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Dear Chris

THE PLACE OF HISTORICAL EFFICIENCY SCORES IN THE BENCHMARKING OF FUTURE COST ALLOWANCES AT ED1

Thank-you for your letter of 3 September 2014 to John France on the role of historical efficiency scores in the RIIO-ED1 slow track assessment. There are a few aspects of your letter that we would like to provide further explanation on, or to clarify:

- the historical efficiency scores that we presented at the Committee of the Authority (CoA) meeting;
- the reasons why we have used the WPD disaggregated model to estimate historical efficiency on a disaggregated basis, and why we consider our approach to be entirely reasonable;
- our headline result is not substantially affected when you take account of output delivery to date, or if you calculate historical efficiency scores for the whole DPCR5 period; and
- simply comparing RIIO-ED1 allowances to DPCR5 spend does not take account of the additional outputs we are required to deliver during RIIO-ED1.

The historical efficiency scores that we presented at the CoA meeting

For your reference, and for the avoidance of doubt, we set out in the table below the historical efficiency scores that we presented to the CoA on 3 September 2014. These results are based on Ofgem's two totex models, and the disaggregated model submitted to the Cost Assessment Working Group (CAWG) by WPD. In all three cases, we calculated the efficiency scores over a three year historical period (2010/11-2012/13).

DNO	Range	Average
SSE	87.0% - 90.0%	88.6%
NPG	88.7% - 91.6%	89.7%
ENW	94.0% - 97.9%	96.3%
SP	96.5% - 99.8%	98.4%
WPD	100.6% - 102.5%	101.3%
UKPN	101.7% - 110.4%	104.7%

The reasons why we have used the WPD disaggregated model to estimate historical efficiency on a disaggregated basis, and why we consider our approach to be entirely reasonable

You noted that we "have used the Ofgem totex models and substituted in the WPD model for the disaggregated modelling in order to estimate historical efficiency". Your letter also stated that you consider that "there are a number of important weaknesses with the WPD model". We would like to provide an explanation for why we used the WPD disaggregated model to estimate historical efficiency on a disaggregated basis, and why we consider our approach to be entirely reasonable.

As we have explained before, we didn't need to change anything in either of Ofgem's two totex models to calculate historical efficiency scores for these two models. In fact, the Ofgem spreadsheets already calculate historical efficiency scores for both of the two Ofgem totex models, so we were able to take these figures directly from the Ofgem spreadsheet.[1]

In contrast, the disaggregated model would require a very significant amount of structural reconfiguration to produce historical results.

In practice, it is not possible to run an historical version of Ofgem's disaggregated model

Ofgem's disaggregated model consists of around 50 sub-categories of models, and uses a range of different assessment techniques including:

- run rates (e.g. to assess asset replacement volumes of some asset categories);
- ratio analysis (e.g. business support cost model);
- regressions (e.g. closely associated indirects, tree cutting);
- survivor modelling (e.g. to assess asset replacement volumes of some asset categories);
- unit cost analysis, using one of the following options (as listed in Ofgem's global settings spreadsheet):
    - Historical actual median (2011-2013);
    - DPCR5 median unit costs (2011-2015);
    - No adjustment;
    - Median RIIO unit cost;
    - No allowance;
    - DNO submitted values;
    - Own volumes*industry median ED1 unit cost; or
    - 13 year average annual volume*average ED1 unit cost;
- expert assessments.

None of these individual models is set up to compare benchmarks to historical costs. In order for us to calculate an historical efficiency score using Ofgem's disaggregated model, we would have to produce historical modelled costs on the same basis as the forecast modelled costs have been produced. This would require a substantial structural re-working of all of these models. This is not a trivial task, and in the time remaining for this price review we do not think it is possible to complete and validate this work.

Even if this structural re-working could be done in the individual model spreadsheets, we would then have to open all of Ofgem's 116 spreadsheets and calculate them simultaneously to generate an aggregate result. We could not have confidence that this would produce robust results, once the necessary structural changes to the individual models had been completed, because there are many thousands of interlinks between those spreadsheets. The guidance

[1] Spreadsheet: Stata Output, tab: Totex, cells: AO34:AO47 and AO56:AO69

that Ofgem has provided in relation to how the 116 spreadsheets operate together is very limited. This further reduces our confidence that the overall model architecture would be resilient to us making structural changes.

In addition to that, there are a very significant number of hard coded assumptions and qualitative adjustments that are present in Ofgem's disaggregated model. Only Ofgem itself would be able to review the validity of these assumptions and qualitative adjustments for the purposes of historical analysis. We have no basis on which to evaluate the industry's historical data to replicate these qualitative adjustments, because Ofgem has not been transparent in why it made these adjustments or exactly how they were implemented in practice.

It would therefore be a very substantial exercise in terms of time and resource cost to be able to confidently re-run Ofgem's disaggregated model on an historical basis. This is therefore not a feasible exercise within an eight week consultation period.

In any case, it is not necessary to undertake this task when the WPD disaggregated model exists

The WPD model also takes a disaggregated approach. It is based mainly on unit cost efficiency, using the historical results to determine the unit cost benchmark. While we agree with Ofgem that there are significant weaknesses to the model, ultimately it is the best (and presently the only) ready-made model which is available to produce historical results on a disaggregated basis. Using it in a toolkit approach would therefore still achieve Ofgem's objective of combining an aggregate assessment as achieved through totex benchmarking, with a more detailed assessment based on evaluating many individual components of the cost base separately.

The model was developed and reviewed in detail at Ofgem's CAWG. It is also revealing that the WPD model produces similar results to the historical totex models; further illustrating that the model results cannot be entirely discarded.[2]

DNO	Totex - historical	Totex (2) - Historical	Disaggregated - Historical
SSE	88.8%	90.0%	87.0%
NPG	88.8%	88.7%	91.6%
ENW	96.9%	94.0%	97.9%
SP	99.8%	98.8%	96.5%
WPD	100.6%	100.8%	102.5%
UKPN	102.1%	101.7%	110.4%

[2] Note that the larger difference between the historical totex and historical disaggregated results for UKPN can be explained by the fact that the WPD disaggregated model does not make a regional labour adjustment, whereas the Ofgem totex models does have an adjustment.

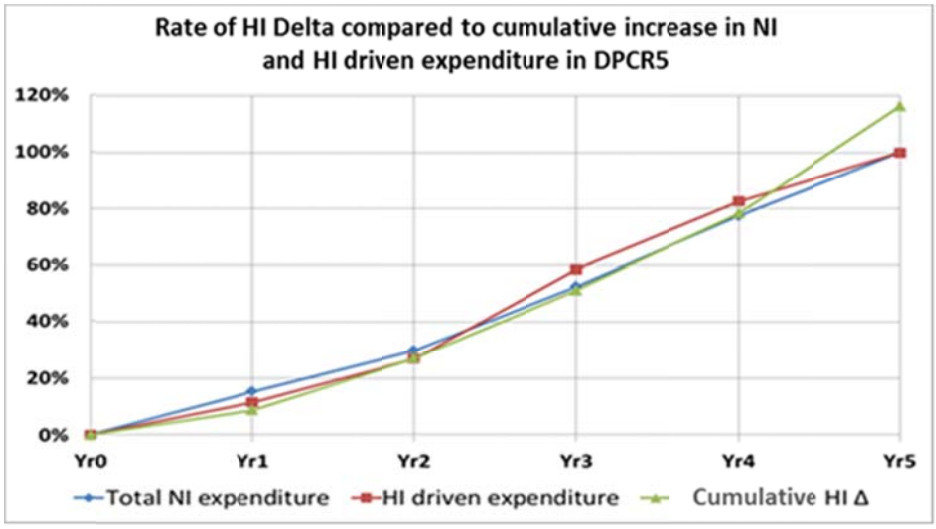
Our headline result is not substantially affected when you take account of output delivery to date, or if you calculate historical efficiency scores for the whole DPCR5 period

In your letter you stated that we "have not taken account NPg's relative position of the delivery of Health Indices, relative to CI and CML performance, customer service performance metrics etc. This means that the costs of our outputs in these areas in DPCR5 to date will be different than the other DNOs who have delivered more at this point". We welcome your feedback, and would like to provide some further analysis which we hope will alleviate your concern.

We have analysed our spend on network investment in the first three years of DPCR5 as a proportion of total DPCR5 planned expenditure. We have spent 50% of our total DPCR5 planned expenditure in the first three years of the period. This is only slightly below the industry average, which is 53%. We therefore do not consider that it would be true to say that we have delivered substantially less than other DNOs at this point.

Further, we can unequivocally assure you that our outputs and secondary deliverables are being delivered in line with expectations for the DPCR5 period as a whole. Indeed we will have a modest over-delivery of secondary deliverables relative to the levels we committed to at the DPCR5 settlement

The graph and table below present the impact of our investment over the DPCR5 period with respect to our asset health indices, and specifically in terms of the overall HI delta assessment that is now customary in Ofgem's monitoring mechanism. This shows that we are on target to deliver in excess of 100% of our DPCR5 target. Note that a characteristic of the reporting framework is our inability to claim the secondary deliverables associated with large multi-million pound replacement schemes until the assets are commissioned. In our analysis shown below, we have corrected for this by including secondary deliverables that are associated with schemes for which we have spent over 90% of total spend for that project. This shows that we are over 85% complete for DPCR5 to date, and that by the end of the period we will be around 115% complete.



Year		Northern Powergrid		
		Cumulative HI Δ	Cumulative HI driven expenditure	
			£m	As a % of HI driven expenditure
Yr1 (actual)	2010/11	8.70%	35	11.50%
Yr2 (actual)	2011/12	27.10%	82	26.80%
Yr3 (actual)	2012/13	51.20%	179.3	58.60%
Yr4 (actual)	2013/14	78.30%	252.3	82.50%
Yr5 to date		85.90%	263.2	86.06%
Yr5 (forecast)	2014/15	116.30%	305.8	100.00%

Our analysis has shown that we will have delivered on our DPCR5 output commitments by the end of the period, and if anything we will have delivered more than we committed to. As we have shown above, to the extent that there are differences in output delivery during the period, these are not significant. However, we acknowledge your concern that there could be differences in the level of output delivery between DNOs during the first three years of the period. To test whether there is a difference in historical efficiency performance, once you have taken account of full output delivery over the course of the whole DPCR5 period, we have calculated historical efficiency scores over a longer time period.

The table below shows the historical efficiency scores calculated over a range of different time periods. This confirms that, even if historical efficiency were to be calculated over a five year period, during which time our DPCR5 output commitments would have been delivered in full, our performance is still very strong. More generally, there is not a significant difference in the results calculated over different time periods.

DNO	Average historical score		
	3 years (2011-13)	4 years (2011-14)	5 years (2011-15)[3]
SSE	88.6%	90.0%	91.2%
NPG	89.7%	92.3%	93.7%
ENW	96.3%	96.3%	96.8%
SP	98.4%	100.6%	102.2%
WPD	101.3%	102.3%	102.9%
UKPN	104.7%	105.5%	106.4%

[3] In the case of the WPD disaggregated model we utilised the 3 year model since an RRP exchange has not yet been undertaken for year 4 (or 5).

We understand you are also concerned that there could be differences in the level of output delivery over the course of the whole DPCR5 period, and that this is not reflected in our assessment of historical performance over the five year period. We do not consider that this concern is warranted, for the following reasons.

- If other DNOs have substantially over-delivered on their secondary deliverables it is not at all a safe assumption that the customers of those DNOs are, as a consequence, better off. Indeed, it is not even a safe assumption that there are additional outputs arising from the over-delivery of secondary deliverables. It should be remembered that the current reporting framework has always been seen by both Ofgem and the DNOs as a proxy for the actual outputs that customers value such as safety, network resilience and levels of network risk. The suggestion that other DNOs might have stronger output delivery than us cannot therefore be made with confidence based on a measurement system that is by definition a proxy and about which Ofgem itself has expressed reservation. It would therefore not be appropriate to make any adjustment to the historical efficiency assessment on the basis of what is essentially the degree of over-delivery of secondary deliverables.
- Further, it is not necessarily the case that output performance should be incorporated into a cost benchmarking exercise. Indeed, Ofgem itself did not use outputs in its fast-track cost assessment (except for the IIS valuation for WPD, which we do not consider to be wholly justified in any case), and did not use outputs at all in its slow-track assessment. The suggestion that output performance should be incorporated into our historical cost analysis is therefore inconsistent with Ofgem's own approach to the assessment of efficiency.

Simply comparing RIIO-ED1 allowances to DPCR5 spend does not take account of the additional outputs we are required to deliver during RIIO-ED1

In your letter you also stated that "it is worth noting that our draft determinations for RIIO-ED1 cost allowances are only 2.9 per cent below DPCR5 actuals for NPgN on an annualised basis and are 0.2 per cent higher for NPgY (based on the 4 years of actual data reported for DPCR5)."

We do not consider that this comparison is helpful, as it does not take account of the additional outputs that DNOs are required to deliver during the RIIO-ED1 period, as compared to the DPCR5 period. As you know, we are proposing improvements in outputs across the board, including: a 20% shorter power cut duration; 8% fewer power cuts; a 50% improvement in accident rates; and a 30% improvement in the time taken to connect new customers. There is also significant expenditure required in relation to the low-carbon economy, and the rollout of smart meters. To provide a sense of the scale of the change required, our RIIO-ED1 submitted costs relative DPCR5 actual costs (4 years of data) were 6.1% higher for NPgN and 7.1% higher for NPgY. Our forecast increase in costs is fully explained by the additional outputs that we are required to deliver in RIIO-ED1; our like-for-like costs of running the network will fall compared to DPCR5.

Further, we consider that Ofgem's assessment of how costs should change from DPCR5 to RIIO-ED1 is inconsistent across the DNOs. While Ofgem expects us to be able to spend less in RIIO-ED1 than we are currently doing, it is allowing SSE to spend more. It is not clear to us why Ofgem considers that SSE needs extra money to deliver the additional outputs required at RIIO-ED1, but we do not. Further, Ofgem has concluded that UKPN can generate similar efficiency savings to us (i.e. we are expected to reduce costs by 4.9%, while UKPN is expected to reduce costs by 5.4. Given that our historical efficiency performance is much stronger than UKPN, it is

inappropriate of Ofgem to conclude that we should be able to generate similarly sized efficiency savings from DPCR5 to RIIO-ED1.

We trust that this letter fully clarifies and explains our approach to calculating historical efficiency scores. Given that, in our view, performing an historical analysis is essential to achieving a fair settlement, we believe that using the WPD disaggregated model was the only option available to us to perform a disaggregated assessment of the efficiency performance that the DNOs have already achieved. Of course, if Ofgem's modelling specialists consider that it is indeed possible to use its own disaggregated model to perform an historical assessment within the remaining timescales, we would welcome the opportunity to contribute to the development of that work and/or reviewing the analysis.

Yours Sincerely

Keith Mawson
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