.

15 PROFESSOR STONEMAN: I am sorry. Did you say that if you stayed on the glidepath for
16 eighteen years you would no longer be renting any meters?

17 MR. PICKFORD: Yes.

18 PROFESSOR STONEMAN: But that surely is wrong. You are still renting meters. You just
19 have no penalties to pay.

20 MR. PICKFORD: Sir, if you have stayed on the glidepath for each year - by which I mean you
21 have taken out all of those meters that you were entitled to take out under the glidepath for
22 free, then by the time you get down to the eighteenth year of the contract you will no longer
23 be renting any meters is my point.

24 PROFESSOR STONEMAN: So, if you stay on the glidepath ----

25 MR. PICKFORD: If you are above the glidepath -- if you have not used up your glidepath
26 allowance, then you may still be renting meters.

27 PROFESSOR STONEMAN: Fine. Then there is no disagreement.

28 MR. PICKFORD: (To the witness): So, for every year of an agreement with age-related PRCs
29 we could plot the number of meters that there is an obligation to rent - unless a PRC is paid,
30 could we not, over time? A. Yes. I mean, one of the features of the age-related
31 counterfactual in the Decision which is common to, I believe, all the other contracts in the
32 market is that that rental commitment is a conditional commitment in the sense that that is a
33 rental commitment for a working meter. So, you would have a set of committed payments
34 in relation to each meter of each age, and those would be payable providing the meter was

1 not removed, either as faulty on a maintenance visit or it was required to be removed
2 because it wasn't fit for purpose. So, I think it's just important that including under the new
3 and replacement MSA the commitment that is made is a conditional commitment - whereas
4 the commitment under the Legacy MSA is not a conditional commitment in the same way.

5 Q If you could please turn to Core Bundle 1, the Notice of Appeal of National Grid, and turn
6 to p.485 in the external numbering -- Do you have a graph entitled 'Graph 1'? A. Yes.

7 Q We see here, do we not, the blue line, the glidepath, is supposed to represent the glidepath
8 under the Legacy MSA and the red line is the implicit glidepath under the age-related
9 counterfactual. A. I can see that that's what it's intended to be, yes.

10 Q You would agree that there is, indeed, an implicit glidepath under the age-related
11 counterfactual. A. One can think of an implicit glidepath, yes.

12 Q Now, I am going to return to this point in a little more detail later on, but whilst we are here,
13 looking at this graph, we can see straightaway that one of the reasons why the age-related
14 counterfactual is not revenue-neutral with the Legacy MSA is because it allows more
15 meters to be replaced for free because of what happens to be the particular age profile of the
16 meter stock, does it not? A. No. The particular age profile of the meter stock that you're
17 referring to, I think, is a slightly odd way of putting it. I think if you look at the age profile
18 of the meter stock over the first three years of the contract, relatively few older meters
19 compared to the average, as it happens, and it's a couple of years later that the number of
20 meters that would then be twenty years or more increases by quite a bit.

21 Q Mr. Keyworth, we are talking about DCM meters here, are we - just concentrating on
22 DCMs? A. Yes.

23 THE CHAIRMAN: You are talking about DCMs? A. Yes. Yes.

24 Q What is the point you are making about the age profile of the Legacy stock then? A. Is it
25 helpful if we look at the age profile? I am responding to the point because the suggestion
26 was being made that the reason for there being more free replacement was a function of the
27 age profile. I just wanted to clarify the position on that because -- I believe the age profiles
28 in the Decision, in the Facts section ----

29 MR. PICKFORD: It is Annexe 7 at p.139. A. There's a graph of the age profile somewhere in
30 the Decision.

31 MISS CARSS-FRISK: It is p.15 of the Decision.

32 THE CHAIRMAN: That is the two histograms that we were looking at yesterday. A. Yes.
33 My point was simply, with respect to DCMs, that it's not accurate to say that there is, in
34 some sense, a disproportionate number of older meters in the early years of the Legacy

1 MSAs. The twenty-plus figure is relatively high, but the nineteen to twenty, and eighteen to
2 nineteen figure figures are compared with the average not particularly high and over the
3 three years the figure is certainly not disproportionately higher relative to the average.

4 Q Mr. Keyworth, if we could go to annex 7, please, of the Decision, it is p.139 in external
5 numbering. We are told:

6 “This Annex sets out the comparison of free meter replacement under the MSAs
7 compared with an age-related approach similar to that used in the CMO
8 contracts.”

9 We conclude in para.3:

10 “When the free replacement of policy meters is deducted from the glidepath to
11 provide a more like-for-like comparison with the age-related approach, the
12 position over the first three years of the MSAs is that slightly more than 300,000
13 legacy DCMs would have been available for free replacement under equivalent
14 arrangements to the CMO contracts than under the Legacy MSA arrangements.

15 This is illustrated in the table below.”

16 So on a like for like comparison what you have just told me about there being less DCMs
17 under the age related counterfactual is completely wrong, is it not, there were more?

18 A. What I said specifically was commenting on the impact of the aid profile on the number
19 of free replacements. This assessment here, as you have explained includes that factor, the
20 age of meters, but also includes the fact that in the first three years, National Grid has
21 required the replacement of a significant number of younger meters to be replaced for
22 policy replacement purposes. They have defined them as “not fit for purpose”, and the
23 arrangements for those meters under the CMO contracts and, indeed, under National Grid’s
24 own new and replacement MSA is that apart from some situations under the new and
25 replacement MSA that I can talk about if helpful, those replacements are free because
26 essentially what has happened is that there is no longer a working meter being provided and
27 the payment commitment in relation to that meter then falls away. The point that I was
28 making was that it is not that there is some disproportionate effect driven by the age profile,
29 but the number of free replacements is driven under the age related counterfactual both by
30 the age profile and by the extent to which there are these younger meters under which on all
31 the other contracts on the market rental payment commitments fall away.

32 Q Mr. Keyworth, we have a table in annex 7, table A1 which, as far as I can tell, does not
33 make any reference to the point that you have just been explaining, but it concludes that
34 there is an: Identified shortfall of ‘free meter replacement’ under Legacy MSA [compared

1 to] age related CMO type arrangements”, and it is 310,000? A. I believe that para. 2 of
2 that annex makes precisely the point that I was just making. It explains that the number of
3 free replacements is the sum of two numbers, one of which is the number of meters that
4 have reached 20 years of age, essentially reached the end of the payment commitment
5 period, and the second bullet point says: “the number of meters below this age but which
6 have been identified for replacement as a result of an operational failing ...” I believe ----

7 THE CHAIRMAN: Is that a proportion of the 850,000? A. That is correct, yes, and I think
8 that is what I had intended to just explain and so I think this is wholly consistent with what I
9 just said.

10 MR. PICKFORD: And the conclusion is: therefore, on a like for like basis there are more free
11 replacements under the CMO arrangements in the first three years than under the Legacy
12 MSA? A. That is correct, and the amount is set out t here.

13 Q If we could go back, please, to the glidepath diagram in the notice of appeal at p.485 of the
14 external numbering. What this graph represents, one can see that the area underneath each
15 curve – we have the straight line curve and we have the “curvy” curve – the area under each
16 curve represents the total commitment in meter years under each contract, does it not?

17 A. No.

18 Q Why not? A. Because, as I explained before, the critical difference between the Legacy
19 MSA and the new and replacement MSA, and the CMO contracts, the Legacy MSA stands
20 separate to that, is that the form of the commitment in the legacy MSA is not conditional on
21 the state of the stock. It is not conditional on whether the meters that it relates to fail in
22 some sense so what the age related counterfactual in the Decision does is to start off with
23 the same commitment to renting the same total stock of meters, it uses the same level of
24 payment commitments in terms of the PRCs that relate to – well, it does that in a consistent
25 manner at least, I guess we will come onto precisely how it does that. But those PRC
26 commitments are conditional on meters remaining fit for purpose, and so it is not that the
27 commitment, that the overall absolute commitment is different. Under the Legacy MSA it
28 is an unconditional commitment, it is a fixed guarantee, whereas under the other contracts in
29 the market, and under the age related counterfactual it is a conditional commitment – if that
30 makes sense. So if you replaced all the meter stock on day one then the cost in PRCs would
31 be the same, other things equal. But, as you go through time the extent of the continuing
32 payment commitments would be dependent on the extent to which National Grid stock
33 remains fit for purpose which, as I say, is consistent with the position in the CMO

1 contracts, and is consistent with the position in National Grid's own new and replacement
2 MSA.

3 Q But both contracts, if you look at the lines in both cases what they are showing you is the
4 number of free replacements that you could take out in a given year. So if you look, for
5 instance, if we go to Year 9, we can see that by the end of Year 9, under the Legacy MSA,
6 you would have been able to take out a total of around 10 million meters for free by staying
7 on the glidepath? A. If I can just clarify, that is a wholly hypothetical figure. This is a
8 National Grid projection that – the only figures that are in the Decision on this point relate
9 to the first three years. What happens after the first three years is wholly dependent on the
10 extent to which National Grid stock remains fit for purpose; it is not ----

11 Q This graph is calculated on the basis of your assumptions about the number of meters one
12 would expect to be faulty and ultimately non-discretionary for replacement in every year. It
13 is calculated on the basis that there are 850,000 non-discretionary replacements in every
14 year; that is the conditionality point that you were talking about? A. Yes, I recognise that
15 it is calculated on the basis of that aggregate assumption, but it assumes – and I believe the
16 table on p.487 shows this, it assumes that, I do not know, around 80 per cent. of these non-
17 discretionary replacements are meters aged 1 to 19 in each year. So the assumption
18 essentially that underpins this large difference between the lines, this National Grid
19 assumption, is essentially a substantial portion, the lion's share of policy replacement over
20 time will follow from the identification of lots of failing younger meters in the National
21 Grid stock. It is correct that if there were indeed to be a stream of failing meters in a
22 younger National Grid stock over the coming years then that would affect the number of
23 free replacements. That would make that larger than it is under the Legacy MSA. But, as I
24 say, that is simply reflective of the sort of contractual arrangements that one finds in the all
25 the other contracts in the market place - that is, the rental commitment is a commitment for
26 a working meter, and that commitment falls away when it's determined that that meter is no
27 longer fit for purpose. So, this is a projection of one way in which that 850,000 could
28 translate into the number of free meters. It assumes that there is, as I say, a substantial failed
29 younger meter issue. That is a National Grid assumption. I don't know -- As I understand
30 it, there's no Ofgem assumption with respect to what the future condition of National Grid
31 stock will actually be.

32 Q If one is going to make a comparison between these two types of contract, your point is that
33 in the age-related counterfactual there is some conditionality in that the number that you are
34 going to get for free depends on how many happen, in fact, in that year to be faulty or

1 require replacement for some non-discretionary reason, in addition to how many in that year
2 happen to be over twenty years old. You would agree with that. A. Yes, I think that's the
3 position, as I understand it.

4 Q So, if one is going to make any sort of comparison between what one would expect to be the
5 costs under an age-related counterfactual and under a Legacy MSA you have to make
6 certain assumptions about what the likely level of non-discretionary replacements are going
7 to be, do you not, because that is what you did in your analysis? A. The reason one has --
8 I mean, that's necessary to understand the potential cost implications of replacement
9 decisions under the Legacy MSAs, because the cost implications of decisions now are
10 dependent on your stock going forward and how that relates to the glidepath. So, it is
11 necessary in order to understand the potential implications of decisions in the Legacy MSA
12 to make such a forecast. Yes. But, that is slightly different, I think, to what you're saying.

13 Q Coming back to the graph, you say, "Well, I'm not quite sure whether I necessarily agree
14 with the assumptions underlying that graph that National Grid has made". But, I am putting
15 it to you that the essential assumption - the key assumption which drives that line is the
16 850,000 (sic) non-discretionary replacements that are due in each year. A. Surely the key
17 assumption is that there are substantial numbers of younger meters that require policy
18 replacement that have been identified as not fit for purpose. If it is indeed National Grid's
19 view that there are substantial numbers of younger meters, then so be it.

20 Q It is not based on the assumption that there is a disproportionate number of such meters, is
21 it? A. What do you mean by 'disproportionate'?

22 Q You say it is based on the assumption that there is 'a substantial number of younger meters'
23 that require replacement ---- A. When I say that, I say that in the context of Table 1
24 where, consistently in each year, it's assumed, as I say, that I believe about 80 percent of the
25 policy replacements are between one and nineteen years old.

26 Q Given the proportion of the meter stock, that is not a particularly outrageous assumption, is
27 it? We have got meters that last potentially, on average, to about twenty-five years. So, it is
28 not unreasonable to assume that 80 percent of replacements might potentially be in the one
29 to nineteen year category.

30 THE CHAIRMAN: Where do we get the 80 percent from? A. Sorry. That's a bit of a rough --
31 I'm looking at the columns under 'Policy' - one to nineteen versus the total. I did have a
32 look at this at one stage and my recollection is that it was roughly 80 percent then.
33 Hopefully, that is ----

1 Q So, the 500,000 figure is roughly 80 percent of that plus the 145,000 ---- A. Yes. Sorry.
2 I should have been clearer on that..

3 Q So, is the point then that because a high proportion of the policy replacements are assumed
4 to be under twenty years old there is not that much overlap between the two categories of
5 potential free meters under the age-related counterfactual, and that maximises the number of
6 meters that could be replaced free under the age-related counterfactual? A. In practice in
7 the first three years of the contract it's certainly the case that there wasn't that much
8 overlap. There were substantial numbers of younger meters that were identified as not fit for
9 purpose. The extent to which that would be expected to continue is another matter. It seems
10 to me to be a highly uncertain area. On the one hand, as I think Professor Grout was saying,
11 you have a perfectly good meter stock. Then, on the other hand, there are substantial failing
12 younger meters. It's unclear. I guess the critical point in terms of the age-related
13 counterfactual is that it was rooted in the arrangements that were observed within the
14 market place for addressing these issues.

15 MR. PICKFORD: Mr. Keyworth, you agreed with me that there was an implicit glidepath under
16 the age-related counterfactual. A. One can understand it in that way, yes.

17 Q Whether you agree with the precise shape of this curve, this is one way of plotting what the
18 implicit glidepath is under your age-related counterfactual. A. This is one potential
19 glidepath that could emerge, dependent on what actually happened, yes.

20 Q You have a minor quibble about the precise proportion of meters that are replaced that are
21 less than twenty years old. A. I wouldn't say it's a minor quibble. I mean, it's sort of
22 relatively fundamental to the conditionality versus the non-conditionality of the guarantee
23 that underpins the contracts. So, yes.

24 THE CHAIRMAN: What is it that causes the red line to change its gradient?

25 MR. PICKFORD: To sag -- It is quite easy to see, madam -- or, it is relatively easy to see, I
26 think. If one goes back, for instance, to the Decision and you look at the graph that Miss
27 Carss-Frisk took us to on p.15 ---- We see that the age profile goes up and down. We have
28 this sort of sweeping effect. I would suggest to you, Mr. Keyworth, that it is that effect
29 which is really driving the particular shape of this graph, irrespective of whether it might be
30 minutely different, but for a different assumption that you are talking about.

31 THE CHAIRMAN: If you can answer that question ignoring the 'minutely', perhaps we might
32 make progress. A. Clearly, the fact that the age distribution is not uniform clearly
33 impacts on this. I haven't looked at precisely the relativities, 'minutely' seems rather a
34 strange way of putting it. But, yes.

1 MR. PICKFORD: If we look at para. 4.97 of the Decision we see how those meters that become
2 free to replace build up over time, do we not - the cumulative Legacy DCMs? A. Yes.

3 Q In addition to that we have got all of the free replacements that are policy and faulty meters.
4 A. Yes, that's correct.

5 Q We see those on the previous page in Table 7, including customer requested functionality
6 changes there is a total of 2 million of them over the first three years. A. Yes.
7 Obviously the functionality changes raise some different issues that are dealt with
8 separately, yes. They are discussed in my statement.

9 Q Together they build up to large numbers of free replacements. A. The functionality
10 changes are not assumed free in the age-related counterfactual, but, as I say, that's a
11 separate matter.

12 Q We will come on to that. In relation to the graph that we have been looking at - the one that
13 occasionally, somewhat unpoetically been described as 'a sagging belly' - if you will
14 humour me and assume that this is one potential representation of the glidepath -- If we look
15 at the area under each of the curves, that is the total rental commitment under each graph, is
16 it not. A. No, it's not the rental ----

17 Q I am sorry. Under each contract. A. It's not the rental commitment. It's, if you like, the
18 effective remaining rental commitment once the effect of failing stock has arisen. I mean,
19 the rental commitment starts off the same. You know, there's a commitment in relation to
20 this stock to pay PRCs in relation to age, and the net present value of that commitment can
21 be set equivalent to a Legacy MSA-type arrangement. There are other issues of avoidable
22 costs. You know, we looked at the age distribution. So, that's not uniform. So, there are
23 some other issues to consider, but, roughly speaking, the opening position can be the same.
24 But, it is nevertheless the case that all of the other contracts in the market - the CMO
25 contracts and the new and replacement MSAs - have those commitments, but those
26 commitments are conditional on the meters being working meters.

27 Q Yes. That conditionality is built into this graph. It assumes that conditionality. A. This
28 graph assumes the conditionality and it assumes a particular eventuation of failure, if you
29 like.

30 Q So, if those assumptions are right -- I hear that you say, "Well, perhaps they might not be".
31 But, if those assumptions are right, what we see is that under the Legacy MSA, at the
32 beginning of the contract we can work out what effectively has been committed to be rented
33 under the contract, and it is the triangular area underneath the blue line. That is correct, is it
34 not? In meter years. A. Yes.

1 Q If one takes a rental you can multiply fully by the rental, avoiding things for the moment
2 like discounting. You can get an aggregate value for the contract. A. Yes. That's correct.

3 Q Now, on the basis of certain expectations, certain assumptions about the level of non-
4 discretionary replacement that you will need to do over the course of the contract, you can
5 do the same thing for the age-related counterfactual. You can work out, in expected terms,
6 what is the committed total number of meter years over the course of the contract on the
7 basis of certain expectations about this conditionality point you have been talking about.
8 A. Yes. So, you would have to make assessments of the likelihood of the age distribution
9 of failing meters within the National Grid stock.

10 Q On the basis of the assumptions that have been made here, which are the same assumptions
11 in relation to the 850,000 non-discretionaries per year that you make in your analysis, what
12 we see is that the area under the red graph is smaller than the area underneath the blue
13 graph, do we not? A. The area under the red graph means that the revenue commitment
14 is dependent on the state of its stock. The revenue under the blue graph means that the
15 revenue commitment is independent of the state of its stock. The dependence condition is,
16 as I say, as I understand it, a normal feature of contracts in this market.

17 Q If you put yourself in National Grid's position when it is contracting, you can understand
18 that it has got a meter stock and it wants to get a certain amount of value out of it. So,
19 National Grid would naturally have to make certain assumptions about what is likely to
20 happen to a profile of its meters over time, would it not? A. Yes.

21 Q Likewise, the gas supplier would also have to make certain assumptions about what is likely
22 to happen to meters over time in order for it to evaluate the value it got from the contract as
23 well. A. Yes. Clearly.

24 Q Because the value of the contract to National Grid -- The flip side is what gas suppliers are
25 paying. A. Yes.

26 Q So, in both cases, when one is comparing entering into these two different types of contract,
27 one has to form an evaluation about what you think the value of the contract is to you, do
28 you not? A. Just to clarify, of course what we are talking about here is the minimum
29 guarantee. This does not define the value of the contract to National Grid. This defines a
30 minimum guaranteed revenue commitment. The value of the contract will necessarily be
31 above the minimum guaranteed revenue commitment.

32 Q We will come on to that point because there is obviously quite a complex issue there about
33 the relationship between PRCs and rentals. A. Even if one ignores PRCs it's clearly
34 going to be above.

1 Q If we ignore exit charges generally - PRCs/BLRs - and just put those to one side -- I am
2 going to come on to those. A. We obviously have had a position where only one
3 supplier has elected to use a CMO. So, you will have, each month, numbers of meters
4 coming outside the glidepath. So, there are additional meters being rented. So, there is
5 clearly ----

6 THE CHAIRMAN: They might not be rented under this contract. They might be rented under the
7 new and replacement contract. A. As I understand it, National Grid looks only to
8 undertake effectively non-discretionary replacement. Thus, those replacements would
9 result, if National Grid undertook them through its new and replacement MSA as opposed
10 to UMS at least -- That would result in a new meter being installed and then that going to
11 the new and replacement MSA. But, each month there is still the potential. As I understand
12 it, the actuality of meters essentially being above the glidepath, but which stay on the
13 Legacy MSA terms and the rental remains to be paid -- So, clearly, this does not define the
14 value of the contract.

15 MR. PICKFORD: If one stays, on the basis of the glidepath, under the Legacy MSA and one
16 stays exactly, according to one's expectations about what one thinks is going to happen
17 under the age-related counterfactual, then these graphs do represent the value that one
18 would expect under its contracts, do they not? A. You are talking about expectations of
19 value.

20 Q I understand your point, Mr. Keyworth - that you say that you cannot know what the value
21 is going to be under the age-related counterfactual because it all depends on how many
22 faulty meters there are. It is conditional. That is the key point we have heard a number of
23 times. But, what I am saying is that any commercial organisation has to enter into a contract
24 on the basis of its expectations about how much value it is going to get out of a contract. So,
25 we do have to go beyond the answer simply that, "This is all conditional", and look at the
26 question that on a basis of a given set of expectations and a given set of assumptions, what
27 value one party would hope to get out of the contract as compared to another. A. As I
28 say, I think you're kind of blurring different things here, because on the one hand you're
29 talking about essentially the minimum commitment, and then you're talking about
30 expectations of -- Then, on the other hand, you're talking about expectations of value and
31 you're relating your comment on expectations of value to a particular National Grid
32 projection of the number of free meters going forward. I think that rather blurs matters
33 considerably really.

1 Q I am doing it on that basis because we have to have some sort of basis of expectation or
2 assumption to pin it down - otherwise we simply have no idea what the value of the age-
3 related counterfactual is, do we? We have to make some assumptions. A. The value to
4 National Grid?

5 Q The value to either party. The value to National Grid or the amount that's paid under it by a
6 gas supplier. A. Well the amount that's paid under it by a gas supplier is much more
7 straightforward, is it not, because there is a commitment to rent meters and that commitment
8 -- You know, to the extent that there are failing meters, then the meter can no longer be
9 rented and the payment is no longer made. That is fairly straightforward from a gas
10 supplier's perspective. I don't think they need to get involved in complex forecasts of what
11 the state of National Grid's stock is to do that. They may have to do that to interpret their
12 position under the Legacy MSA.

13 Q To make a comparison they would need to do that, would they not? To make a comparison
14 of the two contracts? A. Of the value?

15 Q Let us suppose this: Assume – it is assumption – that a gas supplier wants to reduce its
16 profile of meters that it rents from National Grid down to an 18 year period, let us suppose
17 that that is its objective? A. Yes.

18 Q If that is its objective, it wants to phase itself out of renting from National Grid, it would
19 have to enter into exactly the same sort of calculations and expectations that I have been
20 talking about, would it not, to work out how much that was likely to cost it under an age
21 related counterfactual? A. It is a very contrived example, if I may say.

22 Q Whether or not it is contrived, if you just answer the question in relation to that example?
23 A. You are saying a gas supplier wanted to reduce over an 18 year period, and then it
24 would have to ----

25 Q Suppose, for example, a gas supplier wanted to give all of its business to CMOs, and so it
26 said to itself: "What we want to do ..." and again we are talking aggregate figures here, "...
27 is we want to try to give 980,000 meters to a CMO a year, and by the end of Year 18 we
28 want to have no more to do with National Grid. That is our objective." Now, on that
29 assumption it is true that a gas supplier would to form exactly the type of assessments that
30 we have been talking about in relation to its expectations of the number of non-
31 discretionaries it would need to make, the number of discretionaries it would have under
32 both types of agreement? A. I think again you are mixing things up here. The position of
33 the gas supplier in that example, the uncertainty, if you like, that arises under the age related
34 approach is with respect to the extent to which they will have to get a CMO to potentially

1 replace more failing meters. So, yes, there is uncertainty going forward as to the extent to
2 which they will need their new operator, their CMO to do meter work, but I do not really
3 see that that raises particular issues for the valuation of the agreement.

4 Q One final question on this subject, if it is their objective, as I have suggested, that they want
5 to replace a particular number of meters, say a million meters, every year, then the number
6 that they might have to pay for, under an age related counterfactual in a given year, will
7 depend on the number of faulty meters there happen to be in that year and the number of
8 meters over 20 years old that happen to be that year. They then have to pay for the residual
9 and so given that they need to make expectations about the former two categories of meter,
10 do they not? A. But it is all on its head; the example is on its head. The assessment of
11 how many meters a gas supplier might want to replace would be dependent on the economic
12 signals that it faces, it is not simply going to make a blank decision for an 18 year policy
13 irrespective of the prices in the market, I find the example wholly unhelpful.

14 Q Moving on from the issue of value, and just back briefly to the issue of free meters, before
15 we leave this graph, it is not very surprising, is it, that if you give more meters away for
16 free, then it costs you less to replace meters under the contract under which you give more
17 meters away for free? A. As a proposition if you give more away for free, other things
18 equal it costs you less, yes.

19 Q So if, under this graph, the red line is correct, I hear that you say: "It may not be", but if it is
20 correct, you are giving away more free meters under the age related counterfactual than
21 under the Legacy MSA, are you not? A. It has obviously a much more limited impact in
22 the period that the Decision explicitly assessed. The principal impact that you are referring
23 to relates to periods outside of that, which is the principal focus of the analysis in the
24 Decision.

25 Q Even in the first three years of the Decision, you are giving away more meters for free, we
26 saw that in Annex 7? A. More DCMs.

27 Q Thank you. A. 300,000 I think was the number.

28 THE CHAIRMAN: Are you saying that the calculations that you made did not relate to the
29 sagging bit of the red line, but to the earlier bit of the red line? A. Yes, it would be the
30 first three years.

31 MR. PICKFORD: We are going to come back to this, Mr. Keyworth, but that is not actually quite
32 true, is it, because you considered being in the BLR band and one of your arguments, one of
33 the reasons why you say it is costly under the Legacy MSAs, you say you get stuck in the
34 BLR band for a number of years? A. Yes, that is correct, under the Legacy MSAs, in

1 order to interpret what the costs of conduct in the first three years are one has to make some
2 assumptions about the future stock, given the way the charging arrangements work under
3 the Legacy MSA.

4 Q If we could just turn over the page to graph 3, p.486, you can see that another way of giving
5 more meters away for free would be to have a much shorter glidepath, would it not?

6 A. A shorter glidepath clearly changes the level of free replacement, yes.

7 Q Nothing to do with age relatedness, you could achieve much cheaper replacement by giving
8 away more for free under a shorter glidepath, without moving to an age related contract

9 altogether? A. Well a shorter glidepath implies a lesser extent of rental payment
10 commitments in relation to the stock, that is clearly the case, yes.

11 THE CHAIRMAN: Are you assuming then a shorter glidepath but no change in the rental?

12 MR.PICKFORD: Yes, madam. If we move on, please, to the issue of revenue neutrality. At
13 para.117 of your report – you are welcome to turn that up if you want, but I am going to
14 quote it to you, you say:

15 “ ...there is no recognised revenue entitlement, and thus it is considered neither
16 necessary nor appropriate to include the recovery of a defined level of revenue as
17 a condition of the counterfactual assessments.”

18 A. Yes.

19 Q That proposition is not sustainable, is it? A. Well I believe it is, yes.

20 Q Okay, well let us look at that. Is part of the vice that Ofgem has identified in relation to the
21 Legacy MSA that National Grid recovers too much money under it? A. No.

22 Q So if you are trying to examine what you say is the advice of the Legacy MSA, you have to
23 keep constant all those elements that you say are not the vice, do you not? A. That does
24 not logically follow at all, no.

25 Q Well surely it is a matter of basic scientific method, is it not? In order to tell anything
26 meaningful about what you say is its vice, if you were to compare it to something else
27 which you say has not got that particular vice you need to compare it in such a way that you
28 do not change the other elements of the agreement. That must be right, surely? A. I do
29 not see that it must be right, no. The level of revenue that was associated with this particular
30 agreement is what National Grid managed to secure. You are talking about the whole of
31 this guaranteed commitment, that is a function of that agreement. The counterfactual that
32 was developed to assess that agreement was based on a range of assessments of factual
33 aspects of the market and contractual practices within the market, and I do not see that there
34 is any necessary requirement to maintain a minimum guarantee.

1 Q If you do not maintain the same level of revenue, how do you know whether your results
2 about the costs of replacement under one agreement, as compared to another are driven by
3 the particular vice you identify, or whether they are driven by other things that have
4 changed as between the two contracts? A. But we slip there, I think, between the
5 minimum guaranteed revenue and some kind of broader notion of what sort of revenue
6 National Grid might be likely to earn under the two agreements. Now I think as I have
7 already indicated, the Legacy MSA stands alone in the market as having this guaranteed
8 aspect, and that guarantee aspect is relatively critical in understanding some of the ways in
9 which the replacement charging provisions actually operate. So one cannot simply assume
10 that this feature, this minimum guarantee is a necessary feature of any counterfactual. That
11 seems to me wholly misplaced.

12 Q I am not saying it is a necessary guarantee, what I am saying is again going back to the typo
13 calculations that National Grid would have entered into, and gas suppliers would have
14 entered into, they are weighing up two contracts and they say to themselves: "What do we
15 expect to get under this contract, and what do we expect to get under the other contract?"
16 Clearly, I understand the point, under the Legacy MSA, what they expect to get may be
17 clearer than under an age related counterfactual, because under the age related
18 counterfactual it is contingent on more unknowns, in terms of the number of meters that
19 happen to be faulty in any particular year, but you still can compare expectations of revenue
20 received under the contracts on that basis, can you not, that is legitimate? A. Yes, but
21 that is an entirely separate issue. Mr. Matthew's statement defines payment completion, it is
22 perhaps helpful to turn to it, because you are making specific comments about ----

23 Q I am not talking about Mr. Matthew's statement, I asked you a particular question about
24 whether it is legitimate to compare contracts on the basis of what you expect the revenue
25 received under them to be, do you agree with that? A. Clearly expected revenues is a
26 legitimate basis for comparison, but you raise this matter in a context of having just
27 presented a comment on revenue neutrality, and you appear to relate revenue neutrality now
28 with some kind of general notion of expected revenues going forward, but ----

29 Q I am putting to you ----

30 THE CHAIRMAN: Just let him finish his answer, please. A. – but, you see, Mr. Matthew, in
31 his second statement, defines revenue neutrality very differently to that. He defines
32 payment completion as a guaranteed minimum revenue. Now, under that definition of
33 payment completion the new and replacement MSA itself does not provide for payment
34 completion, and would not be constructable as revenue neutral with the Legacy MSA, so it

1 seems to me that the definition of terms here is actually quite important, because the way in
2 which this revenue neutrality is construed in Mr. Matthew's report is itself part of the
3 problem.

4 MR. PICKFORD: Mr. Keyworth, I am not asking you about Mr. Matthew's report at the
5 moment, I am putting to you that if one is going to compare two contracts and one is going
6 to examine what you say is the vice of one contract and examine it in relation to the other
7 contract, both contracts need to be contracts which give rise to the same expectation as to
8 the total amount of revenue that is going to be recovered under the contracts, that is correct,
9 is it not? A. No, I don't think – clearly one could examine that issue and consider the
10 pros and cons, but that is an entirely different issue to the criticisms that National Grid has
11 raised in relation to revenue neutrality which concerns not expected revenue which, given
12 access rates, and other issues, there are many, many, many issues that could arise in that
13 area. National Grid's criticisms relate to Mr. Matthew's definition of revenue neutrality,
14 and that concerns a guaranteed revenue and that in itself is an outlier as a contractual feature
15 in this market.

16 Q Can we test it this way, Mr. Keyworth? Let us suppose that National Grid and gas suppliers
17 stayed on the P&M terms, so no PRC is payable at all and prices that were as high as the
18 regulator would allow according to the price cap? A. Yes.

19 Q Now, we know that National Grid did not favour that option because it would lead to less
20 revenue for it than the Legacy MSA? A. That was National Grid's view, yes.

21 Q We saw that from Mr. Shoesmith, and you have no reason to consider that that is incorrect?
22 A. No, of course, no.

23 Q On your analysis that would give greater incentives for replacement than a term contract
24 with PRCs such as the Legacy MSA, would it not? A. It would certainly give greater
25 opportunity for replacement, yes.

26 Q It would also give, on your analysis, greater incentives for replacement than a term contract
27 with PRCs, such as the age related counterfactual? A. Yes, that is correct.

28 Q Does that mean that the age related counterfactual is anti-competitively foreclosing?
29 A. Well it means that the age related counterfactual is foreclosing. As I tried to set it out in
30 my statement, I think there are essentially two issues to address here, the extent of the
31 foreclosing effect, and the question of how that is assessed, but whether that is understood
32 as anti-competitive – the basis upon which the age related counterfactual was developed
33 was hopefully set out rather clearly in relation to the rental payment commitments that other

1 parties in the market had found sufficient to allow them to confidently invest in new meters,
2 and actually install new equipment in the market place.

3 Q Is your answer that the age related counterfactual remaining on the P&M terms leads to
4 anti-competitive foreclosure, yes or no? A. My view on that, I am not a legal expert, but
5 my view is no. I would certainly agree with the position as set out in the discussion of the
6 counterfactual issues in the Decision, which is that getting a sensible benchmark for normal
7 competition in this market is not straight forward, it is recently liberalised market, and
8 National Grid is in my view a dominant undertaking in that market, and that influences what
9 one sees, and what one is able to look at. The age related contracts for CMOs and
10 National Grid in its new and replacement MSA uses are not in my view anti-competitively
11 foreclosing, obviously the CMOs are not dominant, so that is separate, but the new and
12 replacement MSA, leaving aside the issue of maintenance bundling ----

13 Q And your reason for that, as I understand it, is because we see examples of similar contracts
14 entered into by CMOs? That is the reason, even though it leads to more foreclosure it is not
15 anti-competitive foreclosure, is that right? A. Essentially, yes. I mean the question that
16 is asked in my statement ----

17 Q If you can answer the question that I am asking ----

18 MISS CARSS-FRISK: I do think Mr. Keyworth was still trying to finish his earlier answer
19 actually, when he was interrupted. A. Well could I maybe have the question again.

20 THE CHAIRMAN: Put the question again, Mr. Pickford.

21 MR. PICKFORD: Yes. You accept that in relative terms we have just shown that the age related
22 counterfactual is foreclosing, but you say it is not anti-competitively foreclosing, and I am
23 saying to you is the reason why you say it is not anti-competitive because it is based on a
24 form of contract that we see in the market entered into by CMOs, is that your justification?

25 A. I should say again I am not a legal expert, but ----

26 Q From an economic point of view is that your justification? A. – but my principal point on
27 this would be that the purpose of the assessment was not to examine the legality of the
28 hypothetical age related counterfactual. The purpose of the assessment was to examine the
29 legality of the Legacy MSAs, and ----

30 Q Mr. Keyworth, I hesitate to interrupt ----

31 THE CHAIRMAN: Please let him finish.

32 MR. PICKFORD: I am not asking a legal question. A. No, but -- So, the age-related
33 counterfactual was used as a mechanism to understand, in a sense, the extent of the
34 foreclosing effect that the Legacy MSAs give rise to, relative to the types of contract that

1 are actually observed in the market, and the commitments that others have found sufficient
2 to underpin new investment in that market. From my perspective the question of the
3 legality of the age-related counterfactual itself was not in any sense a principal question to
4 be addressed. It was a device to test the Legacy MSAs.

5 Q If I have understood you correctly, as an economist -- I am not asking you to answer as a
6 lawyer. I obviously understand you cannot answer as a lawyer. But, as an economist, is
7 what you are saying that the reason why the age-related counterfactual you say is legitimate
8 and not anti-competitive, notwithstanding that it leads to more foreclosure than the P&M
9 terms, that you say you observe that it is sufficient to recover the investments that one
10 would need to make in meters and you see that demonstrated in the CMO contracts. Is that
11 your answer? A. I think that's a key point, and that's one that I make in my statement,
12 yes.

13 Q But the key reason why people need to recover their investments is because if they do not
14 recover their investments they are not going to make any money out of the agreement, is it
15 not? A. I am sorry. I am not quite understanding.

16 Q The reason why people are interested in recovering their investments is because they are
17 interested in getting a certain amount of revenue out of an agreement. A. Not a certain
18 amount. I mean, people form expectations and I think, as Professor Grout expresses in his
19 report, in this context one might expect, for many operators at least to want a degree of
20 protection in making an investment decision. But, the question that will drive that decision
21 will be based on a range of expectations, and so on.

22 Q Quite. As we discussed before. Now, why is it not legitimate simply to rely on the P&M
23 contracts to get that degree of revenue? A. Sorry?

24 Q We compared two contracts. We had the P&M and we had the age-related counterfactual.
25 We see under the age-related counterfactual there is more foreclosure. We are now
26 examining why it is not anti-competitive because under the age-related counterfactual we
27 see more foreclosure. You say it is because it is legitimate because what you are doing is
28 recovering your investments. A. No, I don't think that is what I said.

29 PROFESSOR STONEMAN: Could I just interrupt there? Could you take me to the point in Mr.
30 Keyworth's evidence where he says it is anti-competitive?

31 MR. PICKFORD: He does not.

32 PROFESSOR STONEMAN: So, why are we addressing this with this witness?

33 MR. PICKFORD: Because I am examining the logic of Mr. Keyworth's proposition that one
34 does not need to be worried about revenue because ----

1 PROFESSOR STONEMAN: I think we are getting a long way away from the evidence that is in
2 front of us, which is to do with the detail of costs. I agree that the issue that you are
3 addressing is important, but I am not sure it is really the issue that this witness has been
4 addressing in his evidence.

5 MR. PICKFORD: Sir, the reason why I am addressing it is because it's a means of exploring the
6 question of whether revenue neutrality, or expected revenue neutrality is a condition that
7 one needs to apply in a legitimate counterfactual, or it is not a legitimate condition - because
8 the difference between the age-related counterfactual and the P&M terms that we have been
9 comparing is that one recovers more revenue than the other.

10 PROFESSOR STONEMAN: But his evidence is that **if** you do not need revenue equality this is
11 what you get and that is it. I just feel that we are getting a long way away from the
12 evidence. That is the point.

13 MR. PICKFORD: Thank you, sir. (To the witness): If you could maybe look at the question this
14 way on a rather different tack: Suppose that the PRCs were calculated on the basis that
15 meters had to be 25 years old before they could be replaced for free, rather than twenty
16 years old. Now, let us look at that what that would mean for the amount of free replacement
17 in the first three years of a contract. If you could go, please, to Appendix A to the witness
18 statement of Mr. Matthew which is at WS6, Tab 24 -- (After a pause): Tab 24, Table A1,
19 p. 3535, I believe. Now, if that were the form of the age-related counterfactual we would
20 see that there are relatively few free replacements in the first three years of the contract,
21 would we not? We have got Years 25+, 24, and 23, and there are less than 100,000 free
22 replacements altogether. You would agree with that. A. Yes.

23 Q So, it would be very expensive, would it not, to replace a large number of meters in the first
24 three years of a contract if it was structured in this way - an age-related counterfactual with
25 a cut-off point of twenty-five years. A. Depending on what the PRC that applied was,
26 yes.

27 Q All else equal, we would expect this to be an expensive contract under which to make that
28 kind of replacement. A. Yes. More expensive.

29 Q If we go, please, to paras. 69 to 71 of Mr. Matthew's statement -- (After a pause): We
30 see what Mr. Matthew suggests that it would cost because he makes this calculation on the
31 basis of a twenty-five year contract rather than a twenty year contract. He says that the
32 average cost of the 50 percent accelerated replacement programme would rise from less
33 than £18 to around £40 to £53. That is in para. 70. Do you see that? A. I see that, yes.

1 Q Now, you have said in your statement that you do not disagree with Mr. Matthew about the
2 mechanics of the agreement -- the mechanical calculations. Your disagreement is about
3 interpretation of these types of agreement and assumptions. A. Which agreement? Sorry.

4 MR. PICKFORD: You say in para. 10 of your witness evidence (we can go there in a moment)
5 that you do not disagree. Your disagreement with Mr. Matthew is not about mechanics - it
6 is more involved than that, it is about what inferences we draw from different types of
7 comparison. A. Yes. I mean, there are a number of issues. Obviously I haven't -- This is
8 after my statement, so ----

9 Q You have no basis to disagree with the numbers that Mr. Matthew gives here, do you, in
10 terms of what it would cost under a twenty-five year agreement? A. I haven't examined
11 this in great detail, but there are issues such as avoidable cost assumptions ----

12 THE CHAIRMAN: Yes. But, if you had the glidepath going over much -- If you raised the
13 threshold at which the meters could be replaced free under the age-related counterfactual,
14 you have to assume that you would then have to pay charges on more meters, and so it
15 would be more expensive. A. Absolutely. Yes.

16 MR. PICKFORD: If you take it as an assumption for the purposes of this question that these
17 numbers are reasonable numbers of what it might cost ---- A. Okay - for the purpose.

18 Q Now, we see therefore that the costs of replacement under this version of the counterfactual
19 - the twenty-five year counterfactual - are considerably more expensive than under the
20 twenty year version of the counterfactual. A. On these figures, yes.

21 Q Does that mean that the twenty-five year version of the counterfactual is foreclosing in an
22 anti-competitive sense from an economist's point of view. A. I go back to the basis upon
23 which the assessment was undertaken. The other contracts in the market were examined.
24 Those contracts related to the installation of new meters -- replacement meters, but new
25 investment. The Legacy MSA relates to obviously existing, already-installed meters. The
26 extent to which future rental payment commitments were considered necessary in order to
27 provide sufficient protection to underpin that new investment was taken as a basis for
28 assessing the extent of the foreclosing effect of the Legacy MSAs or the extent of the
29 commitments that were implicit within the agreement. Twenty years was a clearly
30 understood benchmark in that context as sufficient.

31 Q So, is your answer 'Yes' or 'No' to my question? A. No. Well, if your question is with
32 respect to National Grid and the introduction of this particular contract, I don't think that
33 can be assumed, no.

1 Q Sorry. Just to be clear, your answer is that the fact that if one works it out on a twenty-five
2 year basis it becomes very expensive, that does not mean that a twenty-five year contract
3 would be foreclosing. A. No. My answer is that I do not think it can be assumed that a
4 longer contract that was age-related - a longer contract than those that have been observed
5 within the market as sufficient to underpin new investments - can be assumed to be lawful,
6 simply because it would then be age-related. I can explain why I think that.

7 Q If we go, please, to your statement at paras. 88 to 89 -- (After a pause): Can we look at
8 Footnotes 19 and 21? You say there that the UMS contract (this is a CMO) uses the twenty
9 and ten year contracted payment periods referred to for DCMs and PPMs respectively, but
10 that the contract also provides for a different set of PRCs to apply based on a twenty-five
11 year payment commitment for DCMs and a thirteen year payment commitment for PPMs
12 when the cumulative number of replaced meters is greater than or equal to 50 percent of
13 those meters for which UMS is continuing to receive a meter charge. So, here we have a
14 CMO contract, and we see in it PRCs based on a twenty-five year cut-off, do we not? A.
15 That's correct.

16 Q It would be helpful if we could - just to be clear exactly what we are talking about - take up
17 Bundle CT3, which contains this contract. I believe it is confidential, but I think we can
18 hopefully do it without asking any confidential questions. (After a pause): Tab 8. We
19 see the British Gas contract with UMS. If we go please to p.1951 we see in yellow ----

20 THE CHAIRMAN: I am not sure whether you can see what is in the yellow box. A. I haven't
21 got a yellow box.

22 MR. PICKFORD: This witness is in the confidentiality ring, is he not?

23 THE CHAIRMAN: Yes, but he needs to be provided with an unredacted version of this bundle
24 then. (Same handed)

25 MR. PICKFORD: (To the witness): Do you have p.1951? A. I do.

26 Q We see there - and I appreciate this is in the yellow box but I do not think it is giving away
27 too much to say - Clause 27. Could you read to yourself Clause 27, and in particular Clause
28 27(a)(i)? (Pause whilst read): That is the clause you are talking about, is it not in your
29 footnote? A. That's correct, yes.

30 Q If we go please to p.2103 -- I think that might be a bad reference. It is Appendix 6A.
31 (After a pause): Sorry. It is external p.2103. We see there the factors that are used in
32 relation to the termination payments. A. Yes.

33 Q We see what year they go up to on this table. A. Yes.

1 Q Can I reveal for the transcript, madam, what year that is, notwithstanding that this is in a
2 yellow box? It is dealt with in his witness statement, which is not in itself confidential. Let
3 me put it this way, that confirms what you say in your footnote, does it not?

4 THE CHAIRMAN: Yes. Neither of the parties to this contract is officially before the court. So,
5 I do not think we can go beyond the confidentiality ring. If you want to clear the court of --
6 --

7 MR. PICKFORD: I do not need to deal with the particular numbers, madam. It is the principle
8 that is the issue. (To the witness): So, what we see based on your footnote is that if 50
9 percent or more of the meter stock is replaced the PRCs are calculated on a twenty-five year
10 basis. Under the Legacy MSA, roughly speaking, that would happen from about Year 9
11 onwards, would it not? 50 percent of the originally contracted volume of meters. A.
12 Sorry. I was not quite with you. (After a pause): Yes. Yes.

13 Q Yes. So, we find a precedent for just the sort of twenty-five year benchmark that I was
14 talking about in my example, do we not? A. It's an example of a twenty-five year
15 agreement in a National Grid contract, of course.

16 Q So, if that contract is something that we see in the market place adopted by CMOs, can we
17 conclude therefore that that will be a legitimate form of age-related counterfactual? A.
18 there are a number of observations I could make on this.

19 Q Are you able to answer the question that I asked? Would that be a legitimate basis for a
20 counterfactual - a twenty-five year agreement? A. A legitimate ----?

21 Q A legitimate basis for a counterfactual based on twenty-five years - because we see that in
22 the CMO contract. A. I don't think that follows because there's a reference to this in the
23 UMS contract that that makes it a legitimate counterfactual -- I mean, by that I assume you
24 mean it should be in some sense ---

25 Q Put it this way: if National Grid, rather than adopting the Legacy MSAs, had adopted a
26 contract which looked like the one we have just seen with PRCs going up on the basis of up
27 to twenty-five years (twenty-five years or above), would it, in your view, have engaged in
28 behaviour that was likely to lead to anti-competitive foreclosure? A. I think it's helpful if
29 I make some more general comments on the basis for assessment.

30 THE CHAIRMAN: I think what we are testing here is the sensitivity of the parameters that were
31 put into the counterfactual. A. Yes.

32 Q You have explained why you used twenty years. A. Yes.

33 Q But, what we are looking at is whether, if you had used twenty-five years and got a very
34 different result, what does that tell us about the value of the counterfactual that was in fact

1 used. So, what we need to understand is why you used twenty years rather than twenty-five
2 years given that from your footnote it is apparent that you knew that there was a contract
3 out there which used twenty-five years. A. Yes. First of all, there are other contracts out
4 there that use 20 years. Why is the issue of duration important, I guess is an underlying
5 issue here, and why should there be any concern with respect to 15 years versus 20 years
6 versus 25 years. I think included in that is an understanding that what is going on here is
7 the provision of a meter, but also some associated service activities with operating costs,
8 and so on. The way those other operational activities are undertaken can itself affect
9 replacement decisions. I know in National Grid's comments with respect to ownership
10 analogies, and so on, I think when you take that approach what that excludes are these other
11 service characteristics. By not separating the two, one has to be mindful of the extent to
12 which competitive pressures continue with respect to the overall offering that is being made.
13 Duration is clearly important in that respect, because the threat of replacement is the only
14 effective means by which competitive pressures can be put on that set of activities,
15 including these ongoing operational activities. So, as a general point, this doesn't reduce
16 simply to an issue of essentially, in my view, how long is the period over which you repay
17 your commitment for a piece of kit, as it were. There are other ongoing aspects. National
18 Grid's own estimates of avoidable costs indicate that those other operational activities are of
19 some economic significance in relation to the DCMs. The avoidable costs that are used in
20 the PRC calculations are in excess of 30 per cent of the rental charge, for example. One has
21 to be mindful in this context of the competitive pressures in relation to the overall activities.
22 Replacement incentives in a context where ownership is not separated from those activities
23 becomes the means, as it were, by which competitive pressures can be applied. So duration
24 is important. This then is an example of a particular CMO. It happens to be UMS, National
25 Grid's CMO, where for part of the period of application the factors that it uses to determine
26 age related PRCs extend beyond 20 years. It so happens that the factors become enforced to
27 0.45 in the final year and are relatively low in the latter period. The rental charges that
28 these are applied to are subject to some inflation protection, fixed in nominal terms over the
29 period. So by the time that you actually reached this time the effective level of charge in
30 real terms could potentially be really relatively low. That is just a contextual factor I think
31 it is important to interpret here, whereas the MSA charges and the age related counterfactual
32 doesn't move away from this to indexation of charges and of PRCs throughout the period.
33 So there are other contextual factors that I think, even within the context of this contract,

1 would make one apportion the extent to which the read across should be made in terms of
2 the materiality of this extension.

3 MR. PICKFORD: Madam, I hesitate to interrupt, but I asked quite a short question.

4 THE CHAIRMAN: I think we have your answer on that, Mr. Keyworth.

5 MR. PICKFORD: With respect, I do not think the witness has answered the question that I posed,
6 which I would like to ask again. I will put it this way, because the last way elicited a rather
7 longer answer than perhaps we had been anticipating. As I understand your analysis you
8 would accept that if National Grid had adopted an age related counterfactual based on your
9 20 year profile it would have been okay. National Grid would not find itself before the
10 Tribunal today because there would not have been a Decision by Ofgem. Is that a fair
11 assessment from an economic point of view, putting aside questions of law? A. There are
12 other economic issues to consider, but I would stress that was not the assessment.

13 THE CHAIRMAN: I think we have assumed, and I think in fact on day 1 Miss Carss-Frisk
14 confirmed, that it was not suggested that the 20 year age related counterfactual would be an
15 abuse of a dominant position. So let us hold on to that fact. A. I'm just conscious to
16 emphasise, madam Chairman, that the context of the assessment was one in which clearly
17 the focus of ----

18 Q What you are being asked now, I think ----

19 MR. PICKFORD: You accept that. What I would like to ask you is, if that is true in relation to
20 20, if National Grid had adopted a 25 year age based contract everything else stays the same
21 if it had been 25 years. Same question, would that have been legitimate from an economic
22 point of view? A. Again, as I hopefully indicated previously, the duration of the
23 commitment period is a relevant matter for a number of reasons and therefore one cannot
24 simply assume that it's irrelevant.

25 Q Are you able to say yes or no, whether that would have been legitimate or would have been
26 illegitimate? A. In my view, it would have been illegitimate.

27 Q It would have been illegitimate to adopt a 25 year profile? A. The basis upon which the
28 20 year view was formed was, as I say, routed in other contracts in the market. It is true
29 that in this particular UMS contract there is a mechanism by which the commitment extends
30 in relation to some portion of the meters as the overall stock declines. As I have indicated,
31 in interpreting that one needs to take into account some of the factors, in particular the
32 indexation differences and what the effective levels might be at that stage.

1 THE CHAIRMAN: Just to cut to the chase, you are not prepared to say that a 25 year version of
2 the age related contract would not be abusive, if you will excuse the double negative?

3 A. I think my answer is yes, I'm not prepared to say that it would not be.

4 MR. PICKFORD: We do know from Ofgem's own skeleton, and we can go there if necessary, if
5 you disagree, that the expected life for a DCM is around 20 to 25 years. So if we are going
6 to base it on expected life we could equally well have picked 25 years as 20 years? A. I
7 understand from National Grid's notice of appeal that the expected life is somewhere
8 between 19 and 25 years, or something like that.

9 Q I am sorry, Mr. Keyworth, I did not fully hear your answer. A. I understand from
10 National Grid's notice of appeal, which is the reference that I remember, that the expected
11 life is between 19 and 25 years, something like that.

12 Q If we go to that reference, that is CB1, p.174, that is correct, it says:

13 "The average estimated asset life of National Grid's installed DCMs rose from
14 19.5 years in 2001 to 25.5 years in 2005."

15 So what I am putting to you, Mr. Keyworth, is if we are basing the cut-off point on age of
16 meters one could equally select 25 years as 20 years – do you agree with that? A. As I
17 said in my statement, the basis was on the observed extent to which rental payment
18 commitments had been used in other contracts in the market, and taking that as an
19 understanding, albeit a potentially distorted understanding, of normal competition.

20 Q I have no further questions on that particular issue. Madam, we are making relatively slow
21 progress. I appreciate that you do not wish me to interrupt, but Mr. Keyworth has given
22 relatively expansive answers which have not always necessarily addressed the question that
23 I asked. So if we are going to make faster progress Mr. Keyworth is going to need to give
24 more concise answers that do address the particular question posed.

25 THE CHAIRMAN: Mr. Keyworth, do your best to keep your answers concise, please. A. Yes.

26 MR. PICKFORD: Madam, I appreciate that Mr. Keyworth has been in the witness box for a little
27 while. Is everyone content to continue?

28 THE CHAIRMAN: Do you want to take a break now, Mr. Keyworth? A. Yes, that would
29 probably be a good idea.

30 Q We will take a five minute break then.

31 (Short break)

32 MR. PICKFORD: Mr. Keyworth, we dealt with the issue of revenue neutrality. I would like to
33 move on now to a point concerning the treatment of customer requested exchanges and the
34 related issue that Mr. Matthew talks about, which he describes as "value neutrality", the

1 idea that gas suppliers get the same value out of the contract – you are familiar with the
2 general area that we are talking about? A. Yes.

3 Q Now, you deal with this at para. 100 to 102 of your witness statement, so if we could go
4 there, please? It is WS4, tab 8. You make a reference to table 7 of the Decision which
5 shows the total number of non-discretionary replacements, and we will come back to that in
6 a moment. Just to summarise, to try and pick up the tempo a bit, at para. 101, when talking
7 about these CREs, (Customer Requested Exchanges) you say:

8 “These costs are not considered further in the comparison of the costs of
9 ‘additional’ replacement that is presented in Paragraphs 4.98 – 4.101 of the
10 Decision. This follows from the fact that these costs are effectively treated as a
11 ‘given’ for suppliers – that is, these costs do not arise as a result of the decisions to
12 replace more meters.”

13 And then you conclude in para. 102:

14 “The key point from the above, with respect to the analysis that follows in the
15 Decision, is that the level of functionality change costs would not be expected to
16 have a material bearing on the costs of ‘additional’ replacement.”

17 And if we were to go to table 7 we would see that there are just under half a million of these
18 CREs in the first three years of the contract, you are aware of that? A. That sounds
19 consistent, yes.

20 Q You would also accept that what is shown in the table, and it is the case, is that all non-
21 discretionary replacement under the Legacy MSA is free, but it is not all free under a CMO-
22 type contract? A. Yes, that is right.

23 Q So one of the reasons why the cost of additional replacement that Ofgem calculates in the
24 Decision is higher for the Legacy MSA is because under the age related counterfactual, the
25 cost of the CREs is taken away and put in a different box, and you focus just on the
26 additional replacements, whereas under the Legacy MSA those replacements are part of and
27 use up the glidepath allowance? A. Yes, I mean put differently one could say ----

28 Q Well is what I say correct? A. Yes.

29 Q Thank you. A. I would have put it differently, but ----

30 Q Well I suggest that that is not a fair basis for comparison of the two contracts, is it?

31 A. That depends what the purpose of the comparison is, I think.

32 Q Well let us look at it this way, and again this is a hypothetical. I am going to create a
33 hypothetical to test the point, so I am not saying this is not something he necessarily says in
34 his witness statement. Let us create a new, improved ARC, and we are going to create it in

1 a way that provides revenue neutrality with the old ARC. Let us say under this new
2 agreement that the gas suppliers pay for all policy replacements, not just CREs, they pay for
3 everything, okay? Now, on your view that will not affect the replacement incentives under
4 the contracts, will it, because those replacements are non-discretionary? A. Well subject
5 to, yes, the details, but broadly speaking.

6 Q But to make sure National Grid does not recover too much under this contract because
7 obviously now it is getting paid for every non-discretionary replacement, let us also adjust
8 the age at which meters become free – we do not need to calculate what it is in precise
9 terms, but we can imagine that if one said instead: “Now you can have meters that are free,
10 so long as they are more than five years’ old, they are all discretionary”. So what we have
11 done is we have massively increased the number of discretionary meters that the gas
12 supplier gets, but at the same time we are making the gas supplier now pay for lots more
13 non-discretionaries, do you follow me? A. I don’t follow why you have made the
14 adjustment of the order that you have in the example.

15 Q The adjustment, I am not saying there is any magic in the number 5. What I am saying is
16 we adjust the age cut-off so that you now have lots and lots of discretionary replacement. It
17 is a hypothetical contract at this stage. The contract now looks rather different from your
18 age related contract, it is a more extreme version of it, because now you have to pay for all
19 the non-discretionaries, but pretty well any discretionary replacement that you might want
20 to do you find is now free. I cannot calculate exactly what age it would be, but the point of
21 that is to make it roughly revenue neutral from the point of National Grid, that because you
22 are now paying for the non-discretionaries National Grid is not getting a massive windfall,
23 because now you get all of those discretionaries for free. Do you understand the point?

24 A. You are using “Revenue neutral” in the David Matthew report sense – guaranteed
25 revenue?

26 Q I am using it here in the sense that I used it before, which is the revenue you expect under
27 the contract? A. You would not expect all the meters to be replaced within five years
28 even if they were free to replace, if you see what I mean? If the age at which the payment
29 commitment fell away was five, then you would still expect people to go on renting lots and
30 lots of Legacy meters well beyond five years, so your expected revenue----

31 Q I am extracting from the particular ages, what I am trying to put to you is a hypothetical
32 model ----

33 MISS CARSS-FRISK: Can Mr. Keyworth just finish?

1 THE CHAIRMAN: When you talk about revenue neutrality, is it a constant assumption that
2 people will swap out as many meters as they possibly can, so that you only get the
3 minimum guaranteed revenue under the various contracts that you are positing?

4 MR. PICKFORD: They will swap out as many meters as it is economically efficient for them to
5 do so.

6 THE CHAIRMAN: They will swap out all the free meters?

7 MR. PICKFORD: Yes, they will swap out all free meters? A. But you see, so under the P&M
8 contract they would swap out all meters immediately? You are moving between a notion of
9 a guaranteed revenue commitment, and a broader notion of expected revenue, and I think it
10 is in a fairly incoherent fashion by my ----

11 Q I am putting to you merely a hypothetical point, I am not saying necessarily that this is what
12 gas suppliers would wish to do, I am saying assuming that gas suppliers take out their free
13 meters, because they had the incentive to do that, because let us assume the alternatives
14 available to them are cheaper, so they have an incentive to replace whenever they can.
15 Now, whether that is correct or not, you my argue that, but if you just take that as an
16 assumption, this is a hypothetical? A. Just to clarify, because by assuming that you are
17 moving to essentially the minimum guaranteed revenue definition of revenue neutrality
18 which is why I asked the question, because it is a particular assumption and that matters to
19 the assessment.

20 Q Okay, but I am asking you to make that assumption? A. Okay.

21 Q So what we have is a contract where now National Grid is getting the same amount of
22 revenue but the balance of the contract has changed enormously, because now they have to
23 pay for all the non-discretionaries, but pretty well any discretionary they like to make is
24 free. Okay? Now, there are three times as many policy replacements, roughly speaking as
25 there are CREs, do you accept that? A. Is that the opening position?

26 Q In very rough terms. We find that there are, I think, roughly 660,000 as opposed to 200,000
27 CREs, in very approximate terms? A. Just to clarify on that, because the maximum
28 policy replacement number, the replacement number in the contract increases in percentage
29 terms from about 64 per cent to 98 per cent of the glidepath free allowance, over the
30 contract period, whereas one would obviously expect the number of CREs to reduce over
31 time as the overall population reduces, because you would expect that to be a relatively
32 constant percentage of the remaining population and I think National Grid assume a
33 relatively constant percentage when they ----

1 Q We do not need to get sucked into that kind of detail. The only point that I need to put to
2 you, Mr. Keyworth, in relation to this model is that what we see is we have a lot of free
3 replacement at the margin. What you focus on in your report is the discretionaries, the ones
4 that you have a choice about whether to make? A. Yes.

5 Q And if the contract was in this sort of shape, and we are not talking about the precise
6 parameters of it, but this sort of shape, what one would see would be a lot more of that free
7 replacement that you could undertake at the margin ---- A. Yes.

8 Q -- than under the original age related counterfactual - yes? A. Yes.

9 Q Now, it is the same sort of question as I put before, does that mean that your original age
10 related counterfactual results in anti-competitive foreclosure, by comparison to the fact that
11 we could have a contract which was even more extreme, that was much more loaded in
12 terms of paying for non-discretionaries, and having discretionaries much cheaper?
13 A. No, as I hope I explained, there was a basis for the development of the age related
14 counterfactual that was rooted in market reality.

15 Q ... based on the CMO contract? A. Based on the factual context, including by reference
16 to the new and replacement ----

17 Q Coming back to your age related counterfactual, did Ofgem so far as you are aware ever ask
18 gas suppliers whether they wanted a contract under which they were required to pay for
19 CREs, rather than being able to undertake them within the glidepath allowance? A. Not
20 as far as I am aware, no.

21 Q It could have done that quite easily, could it not? A. Yes, I guess so.

22 Q If a gas supplier was interested in removing meters for free, keeping on a steady state, and
23 not paying for PRCs, it would prefer the Legacy MSA to the age related counterfactual,
24 would it not – on those assumptions? A. The basis of assessment was not some kind of
25 generalised notion of preferred contract.

26 Q I understand that. What I am putting to you is that if those conditions are true, if a gas
27 supplier was interested in removing some meters for free, relatively steady state, was not
28 particularly interested in paying PRCs, it would be better off under a Legacy MSA than the
29 age related contract. We see that from table 7 in the Decision, table 7 shows that there is a
30 cost in one case and there is not a cost in the other. If you like we can go to table 7 to see
31 that? A. Yes, please.

32 Q That is in CB1, tab 1, p.87. What I am putting to you, Mr. Keyworth is assuming that one
33 wants to stay on the glidepath, you are not particularly interested in additional levels of
34 replacement that involve PRCs, you would be better off under the Legacy MSA than under

1 CMO type contract because we see the total row at the bottom of table 7 shows X greater
2 than nought in one and nought in the other? A. I am not following, sorry, could you
3 restate the question?

4 Q The only replacements that one is interested in making are those that are permitted under
5 the respective terms of the agreements, and one is not interested in paying for PRCs under
6 either contract – the ARC or the MSA? A. Are you asking me if a supplier wanted to
7 replace the number of meters that was free under the Legacy MSA ----

8 Q Yes, and the number that was free under the age related counterfactual? A. So different
9 numbers?

10 Q For the first three years of the contract.

11 THE CHAIRMAN: If the gas supplier thought: “I want to replace as many meters as I can, but I
12 do not want to pay any PRCs, so I will take advantage of the free replacements under the
13 Legacy MSA in that position, or I will take advantage of the free replacements under the
14 age related counterfactual, is the question whether they would have more free replacements
15 under the one than the other?

16 MR. PICKFORD: No, the question is whether it would be cheaper for them to stick on the
17 Legacy MSA, because they do not have to pay for CREs? A. Offhand I am not sure.

18 Q Okay, we will move on. Were you in court when you heard the evidence of Mr. Avery?
19 A. Yes.

20 Q And you are aware of the evidence that is before the Tribunal that the gas suppliers did not
21 want to pay for CREs, are you not? A. When you say “gas suppliers” can you clarify?

22 Q British Gas for one? A. Where British Gas did not want to pay – it is actually a rather
23 important distinction I think – because under the Legacy MSA the other signatories to the
24 agreement do pay for CREs, notwithstanding the fact that they are signatories to the Legacy
25 MSAs. I am obviously not a witness of fact but I believe that to be a matter of fact.

26 Q You have no basis for presuming that British Gas as an example would ever have signed up
27 to a contract with National Grid pursuant to which it had to pay for CREs? A. That’s
28 correct.

29 Q So therefore you do not know whether the age related counterfactual that you posit is
30 something that would ever have been possible to agree with British Gas in reality?

31 A. With British Gas I don’t know, I mean obviously the assessment is not about the
32 specifics of the commercial position of British Gas. It is the case that under the CMO
33 contracts there is a transaction charge payable on functionality changes in each of the
34 contracts, and under the new and replacement MSA there is a transaction charge payable on

1 the CREs; as some economic justification there is a meter being removed and so on. Under
2 the P&M contract if National Grid undertakes replacement there is a transaction charge paid
3 when there is a CRE. Under the Legacy MSAs, for all suppliers that have not elected
4 which, until whichever the period we have been looking at, has been all suppliers other
5 than British Gas there has been a transaction charge when CREs are undertaken, so there is
6 a sort of basic factual starting point there that says it is very normal for there to be a
7 transaction charge payable when there are CREs.`

8 Q Do non-British Gas suppliers have to pay for CREs?

9 THE CHAIRMAN: Well I think he said he is not a witness of fact, but that is his understanding,
10 it is more in you client's knowledge.? A. But as I say, I am very confident about that
11 fact.

12 Q Well maybe that is something we can clear up in due course.

13 MR. PICKFORD: You say at para. 101 of you witness statement which we opened a little while
14 ago, that:

15 "... the Decision notes that one would expect suppliers to assess such costs
16 alongside their assessment of meter rental charges that are on offer, since the
17 financial impact of functionality change charges could be offset by variations to
18 rental charge levels."

19 The bottom line is, is it not, that total costs are what is ultimately relevant to gas suppliers
20 from their own perspective, when they are evaluating a contract what they care about is the
21 total cost they will have to pay under that contract? A. What we are talking about here is
22 some portion of replacements that can be expected to happen whatever, so therefore one
23 would expect that to be understood and factored into the necessary annual bill, but that does
24 not mean to say that total necessary bill is the only issue to be ----

25 Q But ultimately what gas suppliers care about is total cost rather than particularly marginal
26 cost, because if they just focused on marginal cost for discretionary replacement, or
27 additional meters as you call them, but they forget about the other side, then they are not
28 going to have evaluated the contract on a very sensible basis, are they? A. But on the
29 same basis the free allowance for these CREs under the Legacy MSAs, relative to the other
30 contracts, under the age related counterfactual and the other contracts I have referred to, is
31 equivalent to a form of discount but that discount is conditional on the level of discretionary
32 replacement being lower, the discount has the effect of increasing costs at the margin.

33 Q Sorry, could you just clarify for me what the discount is, I did not quite follow? A. You
34 are characterising and focusing on the benefit that the Legacy MSA provides through the

1 free functionality changes, the CREs, my point was simply that relative to the age related
2 counterfactual which is consistent with the CMO contracts, new and replacement MSA,
3 and as I say these payments are even made under the Legacy MSA for those who have not
4 elected a supplier, relative to those positions this can be understood as a discount that the
5 Legacy MSA provides, but the effect of what comes with that discount is a reduction in the
6 available level of discretionary replacement, so it effectively increases the cost of replacing
7 more, that is what is substituted for the provision of these free ----

8 Q It is part of the overall bargain. A. Yes. Yes.

9 Q Okay. If we could please go on to look at the particular costs of replacement that you
10 calculate in your scenarios - or, rather, in particular, the number of free meters that you
11 assume in each of your scenarios. If we go to Table 2, please, of your report at p.24 of the
12 internal numbering -- (After a pause): I have prepared a visual aid for this question to
13 assist - hopefully reducing confusion. It is a table which the witness has not seen before, but
14 all the numbers are extracted from the documents. It is simply to assist everyone, I hope, in
15 following the relevant calculations. (Same handed) If we go to Table 2 of your report, we
16 see that the total free allowance under the MSA glidepath is 2.93 million. That is correct?

17 A. First three years, yes.

18 Q For the first three years, yes. We are just focussing on the first three years because that is
19 what you focus on in your analysis. But, 2.55 million of that is accounted for by so-called
20 discretionary -- non-discretionary replacement. So, if one takes one figure away from the
21 other, that leaves 380,000 discretionary free replacements under the Legacy MSA. A.
22 Yes.

23 Q Now, comparing that with the assumption that you have made as to the number of
24 discretionary free replacements you get under the age-related counterfactual -- If we go
25 please to the Decision at Table 8 -- (After a pause): One sees there that the number of
26 meters that are greater than or equal to twenty years by the third year of the agreement - the
27 cumulative total is 1.74 million. A. I am sorry. What are you looking at?

28 Q I am looking at Table 8 in the Decision at CB1, p.89. We see that the cumulative Legacy
29 DCM population is 1.74 million. A. Yes.

30 Q Now, in order to work out how many discretionaries we are getting out of that we need to
31 deduct the number of policy and maintenance that would be greater than or equal to twenty
32 years. A. At the end.

33 Q By the end of that period, yes. A. That's correct, yes.

1 Q We can calculate that figure by going initially back to your Table 2. We see that for all ages
2 policy and maintenance, together - that is, the first two lines - 1.92 and 0.11 - adds up to just
3 over 2.03 million. A. Yes.

4 Q That is the final column. Then, in order to work out how many of those are greater than or
5 equal to twenty years we have to deduct the number that are less than twenty years. A.
6 You've left out functionality changes, but, yes.

7 Q I am working out how many discretionary replacements you get under the age-related
8 counterfactual. So, we find a figure for the number of policy and maintenance that are less
9 than twenty years if we go back to the Decision at Table 7. We add up the numbers in the
10 first two rows of the first column - policy replacement, maintenance replacement and these
11 are less than twenty year old DCMs. Yes? A. Yes.

12 Q So, if we deduct that from the 2.03 million that we had from your Table 2, we find that the
13 number of policy and maintenance that are greater than or equal to twenty years is 0.52
14 million.

15 THE CHAIRMAN: So, you are saying that if you add together 1.92 and 0.11 million from Table
16 2 ----

17 MR. PICKFORD: Yes. You get 2.03 million.

18 THE CHAIRMAN: You deduct from that the sum of 1.50 and 0.01 in Table 7.

19 MR. PICKFORD: That is right.

20 THE CHAIRMAN: Then you get to what number?

21 MR. PICKFORD: 0.52 million. That is why I have set it out in this table.

22 MR. SCOTT: And 0.52 million is then the number of ----

23 MR. PICKFORD: Policy and maintenance that are greater than or equal to twenty years of age by
24 the time you get to the third year of the contract. So, it is during the first three years - the
25 ones that you would have expected to have had for free anyway, not because they are over
26 twenty years, but because you get all your policy and replacement free under this style of
27 contract. So, we need to deduct that from the total population of meters that is greater than
28 or equal to twenty years in order to see the discretionary replacements that the age-related
29 aspect of this contract has given. A. Yes.

30 Q We see that that is 1.22 million discretionary replacements under the age-related
31 counterfactual. You agree with that? A. Again, you have considered policy and
32 maintenance, but not CREs. A. Yes, because we are looking at the discretionary
33 replacements and we have taken away from the meters that are greater than twenty years old
34 those ones that are policy and maintenance that are greater than twenty and leave the

1 discretionary amount that you have to ---- A. Is your point that CREs are discretionary -
2 or should be classified as discretionary?

3 Q (After a pause): Meters that are greater than or equal to twenty years is 1.74 million. If one
4 takes off the policy and maintenance that leaves 0.52. So, on a comparative basis --
5 Because, of course, they are free under the Legacy MSA. You have effectively got a bonus
6 - as it were, the difference between 1.22 and 0.38 are the number of discretionary meters
7 that you can replace under your contract, if you do a like-for-like comparison.

8 THE CHAIRMAN: Do you agree with that? A. Again, you are ignoring the CREs.

9 MR. PICKFORD: I am saying that on a like-for-like basis that is a fair comparison of what
10 effectively one contract is giving you as opposed to the other. A. A. I am trying to
11 understand why you have arrived at that as being like for like.

12 Q I do not think there is any point in debating the point. We have got quite a lot of questions
13 to get through.

14 THE CHAIRMAN: You are making the point that as far as you are concerned, perhaps one
15 should include the functionality changes. But, he has not included those. So, let us just go
16 along with that for the moment.

17 MR. PICKFORD: Even if one was to deduct some customer-requested exchanges there are not
18 very many that are likely to be older than twenty years, is there, to account for that gap
19 between 0.38 million, on the one hand, and 1.22 million, on the other. That is not all going
20 to be made up by however many CREs there are that are greater than or equal to twenty
21 years. A. I agree, yes.

22 Q So there is still a very substantial difference between effectively the number of discretionary
23 replacements that you get under the ARC as opposed to the Legacy MSA - the number of
24 freebies. A. Yes, that looks -- I am not fully clear on why you're setting it out in this
25 way.

26 Q I appreciate that you have not had these particular numbers before. But, subject to my
27 calculations being correct -- my arithmetic being correct, you would agree with that. A.
28 It looks reasonable enough.

29 Q So, it's hardly surprising then that under the age-related counterfactual one finds it much
30 cheaper in the first three years of the agreement to replace large numbers of meters because
31 effectively the way that you have set up your model, you are getting far more of those
32 meters for free - before you even start getting into whether you pay a PRC, or not. They are
33 simply free. A. There is a free replacement assessment in an annexe to the Decision that
34 considers the position over the first three years.

1 Q Perhaps if we can look at this graphically it might assist. If you turn over the page of the
2 visual aid, we have a graph. You will recognise at least two of the lines because they are
3 the lines that we debated at some length at the outset, taken from the notice of appeal. Then,
4 what has been added here is the 50 percent replacement schedule. What this graph shows is
5 -- When one looks at the orange dotted line, that is the schedule of replacement that you
6 have effectively assumed in your 50 percent scenario. Do you see that? A. I see the line
7 you are pointing to. I am just referring back because Annexe 7 of the Decision considers
8 this free replacement comparison. I guess I am just conscious to try and understand what ---

9 -
10 Q We actually went to Annexe 7 earlier on. I would like to move on, if I could, because
11 otherwise we are not actually going to finish today.

12 THE CHAIRMAN: This 50 percent replacement schedule dotted line - that is if you wanted to
13 replace 50 percent more than is allowed for free under the glidepath.

14 MR. PICKFORD: Yes. If you wanted to do that, this shows what the profile -- I am not asking
15 the witness to accept the precise position of it, but you can accept as a general principle that
16 this would show the profile of meters rented that you would expect if one was to engage in
17 50 percent replacement. A. The dotted line?

18 Q The dotted line, yes. Because what we see is that rather than staying on the glidepath, it
19 initially comes down more sharply for three years and then it returns to the glidepath. That
20 is the point you make about spending a while in the BLR band before you hit the glidepath
21 again. A. Yes. The dotted line seems fine, yes.

22 Q As a general point. One can see quite easily from this, if these lines are right, that it is much
23 cheaper under the Legacy MSA to engage in this path of replacement than it is under the --
24 Sorry. It is much cheaper under the age-related counterfactual to engage in this path of
25 replacement rather than under the Legacy MSA because when you are under the Legacy
26 MSA you are paying for the entirety of the time that you are below the blue line. What you
27 are actually paying at that point is BLRs because until you get back to the glidepath you are
28 paying a BLR on all of those meters that you are below the glidepath. You understand that.
29 A. I understand that. I'm not fully clear about the comparison you've done. As I say, there
30 was a comparison of this issue in Annexe 7 of the Decision and I am not clear ----

31 Q I would like to stick with this, if I could, because, as I have said, we have seen Annexe 7. If
32 Ofgem wish to take the witness to Annexe 7 later ----

33 THE CHAIRMAN: What is the point for which you are putting this to him?

1 MR. PICKFORD: The point for which I am putting this is that one can see very easily from this
2 graph why it is much cheaper -- why he gets the numbers that he does under his cost
3 calculations and why it's much cheaper under the age-related counterfactual to follow this
4 particular profile, apparently, than it is under the Legacy MSA, and it is to do with the
5 difference in these two curves, because under the first curve -- If one compares the orange
6 dotted line to the blue line one sees a triangle effectively between the orange dotted line and
7 the blue line. You see that visual triangle? A. It's clearly the case that the age-related
8 counterfactual in the Decision allows for more free discretionary replacement. That, I think,
9 is clear from the Decision and from my statement. What, I guess, I am struggling to see is
10 how the point that you are making here relates to the specific assessment of the number of
11 free replacements that was provided in Annexe 7 of the Decision.

12 Q The point I am making here is that one can see visually from this why it is that one
13 agreement apparently is more costly than the other - and it is because under one agreement
14 you only depart from your level of freebies for a very short time in relation to a very small
15 number. It is the difference between the brown line and the dotted orange line. The triangle
16 that effectively one would have if you in-filled that - that is the cost that you pay under the
17 age-related counterfactual if one multiplies it up by a rental value. Do you accept that? A.
18 I obviously haven't looked in detail at that.

19 Q No. In principle. Putting aside the specific numbers. In general terms, that is the cost.
20 A. As I say, I obviously haven't looked at the detail of the numbers. But, it clearly is the
21 case that there are more free discretionary replacements under the Legacy MSAs. We have
22 looked at the free meter assessment briefly in Annexe 7 of the Decision which considered
23 that issue. As I indicated, the CRE treatment has this effect of -- well, in the age-related
24 counterfactual of making more discretionary replacements free, relative to the Legacy
25 MSA. I describe that as a feature the other way round as the Legacy MSA ----

26 MISS CARSS-FRISK: I wonder, madam, if Mr. Keyworth, insofar as he would like to have that,
27 could have the chance over lunch to consider these figures further, and make any comment
28 that he might wish to make after lunch?

29 THE CHAIRMAN: Would that be acceptable, Mr. Pickford?

30 MR. PICKFORD: Yes, madam.

31 THE CHAIRMAN: I think that then brings us to a natural point to break. We will resume at five
32 past two.

33
34 (Short break)

1 THE CHAIRMAN: Yes, Mr. Pickford.

2 MR. PICKFORD: Thank you, madam. Mr. Keyworth, just before lunch we were looking at this
3 hand-out, the table and the associated graph, and you fairly pointed out to me that there was,
4 in fact, a slight slip in my table because under the ARC column, the discretionary
5 replacements, what I had failed to deduct was the number of CREs that were greater than 20
6 years old – that is correct, is it not? A. I think that was your interpretation. I was just
7 raising the issue of CREs more generally.

8 Q If we were to adjust this column, the ARC column, to deduct the ARCs that are greater than
9 or equal to 20 years, we can get those numbers quite easily from the tables we were looking
10 at previously. If we look at table 2 of your witness statement, we see that over the three
11 year period 2004 to 2005 there are 0.25 million CREs? A. Yes.

12 Q If we then go to table 7 of the Decision, which we were looking at previously, we see there
13 are 0.48 million CREs over the same period? A. Sorry, table 7 of?

14 Q Table 7, it is at p.87 of bundle CB1? A. These are the less than 20 year old ----

15 Q These are the less than 20 year old CREs. A. At the end of ----

16 Q At the end of the three year period? A. 2006, yes, that's right, yes.

17 Q So if we take one number away from the other, if we take 0.48 away from 0.52, we get 0.04,
18 that is 40,000 CREs that were greater than equal to 20 years. A. Yes.

19 Q So, in fact, my number in my table of discretionary replacements, rather than 1.22 it should
20 in fact be 1.18, because I should have deducted a further 0.04 million CREs? A. Yes.

21 Q The point that I was making to you was that under both the Legacy MSA and the ARC the
22 number of non-discretionary replacements is the same under both, because you have
23 assumed 850,000 in total per annum – yes? A. Yes.

24 Q And the number of discretionaries, as you have constructed the age related counterfactual,
25 we see, is 1.18 million as opposed to 0.38 million under the Legacy MSA? A. Sorry,
26 could you repeat that?

27 Q The number of discretionary replacements that one gets under each of the two scenarios, if
28 it is from this table we see it is 1.18 million discretionary replacements that we get under the
29 ARC, from the table? A. Which table?

30 Q From my hand up, if you look at my hand up and look at the right and column? A. Yes.

31 Q What we went through before lunch ---- A. Oh yes.

32 Q -- the calculation to get to the figure of, it actually says 1.22, but we have just corrected that,
33 it really should say 1.18? A. Yes.

1 Q And we are comparing that in terms of discretionary replacements to the 0.38 million under
2 the Legacy MSA on the left hand column of the same table? A. Yes, these are the free,
3 yes.

4 Q So what I am saying is that it is hardly surprising, given the way that you have constructed
5 your counterfactual, when one finds it is much cheaper under the age related counterfactual,
6 because you are simply giving away lots of meters for free? A. The derivation of the
7 figures and the difference was clearly set out, so earlier on we discussed annex 7 of the
8 Decision and the table there which had this shortfall of 0.31 and I think I explained the basis
9 for that was that the number of free replacements, under the age related contracts are similar
10 to the CMO contracts was related to those meters that were 20 years or more, but in addition
11 those younger meters that had been subject to policy replacements ----

12 THE CHAIRMAN: Yes, what is being put to you is that the reason why you end up with a lower
13 amount of money being paid is because under the age related counterfactual there are more
14 free replacements in the first three years than there are under the Legacy MSA, and you
15 agree with that? A. There certainly are more free discretionary replacements in the first
16 three years.

17 MR. PICKFORD: Thank you.

18 THE CHAIRMAN: Whether that undermines the value of the counterfactual is another point, but
19 that is at least where we have got to.

20 MR. PICKFORD: If we could go, please, to the defence, which is at bundle CB1, tab 3, p.575,
21 para.235. We see here Ofgem's explanation of why it says we are wrong when we say:
22 "235. NG contends that the counterfactual does not compare like with like
23 because it "assumes what it purports to prove" (NoA §516). This argument is
24 difficult to comprehend, as it is entirely unclear what NG says the counterfactual
25 "assumes".

26 Then it goes on:

27 "236. At NoA §514, NG says that the counterfactual assumes, "that gas suppliers
28 contract for smaller volumes than those envisaged by the Legacy MSA". But this
29 is wrong: the counterfactual assumes that suppliers contract for the same volumes
30 as under the Legacy MSA. The counterfactual proves that, given the same
31 assumed starting point, it would then be cheaper to terminate individual Meters
32 under the counterfactual than under the Legacy MSA."

33 Now, we have seen from Annex 7 that that is wrong because in fact there is a difference of
34 300,000 meters between the two counterfactuals? A. This morning I discussed the issue

1 of the contracted starting point, and highlighted that the contracted starting point assumed
2 was the same. The basis of the revenue commitment in relation to that was different in that
3 the commitment was conditional under the ----

4 Q The starting point is the same, but over the next three years, because we have seen how the
5 contract developed, there are 300,000 more meters because of the particular age profile that
6 are given away for free under the age related counterfactual as opposed to the Legacy MSA.
7 We saw that in Annex 7? A. Yes, but I believe the point you referred to was concerning
8 the commitment, is that right?

9 Q Okay, I will not revisit that, because we went over that ground, madam chairman, this
10 morning.

11 THE CHAIRMAN: Yes.

12 MR. PICKFORD: I think I put to the witness what National Grid's case is on that.

13 THE CHAIRMAN: Yes.

14 MR. PICKFORD: Next point, para. 237:

15 "NG says that the counterfactual assumes, "a different glidepath". This complaint
16 is obscure, since there is no 'glidepath' at all under the counterfactual."

17 We are clear now there is an implicit glidepath under the counterfactual, is there not?

18 A. As I said one can think of it that way.

19 Q Thank you. Third point:

20 "At NoA §516, NG says that the counterfactual, "assumes that gas suppliers are
21 allowed more "free" Meters". Again, this is plainly wrong."

22 We looked at the first three years and you told me very clearly before lunch, yes, there are a
23 lot more free discretionary replacements under the age related counterfactual as compared
24 to the Legacy MSA? A. Yes, I believe that statement, or I would expect that that
25 statement refers to Annex 6 and Annex 7 of the Decision where I think there is some
26 comparison as well with PPMs.

27 Q It refers to Annex 7 and we have been there before, and we do not need to revisit it? A. I
28 am sorry, I mean Annex 7 and Annex 8 I should have said – no, it is all Annex 7.

29 Q It says here "Annex 7", we have been to Annex 7 and I do not propose to go back to it,
30 everyone can go back to it at their leisure, but it says quite clearly that there are more free
31 replacements ---- A. More free DCMs.

32 Q More free DCMs under the age related counterfactual than the Legacy MSA. So 238 is
33 wrong too? A. As I say, I think the ----

34 Q Could you just answer please whether it is right or wrong?

1 THE CHAIRMAN: Well he is answering, Mr. Pickford. A. I believe that statement would
2 relate to the overall assessment in Annex 7 which also takes account of the PPM position
3 and comes out with I think a 0.28 million balance the other way for PPMs, and essentially
4 says that overall there is not much in it.

5 MR. PICKFORD: I am just focusing on DCMs, your analysis in the Decision, we agreed at the
6 outset, only makes a comparative analysis of costs for DCMs, so it is irrelevant, is it not, to
7 suddenly bring PPMs back into the picture?

8 THE CHAIRMAN: But the point, Mr. Pickford, is that you are putting to him that this statement
9 in 238 is inconsistent with what he has previously said, and he is saying "No", this
10 statement relates to DCMs, and PPMs, and our discussion so far has related to DCMs.
11 Now, it may be that you are right in saying that PPMs are irrelevant, but if that is what this
12 statement in 238 relates to ----

13 MR. PICKFORD: It is a matter for submission.

14 THE CHAIRMAN: It is not necessarily inconsistent, that is all that he has really said.

15 MR. PICKFORD: Thank you, madam, I am content with that. Finally, on the subject of the cost
16 comparisons, it is important to establish a point that is liable to confuse, perhaps even more
17 than some of the other points we have canvassed, which is that you cannot make a straight
18 comparison of a PRC that is payable under an age related contract with a PRC under the
19 Legacy MSA, you have to look at the total cost of replacement, you cannot simply look at
20 the PRCs, that is right, is it not? A. No, you have to look at the total cost of replacement,
21 I am sorry.

22 Q Okay, I will develop the point, perhaps if we could go to figure one at para. 42 of the
23 witness statement of Mr. Matthew, his first witness statement, in bundle WS1 at p.926. Do
24 you have figure one, Mr. Keyworth? A. I do.

25 Q What this figure is illustrating is that when one pays a PRC under the Legacy MSA, if one
26 is in that band, then what happens is the glidepath then shifts downwards so that one still
27 maintains an even profile of replacement for the remaining years of the contract, and that is
28 illustrated by this graph. You would accept the principle of the glidepath adjustment first?

29 A. Yes, I do not think there is any question over ----

30 Q And you would accept that this graph is an illustration of what happens graphically?

31 A. Yes.

32 Q Now, when you pay a PRC under the Legacy MSA you do not merely buy out a meter
33 rental obligation in the year that you pay the PRC do you, you also buy out meter rental
34 obligations in all of the future years of the contract because of the adjustment to the

1 glidepath, that is correct, is it not? A. Yes. I think I put it rather differently - that you are
2 not able to merely buy out a year -- that it's a requirement to also buy out an additional shift
3 in the glidepath.

4 Q Of course, if we were in the BLR band that does not occur - you just buy it out on a year-
5 by-year basis, but what you say is true - if we were in the PRC band one buys out that year
6 and a whole stream of future years' rental under the contract. A. By necessity.

7 Q Yes. So, let us suppose that we are buying out, say, 100,000 meter years in Year 1, because
8 it is on 100,000 meters (that is what is assumed in this particular graph). The general
9 principle is that if one then adds up all of the adjustments thereafter we find that we have
10 bought out a much bigger number of meter years. It would be roughly in the order of about
11 1 million meter years - if you pay the PRC right at the beginning of the contract. A. That
12 sounds reasonable. I haven't checked the numbers, but, yeah.

13 Q So, the payment of one PRC and 100,000 meters bought us out one million meter years
14 roughly. Again, the exact numbers are not at all important. (After a pause): Now, if we
15 compare that with what a PRC buys under the age-related counterfactual -- Again, let us
16 assume that we pay a PRC in the first year of an age-related counterfactual on 100,000
17 meters that are nineteen years old. That has just bought us out of one year of contractual
18 obligations, has it not? A. That's right, yeah.

19 Q So, that PRC has bought us out of 100,000 meter years as opposed to 1 million meter years.
20 A. That's right.

21 Q Of course, those meters would have been free to replace the next year - that is why we have
22 only had one year's worth of the contract bought out. A. Yes.

23 Q So, any comparison that is made simply on the basis of looking at one PRC, on the one
24 hand, and looking at the other PRC, on the other, and saying, "Ah-hah! Well, this PRC is
25 much more expensive" -- That would be bogus if you did not take into account the fact that
26 one PRC is buying you out of, in this example, roughly ten times as many meter years as the
27 other.. A. It wouldn't be bogus at all. It's right to say that there are other considerations
28 to take into account, but it's clearly highly relevant that if you replace particular meters and
29 that gives rise to a PRC, the fact that the requirement under one is ten times the requirement
30 under the other (or whatever the particular relationship was in your example) is highly
31 relevant. It implies that in order to go that extra step and replace those meters one needs to
32 justify whatever saving is involved over a hugely greater volume of replacements. So, I
33 think it's highly relevant. It front-loads the costs and essentially requires the replacement to
34 be profitable over a much larger number.

1 Q That is only the case if we are into the PRC band, because that is not a feature of the BLR
2 band, is it? That happens on a year-by-year basis. A. There are other issues which arise
3 in relation to the BLRs, but I think the PRC position is extremely clear. I think my
4 comments on Mr. Matthew's Table 3 in the statement emphasise the extent to which the
5 front-loading of payments arises. It seems to me that what that does is that it raises -- it sort
6 of presents a form of discontinuity in the replacement incentives. So, the fact that you get
7 this option is clearly something to be borne in mind. The critical factor that I guess Ofgem
8 is concerned with is that the effect of that is to raise the cost of just stepping that bit further
9 out in terms of replacements.

10 Q Just return to the graph, to Figure 1. In relation to the Legacy MSA we do know that the
11 area under the dotted line is the total original volume commitment in meter years, is it not?

12 A. Yes.

13 Q So, if we just assume a nominal figure for rental per annum and we ignore complications
14 like discounting, etc., we can think of that area under the dotted line as representing the total
15 value commitment under the agreement. We are just focussing on the Legacy MSA here.

16 A. Yes.

17 Q The PRC, -- We can see what the PRC is effectively doing. It is buying us out of that
18 triangle which is the area between the dotted line and the red line in the graph. A. Yes.

19 Q So, it is compensating National Grid for the loss of revenue that it would have had had those
20 meters continued to have been rented. A. But they may continue to be rented.

21 Q Yes. Had they continued to have been rented. It is a form of compensation effectively to
22 put National Grid back in the position it would have been in. A. No. It involves a
23 projection, does it not? Those meters may indeed still be rented. There are no decisions in
24 relation to those meters. They haven't been made yet.

25 Q On the assumption that one then does take advantage of the lower glidepath -- I take it you
26 may disagree with that assumption, but on that assumption that would be correct, would it
27 not? A. On that assumption. But, as I say, to justify that, that implies a much bigger
28 replacement programme in the first place than would necessarily be required to justify the
29 one-tenth cost of the PRC in your example under the age-related approach.

30 Q (After a pause): Assuming that gas suppliers do take advantage in future years of their
31 reduced rental obligations, whatever PRCs are paid, at whatever point during the remainder
32 of the agreement, what we see is that the total initial triangle -- the large triangle underneath
33 the dotted line simply gets divided up into lots of different triangles, some of which may be
34 PRC payments, some of which will be the remaining rental commitments. But, however

1 we pay PRCs, what we are doing is simply dividing up a single cake which is underneath
2 the dotted line in different ways, are we not? A. That's the revenue side of the equation.
3 That's what National Grid gets. But, what does the customer get for that minimum
4 guaranteed revenue commitment? You know, another way of thinking about the shift to the
5 glidepath is that it reduces what the customer gets for that minimum guaranteed revenue.
6 So, it's insufficient, I think, to simply say, "It's the same revenue. Therefore it's irrelevant"
7 because what the customer gets for the same revenue will be dependent on the shift.

8 Q As we said, it is on the assumption that the customer takes advantage of the reduced rental
9 obligation under the contract. A. Exactly. One needs to assume that that future shift is
10 precisely what is required, and in doing so that increases the essential up-front investment
11 requirement in the first place.

12 Q Okay. Thank you. We have heard a lot of discussion about the term 'age-related'.
13 Potentially sometimes there have been different interpretations of what one means by 'age-
14 related'. Now, we have used it as a shorthand for comparing the counterfactual in the
15 Decision with the Legacy MSA. What I would like to do now is adopt a different definition
16 of age-related and see what you say about that definition. It is hypothetical again, but I
17 think it is a relevant exercise. I am going to define 'age-related' now as an age-related PRC
18 is one which is a function of the number of years that you have been renting a meter when it
19 is taken out. So, rather than being a function of its age in terms of installation or in terms of
20 manufacture, I am now defining it merely in terms of the number of years that you have
21 been renting from the beginning of the contract. Do you understand the distinction I am
22 making? A. You have been renting the individual meter?

23 Q Well, you have been renting meters under the contract. You take a meter, say, in Year 8. I
24 am saying an age-related PRC is one which is a function of the fact that you are taking
25 meters out in Year 8. A. Yes. So, are you ignoring all rental before the beginning of the
26 contract?

27 Q I am simply saying that the PRC is a function of the date that you take it out, measured from
28 the beginning of the contract. A. Okay.

29 Q That is the definition. On that basis, if we define age related in that sense – I realise that is
30 not the basis on which we have previously considered it – if we define it on that basis then
31 the Legacy MSA is a form of age related agreement, is it not? A. Yes, on that basis.

32 Q Thank you. Can we look at sunk costs? A. Can I clarify my last answer. I don't think it
33 is really as straightforward as that. It is true that the way that the PRCs work is such that
34 the PRC that would be payable in year two is less than the PRC that would be payable in

1 year one on all meters that incur it, and that continues to decline over time. I'm not sure
2 that it's as straightforward as to say that that necessarily makes the PRCs that would arise
3 age related. I think it's yes ----

4 Q Perhaps if we go to this ----

5 THE CHAIRMAN: I think we should leave that point where it lies currently.

6 MR. PICKFORD: Can we go on to sunk costs. You have referred, as has Ofgem, to the idea of
7 customer specific sunk costs. A. Yes.

8 Q There are number of points in your report. What customer are you referring to there? Is it
9 the gas supplier or is the gas supplier's domestic customer? A. What I have in mind
10 would be the gas supplier's domestic customer.

11 Q Thank you. If we go to your witness statement at para.74, please. You say here:

12 "In the light of some of the comments on this matter ... the term 'customer
13 specific sunk costs' as used above, and at various points in the Decision, merits
14 some attention."

15 THE CHAIRMAN: Where are you reading from?

16 MR. PICKFORD: Sorry, I am reading from para.74.

17 "It is clear that the actual costs of installing any given meter will depend on a
18 range of factors that may differ to some extent from one installation to the next
19 (for example, as a result of density considerations). However, meter operators
20 typically set rental charges on the basis of assessments of the average costs of
21 providing meters (with the temporal and geographical extent of that averaging
22 varying to some extent between meter operators). This effectively results in
23 some averaging in the process by which customer specific sunk costs are
24 allocated to specific meters, and the use of rental payment commitments (and
25 early replacement charges) that relate to specific meters, may thus (and in the
26 CMO contracts do) seek to provide for the recovery of an averaged level of
27 customer sunk costs in relation to any given meter.

28 References to 'customer specific sunk costs need not, therefore, be understood
29 as implying that an assessment of the actual costs that were incurred in
30 providing specific meters is required."

31 It is clear, therefore, from that that your view is that customer specific sunk costs do not, in
32 fact, represent the actual customer specific sunk costs in relation to a given meter?

33 A. Yes, they don't need to do that.

1 THE CHAIRMAN: Could you please speak up for the transcribers who have said that they need
2 you to speak more clearly into the microphone.

3 MR. PICKFORD: The Decision makes quite a lot of the idea of customer specific sunk costs, so
4 briefly, if you are able, Mr. Keyworth, why is it, in your view, legitimate to have a
5 divergence between actual sunk costs and costs recoverable in a PRC? A. I think there
6 are different issues that arise here. The reason the Decision takes particular account, I
7 believe, of customer specific sunk costs is to address this general concern that has been
8 highlighted in a range of places, including Dr. Williams, and so on, of the potential for the
9 meter to be replaced before it is possible to recover the costs of replacing it. The fact that
10 once it is installed in a given property that particular meter will be not a close substitute for
11 any provision of gas metering in any other property. There is the general reason why
12 customer specific sunk costs are taken into account and why in a rental context one might
13 consider some form of rental commitments to be a form of normal competition. There's a
14 slightly different issue which is concerning, I guess, the general question of amounts of
15 recovered levels, which is a slightly different issue, a sort of broader sunk costs question.
16 I'm not sure if that's what you're ----

17 Q It is not really quite answering my question. Maybe I could put it this way. You would
18 recognise that there may be practical issues on costs associated with ascertaining the actual
19 sunk costs of installing a given meter – do you agree with that? A. Yes.

20 Q Therefore, it is efficient and practicable to engage in some degree of aggregation?
21 A. Yes, there's some degree of averaging, yes.

22 Q If we turn on in your witness statement to paras.78 and 79, in para.79 you say:

23 “However, the Decision takes account of the fact that commitments to future
24 rental payments (and associated provisions for early replacement charges) are a
25 feature that is observed in the other contracts in the relevant market ... These
26 contracts were examined in order to identify the specific means by which –
27 through rental payment commitments and associated early replacement
28 charging provisions – these contracts sought to address the fact that meter
29 provision gives rise to customer specific sunk costs. The age related
30 counterfactual in the Decision was defined so as to include early replacement
31 charging provisions that were in a form that these contracts indicated to be
32 sufficient to address this fact ...”

33 The form alone is not going to be sufficient necessarily to address the issue of customer
34 specific sunk costs, is it? To give you an example, if I have an age related contract with

1 PRCs so that a 19 year old meter costs 5p going up to 95p for a one year old meter, you
2 would not expect that to be sufficient to address customer specific sunk costs, would you,
3 necessarily? A. No, not necessarily, no.

4 Q It is more than simply the form that we are interested in, it is the form and how it is
5 calibrated? A. Yes, but to be clear on that, the issue that we are talking about here is the
6 provision of rental commitments. So we have calibration with a rental charge. We are
7 talking about the commitment to payment of that calibrated rental charge going forward.
8 The long term contract aspects, the form of those are taken by reference to other contracts in
9 the market as albeit an imperfect assessment of normal competition. The calibration is
10 related to the rental charge in question.

11 Q You do not know whether the CMO contracts do, in fact, recover CMOs' customer specific
12 sunk costs, do you? A. No. As Professor Grout said yesterday, I think, one would expect
13 these sorts of contracts to give some degree of cover and security for the meter operator.
14 The extent of the degree is a question – I believe there's some reference to that in some of
15 the factual material, a factor sharing between British Gas and the CMOs.

16 Q You do not know whether the PRCs and the CMO contracts were included for the purpose
17 of recovering customer specific sunk costs, do you? A. "Purpose" is a rather different
18 issue. There is "purpose" in the sense of how precisely they thought about it and what they
19 had in mind. What we are talking about here is an underlying economic rationale.

20 Q If we go to paras.82 to 83 of your witness statement, it is quite clear from that, if one reads
21 that, that your understanding of the CMO contracts is that the purpose of the PRC is to
22 make good on the rental commitment. Indeed you say in the second sentence of 83:

23 "An important feature of these contracts is that they include commitments to the
24 payment of future rental charges such that the replacement of meters may give rise
25 to a requirement to pay early replacement charges (to make good on these rental
26 commitments)"

27 A. Yes, I would have to say, reading that now, that is a slightly circular comment that I have
28 made there because obviously the PRC defines the rental commitment. I think the rental
29 commitment is whatever it is that you have said you are going to pay when this situation
30 arises.

31 Q The problem is otherwise the meter provider risks getting a lower present value out of the
32 contract that he would otherwise have done? A. There is clearly a possibility of that, yes.
33 There again, one comes to the degree of protection and so on.

1 Q You have not carried out any investigation of CMOs' sunk costs, any analysis of that in the
2 Decision? A. No.

3 Q And the same is true of National Grid's sunk costs, you have not carried out any
4 investigation of National Grid's sunk costs? A. No.

5 Q If you would please go to the defence at para. 212, CB1 again, tab 3, p.569. It says here:
6 "212. As noted in §4.161 of the Decision, it was legitimate for NG to seek to
7 recover its customer specific sunk costs but this is not what it did in the Legacy
8 MSAs. NG may not have been able precisely to determine unrecovered customer
9 specific sunk costs but it could have calculated a reasonable estimate for the
10 Legacy Meter population as a whole, for example, by subtracting from the historic
11 asset value the reuse value of any Meters if removed at the date of the calculation.
12 This figure could have been used to generate age-related PRCs. These age-related
13 PRCs could then have been tested in the market with the suppliers."
14 You presumably agree with that statement? A. I look at that statement and it seems to me
15 that there is really a rather different point being made, which is the point about taking
16 proper account of the voided costs and residual values and so on in the consideration of
17 sunk costs.

18 Q You agree with that statement there, it is in the defence, do you agree with it? A. Well I
19 suppose I am trying to interpret what it is saying first of all. I do not disagree with it but I
20 am just trying to understand what the key ----

21 Q Okay, neither you nor Ofgem carried out the exercise that is described in that paragraph, did
22 you? A. No.

23 Q So you have no idea what PRCs would have been had that exercise been carried out?
24 A. No, I suppose one relevant point where I know Ofgem paid some attention on this issue
25 was the residual value point. I am not sure if Mr. Smith refers to that in his statement, but it
26 is very clear; I refer to it in my statement by way of example, it is very clear that the
27 potential for the refurbishment of PPMs has given a significant benefit to National Grid in
28 the provision of new and replacement PPMs, because the price at which the refurbished
29 PPM can be provided ----

30 Q That is not true in relation to DCMs, is it? A. As I understand it certainly the Legacy
31 DCM stock has got little use at all but PPMs are obviously still part of the decision and
32 overall assessment.

33 Q Because you did not carry out the exercise in para. 212 you cannot know how the PRCs that
34 would have been calculated, had you done that, would compare either to the PRCs in your

1 age related counterfactual, or to the PRCs in the Legacy MSA? A. No, really the critical
2 line there is the final line, the test is in the market. There is a general ‘mark to market’
3 question in the whole issue of the value of National Grid’s assets. Clearly National Grid
4 went to market to negotiate in 2002, 03, 04 – the beginning of 04 and so if one was going to
5 take a view on the value of National Grid’s past investments there will be a question of
6 what the market value of those investments was at that time.

7 Q Ofgem’s case is that National Grid is dominant. We only consider the issue of abuse on the
8 assumption that National Grid is able to behave to an appreciable extent independently of its
9 customers and others. Had National Grid gone through the exercise that is described there,
10 and said “These are the PRCs, and you can take it or leave it” what we do not know is what
11 those PRCs would have come out at, do we, because no one has gone through the exercise
12 of calculating them? Before getting into any bargaining if National Grid had said: “Here
13 are your PRCs calculated on that basis”? A. You are talking a kind of historic cost RAV.

14 Q Historic costs as described in para.212? A. I am not sure, does para. 212 refer to the
15 valuation basis on which – I do not know what was in mind there, but it would seem to me,
16 as is very common in liberalisation context ----

17 THE CHAIRMAN: You are being asked, as no one has carried out the exercise described in 212
18 no one knows what PRCs would have come out? A. No.

19 Q It seems to be an unobjectionable statement.

20 MR. PICKFORD: Now, in your witness statement, you admit at para. 80 that you and Ofgem do
21 not know whether the CMO contracts are, in fact, the most appropriate counterfactual or
22 not, do you not? Do you remember that? We can go to it? A. Yes. I refer to the
23 Decision on that and it seems to me a perfectly sensible and reasonable position.

24 Q We know that your analysis focuses on the first three years of the Legacy MSA, when you
25 say competition was nascent? A. Yes.

26 Q And during that time, there was no switching out of dumb meters for smart meters, was
27 there? A. No, well not that I am aware of.

28 Q The sort of switching that we are envisaging is “dumb for dumb” to coin a phrase? A. To
29 use that terminology, yes.

30 Q And if your particular concern is dumb for dumb switching and potential impediment to
31 that, you would not choose as your counterfactual a contract that made no provision at all
32 for that kind of dumb for dumb switching, would you? A. I assume you are referring to
33 the ambiguities that have arisen in relation to the precise treatment of this kind of dumb for
34 dumb replacement situation, the CML and the Meter Fit’s contracts.

1 Q Madam, it may be helpful if we go to those, not necessarily the contracts themselves, but
2 the correspondence that summarises the discussion in relation to that, just briefly, if you are
3 content with that. If we can please go to CRB 3, and if you go please to p. 921. What we
4 see here is a letter from Ofgem, this example is to United Utilities, but there are so many
5 examples to everyone, requesting information about various issues to do with the contracts
6 including dumb for dumb switching. We see then a response on behalf of CML submitted -
7 ---

8 MR. RANDOLPH: I hesitate to interrupt my learned friend but it is my client's contention that
9 this response is confidential.

10 THE CHAIRMAN: It is not marked in any way in my file, Mr. Randolph.

11 MR. RANDOLPH: It is not marked, we did not put this bundle together.

12 MR. PICKFORD: Okay, we will not go to Meter Fit.

13 MR. RANDOLPH: I am grateful.

14 MR. PICKFORD: If we could go, please, to the response on behalf of CML, which is what I
15 mentioned, at p.932. Here we see Slaughter & May responding on behalf of CML and
16 saying what their position is in relation to the various questions that had been asked. We
17 see that they produce a table on the third page of their letter which says,
18 "Is BGT contractually entitled to appoint other CMOs other than CML to replace an
19 installed CML meter with a smarter meter?"

20 The response is,

21 "Initial period [that is the first five years] no CML has exclusivity during the initial
22 period. So BGT cannot appoint another meter operator".

23 Then, for the secondary period,

24 "Yes, after the initial period is expired BGT is free to appoint the meter operator of
25 its choice".

26 But then, when one goes on to look at Question 9 to assess whether it can be done in
27 relation to like-for-like, dumb-for-dumb meters, what we see said by CML at this point in
28 response to the question,

29 "Is BGT contractually entitled to appoint other CMOs, other than CML, to replace
30 an installed and properly functioning CML meter with another meter which is not a
31 smarter meter, i.e. like-for-like exchange?"

32 It is, "No" during the initial period and then the response for the secondary period is,

33 "Yes. However CML meters can only be replaced by the new meter for a specific
34 set of reasons --"

1 - And then there is a number of specific sets of reasons there, none of which would
2 generally apply to allow a general dumb-for-dumb replacement. You see all of that. A.
3 Yes.

4 Q I am helpfully instructed that the British Gas answer is the same. If one goes back to p.928
5 and reads paras. 9 and 10 -- As I understand it, apparently Ofgem says this may be
6 confidential. So, if that could just be read to yourself -- (Pause whilst read):

7 THE CHAIRMAN: That seems to be giving a different answer, at least in respect of the
8 secondary period.

9 MR. PICKFORD: There it says it is not specifically envisaged. So, there is potentially a subtlety
10 there, but ultimately it is not envisaged - i.e. it will not happen.

11 MISS CARSS-FRISK: You need to look over the page.

12 MR. PICKFORD: (After a pause): There may be some difference of view between British Gas
13 and CML in relation to the intricacies of the contract. The point that I am putting to you
14 does not depend on that because I am not suggesting that because these contracts are in this
15 form, therefore National Grid should be able to behave in this way. That would be wrong.
16 What I am putting to you is that these contracts are in a completely different form with
17 different objectives and a different context to the Legacy MSAs. For a start, for the first
18 five years of the contracts they are restricted to replacement only by the CMO itself. A.
19 That's concerning the installation activity that these provide for. These are new entrants
20 coming into the market, and British Gas has provided them with some commitments that
21 they obviously re-negotiated, and so on. But, in relation to installation activity, as part of
22 that, aside from National Grid's maintenance replacements, then they have exclusivity in
23 that period. That seems to me to be a rather separate matter.

24 Q The point is that a contract, by its nature, is an overall deal, is it not? The parties accept
25 some points which are in their favour. They potentially concede others. So, it becomes
26 very dangerous to then try to cherry-pick out of a particular contract, given its overall
27 context, to extract terms and then say, "Ah, well, we can use these terms because we like
28 these terms, but we won't use the other terms" because what one is omitting is the general
29 context for the negotiation between the parties. A. The fact that there is an initial and
30 then a secondary period suggests that the two aspects of how installed meters are addressed,
31 and the installation activity can be, and are, un-bundle-able within those contract structures.
32 There are other features - maintenance in places is allowed to be un-bundled ----

33 THE CHAIRMAN: Are you saying, Mr. Pickford, that in the secondary period if British Gas has
34 decided to change to a new CMO, different from the one with whom it has been dealing for

1 the first five years, that it is a breach of contract for that new CMO to swap out a CML
2 meter unless it is for this technology replacement purpose or a functionality change?

3 MR. PICKFORD: Yes. In that secondary period you can either do it for a technology change, or,
4 as we see on p.935, from the letter from Slaughter & May (and obviously ultimately this
5 will be an issue for legal submission, but certainly this is CML's understanding at p.935, in
6 answer to Question 9) -- There is a specific set of reasons - functionality exchanges, etc. -
7 but there is no general provision allowing like-for-like meter replacement in the CMO
8 contracts. A. I wouldn't dispute that.

9 MISS CARSS-FRISK: Obviously I should just make it clear that that is not our understanding in
10 that we understand from p.929 that it goes broader than that.

11 THE CHAIRMAN: It seems rather late in the day for this now to appear to be a matter of
12 contention as to what can be swapped out. After the twenty years, then, which is the whole
13 length of the contract with the CMOs, then of course everything can be swapped out; is that
14 right? A. Madam, could I make a few observations on this point?

15 MR. PICKFORD: I think we believe that is correct - after twenty years. The secondary period is
16 the period between Year 6 and thereafter.

17 THE CHAIRMAN: Thereafter until when though?

18 MR. PICKFORD: We are not 100 percent confident about after Year 20, but for the purposes of
19 this question in my submission it does not really matter because what I am putting to this
20 witness is that Ofgem is interested in the first three years of the agreement, during which
21 point it was just dumb-for-dumb. I am suggesting it is not necessarily a very good
22 benchmark to go to a contract which, during an equivalent period, and indeed at least for the
23 entirety of the twenty years, and potentially even thereafter, there is no dumb-for-dumb
24 meter replacement generally envisaged. A. If I may make a number of points on that,
25 because I think it covers some different issues -- The first point I would make would be that,
26 clearly, the first notion of looking at the first three years (as the assessment focused on in
27 the Decision) as being equivalent to the first three years of a new entrant's installation
28 contract seems to me to be very far away from an appropriate comparison. The National Grid
29 contract is clearly more akin, if you like, to the secondary period of the CMO contract
30 where the question is, "Might a third party replace the meter?"

31 Secondly, I would say that while I am aware, clearly, from having seen the Ofgem letter,
32 and since writing my statement, that there is more ambiguity than I had certainly been made
33 aware of at the time when I wrote this. There isn't such ambiguity in the UMS contract.
34 The UMS contract does include a catch-all term with respect to replacement in the

1 secondary period by another party. In all three of the contracts, the Meter Fit, CML and
2 UMS, the basis for compensation if a meter is taken out is very clearly defined as an age
3 related structure. That structure is set out. That very clearly provides the basis for valuation
4 that was understood by the parties in addressing replacement questions. The two contracts
5 where there appears to be ambiguity, this doesn't seem to have been specified, as I can
6 gather it, the Meter Fit and the CML contract, were both contracts which involved the
7 agreement of fixed price nominal terms, rental charges on installation, and thus these rental
8 charges will decline in real terms over the life of the meter. As you start getting through the
9 life of the meter, there presumably would be very low rentals in real terms. It's possible – I
10 am conjecturing – that in that context, thinking about comparative rentals down the road
11 was not considered by the parties as such a major issue. I come back to the point ----

12 MISS CARSS-FRISK: I am sorry, we are actually struggling a little bit to hear Mr. Keyworth,
13 even here. A. I am sorry. I would come back to the point that these contracts explicitly
14 set out an age based framework for the valuation of replaced meters.

15 MR. PICKFORD: Thank you, Mr. Keyworth. If we can move on, please, to some questions to
16 do with the realism of your analysis, you accuse Mr. Matthew of not having had sufficient
17 regard to relevant factual context, and you say that, as a result of that, his conclusions are
18 unsound. Do you recall that? A. Yes.

19 Q Would you accept, in fact, that Mr. Matthew's abstractions at certain points in his first
20 report are made to highlight what is driving your apparently dramatic numbers? A. I can
21 understand why Mr. Matthew examined particular issues in a stylised way, but the key
22 question is, I think, with that kind of analysis, how precisely it then relates to the assessment
23 that was undertaken in the Decision. As I see it, what that analysis did was essentially
24 abstract a very great deal and focus on a particular area over here and in doing so ignore a
25 very great deal both in terms of facts and reasoning.

26 Q Let us look at some of your analysis. We have already discussed the fact that we know that
27 Ofgem never found out about whether gas suppliers would have wanted to pay CREs or not,
28 did it? A. Not that I'm aware of, no.

29 Q Your replacement programme, your 50 per cent or 65 per cent above the million meters that
30 could already be replaced per annum, a sensible basis for ascertaining whether that was
31 realistic would have been to ask gas suppliers whether they wanted to undertake that sort of
32 programme, would it not? A. Well, perhaps I might just say, because I've noticed that in
33 many of the documents there is reference to two replacement scenarios. It seems to me, and
34 there is an annex to the Decision that considers a whole range of – I think there are nine

1 different level of increments in the first year – and I think table 4 in my statement considers
2 a number of cost implications for some of those nine that are wholly in addition to the two
3 replacement scenarios that you’re referring to. I think a broad range of scenarios were
4 considered. I think the issues to be considered in the selection of, and the consideration of
5 those programmes are in part a need to understand the workings of the contract, and so the
6 replacement scenarios need, in a sense, to be broad enough to trigger the mechanisms that
7 are in the contracts so that one can get some understanding of those mechanisms. Then I
8 think, as has been clear, having established these scenarios, regard had to be given to the
9 contracted volumes that British Gas had actually contracted for its CMOs.

10 Q Mr. Keyworth, thank you. I understand you are doing your best. There is a risk, if you are
11 not able to be a little bit more concise in your answers, that we are not actually going to get
12 through by the formal close of play today, so perhaps you could answer my question first
13 with a yes or no, if you feel able to do that, and then expand briefly thereafter, because
14 otherwise we really are going to be up against the clock. A simple question: Ofgem did not
15 ask the gas suppliers whether they wanted to undertake the kind of replacement scenarios
16 you got in your Decision? A. Not that I’m aware of.

17 Q At one point in her opening Miss Carss-Frisk suggested that Ofgem now admitted that
18 para.4.73 of the Decision, which deals with the replacement programmes, was not based on
19 actual levels of replacement that BGT had contracted for, but was by comparison to the ITT
20 figures – do you recall that? A. My recollection is that Miss Carss-Frisk subsequently
21 corrected that. The critical point was that CML, which accounts for the smallest of the
22 volumes, was the last of the contracts to be negotiated, and in order to attempt to ascertain
23 the implication of the Legacy MSAs for the volumes that were agreed to in that contract one
24 had to look at the period of the change in volumes through a negotiation process. The UMS
25 figures and the Meter Fit figures, which were far and away the largest sum in combination,
26 were based on the initial contracted volumes and the subsequent revisions to those
27 contracted volumes.

28 Q When you say “they were based on”, they were estimates derived from, were they not, they
29 were not actually the contracted figures? A. Given the way that the contract is defined, it
30 is necessary to make some estimates. They were based on what I think was referred to in
31 some of the previous evidence as the benchmark. There are some bands of volumes.

32 Q Could we briefly – and it will be brief – look at the letter of 8th July 2008 on this subject.
33 This is a letter from Ofgem. I have a copy at CB2, tab 8, p.777. Do you have that,
34 Mr. Keyworth? A. I do.

1 Q If we look at UMS, first of all, look at the table, it says “Initial 2002 contract” ----

2 THE CHAIRMAN: Those figures are all in yellow.

3 MR. PICKFORD: I am not proposing to read the figures out, thank you, madam. If we look
4 below the table we see this:

5 “This data includes both DCMs and PPMs. The Authority estimated that the
6 initial contracted UMS volumes for DCMs along were [a figure] ...”

7 So there is an estimate which splits between DCMs and PPMs. So it is not based on actual
8 contracted figures, it is based on Ofgem’s estimates, is it not? A. It is. I understand why
9 there has been lots of toing and froing on these figures. Ofgem’s view, and I’ve seen the
10 figures, I agree that once one takes into account the various considerations, the overall
11 estimates that underpinned 4.73 are, I think, reasonable.

12 Q We see the same thing if we turn over to Meter Fit, the data includes both gas and electricity
13 credit meters, the authority therefore estimated the gas meter part – the same point?

14 A. These combined figures are how the figures were presented in the contracts, which is
15 why they were done in that way.

16 Q Do you know of any other reason why the replacement scenarios were unrealistic for the
17 years 2004 to 2006?

18 THE CHAIRMAN: Which replacement, the 50 per cent and the 65 per cent?

19 MR. PICKFORD: Both. (To the witness): Do you know of any reasons, other than the ones we
20 have just covered, why they were unrealistic?

21 MISS CARSS-FRISK: I do not think we have established that they were unrealistic yet, frankly.

22 MR. PICKFORD: In which case, if that is the witness’s answer?

23 THE CHAIRMAN: You do not accept that they are unrealistic? A. No, I do not, no. I guess
24 there is a question of, I don’t know if this is what counsel has in mind, what the appropriate
25 test is – I know there are question marks over teething problems with CMOs, and this kind
26 of thing, but as I understand it that is not really the question.

27 MR. PICKFORD: There is an issue.

28 THE CHAIRMAN: Perhaps we can ask you this: if you had seen evidence to the effect that the
29 gas suppliers were not interested in exchanging large numbers of meters, or were not ready,
30 willing and able to do that, would that have meant that you used lower percentages in your
31 example than 50 and 65 per cent? A. I think one obviously has to be careful as to the
32 basis upon which such views are formed, to the extent that they are given, because
33 obviously the views of suppliers given in response to that kind of a question can be
34 conditioned on the contractual arrangements that are in place and their perceptions and so

1 on and so forth. Overall, my view is that really a range of replacement scenarios were
2 considered. I realise there has been a particular focus on this 50 and 65 per cent, that those
3 were considered together with some smaller increments and that overall those scenarios
4 capture a reasonable range of situations.

5 MR. PICKFORD: The comparison in the Decision purports to be over 2004 to 2006, does it not?

6 A. The specific assessments, yes.

7 Q But it is correct, is it not, that the actual numbers that were used by Ofgem were over the
8 period 2005 to 2007, that is right as well, is it not? A. Again, my understanding is that
9 this has all been addressed and responded to in submissions on prices and volumes and that
10 any kind of issues associated with that have been ----

11 Q I am just establishing a premise for the next question, if you could answer. Do you know
12 whether it was based on 2005 to 2007. I am putting to you that the actual analysis is not
13 2004 to 2006, it is actually 2005 to 2007? A. The analysis of the initial contracts with the
14 volumes that underpinned 4.73 I believe was related to 2005 to 2007.

15 Q Thank you. And the reason why it is relevant is because if replacement does not begin in
16 earnest until Year 2, you will have built up, under both types of agreement, a backlog of
17 potential meters you could take out, because under the age related counterfactual you will
18 not be taking them out and you have got more that you can take in the future. The same is
19 true under the Legacy MSA? A. You would have on the assessment around about
20 130,000 in the Legacy MSA because obviously National Grid would have been expected,
21 under the new and replacement MSA – if there was no CMO appointed – to have replaced
22 the policy meters and the faulty meters and the CREs, under the Legacy MSA.

23 Q That would mean that calculations in the Decision therefore were wrong because they did
24 not take account of that build up of “freebies” before replacement actually began? A. It
25 would not say they were wrong, it would say that they were potentially ----

26 Q Unrealistic? A. No, I would say there would be some lessening of the effect if suppliers
27 sought to delay their replacement activity.

28 Q Thank you. We saw from an earlier graph that we went to previously, and I do not intend to
29 go back to it, it is the one in the Decision where we see that meters have varying ages, there
30 were varying populations of meters of 20 years or above. Did Ofgem ever ask gas suppliers
31 whether they preferred a free, steady replacement profile to one that potentially varied
32 around from year to year? A. Not that I am aware of.

1 Q The 850,000 non-discretionaries' assumption that you use in your analysis, if there were, for
2 example, only 500,000 non-discretionaries a year, there would be much less chance of
3 getting stuck in the BRL band, would there not? A. There would be less, yes.

4 Q You used the figure of 850,000 because you say it was considered reasonable to assume that
5 suppliers would in aggregate expect to have to replace around 850,000 DCMs each year?
6 A. That's right.

7 Q Now, the key point in time therefore, for your calculation, is the expectation of the gas
8 supplier at the beginning of the contract? A. That is what is in mind there, yes.

9 Q You never (neither did Ofgem) asked gas suppliers about what their expectations were at
10 the beginning of the contract, did you? A. Not that I know of.

11 Q We also know from the evidence that we have heard so far in these proceedings that in fact
12 because of the introduction of the output based approach to replacement, 850,000 is not a
13 safe assumption for the whole of the agreement going forward? We know that now, do we
14 not?

15 MISS CARSS-FRISK: I think it may be going rather too far to say that we 'know', it is one thing
16 to say there has been evidence to a certain effect.

17 MR. PICKFORD: I am happy to put it that way: there has been evidence to that effect? A. To
18 be frank I am not really clear what there has been evidence on in that regard. The policy
19 replacement aspect of the 850,000 relates to what is called "the replacement number" which
20 is the required level of policy replacement.

21 THE CHAIRMAN: Mr. Keyworth, what is being put to you is, you based, as I understand it, the
22 850,000 on historic levels of policy replacement? A. On the levels observed in 2004,
23 2005, 2006, yes.

24 Q And there is some evidence that there may have been a change in the way that policy
25 replacements were done, which would have reduced that number. Now, what you are being
26 asked is: were you aware of that at the time you adopted the 850,000 and did you take it into
27 account in any way? A. I wasn't aware of it at the time, I was aware of it when I wrote
28 my statement. The reason I was referring to a replacement number is because my
29 understanding of Mr. Way's evidence was thus far at least in 2009, which is a whole three
30 years on from my statement, the implications of this have only been referred to in terms of
31 increasing the schedule, the numbers of meters that are made available for policy
32 replacement. National Grid have at no stage in these proceedings that I know of, provided
33 any information that the replacement number, the required level in 2007, 08, 09 has been
34 anything other than consistent with this figure.

1 THE CHAIRMAN: Is it your case, Mr. Pickford, that the gas suppliers knew at the time they
2 were negotiating with the CMOs, or with National Grid that this change was in the air, if I
3 can put it that way?

4 MR. PICKFORD: It is not, madam, no. Thank you, I think we can move on. I think we should
5 finish! We are not that far from the end, it does obviously somewhat depend on the nature
6 of the answers. Paragraph 178 of your witness statement, Mr. Keyworth, you introduce
7 what I might describe as a proportionality argument. In essence you appear to say that if it
8 is really true for instance that a £7 PRC would deter switching, then the use of a higher
9 PRC, such as £50 is not a proportionate means of protecting National Grid's legitimate
10 commercial interests; that is the essence of the argument? A. Yes.

11 Q You recognise that. Can you think of any reasons why National Grid or CMOs might want
12 to agree full payment completion, even if partial payment completion might make gas
13 suppliers generally disinclined to replace meters? A. There would still be some risk, I
14 guess, associated potentially with smart meters or some other developments. Again, I think
15 full payment completion, and, again, I think there is, as I understand it, only one contract in
16 this market which has full payment completion in the sense of a guaranteed recovery. That
17 is the Legacy MSAs. The others are conditional payment completion.

18 Q There are a number of types of risks that might eventuate, are there not? Firstly, matters
19 might change. Suddenly the government might introduce new rules. A. Yes.

20 Q It would be legitimate for a CMO or for National Grid to wish to give itself some protection
21 in that sort of circumstance. A. Yes.

22 Q Also, if there was not full protection a meter provider might well find itself in the position
23 where it is being held over a barrel by the gas supplier who says, "Well if you do not give
24 us a much better price two years down the line, we're going to switch out all your meters".
25 A. I think Professor Grout spoke on the hold-up problem yesterday

26 Q Thank you. (After a pause): At para. 159 of your witness statement, Mr. Keyworth, you
27 talk about the discovery process. You say,
28 "Quite what replacement programme suppliers might consider most efficient in the future is
29 not something that could be known fully at this stage. The harm of the Legacy MSA relates
30 to the restriction of this discovery process".

31 We are talking here, I presume, about the discovery process of gas suppliers, are we? A.
32 The discovery processes are associated more generally with the competitive process. So, it
33 would be a process that arises as a result of whoever it is engages in this market in different
34 ways.

1 Q The key player who has an interest in how many meters they have, how quickly they can get
2 rid of them, how much it costs are gas suppliers, are they not? A. They're under the
3 supplier hub principle. They're critical decision -makers here. But, they obviously are
4 affected by the offers that are put to them by CMOs and so on, and by customer
5 preferences, and so on. It's a broader statement with respect to competitive dynamics.

6 Q In relation to gas supplies, who is better qualified, would you suggest, to form an
7 assessment about how important the discovery process is amongst all of the various
8 commercial factors that they have to take into account? Gas suppliers themselves or
9 Ofgem? A. I think you're pointing at a rather different notion of what I'm talking about
10 here. The point I'm raising here is about the competitive process and the potential benefits
11 of that process, and the extent to which those benefits are very difficult to ascertain in
12 advance, particularly when one is moving from a condition of monopoly to liberalisation.
13 The notion that gas suppliers -- individual parties should be expected to sort of fully take
14 that on board seems to me rather -- Well, it's an incomplete statement of the situation
15 certainly.

16 Q Could I ask you what harm ownership of meters would have on the discovery process? A.
17 Ownership by who?

18 Q Ownership by gas suppliers. A. If National Grid had sold its meters to gas suppliers then
19 there would have been a different dynamic. You know, gas suppliers would, in some
20 respects, have essentially become meter operators because some of the customers would
21 have switched to other gas suppliers and they would have owned those meters and had to
22 come to some arrangement for dealing with that. Gas suppliers would have had to have
23 taken a view ----

24 THE CHAIRMAN: Let us not go into all the differences.

25 MR. PICKFORD: Is your evidence that that would not have harmed the discovery process? A.
26 There would have been a different trajectory of the process.

27 Q Now, you recognise in your witness statement that your replacement scenario for 50 percent
28 increase above the glidepath does not figure the PRCs. We are clear about that from this
29 morning. A. I am sorry?

30 Q The 50 percent scenario does not figure PRCs. It merely involves BLRs. A. Yes. That's
31 right. It just doesn't basically, yes.

32 Q What you say is that, "Well, a gas supplier can become stuck in the BLR band" ----

33 THE CHAIRMAN: Is that true in relation to the first year marginal cost calculation as well as
34 each of the three years in the three year average cost calculation? A. That's correct. In

1 that three year 50 percent calculation. Essentially that takes the supplier just to the point
2 where a PRC would be payable. It's not quite reached it.

3 MR. PICKFORD: As we said, your complaint is that the gas supplier can get stuck in the BLR
4 band and that increases its cost. A. That's a way of describing it, yes.

5 Q But there is an analogous situation that arises under an age-related counterfactual, is there
6 not, when you do not really have to take out -- You cannot get enough meters out of the
7 nineteen year old meters and so you have to go to the eighteen year olds and then the
8 seventeen year olds as well. A. I don't see that as analogous. I see that as a situation
9 where the costs of different activities would be defined and the schedule, if you like, of
10 costs and numbers of meters would be known in advance and suppliers could plan
11 accordingly and take their own views.

12 Q Let us suppose that you had an age-related counterfactual - this is again an assumption - that
13 had the same number of discretionary-free replacements as you have assumed for the MSA
14 each year. So, let us assume that there are 130,000 discretionaries each year. Okay? A.
15 Under an age-related ----

16 Q Under the age-related. So, it is the same number as we assumed under the Legacy MSA
17 were discretionary. A. By that you mean that there are 130,000 twenty year old meters?

18 Q I mean that there are 130,000 nineteen year olds that cost however much in the first year;
19 130,000 eighteen year olds; 130,000 seventeen year olds, etc. A. Yes.

20 Q Now, if one makes that assumption and you also assume that you can target perfectly - so, if
21 you want to take out a big stock of meters you go straight to the cheapest ones and then you
22 just keep on working down. Okay? A. Yes.

23 Q Your 50 percent replacement schedule was calculated on the basis of, as I recall, going
24 520,000 meters above your free replacement level. A. You are talking about the £50
25 figure, I believe. Yes?

26 Q We are talking about, in particular, the figure -- If we look at Table 4 at p.2068 (external
27 numbering) -- (After a pause): I am actually talking about, I believe, the fourth column
28 along where you get an average Take or Pay cost of 25; a margin Take or Pay cost of £40.
29 A. Yes.

30 Q We see there that this is a calculation of the below-the-line rentals. You have worked out
31 what the average cost would be for 520,000 over the free allowance. Now, going back to
32 the age-related counterfactual that I posited to you, where there are 130,000 discretionaries
33 each year, it will cost the same to replace an additional 520,000 above your free allowance
34 under the age-related counterfactual as constructed as it would here under the Legacy MSA,

1 would it not? A. There's a construction equivalent of the one that you are referring to in
2 Mr. Matthew's second statement. Given the assumptions that he makes in, I suppose I
3 would say, contriving that context, then that result holds, yes.

4 Q But there is in fact an important difference between the two scenarios because under the
5 age-related counterfactual you have to make all of your payments up-front so that you pay
6 for that 520,000 all in one go in the year that you decide to undertake that replacement
7 schedule, do you not? A. In the hypothetical scenario -- In NPV terms there would not be
8 a difference, but ----

9 Q No. Obviously I am ignoring things like discounting, and that sort of complication. But,
10 putting that to one side -- You pay for it up-front whereas in the BLR band you pay as you
11 go, effectively. So, you pay for a certain amount in the first year and another bit in the
12 second year, another bit in the third, and another bit in the fourth. A. Yes, but the point
13 of the assessment under the BLR band is that you have to take account of what you can
14 expect to be required to pay in future years. So, you may be paying it as you go, but it's
15 generated as a result of your decision in the first year.

16 Q Yes. It's generated as a result of your 850,000 assumption. That is what leaves you your
17 130,000 left over from the 980,000. That is why it takes you those four years to get back on
18 to the glidepath. A. Yes.

19 Q Now, if something changed after the first year so that in fact the number of non-
20 discretionary replacements fell to a lower level than you had expected, under the BLR
21 approach you could then find yourself back on the glidepath more quickly, could you not -
22 more quickly than you had anticipated if there was a change? A. If the anticipation
23 hadn't deterred you from taking the action you could find that, yes.

24 Q Yes. So, you could find your costs of that replacement programme were cheaper than you
25 had thought when you set out doing it. A. That's clearly possible, yes.

26 Q Now, if there was a similar change of circumstances under the age-related counterfactual
27 you could not row back because you would have paid all your costs up-front in the first
28 year. A. I think we're getting a little ----

29 THE CHAIRMAN: Just go with it for the moment, if you can, Mr. Keyworth.

30 MR. PICKFORD: Again, I appreciate that these are hypothetical scenarios, but they are to
31 explore with you the difference between the two types of structure. A. I guess I'm
32 struggling because the question will obviously depend on precisely what you are assuming
33 this age-related counterfactual to be. You know, the assumptions matter, I guess.

1 Q I will put it to you again. On my assumptions you cannot row back under the age-related
2 counterfactual in the same way as you can under the Legacy MSA. That is correct, is it not?

3 A. I think what's happening here is -- Because of what you have posited -- what Mr.
4 Matthew posited in his second report was essentially a world where the Legacy population
5 is split into two groups, essentially for the whole period. A pre-defined 850,000 and then
6 another 130,000 on top of that. In the first year you can only -- The 130,000 are the only
7 ones that you can do anything discretionary with, and the rest of them are non-discretionary.
8 So, in the first year you cannot touch non-discretionary or the years after, or the years after.
9 But, the critical assumption about that that is, I say, greatly at odds with the factual context
10 is that that assumes -- Essentially what you are starting to do there is to assume some actual
11 definition of the stock. Now, there is not that definition of the stock in the manner which
12 that example assumes. So, the result you get is reliant on enforcing a definition on the stock
13 that does not fit with the facts.

14 Q I heard your expanded answer. For the record, if you could simply answer 'Yes' or 'No',
15 you accept that under my assumptions - and I have heard everything you have had to say
16 about your consideration of the realism of the assumptions - you cannot go back and row
17 back under the age-related counterfactual. You are stuck with what you paid in Year 1
18 whereas you are not under the Legacy MSA. On my assumption, that is right? A. Yes, I
19 suspect that under your assumptions the change would have other effects that would
20 essentially change your ability to replace discretionary meters in future years, but you know
21 ----

22 Q My basic point is correct? A. It's fine within that context.

23 Q As I understood it, part of the discovery process is the ability of participants, including gas
24 suppliers, to react to new information as it arrives, and here we have seen a situation where
25 we have new information and gas suppliers are able to react under the BLR regime but they
26 are not able to react under the age related counterfactual regime to reduce their costs. That
27 is right, is it not? A. You mean they're not able to react under your created stylised age
28 related counterfactual regime -- it's clearly the case that if one chooses to make replacement
29 decisions, and that gives rise to PRC payments, then that involves some commitment. You
30 make a payment and that's your decision, and then you'll need to make new assessments,
31 given those decisions you've made. It's also clearly the case that in a world where you
32 can't fully ascertain the impact of your decisions now because they relate to the overall
33 stock going forward, as is the case in the Take-or-Pay zone, and in a sense the PRCs, that
34 you might turn out to be in a different place than you expected, but I struggle really to see

1 why that is part of the discovery process as normally understood in terms of the dynamics of
2 competition.

3 Q Moving on to the final area, as a matter of practice, the situation will actually be far worse
4 for an age related counterfactual because what I assumed initially was that you could target
5 perfectly. That was one of our assumptions, you go and take out all the 19s, then all the
6 18s, then all the 17s. If you relax that assumption and you assume that there are problems
7 in targeting in that precise way, it actually becomes more expensive under the age related
8 counterfactual to undertake the same replacement than it would be under BLR band. That is
9 true, is it not? A. Access issues imperfectability to target is explicitly considered in the
10 Decision and in my statement and are taken into account in the assessments that are made.
11 Clearly perfect targeting is not a realistic assumption, but neither it is an assumption that
12 was made.

13 Q On the scenario that I have taken you through my assumptions, if you relax perfect targeting
14 you find that the costs go up under the ARC relative to the MSA – that is correct?

15 A. Which scenario, the one with the 130,000 separate or ----

16 Q Yes, it was the one with 130,000 discretionary replacements each year? A. If you confine
17 the ability to make discretionary replacements to these packages, then, yes, that would
18 potentially give rise to moving into more expensive areas, but I fail to find the basic
19 assumptions that are being imposed on that to have any particular relationship with the facts
20 as they are.

21 MR. PICKFORD: Thank you, Mr. Keyworth, I have no further questions.

22 PROFESSOR STONEHAM: Mr. Keyworth, one question to which I do not know the answer – I
23 know there is many more than one question to which I do not know the answer, but this is
24 one of them: let us suppose, and this is completely hypothetical, that you happen to be a
25 supplier of gas meters and you own 90 per cent of the Legacy stock. A. Yes.

26 Q You are working under a P&M contract at the moment and there is a possibility of some
27 CMOs coming in to your market. A. Yes.

28 Q What you have suddenly discovered is that gas meters are lasting longer. No longer is the
29 average age 19 or 20 years, but the average age for a functioning gas meter is now about 25
30 years. A. Yes.

31 Q Does that give you any greater incentive to go for a Legacy MSA contract or for an age
32 related contract? It is completely hypothetical. A. An interesting question. Certainly, I
33 suppose, putting it the other way round, an effect of the aggregation process, together with
34 the practical reality of relatively substantial numbers of younger failing meters, is to extend

1 the duration of the commitments that the contract puts in place in relation to older meters.
2 The contract has that effect of essentially restricting the ability to replace older meters
3 without some kind of cost associated with it. As to the comparison with an age related
4 counterfactual, underpinning much of this have been notions of the potential for significant
5 inefficiencies to arise because you are saying: “We have these assets, they have still got
6 value, it is socially efficient to keep them in” and so on, and Dr. Williams expressed a view
7 essentially that when you reach these end contract periods that if there was much at stake
8 then people would come along and they would sort it out, and the market would sort it out.
9 I think the question would really concern in a sense determining a number of ways how you
10 might go about addressing this matter. The age related counterfactual in and of itself would
11 make these free to replace. That would give rise to competitive pressures in relation to
12 those older meters. That does not mean to say that those meters would be replaced. It
13 means to say there would be competitive pressures and those would continue, and then
14 perhaps the price of those meters would be lower to reflect their age, or perhaps some other
15 arrangements would be developed. Perhaps they would be sold to a CMO. Sorry, I have
16 rather talked my way to my answer as I am thinking.

17 I do not think it suggests that there are, if you like, unbundled, specific ways of addressing
18 that issue that I think are less restrictive of competition. It does not point to some need to
19 have an aggregate approach.

20 PROFESSOR STONEMAN: So if I take the answer as “... it is by no means obvious”.

21 (Laughter)

22 THE CHAIRMAN: Any re-examination, Miss Carss-Frisk?

23 MISS CARSS-FRISK: No, madam.

24 THE CHAIRMAN: Thank you very much, Mr. Keyworth.

25 (The witness withdrew)

26 THE CHAIRMAN: Now we will rise now until tomorrow at 10.30 unless anyone has anything
27 else they want to say. Mr. Turner?

28 MR. TURNER: Not to extend matters, madam. In anticipation of closings beginning tomorrow,
29 we thought it would be helpful now, to avoid you being deluged with a blizzard of notes, to
30 hand up two notes which will help my learned friends, because they are going to be making
31 their closings first, and assist the Tribunal. One of these is very minor, one of these is more
32 significant because it relates to the discussion with Professor Stoneman about these different
33 levels of exit charges under the MSAs, and it therefore may help shed light on at least how

1 National Grid thinks about it, and it will help the Tribunal an my learned friends. So if I
2 may hand that up? (Documents handed to the Tribunal).

3 THE CHAIRMAN: Yes, thank you very much.

4 MR. TURNER: I will not speak to these now.

5 THE CHAIRMAN: I do not think any have made their way 'round to the Ofgem team.

6 MR. TURNER: They are in the course of moving across.

7 THE CHAIRMAN: Thank you to everybody and we will resume at 10.30 tomorrow morning
8 with closing submissions. Thank you.

9 (Adjourned until 10.30 a.m. on Wednesday, 28th January 2009)

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