IN THE MATTER OF AN APPEAL UNDER SECTION 11C OF THE ELECTRICITY ACT 1989

NORTHERN POWERGRID (NORTHEAST) LIMITED

NORTHERN POWERGRID (YORKSHIRE) PLC

Appellants

- and -

GAS AND ELECTRICITY MARKETS AUTHORITY

Respondent

REPLY

7 MAY 2015

SECTION A – OVERVIEW

1.1 This Reply is filed on behalf of Northern Powergrid (Northeast) Limited and Northern Powergrid (Yorkshire) Plc (together "**NPg**") in reply to the response of the Gas and Electricity Markets Authority ("**GEMA**") of 22 April 2015 (the "**Response**").

1.2 Unless addressed specifically below, NPg denies the points made in GEMA's Response. In this Reply, NPg adopts the definitions included in its NOA.

A. Introduction

1.3 The new RIIO price control methodology has represented a significant shift in GEMA's approach to regulating transmission and distribution companies. It has been a huge exercise for both GEMA and the industry to deal with that change. Whilst NPg has supported the shift to RIIO throughout and engaged with GEMA in relation to its development, this appeal is concerned with elements of the exercise that have gone wrong.

1.4 It is perhaps not surprising that, in the course of such a major regulatory upheaval, errors were made. As set out in the NOA, and considered further below, GEMA has made errors in relation to three specific parts of the RIIO-ED1 price control. Those errors are serious, they have material consequences for NPg and are matters that it is important to correct, not only for this price control but also so that the manner in which the RIIO methodology is applied in future can be as robust as possible.

1.5 In that context it is no answer to the specific points raised by NPg for GEMA (repeatedly) to refer to the effects of the mechanisms it deployed, and the broad judgements it made, in other areas of the RIIO assessment as somehow justifying the errors; for example, GEMA still claims that interpolation softens the effect of any inaccuracy.[1] Interpolation is needed to ensure that the IQI mechanism results in DNOs being better off if they put forward their best view of future costs. It does not provide some sort of "padding" to protect GEMA's Decision. If GEMA has got elements of its Decision wrong, they need to be corrected and the relevant mechanism(s) applied to the corrected base figures or methodologies.

1.6 It is also no answer to the points raised simply to reiterate a mantra that GEMA has a margin of discretion and price controls involve judgement on the part of the regulator. NPg recognises that GEMA does have discretion and does exercise its judgement: there is a range of matters in the Decision that NPg disagrees with, but it recognises that those are matters that fall within the legitimate ambit of GEMA's discretion. The three issues NPg focuses on do not.

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[1] Response, §165(b)(iv).

1.7 Furthermore, RIIO was explicitly designed to address the problems that arise from the fact that the regulator typically has less information than the companies about the costs of delivering a specified set of outputs. It does so by basing the process on "*competition for revelation*", in other words strongly incentivising DNOs to come forward with their best business plans early on in the process. In those circumstances, where GEMA has clearly specified the outputs that must be delivered and built in strong incentives for a DNO to reveal what it can do if it pushes itself, GEMA needs to have proper evidence for saying that costs need to be pushed down further in any particular category. An important common theme that runs throughout NPg's three grounds of appeal concerns GEMA's poor handling of evidence on the costs side of the equation: e.g. in maintaining the additional SGBs adjustment at Final Determination having dropped its reliance on the (heavily criticised) Draft Determination evidence, which it had used to justify the exercise in the first place; in not checking how its chosen labour price indices compared with DNOs' actual pay settlements; and in failing to "reality-check" its RLCAs in the face of robust data indicating that they were fundamentally flawed.

1.8 The fact that DNOs (and their investments in cost saving measures) are "*funded by customers*" should not alter the approach. All businesses are funded by customers and, whilst GEMA rightly has the interests of customers closely in mind when engaging in the price control process, DNOs need to be able properly to finance their businesses and deliver the outputs that RIIO requires of them. The lengthy legal exposition in the Response seeks to downplay the importance of financeability, and yet that is absolutely critical to the long term benefits to consumers being delivered. Consumers will not be well served if DNOs face erroneous and unduly limited price control decisions: the DNOs will struggle to deliver and investors will be reluctant to invest.

SGBs

1.9 In relation to SGBs, GEMA has placed hope and desire above proper analysis. At Draft Determination, GEMA sought to show that there were significant "smart" savings missing from DNOs' business plans. The evidence relied on by GEMA to support this was fundamentally flawed. GEMA itself now recognises that the evidence cannot be relied upon in any assessment of the level of the savings but continues to claim that it can be relied upon to demonstrate the fact that more savings were required. There was no good evidence that "smart" savings were missing. The evidence relied on at Draft Determination could only reasonably demonstrate "*the fact of an underestimation of SGBs*" if GEMA was confident that it was robust as to the quantum of the underestimation (whether as a specific figure, a range or a minimum), but GEMA could not be confident of that, as it (rightly) disavows the use of the evidence for quantification purposes.

1.10 But, more than that, after the revised DNOs' business plans came in under the slow-track and GEMA changed its approach, a significantly larger element of savings was categorised as "smart". In those circumstances, there plainly was no basis for suggesting that there was some sort of shortfall in such savings on the basis of the external material. Yet, undeterred, GEMA decided there must be more and engaged in an additional partial benchmarking exercise to reveal what

further "smart" savings there should have been. That benchmarking exercise was itself fundamentally flawed. GEMA was not benchmarking the actual costs of operating an actual network, or even the forecasts of costs for continuing to operate an actual network; it was benchmarking forecasts of costs saved through innovation (that was variously defined through the price control process). In other words, GEMA was benchmarking costs that were not to be incurred, rather than the more normal benchmarking of costs to be incurred. Indeed, whilst GEMA said it sought to identify and quantify "*the SGBs which DNOs could reasonably be expected to achieve*", it now accepts that it did not expect that specific SGB solutions identified by one DNO should be available to all. GEMA's approach was, therefore, wholly unrealistic.

1.11 If GEMA had not made a separate adjustment for SGBs, they would have been dealt with, entirely properly, as part of the costs benchmarking with its focus on totex rather than using different categories of spend with their attendant distortions. Had GEMA done so, customers would have benefited from the very strong incentives successfully created by GEMA through the RIIO system for DNOs to provide their best costs estimates (taking account of savings from SGBs), plus a further challenge over and above this through GEMA's cost benchmarking. And, had it done so, its Final Determination would not have indicated that WPD – the fast-tracked DNO – was inefficient on SGBs.[2]

RPEs

1.12 GEMA again preferred the unreal to the real. It maintains its reliance on flawed proxies rather than factual data. It ignored DNOs' own labour costs to assess the extent to which labour cost pressures facing DNOs differ from RPI (RPEs) without good reason to do so, and maintained a blinkered approach to the logical answers to those concerns. The justifications now provided for its rejection of direct information relating to DNOs do not withstand scrutiny. Furthermore, the indices GEMA used covering jobs outside electricity distribution do not represent the cost pressures faced by DNOs and GEMA failed to carry out any "reality-check" on them.

RLCAs

1.13 It is common ground that the ASHE database suffers from compositional bias, i.e. it does not take account of differences in regional composition of the workforce: see Response, §228. Although GEMA denies it, this caused GEMA's estimated RLCDs to be upwards-biased. Despite its attention being drawn to the implausible nature of the end result and to the methods by which that deficiency could have been remedied, GEMA focused, and still focuses, on criticising aspects of those methods rather than using them, or others like them, to establish a sound basis of assessment. GEMA does not have any proper answer to NPg's

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[2] GEMA's work on RPEs also suggested that WPD was inefficient on RPEs.

case that the compositional bias should and could have been addressed in GEMA's calculations of RLCDs.

SECTION B – SMART GRID BENEFITS

A. Ground 1A: Disproportionate, unjustified and discriminatory approach in Final Determination

Disproportionate

2.1 The DNOs were incentivised to forecast efficient costs – including by making their best assessment of "smart" savings – by the "*competition for revelation*" created by the RIIO system: by providing their best assessments, DNOs stood to obtain fast-track status with all of its attendant benefits or, at least, a "*proportionate*" review of any areas in which they were judged to fall short. They also stood to benefit from IQI income. These features of RIIO were intended to address any asymmetry of information between the regulator and the regulated entities.[3]

2.2 At §§61-62 of his WS, Mr Goldsack explains that GEMA did not require DNOs, in their business plans, "*to identify the impact of smart grids on each line item in an expenditure category*" (and instead to provide detail on the innovation in a "*commentary*"): "*…We were not therefore proposing to hold DNOs to their forecasts of specific solutions and considered the burden which would be placed on DNOs if they were required to forecast the solutions producing SGBs to this level of detail, broken down by year and precise activity area, would be disproportionate. However, we did expect evidence of consideration of smart solutions and of how SGBs could be optimised*."

2.3 NPg formulated its business plans in the light of GEMA's guidance. It did not spend time providing a line-by-line justification of costs that were *not* in the plan (i.e. SGBs), as it had been told there was no need.[4] At fast-track, GEMA raised the following concerns about the treatment of SGBs in NPg's business plan (quoting in full the two paragraphs referred to by GEMA in the Response):

> *"**Overall assessment** .... 1.17. NPg's plan contains good examples of specific network innovation and it has identified where these feed into outputs. NPg has not quantified the benefits or financial savings to customers of these innovations, or the improvement they have made to output targets however, making it difficult to assess their impacts*

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[3] SGBs is not an area where there is an obvious asymmetry of information, since they are difficult to forecast for both GEMA and the DNOs.

[4] NPg completed the two tables mentioned by GEMA at Response §149(a)(ii) and included the relevant (low carbon technology, or "LCT") savings. GEMA claims that NPg should have understood Table S1 [**Tab 3**] to cover non-LCT SGBs. However, at the time, GEMA's definition of "smart grids" in the glossary to the Strategy Decision [**NOA1/6**] concerned electricity networks that can intelligently integrate actions of all users (i.e. a definition which did not extend to innovation in general). Consistently, Table S1 was split by GEMA into the DECC scenarios for LCT uptake (the only thing the DECC scenarios were about).

thoroughly. NPg provides a strategy for incorporating smart grids into its business operations and has demonstrated how cost savings can be achieved from this. NPg's business plan considers the outputs of a number of smart grid projects but there is little evidence of a systematic review of projects run by other DNOs."

*"**Smart grids, smart metering, and innovation** 1.24. NPg's plan consistently forecasts cost savings of £31m over RIIO-ED1 from use of smart grid solutions. There is a net cost for smart grids of £50m in the plan, justified on the basis of at least £88m benefits during the RIIO-ED2 period. NPg provides an excellent strategy for incorporating smart grids into its business and realising the full benefits of these approaches. In relation to smart meters NPg's business plan clearly articulates the cost of obtaining smart meter data from the DCC. The latest figures from DECC are used in their calculation. NPg provides a coherent strategy that explains how £129m of total system benefits of using smart meter data will offset the £12.9m cost of using and obtaining smart meter data. However, while the overall plan is of good quality, the design of the IT system does not include a system for data aggregation or for storage of data. NPg's plan outlines some good examples of specific innovation across its business and has identified where these innovations feed into outputs. However, there is no quantification of the benefits or financial savings to customers of these innovations, or the improvement they have made to output targets, in the plan.*" (Emphasis added)[5]

2.4 It is therefore evident that the three areas concerning SGBs where some work by NPg was required were: (i) quantification of the benefits or savings to customers of the identified innovations and the improvements to output targets; (ii) provision of further evidence of a systematic review of projects run by other DNOs; and (iii) alteration to the design of the IT system to add a system for data aggregation or for storage of data. NPg was awarded four greens[6] and an amber on "Resources - Efficient Costs". In the assessment, GEMA explained that: "*amber denotes areas where we consider some work will be required to produce acceptable proposals in the business plan submitted at slow-track.*"[7]

2.5 There was no suggestion in GEMA's fast-track decision that an increased overall level (quantum) of SGBs was required: items (i) and (ii) required further quantification and evidence of the extent of the identified innovations and improvements and item (iii) concerned NPg's IT systems.[8]

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[5] Assessment of the RIIO-ED1 business plans and fast tracking - Supplementary Annex (22 November 2013) [**JMF1/5**].

[6] Including for Outputs, which is inextricably linked to "Efficient Costs". Throughout the process, GEMA treated SGBs as relevant to costs, outputs and innovation.

[7] Letter of 22 November 2013 [**NOA1/10**]. By contrast, GEMA explained that "*red denotes areas where we consider a lot of work will be required to produce acceptable proposals in the business plan submitted at slow-track.*"

[8] Nor was there any suggestion there (or at any other time prior to the receipt of the Response) that NPg's approach to SGBs was flawed because it was too much focused on SGBs connected with LCTs (cf. Response, §145). The evident importance of LCTs appears from the 40 or so references in Mr Goldsack's WS and the 30 or so in the Response.

2.6 In its RIIO Strategy Decision,[9] GEMA identified three types of treatment to be applied to DNOs: fast-track, "*other proportionate treatment*" or "*full scrutiny*". In the Response, GEMA seeks to gloss over these three categories. It elides the latter two categories by saying that anyone who was not fast-tracked faced "*significantly more scrutiny*": see, e.g., Response, §§146(c) and 147(f). This is not the approach GEMA told the DNOs it would apply when it incentivised them to produce well-justified business plans when setting up the "*competition for revelatio*n" that is central to RIIO. Nor was it justified in respect of SGBs, where GEMA had identified only three relevant concerns about NPg's business plan and NPg had addressed them in its revised business plan. There was no good reason for GEMA to ignore this and instead embark on an exercise of making a separate deduction for SGBs from all of the slow-track DNOs.

2.7 The treatment of NPg was therefore unfair and disproportionate, and contrary to the explicit statements of GEMA as to how it would deal with DNOs.

Unjustified

2.8 Instead of following the proportionate scrutiny approach, GEMA moved directly to full scrutiny under the slow-track mechanism. It is clear, however, that this "*full scrutiny*" failed properly to engage with the further material submitted by NPg. It is noted that Mr Goldsack says at §68 of his WS that GEMA was "*surprised*" that the revised business plan submitted by NPg for the slow-track determination made "*no changes to the SGBs*". However, NPg responded to GEMA's decision and provided over 1,600 pages of additional justification for its plans, including references to the HV & LV reinforcement and descriptions of the EHV reinforcement savings and in respect of looped services, each of which included “smart” savings. GEMA is therefore wrong to say at §151(a) that NPg failed to refine its business plan to address the issue of quantification of SGBs. Furthermore, and contrary to GEMA's claim to have received "*little evidence of a systematic review of projects run by other DNOs*",[10] NPg had already submitted extensive evidence showing that it had carried out a systematic review of projects run by other DNOs.[11]

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[9] 4 March, 2013 [**NOA1/8**], §2.24.

[10] Assessment of the RIIO-ED1 business plans and fast tracking - Supplementary Annex (22 November 2013) [**JMF1/5**].

[11] On page 8 of the Innovation Strategy in NPg's original business plan [**Tab 4**] it included a section headed "CASE STUDY: adopting best-practice technologies from other DNOs" that described the ENW projects that used Bidoyng units and said that NPg were adopting this as 'business as usual' in the 2015-23 period.
On the same page NPg described the UKPN perfluorocarbon tracer (PFT) again, saying that NPg were now adopting this as "business as usual" in the 2015-23 period. On page 9 of the same document NPg described the project run by SSE, WPD and UKPN on LV monitoring at distribution substations; and NPg's fast-track plan also included (at annex 5.1) [**Tab 5**] the

2.9 Rather than assessing the amendments NPg made to its business plan to reflect GEMA's concerns as GEMA had said it would, GEMA embarked in its Draft Determination on a new and additional[12] exercise of seeking to quantify SGBs outside the comparative cost assessment process (in which the DNOs had taken account of SGBs in estimating their costs, and those costs had been benchmarked, reducing allowable costs in part because of SGBs). At §152(f), GEMA justified this exercise in reliance on evidence from DECC, the Transform model and ENWL's forecast avoided costs in categories other than reinforcement (together "the Draft Determination Evidence"). The Draft Determination Evidence was widely criticised by DNOs in response to the Draft Determination.

2.10 GEMA does not deal in the Response with the evidence from Mark Drye at §§13-16 of his WS and the Frontier Report, Annex 1,[13] which explains why GEMA was *wrong* to rely on the Draft Determination Evidence. That is understandable: it did not provide a good basis for saying that there were substantial further "smart" savings to be made. Given the emphasis now placed on the Draft Determination Evidence by GEMA in the Response, however, NPg summarises in Annex 1 the concerns expressed by DNOs throughout the process about why GEMA's analysis of the Draft Determination Evidence is wrong and, accordingly, why the figure of £396m for additional SGBs that GEMA derived from the Draft Determination Evidence was vastly overstated.

2.11 Moreover, it is evident from the spreadsheet that GEMA supplied in support of the Draft Determination that GEMA had not quantified the additional SGBs by using the Draft Determination Evidence, but instead had simply multiplied by 1.5 the savings that GEMA had assumed were available from the reinforcement category of expenditure: see John France's WS at §57 (which GEMA has not challenged).

"Technology application assessment". This document set out systematically the projects run by others that NPg was expecting to utilise learning from in the ED1 period:
- SSEPD's Thames Valley Vision
- WPD – Falcon
- USA experience with network automation
- UKPN smart urban LV network project, trialling LV circuit breakers
- UKPN – Low-carbon London
- ENW – capacity to customers (C2C)
- ENW – CLASS
- EdF and EPRI virtual power plant/smart grid demonstrator project
- SPDEnergy – Accelerating renewable Connections (ARC).

[12] GEMA says in the Response at §151(b)(i) that the second exercise was not an "*additional*" assessment because, whilst SGBs "*may*" have reduced the costs allowed under the comparative cost assessment process "*this is a comparative rather than an absolute measure*". From NPg's perspective, costs were disallowed to take account of SGBs both at the comparative cost assessment stage and through the separate exercise of quantifying SGBs. It regards two successive disallowances of costs as "*additional*" to one another, whether GEMA wishes to call the disallowances "*comparative*", "*absolute*" or anything else.

[13] [**FE1/2**].

2.12 Thus, the Draft Determination approach to suggesting that there were substantial additional "smart" savings to be made beyond the DNOs' business plan submissions was flawed: GEMA did not have a good basis for saying that such savings were available. The Final Determination instead introduced a wholly new method for seeking to quantify putative additional "smart" savings.

2.13 It is noted that, in its Final Determination, GEMA referred to the Draft Determination Evidence in a section of the Business Plan Expenditure Assessment headed "Draft determinations approach", which set out the background to GEMA's decision.[14] However, under the heading "Reasons for our decision", GEMA stated:

> *"11.36 We have seen evidence that a number of DNOs have not embedded sufficient savings from smart grids, innovation and smart metering in their business plans. We consider that it is appropriate to adjust DNOs' allowances accordingly.* "[15] (Emphasis added)

2.14 This paragraph 11.36 is important as it sets out GEMA's actual decision.[16] GEMA had not seen evidence that all DNOs were inefficient (in the sense of not embedding sufficient savings from SGBs in their business plans): its reasons say that it had seen evidence that "*a number*" were. GEMA seeks to defend its Final Determination on the basis that all the DNOs were inefficient, but it cannot alter or vary its decision: cf. Response, §§144(a)(iii)(1) and 156.[17] Presumably, the reason that GEMA seeks now to alter its decision is that if only some DNOs were inefficient, there was no reason to proceed with the separate SGB adjustment that it proceeded with: the normal costs benchmarking exercise would have been sufficient.

2.15 Furthermore, paragraph 11.36 is obscure. It does not explain what the "*evidence*" was. Certainly, GEMA did not refer specifically to the Draft Determination Evidence. Nevertheless, GEMA now contends that it "*maintained its reliance on those sources (together with DNOs' own data) as indicating the fact of an underestimation of SGBs but relied only on the DNOs'*

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[14] [**NOA1/16**], §11.15.

[15] [**NOA1/16**], §11.36.

[16] When NPg queried the position with GEMA following the Final Determination, GEMA did not say that the "Reasons for our decision" were misstated in the Final Determination: see fn. 100 to the NOA and [**MD1/59**].

[17] Confusingly, Response, §158(f) quotes §11.36 of the Business Plan Expenditure Assessment without indicating that GEMA now contends that *all* of the DNOs were inefficient.

own data in order to quantify the extent of that underestimation": Response, §144(a)(iii)(3).[18]

2.16 The first problem with this line of reasoning is that it makes no sense. In the Final Determination, GEMA explained that, at Draft Determination, the Draft Determination Evidence had been used to reduce slow-track DNOs' allowances by £396m: see Business Plan Expenditure Assessment, §11.19 and Table 11.2.[19] The SGBs embedded in the slow-track DNOs' plans at that stage had been identified at £296m,[20] and the total amount of SGBs anticipated from the slow-track DNOs at Draft Determination was therefore £692m.

2.17 Mr Goldsack explains at §120 of his WS that "*we recognised the validity of DNOs' concerns about use of this evidence to determine the precise size of the adjustment to allowances and the way the savings were allocated*." Once GEMA (rightly) ceased to rely on the quantum from the Draft Determination Evidence,[21] it had no rational basis to conclude that there was a "*fact of an underestimation*". It could only rationally reach such a conclusion if it had identified an actual or minimum figure or range in which it was confident.[22]

2.18 The second problem is that, at Final Determination, the SGBs accepted by GEMA to be embedded in the slow-track DNOs' plans increased by (at least) £180m to £476m.[23] Thus, not only had GEMA rightly recognised that the evidence of a shortfall on SGBs was not sound, for GEMA to show the "*fact of an underestimation*" at Final Determination it needed to show that, even following the increase in embedded SGBs of (at least) £180m between Draft

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[18] See also §§154 and 158(k) of the Response.

[19] [**NOA1/16**]. This is referred to at Response, §158(c). Confusingly, the Draft Determination itself used other figures that are referenced at Response, §152(f), which: (a) covered all the DNOs (not just the slow-track); and (b) do not reconcile with the figures in the Final Determination (e.g. the Final Determination refers to savings of £199m from the comparison with ENWL for the slow-track DNOs, whereas the Draft Determination referred to savings of £137m in this category for all of the DNOs). At Annex 1, NPg explains why, even if GEMA relied on the actual figures given in the Draft Determination (despite identifying different figures in the Final Determination in the Business Plan Expenditure assessment, §11.19), this first problem highlighted in the text remains.

[20] See Business Plan Expenditure Assessment [**NOA1/16**], Table 11.2, column for "Embedded benefit" (after deducting £110m from the total of £405m to reflect WPD's embedded benefits).

[21] See Response, §144(a)(iii)(3).

[22] The benchmarking exercise cannot show that all DNOs have underestimated SGBs: Frontier Report [**FE1**], §3.6.

[23] See Business Plan Expenditure Assessment [**NOA1/16**], Table 11.2, column for "Embedded benefit", after deducting £165m from the total to reflect WPD's savings. The figure of £180m is an understatement as it does not include: (a) £27m for smart meter benefits: the Draft Determination Evidence took account of smart meter benefits and the smart meter benefits for the slow-track DNOs increased by £27m between Draft Determination and Final Determination; or (b) the further SGBs that had been identified through the conventional costs benchmarking; GEMA does not know their value and therefore could not have factored them into the Draft Determination; Frontier estimates their value for the slow-track DNOs at Final Determination to be £53m (the £82m figure quoted elsewhere includes WPD, which was fast-tracked).

Determination and Final Determination, the slow-track DNOs had clearly underestimated the available SGBs.

2.19 The third problem with GEMA's argument is that what it now says in the Response is not what it wrote in its Decision: if the regulator had adopted such an elaborate, sophisticated analysis of partly disavowing the Draft Determination Evidence, but maintaining its reliance for other purposes, it would surely have explained its analysis.[24]

2.20 GEMA does not overcome this difficulty by saying in Mr Goldsack's WS that GEMA treated the Draft Determination Evidence as "*part of the evidential context to our Final Decision*".[25] It is not clear what an "*evidential context*" is: either there was evidence to justify disallowing tens of millions of pounds of costs from NPg or there was not.[26]

2.21 GEMA was therefore wrong to conclude that there were insufficient SGB savings in the plans of the slow-track DNOs, given that RIIO had introduced "*competition for revelation*" which strongly incentivised DNOs to include their best forecasts in their business plans and had subjected those plans to general costs benchmarking. There was no good basis to proceed with the wholly new and additional Final Determination partial benchmarking process.

2.22 Finally, GEMA seeks to suggest that the SGBs assessment was not an exercise in rigorous benchmarking or comparison of forecast costs savings, but instead was intended, more broadly, to reflect a shift in the efficiency frontier driven by technology change: see, e.g., Response, §§144(b)(vi) and 158(i). However, this is not what GEMA said or did in its Final Determination: it assessed efficiency improvements that could be expected through the main cost benchmarking exercise. It then, separately, embarked on its consideration of SGBs. That exercise was flawed and cannot be treated as somehow an extension of a more general efficiency analysis. Indeed, separating out SGBs as it did created a

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[24] Confusingly, Response, §144(b)(ii) claims that the comparative analysis of DNOs' own business plans also evidenced that all DNOs had underestimated available SGBs. This argument is wrong because comparative analysis (i.e. benchmarking) cannot show that all DNOs are inefficient: it simply compares them and inevitably shows that some do better than others. However, NPg finds it hard to understand what defence is being run, and to understand how that defence relates to the decision GEMA actually took.

[25] Mr Goldsack's WS, §120. This refers to the "*evidence set out at paragraph 91*", but §91 is a summary of the *process* used by GEMA to quantify SGBs at Draft Determination. The evidence that resulted in the adjustment at §91(a) was the external evidence referred to in §77.

[26] GEMA contends in the Response (§160(b) and (c)) that NPg would have done worse had the Draft Determination on SGBs been adopted, yet there was no basis for imposing the Draft Determination analysis for reasons GEMA recognised in its Final Determination.

range of problems including the difficulty of evidencing such supposed additional benefits and double counting.

2.23 GEMA may now wish it had conducted the analysis very differently, but it did not. Had GEMA done a different analysis, it would have needed evidence to support it.

Discriminatory[27]

2.24 GEMA's process was also discriminatory in that it treated NPg wholly differently from WPD without justification. As GEMA emphasises, it was clear from the outset of RIIO-ED1 that SGBs were an important component and GEMA gave clear directions about how SGBs were to be dealt with in the DNOs' business plans. GEMA ranked WPD "green" in the category "Resources - Efficient Costs" and the other categories and it was therefore fast-tracked. Whilst GEMA now maintains that all the slow-track DNOs were inefficient in SGBs, WPD would have ranked fifth out of the six DNO groups for SGB efficiency had it been subject to the SGBs adjustment, as shown in Table 2.1.

Table 2.1
DNOs ranked by change in final efficiency scores as a result of the SGBs adjustment[28]

DNO	Impact of SGBs adjustment
ENW	0.4%
NPg	1.6%
SSE	1.6%
UKPN	2.0%
WPD	2.4%
SP	4.1%

2.25 Moreover, GEMA's assessment of WPD's SGBs at fast-track identified reservations. GEMA stated in its fast-track Assessment of the RIIO-ED1 business plans – Supplementary Annex, page 57):[29]

"*1.29. ... WPD's plan is lacking in detail on how smart grid solutions will be used, and how they have been embedded into its business. ... WPD's plan includes a number of claimed innovations. For the vast majority of identified innovations there is no detail on the result savings, or impact on output targets, or explanation of how these have been*

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[27] Response, §162.

[28] Source: Frontier calculations, based on GEMA spreadsheets (Scores & allowances 2014-20141120-1_7 and Total smart benefits assessment-20141120-1_7) [**FE2/10**].

[29] [**JMF1/5**].

built into the plan. This makes it difficult to assess the impact of the innovation and its scale across the business."

GEMA's claim at Response §174(d) that "*WPD's savings were clear and well-quantified in its business plan*" is therefore incorrect.

2.26 Having exercised its (much emphasised) expert judgement to conclude that WPD's treatment of SGBs was acceptable despite these reservations, and having told NPg that it needed to do further work on the quality of its supporting narrative, not the quantum of its SGB savings, it was discriminatory to require NPg to make SGB savings that were so much more extensive than those required of WPD.

2.27 The discrimination is emphasised and evidenced by the size of the benefit that WPD received by being fast-tracked. At §135, GEMA maintains its estimate that the benefits to WPD of being fast-tracked were around £250m. However, it has not explained how it reached this figure, or addressed NPg's points about why it appears to have been significantly understated.[30]

B. Ground 1B: Final Determination methodology inappropriate

Double counting

2.28 DNOs were strongly incentivised to, and did, include SGBs in their business plans. GEMA carried out a general costs benchmarking exercise of the business plans and the result was that further SGB savings were required.

2.29 Importantly, at fast-track, GEMA explained "*In conducting our assessment of efficient costs we implicitly consider the costs and benefits from smart grids, smart meters, and innovation.*"[31]

2.30 However, at Draft Determination and Final Determination, GEMA introduced a specific deduction for SGBs (i.e. in addition to the cost assessment process). This introduced an obvious risk of double counting: the DNOs that set the benchmark in the cost assessment process because of their SGBs might also set the "*benchmark*" for SGB savings in the Final Determination, leading to other DNOs being required to make a single set of savings twice over. Mr Goldsack explains at §144 of his WS that GEMA "*did not seek to quantify the value of additional SGBs embedded through the cost assessment process. For ease of presentation we assumed that no additional SGBs were embedded in the cost*

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[30] See WS of John France, §§35 to 40 and NOA, fn. 68.

[31] RIIO-ED1 business plan expenditure assessment - methodology and results (6 December 2013) [**NOA1/11**], §1.13. The statement at §149(c)(i) of the Response that GEMA did not expect benchmarking to identify SGB inefficiency without separate analysis of SGBs is therefore wrong.

assessment process."[32] This may have aided GEMA's presentation, but it was not a rational assumption.

2.31 Mr Goldsack continues at §148: "*We were unable to remove the SGBs from the cost and volume forecasts as we did not have sufficient information on how the DNOs had each developed their forecasts and how they had included SGBs*." This perceived difficulty presumably arose because, when GEMA told DNOs how they should treat SGBs in preparing their business plans, GEMA did not envisage making a separate adjustment for SGBs.[33]

2.32 GEMA identifies three adjustments to its methodology at §163(a)(i) (and see Mr Goldsack's WS, at §145), which it claims were intended to, at least, cover the magnitude of the double counting (despite the fact that it made no attempt to quantify the extent of the double counting during the price control process).

2.33 The removal of LV fault finding to avoid double counting (§163(a)(i)(3)) is instructive. That was done because GEMA recognised that if it had used the same DNO to set the benchmark in the conventional costs benchmarking exercise, where DNOs had included their forecast SGBs, and for the SGB partial benchmarking[34] exercise, there was an obvious risk that other DNOs would be required to make a saving twice which the benchmark setting DNO had, of course, only been able to make once. The specific adjustment addresses the concern in principle in that category, but only in that category. However, precisely the same double counting risk, which GEMA did not and (it claims) could not quantify, remained in all the other categories. It was arbitrary and wrong to deal with the issue for one category, but no others. Indeed, it is evident from the Response, §163(b)(v),[35] that the same reasoning would apply to exclude all SGBs in the three reinforcement categories, yet GEMA illogically failed to do so.

2.34 Furthermore, and ironically, the LV fault finding adjustment operated against the interests of NPg and the slow-track DNOs as a whole, i.e. to reduce NPg's

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[32] See also Mr. Goldsack's WS, §66.

[33] NPg sees no reason why GEMA could not have removed SGBs from the cost and volume forecasts. Frontier was able to do so using the approach described in its Report (see Frontier Report Annexes [FE1/2], Annex 4). GEMA could have carried out a similar exercise and with the additional benefit of being able to obtain information from the DNOs.

[34] GEMA seeks at points in the Response to contend that it did not engage in an exercise of benchmarking or partial benchmarking of SGBs: see §§156(a), 161(a), 163(b)(ii), 167(c)(v). It is difficult to follow why disallowing costs to DNO2 as a result of a comparison with the proportionate savings forecast by a frontier DNO or an upper quartile calculation is not "benchmarking". In any event, GEMA describes it as such in the Final Determination [**NOA1/15**] (§4.72) and other parts of the Response (see §§156(b), 158(b)).

[35] "*Furthermore, the Authority disagrees with the assertion at paragraph 6.65 that the benchmarks in the SGB models are set by DNOs who trail the efficient frontier in the cost models. (1)For EHV-LV reinforcement, three of the four DNOs at or above the benchmark in SGB assessment are at or above the benchmark in the relevant comparative cost assessment. (2) For 132kV reinforcement, two of the four DNOs at or above the benchmark in SGB assessment are above the benchmark in the relevant comparative cost assessment. (3) For fault level reinforcement, the DNO setting the benchmark in SGB assessment was the best performer in the relevant comparative cost assessment.*"

allowable costs and those of the DNOs as a whole. This is shown in Table 2.2 below: if GEMA had included LV fault finding in its calculations and used an upper quartile benchmark (as it originally considered: see Business Plan Expenditure Assessment [**NOA1/16**], §11.46), rather than *excluding* LV fault finding and setting the benchmark at the *frontier* (as it did), NPg would have been better off by £5.6m and the slow-track DNOs as a whole by £23.5m.

Table 2.2
Impact of using upper quartile and retaining LV fault finding in fault-level reinforcement category[36]

	Impact of model correction	**Final Adjustment**
NPgN	3.8	-17.0
NPgY	1.8	-19.3
NPg Total	**5.6**	**-36.3**
All ST DNOs	**23.5**	**-298.5**

Thus, the LV fault finding adjustment could not operate to mitigate or eliminate the risk of double counting for NPg.

2.35 As to the other two adjustments – which relate to the setting of the required level of SGBs by reference to the upper quartile in two categories, and at 75% of the best performer in a third (see §163(a)(i)(1) and (2)) – in the Final Determination GEMA indicates at §4.75 that their inclusion is only partly attributable to the risk of double counting. They are also attributed to "*avoid[ing] cherry picking*", which presumably means that the benchmark would have been too onerous if set at the frontier.

2.36 In fact, the aim of "*avoid[ing] cherry picking*" means that – consistently with the normal approach to regulation – GEMA would have selected the upper quartile, rather than the frontier, even if there were no double counting issues. Thus, GEMA is simply suggesting that no complaint can be made about double counting, because things could have been even worse had GEMA made different (and unsustainable) decisions about this element of the price control.

2.37 In any event, even if GEMA's choice of an upper quartile rather than a frontier could be connected with supposedly avoiding the risk of double counting, that does not properly cure the problem. GEMA does not know how much double counting there actually is, even with such adjustments being used supposedly to correct for it. In particular, GEMA wrongly seeks to treat the entire sum at issue as reflecting the risk of double counting and does not seek to identify the proportion of the adjustment that was intended to reflect the double counting risk.

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[36] Source: Frontier.

2.38 The real way to avoid the risk of double counting would have been not to carry out the partial benchmarking of SGBs as a separate category or, as with RPEs, to remove SGBs from the costs model (so that the two benchmarking exercises operated on different sets of costs).

Failure to factor in prevailing levels of efficiency (the "Mo Farah argument")

2.39 NPg's case is that GEMA wrongly failed to take account of prevailing levels of efficiency in calculating SGBs. NPg says that a DNO that is inefficient in conventional terms has the potential to make greater proportionate savings through SGBs than one that is efficient. It draws an analogy with the scope for Mo Farah to shave seconds from his 10k time, whereas a new runner might be able to improve by minutes.

2.40 GEMA's defence is that the prevailing relative efficiency of DNOs does not affect their ability to generate SGBs: Response, §163(b). This is incorrect. Imagine two DNOs, each having to resolve a 10MW capacity problem. DNO1 is more efficient than DNO2 in conventional solutions, with DNO1 spending £10 per MW and DNO2 spending £20 per MW. The opportunity presents itself for both DNOs to resolve the problem using 7MW of conventional and 3MW of "smart" solutions. Assuming that the 3MW of "smart" solutions costs each DNO £5 per MW, the result is that DNO1 incurs a total cost of £85 (i.e. £70 conventional and £15 "smart") and DNO2 incurs a total cost of £155 (i.e. £140 conventional and £15 "smart"). The saving, compared to the costs forecast by each company for using purely conventional solutions, is £15 for DNO1, representing a 15% saving, and £45 for DNO2, representing a 23% saving. Both the quantum and the proportion of savings from the use of a "smart" solution are higher for the conventionally inefficient DNO.

2.41 GEMA's defence (that the relative efficiency of DNOs does not affect SGBs) is further undermined by §145(c) of Mr Goldsack's WS which explains that GEMA removed LV fault-finding from the partial benchmarking exercise "*on account of the same DNO setting the benchmark in that category in the cost assessment*."

2.42 GEMA says at §163(b)(iv) that it disagrees with NPg's claim that DNOs setting the benchmark in the SGB model trail the efficient frontier in the cost models. GEMA has not challenged the validity of the figures provided by NPg.[37] NPg did not claim that all DNOs setting the benchmark in the SGB model lag the

[37] Although GEMA did note that there were "*methodological difficulties*" for the "Other" category, which Frontier acknowledged in its report. At §155(b) of his WS, Mr Goldsack states that "*NPg does not consider the impact of the totex cost assessment, and only considers the disaggregated cost modelling*" which is not the case. Frontier's modelling was based on GEMA's weighted average cost model results across both disaggregated and totex models.

benchmark in the cost model.[38] It is clear from the data provided in Annex 3 of the Frontier Report[39] that:

(A) In EHV-LV reinforcement, the top four DNOs in the SGB model are all ranked 6th or below in the cost model. The DNO ranked second in the SGB model is ranked 13th in the cost model, lagging the benchmark by 12%.

(B) In 132kV reinforcement, the 2nd and 3rd DNOs in the SGB model are ranked 12th and 9th respectively in the cost model, both trailing the benchmark by more than 12%.

(C) In the "Other" category, the benchmark-setting DNO (ENWL) is ranked 8th in the cost model, trailing the benchmark by 1.2%.

2.43 In any case, to the extent that benchmark-setters in the SGB model are also benchmark setters in the cost model, as GEMA contends, this would represent a clear instance of double counting (as set out at §2.33 above). By GEMA's own reasoning, as applied to the LV fault finding category, these categories should be excluded from the analysis so as to avoid double counting. This is most clearly the case for fault-level reinforcement, where the benchmark-setting DNO in the SGB model (SSES) is also by some distance the lead DNO in the cost model.

2.44 GEMA also says at §163(b)(vi) that NPg is one of the worst performing DNO groups in cost assessment, a point GEMA also highlights elsewhere.[40] In fact, GEMA properly accepted in correspondence following the Final Determination that NPg is not one of the worst performing DNO groups. The table that GEMA refers to, Table 2.4 in its Final Determinations Expenditure Assessment[41], did not accurately represent NPg's submitted costs.[42] Due to GEMA's error, the table presents an incorrect NPg efficiency score; the table shows the NPg efficiency score to be 106%, when it is in fact 104%. Table 2.3 below, which is sourced from GEMA, shows the correct efficiency scores from the benchmarking, in

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[38] NOA §6.65 says that "*in general, the benchmarks in the SGB models are set be DNOs who trail the efficient frontier in the cost models*."

[39] [**FE1/2**].

[40] GEMA also claims wrongly at §147(j) of the Response that NPg was "*the second worst-performing DNO in respect of cost efficiency*". In that paragraph the claim appears to be made in relation to GEMA's fast-track assessment. However, NPg was the third best-performing DNO in GEMA's fast-track assessment (see Table 2.2 of GEMA's "RIIO-ED1 business plan expenditure assessment – methodology and results" [**NOA1/11**]).

[41] [**NOA1/16**].

[42] GEMA incorrectly included NPg's submitted costs for rail electrification diversion, which increased the submitted costs to £3,086m.

descending order of efficiency. This shows that NPg is the third best performing DNO (ahead of WPD[43]).

2.45 NPg drew to GEMA's attention the error in Table 2.4 and GEMA (Anna Rossington) confirmed by email of 23 December 2014 that "*The first issue tables 2.3 and 2.4 show incorrect submission and efficiency score figures for NPg.*"[44] GEMA also said that the incorrect tables were "*not used in the analysis*". Having promptly drawn GEMA's error to GEMA's attention and been told that the erroneous data was not used in GEMA's analysis, NPg finds it frustrating to see GEMA relying on the mistaken evidence as part of its defence.

Table 2.3
Benchmarking results (before RPEs are accounted for, and the SGBs adjustment applied)[45]

DNO Group	Efficiency Score
ENWL	99.1%
SSE	102.0%
NPg	103.5%
WPD	103.9%
SP	104.4%
UKPN	107.2%

Distorted incentives

2.46 The peculiar approach adopted by GEMA in relation to "smart" savings, whereby they are singled out for double consideration (once in the benchmarking of the costs assessment and again in the specific assessment of SGBs), is not consistent with GEMA's overall objectives. If supposedly conventional solutions can deliver more efficiency (or the same efficiency at lower cost), it is perverse to over-incentivise "smart" solutions. GEMA says at §163(c)(i) that the incentives are not distorted *during* RIIO-ED1. However, NPg's point was that the misguided double treatment of SGBs in this price control risks distorting the DNOs' focus on the next price control (RIIO-ED2) and thus affects DNOs' decisions during RIIO-ED1.[46]

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[43] WPD was fast-tracked despite ranking below ENWL, SSE and NPg for efficiency (before considering RPEs and SGBs). This was in part due to a decision by GEMA following its fast-track decision to change the way in which it modelled cost efficiency. NPg believes that GEMA should have changed its approach to give still further prominence to totex, but recognises that this is one of a long list of decisions that fell within a range of options that a regulator could adopt without being "wrong".

[44] [**Tab 6**].

[45] GEMA spreadsheet (Scores & allowances 2014-20141120-1_7) [**FE2/10**].

[46] On 24 April 2015 Ofgem published its proposed Regulatory Instructions and Guidance for reporting in the ED1 period. This included, at Annex J [**Tab 7**] the following statement: '"*4.9. This worksheet is used to capture information about the Innovative Solutions deployed on or in support of the network throughout the RIIO-ED1 price control period, as well as informing on*

C. Ground 1C: Final Determination approach misapplied

2.47 Ground 1C raised four specific points about the implementation by GEMA of its second partial benchmarking exercise.

Basic mathematical error

2.48 GEMA accepts that it made a basic mathematical error in wrongly identifying the denominator when calculating a percentage (see §165(a)), but contends that the CMA should not correct the error as it is not material.

2.49 NPg calculates the value of the error, prior to interpolation, as £5.8m. GEMA contends that it is £5.1m. GEMA is wrong for the reasons set out in Annex 1.

2.50 GEMA also contends that, if this error were the only one found by the CMA, the effect of interpolation would be to reduce the net impact of the error on NPg from £5.1m (as GEMA contends) to £3.8m. NPg disagrees with GEMA's calculation, because the calculation needs to take account not only of IQI interpolation, but also of the first of the other two components of IQI, namely the Additional Income, as explained in Annex 1. This would lead to NPg receiving an extra £1m in Additional Income. (The impact of the third component of IQI, the Sharing Factor, is presently unknown as it depends on what actually happens once the price control begins.)

2.51 GEMA contends at §165(b) that its error is not "*material*", because: (i) GEMA could have adopted a more stringent view about other aspects of SGBs, including by making lower adjustments for the risk of double counting or using a different methodology; and (ii) the sum in issue, on GEMA's calculation, is only 0.1% of NPg's final interpolated allowance.

2.52 The submission is remarkable. As to (i), it amounts to saying no more than "*we got it wrong, but we could have made other decisions (which we did not make) that could have matched the error, so we do not have to correct it*". It is of significant concern that, when a regulator has made an error that is brought to its attention at the first available opportunity, it resists correcting it even when it does not dispute the mistake.

2.53 As to (ii), on any fair-minded view, the sums at issue are large. Further, the question of whether an error is material is a function not only of the sums of money at stake, but also of the nature of the error. There is no "*allowable margin for error*" for basic errors of this type: GEMA should have specified the denominator correctly when calculating a percentage, and it did not. To accuse NPg of being engaged in a pursuit of "*spurious accuracy*" is not befitting of a regulator. There are no grounds for the CMA to authorise a transfer of (at the

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solutions deployed during DPCR5. This information will be used to inform on potential savings and costs during the RIIO-ED2 price control period, as well as allowing Ofgem to monitor ongoing innovation rollout." (Emphasis added).

very minimum) £3.8m (GEMA's figure of £5.1m, adjusted for interpolation), plus £1m in Additional Income from NPg to its customers because GEMA was unable accurately to carry out a very basic mathematical calculation. (As explained further below, the error would have been corrected during the process had GEMA consulted properly on the third version of its analysis of SGBs, which was first seen by NPg only when it received the Final Determination.)

Mathematic consistency error

2.54 NPg's case is that GEMA calculated the benchmark level of "smart" savings across the "Other" pot as an *overall* category,[47] whereas the efficient "smart" savings embedded in NPg's business plan were wrongly calculated by treating each sub-category within the "Other" pot as individual and separate. This led to NPg being arbitrarily penalised by being required to make greater levels of savings than GEMA's assessment of the SGBs in the "Other" category required, as explained in the Frontier Report[48] at §§3.107 to 3.122 (which includes a helpful stylised example at §§3.113 and ff.).

2.55 GEMA's defence at §168(a) is that there was a range of options available to it and the one it selected was not "*wrong*". That is incorrect: whilst there was a range of options, it was wrong for GEMA to select a calculation that failed properly to apply to NPg GEMA's assessment of SGBs in the "Other" category.

2.56 GEMA says that it took the approach it did "*because in its judgment expenditure was a good proxy for a DNO's opportunity to achieve savings in a particular sub-category*" (Response, §166(c)). However, this approach of treating each sub-category separately at apportionment is inconsistent with GEMA's substantive decision to calculate the benchmark level of "smart" savings across the "Other" pot as an overall category. GEMA's maths therefore did not implement the substantive decision correctly. GEMA's stated reason – that "*expenditure was a good proxy for a DNO's opportunity to achieve savings in a particular sub-cost category*" – does not justify apportionment by sub-category, as the same reasoning is equally true of apportionment of the "Other" pot as an overall category. The divergence between GEMA's substantive decision and its implementing maths led to the clear anomalies identified in the Frontier Report,[49] involving arbitrary losses to NPg, which are not addressed at all by GEMA in the Response.[50]

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[47] See Business Plan Expenditure Assessment [**NOA1/16**], §11.46: "*We consider that it is appropriate to use the savings identified by the best performing DNO across all cost areas outside reinforcement*."

[48] [**FE1**].

[49] [**FE1**].

[50] Contrary to Response, §166(c), the methodology was only adopted in the Final Determination and therefore was not, and could not have been, supported by NPg at Draft Determination.

2.57 It is irrelevant that GEMA could have adopted a different approach to the assessment of SGBs in the "Other" category (Response, §§168(b) and (f)(i)): this ground concerns the failure properly to give effect to the substantive decision on SGBs that GEMA *did* take.

Fault-level reinforcement

2.58 NPg raised three concerns about the treatment by GEMA of fault-level reinforcement. NPg's first concern was that GEMA had deducted costs from NPg in reliance on avoided costs forecast by another DNO without "reality-checking" whether NPg would be able to make those savings as a matter of commercial and industrial reality.

2.59 In the Final Determination, GEMA stated that it had sought to identify and quantify "*the SGBs which DNOs could reasonably be expected to achieve*": Response, §144(4).

2.60 However, in the Response, GEMA states that it "*isolated the maximum saving identified by any DNO in their respective business plans under four costs categories*" and reasoned that "*SGB savings identified by one DNO should be achievable by all DNOs (though the specific solution applied may not always be the same)*": §144(4).

2.61 Mr Goldsack explains that GEMA did not expect NPg to use the specific "smart" solutions that formed the basis for the costs disallowances. At §135[51] of his WS he says: "*The fact that the methodology at Final Determinations was based on the SGBs DNOs forecast to achieve from specific smart solutions does not mean that we expect these to be used. Rather, we used this data to determine a reasonable level of efficiency that in our judgement DNOs should be able to achieve due to using the output of customer-funded innovation and smart metering*." (Emphasis added.)

2.62 The problem with this is that, when benchmarking forecasts of costs avoided through innovation, if there is no expectation that specific solutions underlying savings forecast to be made by DNO1 will actually be available for DNO2, there is no basis for saying that DNO2 "*could reasonably be expected*" to make those savings. There are two main reasons why it was not reasonable to assume that DNO2 could make SGB savings in the same proportion as those forecast by DNO1, even if DNO1 is right in its expectation that its solutions will work: (a) the physical nature of the assets differs from DNO to DNO and therefore not all solutions are equally appropriate across the networks; and (b) the relative conventional efficiency of the DNOs changes the savings that can be made from any given solution.[52] It is certainly not, as GEMA repeatedly contends,

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[51] See also §80.

[52] In addition, unless and until Energy Networks Association Engineering Recommendation P2/6 is amended, the adoption of "smart" solutions will be inhibited in reinforcement as explained in the WS of Philip Taylor at §32(D). Mr Goldsack responds to

"*conservative*" or "*cautious*" to require DNOs to make savings they could not actually make.[53]

2.63 The fact that DNO1's innovation was "*customer-funded*" – as, of course, are all of the activities of all DNOs – does not mean that DNO2 can reasonably be expected to make savings in the same proportion as DNO1, when DNO1's solution is not reasonably available to DNO2.

2.64 Nor does the fact that GEMA has a statutory duty to have regard to consumers' interests (§§144(b)(iv) and (v)): either the savings are available or they are not. The standard of proof does not vary because GEMA has a statutory duty to have regard to consumers' interests. Further, as noted at §1.8 above, the financeability considerations are important here as the consumer interest in obtaining reliable supplies of electricity depends on DNOs being able to finance their activities.[54]

2.65 GEMA nevertheless contends that it was reasonable to read across (appropriately scaled) savings identified by one DNO to another and that it had not received sufficient evidence from NPg to the contrary (§§167(a)-(b)). However:

(A) As regards 11kV and 33kV technology, NPg had set up a team to carry out trials and they were not successful.[55] Whilst SSE might be planning to use non-superconducting technology rather than superconducting technology, this is still at the trial stage and the actual trials carried out by NPg on superconducting technology have been unfavourable, evidencing (at the very least) the gravest doubts about whether the identified savings would be available to NPg. This is hope-over-experience regulation: a test has failed, someone else is going to try it, let's assume they will succeed.

(B) On 66kV, GEMA's response is entirely speculative. GEMA says that something may be invented to deal with it: see, especially, Response, §167(b)(iv)(1).[56] Equally, however, something may not be invented. In such a situation, there is no principled basis for disallowing NPg's costs.

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this concern at §28 of his WS, but his answer misses the point. P2/6 is a planning standard and, in its current form, it discourages, because it would generally prohibit, the use of smart solutions because such solutions are typically probabilistic and their use requires a derogation.

[53] Cf. Response, §§144(a)(iii)(4), 148(g), 153, 157 and 161(b).

[54] Mr Goldsack explains GEMA's logic at §15 of his WS: as customers are providing the funding for SGBs it would be unfair and contrary to GEMA's statutory duties (he says) if GEMA did not ensure that customers receive the appropriate benefits; it "*is therefore incumbent on the Authority to take a view on how much the consumer should reasonably receive ex ante through the allowance*." The false logic is to say that customers should benefit from SGBs (which NPg fully recognises) and that therefore GEMA making higher SGB findings is a benefit to consumers and justified (especially where that view is based on a fiction that DNO2 can make SGB savings in the same proportion as DNO1). GEMA could have protected the interests of consumers whilst taking an evidence-led approach.

[55] See NOA, §6.91 and Mark Drye's WS at §§19-32.

[56] GEMA refers to two "*other potential applicable smart solutions*", WPD's FlexDGrid LCNF project and ENWL's FLARE project.

2.66 NPg's second concern was that the partial benchmarking had been carried out by excluding as a 'nil return' DNOs identifying zero savings (rather than treating those DNOs as having identified no scope for savings). GEMA's response is that, unless it had been satisfied by a DNO that no saving would arise, there was no basis for it to proceed on the basis that a DNO was unable to achieve a proportionate SGB saving: Response, §167(c)(ii). However, DNOs were strongly incentivised in RIIO-ED1 to identify SGB savings. A statement by a DNO that it had identified zero savings in a category is therefore at least good evidence that none was available. For GEMA then to eliminate those DNOs from consideration significantly skews the overall assessment and yet it has been done without GEMA investigating whether the DNO's own assessment of savings is, in fact, flawed.

2.67 The assessment also appears to be internally flawed in other places. NPg noted that the two SP DNOs clearly had access to the same technologies, but that one identified SGBs in this category and the other did not. GEMA objects at Response, §167(c)(iii) that this may be an apportioning issue for SP. That response overlooks the rigorous ring-fence to which GEMA subjects the two DNOs: if both have savings available to them from fault-level reinforcement SGBs, then each would need to identify the savings in its own business plan. The solution would be applied to a physical asset located in the area of one of the licensees, making it clear where the saving must be booked.

2.68 NPg's third concern was that GEMA relied on an unrepresentative single datapoint to set the relevant benchmark. GEMA's defence is that it was not engaged with a general benchmarking exercise, but with assessing the level of SGBs that could reasonably be expected to arise by reference to DNOs' own plans: Response, §167(c)(v).[57] Whatever the exercise is called, NPg stands by its point that GEMA should not have relied on a single, unrepresentative datapoint (forecasting savings of 40% from a small total spend in this category, when the next largest forecast saving was 20%) to set the saving. This is the case whether or not customer funding was involved (a factor true of all forms of DNO expenditure and of no relevance to whether savings from one DNO could be achieved by another) and even though SSE had shown that it had "*considered the matter carefully*" (GEMA could not infer from SSE's "*careful consideration*" that other DNOs could make the savings forecast by SSE).

WPD's project tests three designs of fault current limiter. NPg did not include in its business plan savings based on this project as: it will not be completed until 2017 (whereas NPg needs to implement solutions imminently); those fault current limiters which have so far been shown to work have not been cost effective (a point confirmed by WPD's own cost benefit analysis as well as NPg's assessment); and there are no designs which have been shown to work on the GB network above 11kV.

As to ENWL's project, NPg did not become aware of it until after NPg submitted its business plan; in any event, it will not be completed until 2018 (whereas NPg needs to implement solutions imminently); the project may identify benefits but equally may not, particularly as NPg has serious doubts about its technical feasibility and applicability; and if it does, it will still need to be translated into an actual industrial application which will take more time (probably going beyond ED1).

[57] See fn. 34 above.

LV / HV reinforcement

2.69 As noted at §2.2 above, GEMA instructed the DNOs, when providing their business plans, to provide detail on innovation in a commentary. There was no obligation to identify the impact of SGBs on each line item. NPg duly included in its commentary the statement that: "*we believe the smart solutions being developed for LCT growth will assist with traditional HV and LV load growth*".[58]

2.70 At the Draft Determination stage, GEMA changed its approach to the assessment of "smart" savings: instead of assessing them as part of the standard cost benchmarking, they were assessed as a separate cost category. As GEMA's approach changed, it became relevant to identify and quantify the "smart" savings in NPg's business plan.

2.71 NPg explained that the statement quoted above referred to £18.7m of savings available from the use of "smart" solutions in general LV/HV reinforcement.[59]

2.72 In its Final Determination, GEMA rejected the claim because "*Expert review indicates a lack of evidence that the expenditure reduction between fast-track and slow-track is due to smart or innovative solutions*".[60] There are three problems with this reasoning.

2.73 First, there is – and, presumably, was – no expert evidence. GEMA's Response refers to none and none has been provided in Mr Goldsack's WS at §106(c).

2.74 Secondly, there was no expenditure reduction between fast-track and slow-track due to SGBs. Indeed, GEMA makes great play of the fact that it was "*surprised*" that NPg used the same figures for "smart" savings at fast-track and slow-track (although, as set out above, GEMA should not have been surprised as it had told NPg to work on the justifications for its business plan, not the figures in them).

2.75 Thirdly, the only evidence before GEMA on this topic was NPg's evidence that the £18.7m saving *was* attributable to SGBs, a point that could be tracked through to the commentary in NPg's original business plan. GEMA's response is that the difference in the two figures *could* have been due to something else: §168(d) (and see Mr Goldsack's WS, §106(c)). As a matter of basic evidence handling, if there is firm and plausible evidence that something is the case and mere speculation that it might not be, a rational decision maker cannot reject the evidence. This conclusion is not altered by the fact, emphasised at §168(e), that the decision maker has an obligation to safeguard the consumer interest: GEMA's statutory obligations do not flex its obligation to handle evidence rationally and fairly. That obligation is particularly important in a process that

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[58] [**MD1/13**], p. 1123.

[59] See §§41 and 53 of the witness statement of Mark Drye, [**MD1/37**] and [**MD1/38**].

[60] [**NOA1/16**], Table 11.5.

(contrary to the impression created by the Response) was subject to repeated change, produced significantly different conclusions about which DNOs were more efficient, and crystallised very rapidly at the end of the process.

D. Ground 1D: Unfairness, failure to consult

2.76 The obligation on regulators to consult before making a decision is an important one, because it improves the quality of decision making. GEMA's recognition that it made a basic mathematical error in the calculation of a percentage is a graphic illustration of this point: the issue could have been avoided had GEMA not pressed headlong into a wholesale re-working of its analysis of SGBs in a very short period at the very end of its process without properly consulting.

2.77 GEMA adopted three different approaches to the treatment of SGBs: inclusion in cost benchmarking at fast-track; a further deduction justified and quantified in reliance principally on external evidence at Draft Determination; and a further deduction with unspecified justification quantified from partial benchmarking in the Final Determination. GEMA seeks at Response §§146(b), 148 and 158 to portray these changes as a natural evolution of the regulatory process, with GEMA "*refining*" its analysis in response to the emergence of new evidence and further submissions. Elegant though this recharacterisation by GEMA's legal team may seem, it simply fails to recognise the fact that GEMA's approach changed dramatically and abruptly in the latter stages of the process: between fast-track and Draft Determination, GEMA added a further SGB deduction and at Final Determination it sought to maintain the principle of the separate deduction when its justification had been demolished and to use a new benchmarking exercise for quantification.[61] It was at the last stage that GEMA failed to discharge its legal obligation of consultation.

2.78 GEMA does not dispute the statement of the legal test set out in NOA §§6.109-6.110, namely that NPg had to be given an opportunity to comment intelligently on GEMA's proposals whilst they were still at a formative stage, but contends in Response, §173(b) that "*The Authority's proposed final approach was explained to DNOs in the period between Draft and Final Determination stage*."

2.79 The issue for the CMA to assess is whether the outline analysis contained in GEMA's slide presentations[62] right at the end of the process gave NPg an adequate opportunity to make submissions on an informed basis about the re-worked analysis and, specifically, to make the points in Grounds 1A, 1B and 1C above and on the application of the evolving definition of "smart" savings to Jarratt Street, Audby Lane and LV/HV reinforcement (see NOA, §§6.112-6.123). NPg submits that it plainly did not.

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[61] Part of the reason for the change and confusion was that GEMA had dealt with the issues of defining SGBs, identifying qualifying schemes and quantifying the associated savings in parallel, when they needed logically to be dealt with *in series*.

[62] [**MD1/49**] and [**MD1/52**].

SECTION C – REAL PRICE EFFECTS

A. GEMA rejected using DNOs' own pay data without good justification where this is the most accurate and reliable measure for RPEs

3.1 Throughout the RIIO-ED1 process, GEMA has used comparative benchmarking of DNOs' own forecasts to calculate all other costs and establish the relevant allowances.[63] It is clearly seen by GEMA as the best means of forecasting the costs that efficient DNOs are likely to face in delivering the clearly-defined outputs, particularly since this method ensures competition, increasing incentives to keep costs low. Yet, exceptionally, it decided in relation to the calculation of labour RPEs not to use such a comparative benchmarking process.

3.2 GEMA has not provided a sound justification for its exceptional approach. It has chosen to disregard the DNOs' own pay settlement data – direct evidence – in favour of significantly less specific and relevant information – indirect, more generalised evidence. References to GEMA's "*expert judgment*" or the IQI do not justify its flawed approach and the description of GEMA's decision to reject any use of actual pay information as an "*optimum*" approach (§188(c)) is plainly unsustainable.[64] The Response attempts to distinguish the facts of *NIE* from the RIIO-ED1 process on the basis that the CC's decision was made because NIE did not have any "*exact comparators*" (§193(f)). In that case, the CC still chose to place the greatest weight on the closest comparators available to it. This further supports NPg's case that, in situations where direct comparators *are* available (as they are here), those costs should be taken into account when calculating RPEs.[65] This direct evidence, which GEMA disregarded, was highly probative.

3.3 Labour is the largest cost category facing DNOs. As demonstrated in Annex 2, if DNOs pay over the odds for labour that directly and materially reduces their profit for the year in question and all subsequent years (assuming that subsequent wage discussions start from prevailing levels of pay). The idea that all the DNOs might be awarding pay settlements that are too high, either because they are all inefficient or because they want to confer a windfall benefit on their

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[63] See Frontier Report [**FE1**], §4.52.

[64] It also cannot be a feasible defence to NPg's case to argue that GEMA has taken the same (incorrect) approach previously: Cf. Response, §185.

[65] GEMA also suggests that the CC's adjustment of NIE's RPEs on the basis of ONS ASHE data distinguishes it from the Appellants' suggested remedy here. However, this amendment was made to ensure that the RPEs properly reflected NIE's own labour costs and cannot be used as a justification for moving away from DNOs' own pay costs (see the Frontier Report [**FE1**], §4.69).

employees and hope to recoup the sums through the price control, is fanciful. Certainly there is no suggestion that all six DNOs in GB did (or would) do such a thing.[66]

3.4 The two justifications given in the Response for ignoring the reality of pay settlements are both wrong. The first justification – given at §189(b)(i)-(ii) – is that DNOs' actual pay settlements are not an accurate reflection of the cost pressures faced by DNOs. It is suggested that the real data is "*one step removed from the actual cost pressure*" and so should be rejected (§189(2)). If what is meant by this is that pay settlement data is the manifestation of cost pressures rather than the cost pressures themselves, that is true. However, that does not provide a basis to reject the use of real data: the (efficient) manifestation of cost pressure is precisely what GEMA is seeking to identify; namely, what effect are cost pressures having on the DNOs.

3.5 Furthermore, the supposed criticism is true of all indices of pay data. Yet GEMA appears unconcerned about the issue in relation to the three indices that GEMA itself chose to rely upon (§195(a)). Since all sources available to GEMA would be subject to the same criticism, it remains the case that GEMA has failed to recognise that actual data manifesting the effects of cost pressure are crucial to a proper approach to this issue.[67] The indices relied upon were not seeking to identify the manifestation of cost pressure in the businesses of the DNOs but were looking at the manifestation of costs pressures in a wider (or narrower, but different) part of the economy (see §§3.13-3.15 below). In fact, as set out below, GEMA appears to be operating on the basis of a fundamental misunderstanding as to the BEAMA index, which GEMA says is most closely related to the DNOs' activities. In any event, the first proposed reason for ignoring pay data – because it is not, itself, an accurate reflection of the cost pressures facing DNOs – is wrong.

3.6 The second justification – §189(b)(iii) – is not advanced with any conviction by GEMA. It suggests that actual pay settlement data "*is potentially in tension with the principles of incentive-based regulation and carries a clear risk of perversely incentivising DNOs*." There are several reasons why this is flawed.

3.7 First, this is not a criticism of the existing data, it is a concern about prospective data. It is therefore no reason at all to reject the actual (i.e. existing) data:

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[66] Particularly in light of the competitive nature of comparative benchmarking (as described at §3.1 above).

[67] GEMA could not (and rightly has not) ever suggested that it could simply rely on the fourth category of material relied upon (generalised HM Treasury forecasting) as a better basis for labour cost assessments and RPEs where actual, realised data were available.

GEMA's contention is wholly irrelevant to the question of whether actual data should have been used.

3.8 Secondly, using the actual data could only lead to potentially inefficient calculation of RPEs under RIIO-ED1 if there was good evidence that DNOs' pay settlements had, in fact, been inefficiently struck. GEMA has no evidence at all to support such a suggestion.[68] Indeed, it is entirely counter to logic. As GEMA acknowledges, DNOs have had incentives to seek to obtain efficient pay settlements, and in fact, the incentives on DNOs are broader than those recognised by GEMA (see Frontier Report,[69] §§4.44-4.53). Furthermore, the available evidence clearly indicates that the DNOs' pay settlements were, in fact, efficient (see Frontier Report,[70] §§4.54-4.72). NPg has also provided external evidence from the Hay Group to demonstrate that DNOs' pay settlements are representative of the broader UK utilities sector, which GEMA has failed to address in the context of RPEs.[71]

3.9 Thirdly, insofar as it is at all relevant, the whole account of prospective "*perverse incentives*" is flawed. Annex 2 to the Reply explains why a benchmark based on DNOs' pay settlement data would provide a strong incentive to manage labour costs efficiently. For DNOs to benefit from a more lenient price control decision in the future would require tacit collusion between DNOs. GEMA appears to recognise this at §193(f). But there is no reason to consider that DNOs would engage in such conduct and none is offered by GEMA. Nor is there an explanation of how the result could be reached tacitly. Indeed, collusion on labour (or other) costs would require significant coordination across all DNOs, the risk and basis of which has not been established. Furthermore, GEMA has provided no explanation of why it considers collusion is more likely in relation to pay settlements than any other element of the DNOs' data used by GEMA to make its determination (the vast majority of which are also determined on the basis of comparative benchmarking of DNO data).

3.10 Fourthly, while not recognised in the Response, NPg put forward two potential benchmarking processes in suggesting that: "*GEMA could have assessed the Appellants using data from <u>the other DNOs</u> or benchmarked all DNOs' pay*

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[68] Despite this lack of evidence, GEMA still refers to DNOs paying "*above market rates of pay*" (Response, §195(i)(v)). DNOs have not paid above market rates, they have given pay rises that happen to be above those observed in entirely different markets (as explained below, at §§3.13-3.14).

[69] [**FE1**].

[70] [**FE1**].

[71] See Frontier Report [**FE1**], §§4.54 – 4.62.

settlements."[72] Therefore, GEMA could have addressed any (unfounded) concerns about incentives through a benchmarking process, as it does for virtually all other costs.

3.11 In attempting to establish an argument that sub-contractor costs cannot be reflected by DNOs' own pay settlements (§194(c)), GEMA has failed to respond to NPg's argument that the supply and demand conditions between sub-contracted labour and DNOs' employees in equivalent occupations are very similar.[73] Without explaining why such equivalent labour costs would not also be reflected by the pay settlement data, this cannot be a justification for GEMA's decision.

3.12 GEMA's complete rejection of the use of actual pay data is wholly unjustified and inconsistent with the basis for the rest of the RIIO-ED1 price control. The assessment of RPEs must therefore be revised.

B. GEMA has not demonstrated that the proxies it used in its analysis better reflect DNOs' cost pressures

3.13 GEMA makes a number of statements that the indices it used were "*reputable*" and "*appropriate*", but does not provide any evidence to support this conclusion: Response, §§195(b), 195(d)(iii) and 195(f). Instead, GEMA's defence of its position relies, again, on its concerns about the use of DNOs' data (which, for the reasons set out above, are unfounded): see Response §§195(d)(i)-(ii), 195(g)(ii). It cannot be sufficient to rely entirely on external, independent proxies without establishing that such proxies are reflective of the cost pressures that GEMA was attempting to establish. The Response, at §195(b)(i), seeks to suggest that, because NPg referred to certain of these indices in its business plan, this somehow vindicates GEMA's approach or that NPg is being inconsistent. To the contrary, NPg relied on such figures only where information on actual pay settlements was not available. This is entirely consistent with NPg's case here.[74]

3.14 Where GEMA does attempt to provide an explanation of its external data, it emphasises the role of the BEAMA Electrical Labour index in providing a

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[72] NOA , §7.21(A), emphasis added.

[73] NOA, §7.21(C) and Frontier Report [**FE1**], §§4.28 – 4.33.

[74] See, for example, the explanation of RPEs calculated for 2016/17 to 2022/23, in the Frontier Report [**FE1**] §§4.17 – 4.18.

measure of specialist electrical labour costs (§§195(d)(iii) and 195(g)(iii)).[75] This demonstrates a fundamental misunderstanding of the nature of that index:

(A) The BEAMA index is calculated using data on the labour cost increases in three manufacturing sectors, none of which reflects wages, or wage changes, in either electrical engineering or electrical field labour.[76] This index does not capture directly any labour costs incurred by DNOs.[77]

(B) Therefore, contrary to GEMA's claim, this index does not "*represent the electrical labour market from which DNOs will draw their labour…*", nor will it "*capture any differential recessionary impact by sector*."[78]

(C) GEMA's reliance on the BEAMA index as a 'specific' proxy for DNOs' costs demonstrates a material failure to assess:

(i) the data underlying any of the indices it was using;

(ii) the relevance of such data to the assessment GEMA was attempting to complete; or

(iii) the reliability of any conclusions drawn from that data.

3.15 GEMA is correct that NPg has not identified any independent, external proxies that GEMA ought to have relied upon. NPg's case is that GEMA was wrong to disregard DNOs' own data precisely because there are flaws with all of the proxies available to it (as identified above and in the NOA).

C. GEMA failed to complete a "reality-check" to assess whether the information it relied upon was sufficiently robust

3.16 §196 of the Response indicates that GEMA did not consider that the divergence between the costs identified through the proxies and the DNOs' pay settlements required any further investigation. The only reasoning given for this approach is a reference to the justifications for not relying solely on DNOs' pay settlements.

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[75] GEMA does not explain the use of the BCIS index in calculating the other 50% of its specialist labour RPE. BCIS also fails to capture DNOs' labour costs (it reflects the general building sector). NPg's concerns about BCIS (and general labour indices) are set out at Frontier Report Annexes [**FE1/2**], Annex 7.

[76] Frontier Report Annexes [**FE1/2**], Annex 7.

[77] In fact, the tiny component of electrical labour that will be included in the economy-wide general labour calculation is the only aspect of GEMA's analysis in which DNOs' costs are actually reflected at all.

[78] Response, §§195(d)(iii) and 195(g)(iii). To the extent that BEAMA does capture this impact by sector, it does not do so in relation to the sector in which DNOs operate.

Not only are those justifications clearly flawed for the reasons already given, they do not in any event justify failing to undertake a "reality-check".

3.17 Indeed, as GEMA acknowledges, each index reflects its own particular circumstances. In relation to the impact of the recession, for example, §195(g)(iii) states that: "*in the period 2008-2009 to 2013-2014, general ONS private sector labour costs data showed a real terms decrease of 7% over the period (comparable to the change to the BCIS index), however the BEAMA electrical labour index only showed a real terms decrease of 2%.*"

3.18 Since GEMA had evidence that the effects of key cost factors vary between industries, it should at least have conducted a "reality-check" to assess whether the divergence in costs between its proxies and the DNOs' own data is a reflection of the specific cost pressures faced by DNOs. This is particularly the case where NPg has identified a number of concerns about the use of these indices.[79]

3.19 A fair and reasonable regulator should have compared the results of its theoretical analysis with the actual outcome as a cross-check on the validity of the theory. In this case, the cross-check indicated that all of the DNO groups had agreed wage settlements well above the level predicted by GEMA's theory, in circumstances where the DNOs would certainly have to pay those costs this year (affecting profitability) and they would in all likelihood influence wage levels for future years (again affecting profitability). This divergence between reality and theory would, if properly considered, have led any rational regulator to doubt its theoretical outputs.

3.20 In contrast to its approach here, GEMA carried out a "reality-check" of this type on its debt index allowances and made adjustments accordingly.[80] It is not clear why debt index allowances differ from RPEs for these purposes.

D. The Response misunderstood NPg's position on the use of 2015/16 pay settlements

3.21 Contrary to the position set out in the Response, NPg is not challenging GEMA's decision on RPEs on the ground that GEMA failed to take into account DNOs' 2015/16 pay settlements. NPg acknowledges that this information was not available to GEMA at the time of the Final Determination.

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[79] See Frontier Report [**FE1**] §§4.73 – 4.89.

[80] See, for example, Final Determinations Overview [**NOA1/15**], §5.9

3.22 However, if NPg is successful in its ground of appeal against GEMA's assessment of RPEs then a remedy is required. In remedying the error, the CMA (or GEMA, in the event of a remission) would be taking a decision in the light of current facts and thus also would have access to DNOs' data for 2015/16, allowing it to calculate RPEs on the basis of these pay settlement data.

3.23 GEMA has argued that this approach would create an incentive on DNOs to appeal GEMA's decisions in order to have beneficial future data taken into account. This argument is untenable. Future data will only be taken into account where an appellant is successful in its appeal. DNOs will only therefore have an incentive to bring an appeal where they have a reasonable prospect of success. The CMA will not grant permission if an appeal is brought for trivial or vexatious reasons.[81] In many cases, the speed of the appeal process would mean no new data could meaningfully be relied upon.[82] The present case happens to be one where the further material will be available. If the matter were to be remitted to GEMA, GEMA would – rightly – have to consider up-to-date material. The CMA has the power to consider the material and dispose of the issue more quickly without remission.

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[81] Section 11C(3) and 11C(4)(d)(i) EA89.

[82] Any appeal to a decision of GEMA must be filed within twenty working days from publication of the decision (§1(3) of Schedule 5A EA89).

SECTION D – RLCAs

4.1 This Section of the Reply should be read alongside the second WS of Keith Noble-Nesbitt.

4.2 As explained in the NOA and in the first WS of Keith Noble-Nesbitt, NPg's case is that:

(A) GEMA used 2-digit SOC code data to calculate RLCDs. This 2-digit data was not accurate, because the results were distorted by compositional bias or mix issues, i.e. it did not take account of differences in regional composition of the workforce.[83]

(B) As a result, the RLCDs that GEMA estimated, and hence the RLCAs it applied to NPg, were higher than was justified.[84]

(C) The errors in GEMA's approach were readily apparent from a number of "reality-checks" that NPg explored (and which GEMA should have explored), which consistently gave lower RLCDs than in GEMA's Decision. These included: using more granular ASHE data (i.e. 4-digit SOC codes); using SOC codes that are less likely to be susceptible to compositional bias; and looking to additional sources of external evidence of RLCDs, such as the Hay Group and IDS data.[85]

(D) GEMA's method was also – contrary to its suggestion in the Final Determination[86] – inconsistent with the approach adopted by other regulators in similar price control processes, including the CC's approach in *NIE*, which would give materially lower RLCDs.[87] GEMA should therefore have been aware that there were issues in its data that needed addressing.

(E) GEMA had fair warning of these issues, and could readily have resolved them in the way NPg proposes – using the results of these "reality-checks" to triangulate a reasonable range from sources less prone to compositional bias, which would result in materially lower RLCDs.[88]

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[83] These issues were in fact highlighted in a "health warning" given by the ONS that accompanied the data: NOA, §§8.3(A) and 8.19.

[84] NOA, §8.4.

[85] NOA, §8.21; first WS of Keith Noble-Nesbitt, §§62-65.

[86] [**NOA1/16**], §4.17.

[87] NOA, §§8.21(A) and (D); §8.26(C); first WS of Keith Noble-Nesbitt, §60.

[88] NOA, §§8.3(B), 8.21 and 8.24; first WS of Keith Noble-Nesbitt, §§62-69. Contrary to the assertion that NPg does not "*offer any reason to justify the use of the bottom end of the range*" (JC WS, §40(a)), NPg explained that, consistently with GEMA's emphasis on requiring robust evidence to support RLCAs, "*it is appropriate to select the bottom end of the reasonable range […]*

4.3 GEMA admits at Response, §228 the existence of the compositional bias "*in the ONS database*", but does not have any proper answer to NPg's case that the compositional bias caused it to overstate its RLCDs and that this should and could have been addressed before the data were used to calculate RLCDs.[89]

4.4 GEMA contends that NPg's case is all about "*the use of a small number of 4-digit SOC codes*"[90] and says that the use of 4-digit SOC codes is unreliable because of small sample sizes. This misstates NPg's case: it drew on a wide base of evidence to demonstrate that GEMA made an error in the values it chose to use for the RLCDs for London and the South East.[91] The same wide base of evidence is used in NPg's proposed remedy, which derives a reasonable range from that evidence. Further, it is not a truism that the 4-digit sample sizes are small, and their reliability can in any event readily be enhanced.

GEMA's principal Response points

4.5 The Response essentially makes two points:

(A) 4-digit SOC code data are unreliable,[92] because of sample size issues (including "*industry bias*", i.e. in some SOC codes, DNO employees make up a disproportionate part of the sample size) and/or year-on-year volatility;[93] and

(B) in any case, the impact of using more granular data would have been "*immaterial*".[94]

4.6 As to GEMA's first point:

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since that reflects the point at which there is a clear and consistent evidential basis" (NOA, §8.24; see also first WS of Keith Noble-Nesbitt, §69).

[89] GEMA recognises that compositional issues "*can and do exist at all levels of data*" (Response, §213(b)(iii)). But GEMA disagrees that the 2-digit data it used was inaccurate by reason of mix or compositional issues (Response, §213(b)). It therefore appears that it took no steps to account for or mitigate the risk of bias affecting the RLCDs it estimated using 2-digit data.

[90] Response, §207(b).

[91] The evidence is summarised at Table 4 of the first WS of Keith Noble-Nesbitt (pp. 15-16).

[92] GEMA's suggestion that NPg's approach "*appears to be inconsistent*", since it made use of 1- and 4-digit SOC code data (Response, §219) misunderstands NPg's case: NPg included these examples as "*two different ways of identifying SOC codes where its [compositional bias's] impact is minimised*" (first WS of Keith Noble-Nesbitt, §64(i)). Any data source that is used in such a way as to identify like-for-like RLCDs generates a robust data point. NPg's approach provided a range of tests for the bias in the data, used to inform the reasonable range for which NPg contends; NPg explained that the use of its suggested approaches together "*is manifestly more robust than placing reliance on any single approach*" (first WS of Keith Noble-Nesbitt, §66).

[93] Response, §§207(C), 213(b)(i) and 227(c).

[94] Response, §210. In relation to NPg's procedural grounds, the Response simply repeats the assertion that GEMA was unconvinced, which is the basis of NPg's complaint (Response, §215(c)). In relation to the Scotland premium, the Response takes the same approach of simple repetition without further reasoning (Response, §232). NPg's point on this issue was not that GEMA should have recognised a Scotland premium; it was that in choosing not to do so, GEMA recognised implicitly that it was appropriate to "reality-check" its RLCD calculations (NOA, §8.20).

(A) First, as explained in Keith Noble-Nesbitt's first WS, although the ONS does not publish sample sizes for individual SOC codes (at any SOC level), it is easy to estimate them. For the 4-digit codes that NPg used in its appeal materials for skilled trades, NPg estimated the sample size at c. 1,650 nationally, or 150 per region.[95] This is not a small sample size, even compared to many 2-digit SOC codes. As NPg also observed, use of five years' worth of data, and use of a basket of 4-digit SOC codes, would effectively mitigate any issues of sample size affecting a specific category.[96]

The Response has no answer to this point. Indeed, GEMA (at §207(C)) characterises its use of 2-digit SOC code data as a reasonable compromise in the light of a balance it was required to strike between "*using data which contained relevant occupations on the one hand and avoiding small sample sizes on the other*". However, these 2-digit SOC codes are themselves an aggregation of 4-digit SOC codes, which highlights the simple remedy for sample size issues within individual SOC codes: to use a basket of 4-digit codes. Since the sample size concern raised in relation to 4-digit SOC codes was not significant and was easily soluble, on GEMA's own analysis there was no need for the supposed "*compromise*" and it should have been using 4-digit SOC codes (or at the very least using them as a "reality-check").

(B) Second, GEMA exaggerates the impact of estimation error, and year-on-year volatility, when using 4-digit SOC code data as opposed to 2-digit data. As is further explained at §§11-29 of the second WS of Keith Noble-Nesbitt, the basket of 4-digit SOC code data used by NPg displays relatively little annual volatility relative to a basket of 2-digit data. Calculating a weighted average over multiple SOC codes in an individual year, as GEMA and NPg do, materially increases the reliability of the data and materially reduces estimation error.[97] Including several years in the average, as GEMA does, further increases the robustness of the estimate.[98]

(C) Third, the suggestion that a concentration of DNO employees within a particular 4-digit SOC code leads to "*industry bias*" and hence unreliable or inefficient results is unfounded. As is further explained at §§30-32 of the second WS of Keith Noble-Nesbitt, such a concentration would not significantly affect the RLCA analysis. The example GEMA gives at §213(b)(i), of DNO employees in SOC 2123 (electrical engineers), does not support its case. Even if, as suggested, DNO employees account for

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[95] First WS of Keith Noble-Nesbitt, §63 and footnote 24.

[96] *Ibid*., footnote 24. See also §8 of Annex C.

[97] In the case of the rest of Great Britain, it is also possible to average across multiple regions to further increase reliability.

[98] As GEMA acknowledges at §16(b) of Joel Cook's WS.

just over 10% of the sample within that category, this would still have an almost negligible effect on the assessment of RLCAs overall.

Moreover, GEMA has provided no evidence to suggest that DNOs pay their workers inefficiently.[99] As explained in the second WS of Keith Noble-Nesbitt, §§33-34, the incentive to agree efficient pay settlements far outweighs any incentive to allow those settlements to increase in order to achieve a marginal increase in the RLCD. A 10% uplift on pay relative to market rates for DNO employees making up 10% of the overall sample in this SOC code in London would raise the ASHE estimate of pay for electrical engineers in London by only 1%, and therefore cost the DNO in question 10 times as much as it would gain.

(D) Fourth, the specific criticisms GEMA makes of NPg's use of data are unfounded. GEMA states that the 4-digit "*flat as a mill pond*" SOC codes referred to as more robust by NPg "*seem to suffer from compositional bias and/or small sample issues*".[100] This view is said to be supported by some case studies of RLCDs in Annex C to the WS of Joel Cook, which focus on certain of the specific occupations that were discussed at Annex G to the first WS of Keith Noble-Nesbitt. In addition to the points made above, NPg notes that, (i) given that the occupations used in these case studies are major professions, e.g. nurses and police officers, the sample sizes are large, even compared to many 2-digit SOC codes;[101] and (ii) the professions chosen are also relatively homogenous, making compositional bias unlikely.

In any case, Joel Cook has omitted factors that act to reduce the RLCDs for two of these case studies (nurses and police officers), and has materially narrowed the range for the third (secondary school teachers), as well as for nurses, such that his analysis provides an unsound basis for GEMA's criticisms. This is explained in further detail at §§35-41 and the Annex of the second WS of Keith Noble-Nesbitt, which show that the case studies suffer from material omissions.

(E) Fifth, GEMA denies that compositional bias caused its estimated RLCDs to be inaccurate (Response, §213(b)). GEMA argues more generally that the 4-digit SOC codes discussed by NPg may also be affected by compositional issues (Response, §213(b)(iii)). But such issues are far greater in relation to 2-digit than 4-digit SOC codes: the narrower codes admit of less variation in role and function. The second WS of Keith

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[99] Cf. Response, §213(b)(i).

[100] WS of Joel Cook, §77.

[101] By way of example, the ONS estimates that there are over 800,000 nurses and about 250,000 police offers in Great Britain; based on the overall survey sample of 1% of employees, and a response rate of about 70%, this implies that the pay details for over 5,500 nurses, and about 1,750 police officers, was obtained (see the second WS of Keith Noble-Nesbitt, §40 and Annex).

Noble-Nesbitt, §§43-62, explains that the ASHE data in general suffers from compositional bias that causes the London and South East RLCDs to be overestimated; that this issue is more pronounced in 2-digit data; and that it can be readily seen to affect the 2-digit codes actually used by GEMA. GEMA's failure to take any steps whatsoever to mitigate this issue means that its London and South East RLCDs are upwards-biased.

Furthermore, the examples GEMA gives from NPg's appeal materials in support of its purported concerns about 4-digit codes – Michelin-starred chefs and electrical and electronic trades n.e.c[102] – are not supported by any evidence that the estimated RLCDs actually suffer from misestimation due to compositional bias. The first is in any case based on a hypothetical example from NPg's appeal materials which merely serves to illustrate the point that, by controlling for more granular categories of occupation, it is possible to reduce the extent to which compositional bias can affect estimated RLCDs.[103] In relation to the second, GEMA has not presented any evidence that the potential compositional difference it highlights would act to cause material misestimation of the RLCD for London (or even the direction in which it would act), and has simply not considered whether the relevant 4-digit SOC code might still show less compositional bias than the corresponding 2-digit SOC code. In any case, this second example cannot affect the South East RLCD, which is also subject to NPg's appeal, since GEMA's observation relates only to the London network.

Moreover, NPg recognised that some compositional bias could remain even in 4-digit data.[104] NPg's point is that the ASHE data must be used with due care and the fact that 4-digit SOC codes could have *some* compositional bias does not suggest either that it is of the same order as 2-digit codes or that reference to 4-digit codes should be dismissed.

4.7 GEMA's second point, that the impact of using more granular data would have been "*immaterial*", is also incorrect. As explained in NPg's appeal materials, GEMA's view of total costs (to which the RLCAs contributed) affected its IQI calculations, which were therefore flawed as a result of GEMA's errors in relation to RLCAs.[105] The £1.5m additional revenue allowance post-interpolation, which GEMA cites, is therefore not the relevant figure. In any

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[102] Response, §213(b)(iii); WS of Joel Cook, §§57, 108-110 and 143.

[103] First WS of Keith Noble-Nesbitt, §22.

[104] Annex B to the first WS of Keith Noble-Nesbitt, §7. NPg explained the properties that would lead a 4-digit SOC code to provide a robust estimate of the RLCD, unaffected by compositional bias, at §8 of Annex G to the first WS of Keith Noble-Nesbitt, i.e. that "*the SOC code is relatively tightly defined to a specific role, or because the different roles within it are always needed in equal proportions in each region*".

[105] NOA, §2.26(C). See also the Frontier Report [**FE1**], §§5.4 to 5.8.

case, GEMA has mischaracterised NPg's proposed remedy.[106] It has then compounded this with errors in its calculations.[107] On a full inspection of the relevant data, GEMA's errors in relation to RLCAs resulted in its view of NPg's total costs being £21.3m lower than it otherwise would have been. Further, and in any event, NPg disputes GEMA's assertion that £1.5m would be an "immaterial" amount, particularly given that it results from an error which was readily apparent to GEMA, not only on the face of the dataset but from NPg's repeated observations.

Additional points made in the Response

4.8 GEMA also questions the reliability of the external sources of which NPg made use to test the robustness of GEMA's approach: Response, §§230-231. GEMA's criticisms of the external sources used by NPg are based on concerns that Hay Group and IDS data may be vulnerable to selection bias, and may use sources which are not objectively reported.[108] GEMA refuses to engage with the results of the data on this basis (see Response, §§229-230(b)). However, the criticism is simply speculation in relation to reputable independent data sources.

4.9 Where existing information gives cause for concern, an appropriate response is to develop an approach that addresses the issues, including through reliable external sources. NPg did not suggest that GEMA should use Hay Group and IDS data to the exclusion of other sources, including ASHE.[109] However, given that evidence of compositional and mix issues affecting the ASHE data was put before GEMA during the price control review, GEMA should have looked to bolster the evidential basis for its RLCAs assessment, as suggested by NPg, instead of now focusing only on undermining the sources suggested by NPg.

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[106] The Response states that "*The Authority's calculations are that using the 4-digit SOC codes, as proposed by NPg, in its RLCAs would give an additional £1.5m additional* [sic] *revenue* [sic: cost] *allowance*" (Response, §210). This mischaracterises NPg's case, since using the 4-digit SOC codes NPg discussed in its appeal materials is not the remedy that NPg is seeking, but rather one aspect of the way in which GEMA could and should have addressed the compositional bias in the ASHE data.

[107] The "sensitivity analysis" presented at Annex B to the WS of Joel Cook, which leads to the £1.5m figure, is flawed. Errors in the calculations mean that the RLCDs for London and the South East are overstated; while the supposed "4-digit" materiality in fact makes use of an index of which the main constituents are 2- and 3-digit SOC codes (placing only 36% weight on 4-digit data). Even at these low weights on 4-digit data, the impact on GEMA's view of total costs of using GEMA's supposed "4-digit" weights is actually £6.8m. See §§63-73 of the second WS of Keith Noble-Nesbitt.

[108] Response, §§229-230(b).

[109] NPg noted that external evidence "*could also be used to further reduce the scope for error*" (NOA, §8.21(C), emphasis added). NPg did not propose the Hay and IDS data as a wholesale "*better alternative*" to the ASHE data (Response, §227); rather, NPg highlighted that external sources provide a way of developing estimates which should be robust to compositional bias, in light of the ONS's "health warning": §§64-65 of the first WS of Keith Noble-Nesbitt. Those paragraphs explained a further aspect of NPg's approach: to use data from within the ASHE dataset that shows no evidence of being affected by compositional bias (Annexes F and G to the first WS of Keith Noble-Nesbitt). Another aspect is to generally favour a basket of more granular data (subject to checking that the overall RLCIs calculated are not volatile or subject to small sample misestimation). This aspect was discussed further at Annex C to the first WS of Keith Noble-Nesbitt; supplementary volatility analysis is provided at §§25-28 of the second WS of Keith Noble-Nesbitt.

4.10 Finally, GEMA also states at §222 that following the Ofwat approach of including the regional wage variable in the regressions as an explanatory variable "*is not practicable*". It states, without elaboration, that it was justified in not following the CC's approach in *NIE* of using more granular 3- and 4-digit SOC code data.[110] NPg's point was not that GEMA was bound to follow either example, but rather that GEMA's portrayal of its approach to RLCAs as being in line with regulatory precedent was misleading.[111]

[110] Response, §§225-226. The *NIE* precedent is supportive of NPg's case. In particular, the CC placed no weight on 2-digit data, instead placing 50% weight on 3-digit and 50% weight on 4-digit data ([**KNN1/23**], §8.220).

[111] NOA, §8.26(C); first WS of Keith Noble-Nesbitt, §60.

SECTION E – STATEMENTS OF TRUTH

NPg believes that the facts stated in this Reply are true.

SIGNED

for and on behalf of Northern Powergrid (Northeast) Limited

SIGNED

for and on behalf of Northern Powergrid (Yorkshire) Plc

Frontier Economics believes that the facts stated in Annexes 1 to 3 to this Reply are true.

SIGNED

for and on behalf of Frontier Economics Limited

ANNEX 1: COMPARING DRAFT DETERMINATION EVIDENCE WITH FINAL DETERMINATION EMBEDDED SGBs AND FURTHER ANALYSIS OF GEMA'S DENOMINATOR ERROR

1. This Annex addresses two matters that arise in the light of GEMA's response to NPg's appeal in respect of SGBs. It first provides a comparison of the Draft Determination Evidence relied on by GEMA to support its second swipe of SGBs with its Final Determination estimate of embedded SGBs. It then provides a further discussion of the denominator error GEMA made in its calculation of SGBs.

A. Comparison of Draft Determination evidence with Final Determination embedded SGBs

2. In the Response, GEMA contends that it maintained its reliance on the Draft Determination Evidence "*as indicating the fact of an underestimation*"[1] of SGBs, but relied only on the DNOs' own data to quantify the extent of that underestimation. The Draft Determination Evidence GEMA refers to in the Response came from three sources:

   (A) Smart metering savings of £190m, which GEMA drew from an impact assessment of the roll out of smart meters done by DECC drawing on work by the Energy Networks Association **[MD1/9]**;

   (B) Network capacity (reinforcement) savings of £653m, which GEMA drew from an assessment of results from the Transform model [**MD1/4**]; and

   (C) "Other" savings of £137m, which GEMA drew from ENWL's business plan and applied to all DNOs on a pro rata basis.[2]

3. Thus, in total, GEMA's Draft Determination Evidence taken on its face suggested that the industry could achieve £980m of SGBs.[3] The Response now contends that this evidence indicated the fact of an under-estimation of SGBs across the DNO group *as a whole*, and therefore justified the further disallowance performed at Final Determination.

4. GEMA's analysis shows that it considers there are £651m SGBs now embedded in the DNOs' business plans.[4] These figures are necessarily inclusive of WPD, since GEMA's Draft Determination analysis purports to identify SGBs that are available industry-wide.

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[1] Response, §144(a)(iii)(3).

[2] John France's witness statement (at §57) explains that the true calculation of the overall figure as contained in GEMA's spreadsheet was simply 1.5 times the savings available from the reinforcement category of expenditure, without any apparent rationale (see the spreadsheet from GEMA which performed the calculation [**JMF1/15**]).

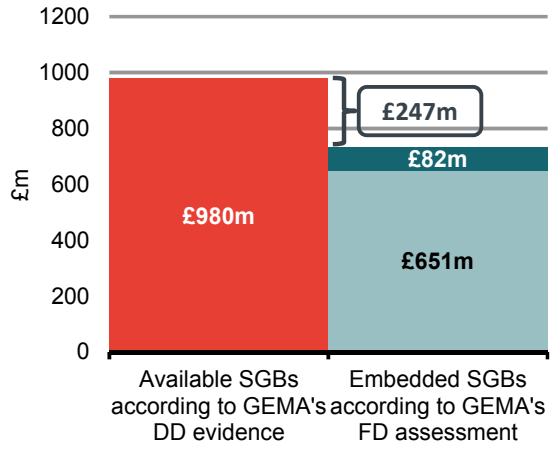
[3] Note that Table 11.3 of the Draft Determination Business Plan Expenditure annex [**NOA1/13**] presents a figure of £943m, but this is a figure after GEMA has apportioned total SGBs across the DNOs according to efficient cost, i.e. it is the total SGBs available according to the efficient costs in the plan. GEMA made the same basic maths error in this calculation – the correct figure should have been £907m – but in any case the relevant figure for present purposes is £980m.

[4] Table 11.1 of GEMA's RIIO-ED1 Final Determinations – Business Plan Expenditure Assessment [**NOA1/16**] quotes a figure of £641m, however this figure is based on scaling the embedded SGBs to the post-cost-assessment efficient costs. The underlying figures show that GEMA accepts £651m SGBs in the business plans.

5. The Draft Determination Evidence, taken on its face, therefore suggests that an additional £329m could be removed from DNOs' cost allowances.

6. However, as shown in the Frontier Report submitted as part of NPg's appeal **[FE1]**, GEMA's cost assessment modelling has removed a further £82m of SGBs from the DNOs' cost allowances, over and above any SGBs embedded in their submissions, before any 'second swipe' is performed. On this basis, the gap between what was offered and required of the DNOs and what would have been indicated by an entirely uncritical, face value, assessment of the Draft Determination Evidence falls to £247m as shown in **Figure 1**.

Figure 1
Draft Determination Evidence compared to GEMA's Final Determination assessment of SGBs embedded in business plans, once SGBs from the cost assessment are included[5]



7. Given that the gap between available and embedded SGBs has fallen to £247m in this analysis, a relevant question becomes: how inaccurate is the Draft Determination Evidence? GEMA has not sought to address this. In the Response, GEMA has accepted that the Draft Determination Evidence was not robust enough to allow for quantification of the disallowance that should be applied to the DNOs.[6]

8. NPg has provided a fuller technical review of the three sources of evidence at Draft Determination (see next section). The conclusions of this analysis are as follows:

   (A) It is clear that the DECC impact assessment relied on by GEMA overstated the value of smart metering savings to DNOs. Rather than £190m of available savings, a more robust estimate is in the range £35m - £54m, a

[5] Source: Frontier based on GEMA spreadsheets.

[6] Response, §144(a)(iii)(3).

reduction of up to £155m. This is because the DECC impact assessment was inconsistent with the statement of benefits available to DNOs that was *current at that time*.[7] The information in the DECC impact assessment that was updated – and readily available to GEMA in this form at the relevant time[8] – showed that the available benefits were substantially lower in the ED1 period than DECC had previously set out.[9]

(B) GEMA made a highly questionable assumption when applying the results of the Transform model.[10] The Transform model was built to assess the potential for smart solutions to reduce reinforcement costs on the HV and LV network that arise specifically from LCT uptake. GEMA found that, according to the Transform model, SGBs arising in respect of this subset of reinforcement amounted to around 23% – 25% of cost. However, GEMA then mistakenly applied this ratio to **total** reinforcement – including reinforcement at higher voltage levels and driven by non-LCT load growth – to derive its estimate of total potential SGBs in this category of £653m. This calculation was in error, since the Transform model is silent on the potential for SGBs at higher voltage levels arising from non-LCT load growth. At §173(a) of the Response, GEMA recognised its calculation was in error, since it states that it had to modify its approach between Draft Determination and Final Determination in part because *"the Transform model only dealt with LCT reinforcement and is not therefore apt to cover all smart solutions, and associated SGBs, that will arise in other cost areas"*. A more appropriate method would be to apply the 25% ratio only to LV and HV reinforcement, resulting in an estimate of total SGBs available of £347m.

(C) The savings in the "Other" category that arose from ENWL's business plan were in fact rejected by GEMA at Final Determination as not being smart savings. The £137m of savings drawn from this source at the Draft Determination, then, in fact were not "smart" savings at all, and should not have been included as evidence of underforecasting of SGBs by the sector generally, as explained in more detail below (§§32-36).

9. On this basis, a less unreasonable estimate of the available SGBs indicated by the Draft Determination Evidence would be a total of £347m + £35m = £382m. Even if GEMA contends that its error in relation to the Transform model was justified, the total available SGBs remains only £653m + £35m = £688m. This is a reduction of £292m against the original claim made by GEMA in relation to the

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[7] Energy Networks Association (2013), "*Review of Analysis of Network Benefits from Smart Meter Message Flows*" [**MD1/7**].

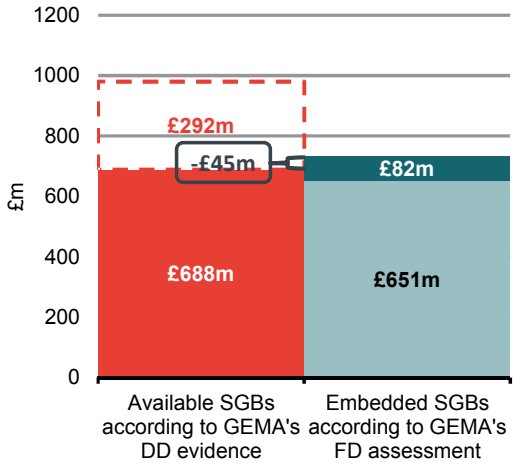
[8] We understand that the ENA document from July 2013 was in wide circulation, which means that GEMA should have been aware of it. At the very least, GEMA would have been made aware of it when David Smith referred to it in a letter to Maxine Frerk [**MD1/25**].

[9] Any further delays to the smart meter roll out programme will reduce the potential for smart meter benefits accruing to the DNOs still further.

[10] GEMA also made a further assumption when it derived its final estimate of total available SGBs by multiplying its estimate of available reinforcement savings by 1.5. This calculation was not explained by GEMA in its Draft Determination document.

total Draft Determination Evidence. The comparison, on the basis of the latter, more generous assumption, is shown in **Figure 2**.[11]

Figure 2.
Comparison of Draft Determination Evidence and GEMA's Final Determination assessment of SGBs embedded in business plans, accounting for errors and weaknesses in Draft Determination Evidence[12]



10. The only conclusion from a proper assessment of the evidence before the CMA (and which was before GEMA) must be that the Draft Determination Evidence demonstrates that a 'second swipe' is not merited. On the contrary, the external evidence broadly corroborates the quantum of SGBs embedded in the DNOs' plans, particularly once the first swipe of SGBs in the cost modelling is accounted for. GEMA was incorrect in relying on the Draft Determination Evidence to justify the need for its second swipe.

B. Detailed explanation of why the Draft Determination Evidence was flawed

11. This section sets out some key criticisms of GEMA's Draft Determination approach to assessing the SGBs that it might reasonably require the DNOs to obtain over the course of the RIIO-ED1 period. It scrutinises the three sources of evidence GEMA identified at Draft Determination (summarised at §2 above).

[11] We have considered whether the £688m is comparable to the £733m (i.e the £651m + £82m) in Figure 3, since GEMA's definition of what constituted smart benefits changed between Draft Determination and Final Determination. However the Draft Determination Evidence, according to GEMA, was pivotal in its decision to apply its second swipe (however quantified) at Final Determination. GEMA must therefore have assessed the level of SGBs in the DNOs' plans against the quantum of SGBs indicated by the Draft Determination Evidence. If, on the contrary, GEMA considers that these figures are not comparable, that can only be an admission that the Draft Determination Evidence in fact does not support the Final Determination analysis, in which case GEMA has mischaracterised its procedure in its Response. In any case, NPg estimates that if the definition of smart used at Final Determination is applied to the Draft Determination Evidence, the quantum of savings indicated by the Draft Determination Evidence becomes even smaller.

[12] Source: Frontier based on GEMA spreadsheets.

These criticisms are not new, having been made by the DNOs in response to GEMA's Draft Determination (see Annex 1 to the Frontier report [**FE1/2**]).[13]

Smart Metering Benefits

12. At §152(a)(f)(i) of the Response, GEMA claimed that:

"On the basis of DECC's latest impact assessment, to which the DNOs contributed, and a 2013 study by the Energy Networks Association, an additional £190m of savings could accrue to DNOs over the RIIO-ED1 price control period in respect of smart metering."[14]

13. GEMA arrived at the £190m by converting DECC's figure of £181.9m from 2011 prices to 2012-13 prices. DECC provided GEMA with the assessment of £181.9m by reference to its full Impact Assessment for smart meters which it published in January 2014 **[MD1/9]**.

14. DECC's work in relation to its impact assessment is reproduced in Table 1.1.

Table 1.1
DECC assessment of benefits arising from smart meters[15]

[*REDACTED*]

15. The DECC study is now known to have relied on assumptions that were wrong in respect of two of these components:

(A) better informed reinforcement investment decisions, where the estimate in the DECC study was based on assumptions that were known to be outdated and wrong even at the time of the Draft Determination; and

(B) operational savings from fault fixing, where the assumption relied on in the DECC study is clearly wrong.

Better informed reinforcement investment decisions

16. "*Better informed reinforcement investment decisions*" was assessed to be worth **[*REDACTED*]** SGBs. In arriving at this figure DECC used information from the Energy Networks Association (ENA) report, which, although not precisely referenced, must be assumed to be the report "ENA Networks Benefit of Smart Meters message flows" **[MD1/2**].

17. The original ENA report **[MD1/2]** identified benefits arising from better informed reinforcement decisions that were consistent with (although not the same as) the **[*REDACTED*]** quoted by DECC. However, the ENA report had in fact been reviewed and reissued in July 2013, titled "Review of Analysis of Networks Benefit of Smart Meters message flows" **[MD1/7]**. The benefits in that updated version arising from better informed investment decisions were estimated to be

[13] While this section does not address the question of whether there is any overlap or double counting between these components of GEMA's evidence base, as noted by GEMA in the Final Determination – Overview [NOA1/15], §§4.65-4.69, DNOs raised concerns in relation to both issues at the Draft Determination stage.

[14] GEMA's assertion that the numbers have their origins in DNO data is misleading.

[15] Source: email from DECC to ENA and attachment, 12 September 2014 [**Tab 8**].

substantially lower at between £11.4m and £17.6m, *assuming a mass roll-out commencement in 2014*.[16]

18. The assessment of £11.4m over the ED1 period had been independently calculated by DNV KEMA in its report "Review of Network Benefits of Smart Meter Message Flows", published in April 2013.[17]

19. GEMA's Draft Determination evidence was therefore based on demonstrably flawed assumptions in respect of smart meters – more accurate updated figures were readily available, even at the time of the Draft Determination.

Operational savings from fault fixing

20. The other material component of DECC's £181.9m which is known to be in error was its **[*REDACTED*]**estimate for operational savings from fault fixing.

21. DECC inferred this from other benefit assessment work that showed a 10% reduction in the total duration of supply interruptions might be achievable on the back of better information from smart meters. DECC reasoned that a 10% saving in cost must therefore be possible, effectively an assumption that fewer man-hours of labour must flow from a shorter total duration of supply interruptions.[18]

22. This inference lacks plausibility. It does not follow that simply becoming aware of a problem earlier drives a material reduction in the effort required to solve it. Customers will benefit from this as the 'dead-time' (i.e. the time that elapses between the customer going off-supply and the DNO being aware of that) is reduced, but the resources required to fix the physical fault that has manifested itself are not reduced by such earlier awareness.

23. **[*REDACTED*]**[19] [20] [21]

Other evidence available to GEMA

24. The July 2013 ENA report, "Review of Analysis of Networks Benefit of Smart Meters message flows" **[MD1/7]**, identified that in total (i.e. across all sources of benefit) the benefit available to DNOs deliverable by DNOs independently from other parties in ED1 was in the range £35m - £54m, not the £190m claimed by GEMA.[22]

25. However, there are further reasons to doubt that even this quantum of SGBs may fall in the ED1 period. The smart meter roll out timetable was, even at the time of the Draft Determination, in serious doubt. Having already experienced delays, the

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[16] Energy Networks Association (2013), "*Review of Analysis of Network Benefits from Smart Meter Message Flows*", page 10, Table (i) **[MD1/7]**.

[17] [**Tab 9**]. DNV KEMA acted as the engineering consultants for GEMA in the assessment of DNOs' business plans. DNV KEMA was also engaged by the ENA on behalf of DNOs in the production of the industry's assessment of smart meter benefits. All references to DNV KEMA in this annex pertain to their commission for the ENA.

[18] See DECC Impact Assessment **[MD1/9]**.

[19] EATL (2014), "*DNO RIIO-ED1 Business Plan Smart Grid Related Expenditure Assessment*" **[Tab 10]**.

[20] [**Tab 9**].

[21] **[Tab 10],** section 5.51, p. 44.

[22] **[MD1/7]**, page 648.

roll out is now not even planned to commence until April 2016 with a contingency of August 2016, and the industry has been put on notice that further contingency is built into the plan to allow roll out to commence in October 2016. Even under the most optimistic April 2016 scenario, the 60% coverage identified by DNV KEMA as a pre-requisite for the start of benefit delivery[23] is implausible before the end of 2018.

26. This would further materially diminish the benefits available to DNOs to almost negligible levels. While this may not have been known in detail at the Draft Determination stage, the huge uncertainties that were already manifest in the roll out programme would have suggested that even the lower end of the industry's range for benefits might be optimistic. This should have been even more evident to GEMA at the time of the Final Determination, particularly given the fierce criticism the Draft Determination Evidence had received.

Benefits Assessed via the Transform Model

27. GEMA's second source of Draft Determination Evidence was the Transform model, which had been commissioned by the GEMA/DECC Smart Grid Forum to assess the benefit of smart solutions if applied to the increased levels of LCT uptake envisaged in DECC's scenarios.

28. Specifically in its response GEMA sets out that:

"On the basis of the Transform model developed by DNOs under the Smart Grids Forum, an average of 23 – 25 % of reinforcement costs should be avoidable at GB level by use of smart solutions, rather than the 14% forecast by DNOs, amounting to additional saving of £653m…"[24]

29. However, the Transform model was developed and built for the purpose of evaluating solutions to the specific problem of integrating elevated uptake of LCTs. **[*REDACTED*]** [25]

30. **[*REDACTED*]**

Benefits assessed in Other cost areas

31. GEMA's description of the SGBs available to DNOs in other (non-reinforcement) cost areas at Draft Determination is replicated in full below.

"We consider that significant savings should be possible across the business. Most DNOs have not fully considered benefits of smart grids in cost areas other than reinforcement. Only £14.5m of savings have been justified by one DNO (ENWL) in other areas. Applying ENWL's identified benefits across all DNOs indicates significant possible savings of more than £200m. This can be seen by calculating ENWL's savings as a percentage of network operating costs and applying this percentage to all DNOs' requested network operation allowance. We are not convinced that any DNO has fully considered the benefits of smart

[23] [**Tab 9**], §2.3.3.

[24] Response, §152(f)(ii).

[25] [**Tab 10**], pp. 8-9.

solutions across its business. Therefore we consider savings in excess of this should be achievable.

We acknowledge that there is uncertainty as to the level of the savings that are achievable and that there is some risk of double counting savings identified elsewhere. We judge that total savings of £137m should have been included in the DNOs' business plans. This represents around 20 per cent of the savings we believe to be achievable through avoided or delayed network reinforcement."[26]

32. In its Final Determination, GEMA stated (in describing its Draft Determination methodology) that:

"We only accepted embedded benefits for one DNO in cost areas outside reinforcement. We extrapolated these benefits across all slow-track DNOs to determine the smart grid savings possible in these areas. We added only some of the benefits DNOs should achieve in these cost areas through the use of smart metering data to account for potential double counting. Noting the uncertainty in the level of savings, we applied a more conservative view of potential benefits of £199m."[27]

33. It is not clear why there is a difference in the figures quoted by GEMA between Draft Determination and Final Determination in relation to the same piece of evidence, but we understand the correct figure to be £137m as quoted at Draft Determination. Although GEMA did not make this explicit, it is clear from inspection of ENWL's business plan that the SGBs identified by ENWL at the time related to LV fault finding technology (e.g. Bidoyng, smart fuse).[28]

34. Two issues arise on inspection of this evidence:

(A) First, in its assessment of what constituted smart technologies in the Final Determination, GEMA stated the following in relation to LV fault finding technology: "*While innovation projects have been funded in DPCR5, it is not clear how to differentiate smart from business as usual activities in this area. It would be inequitable to apply an adjustment on this basis*."[29] GEMA therefore no longer considers that this technology can be defined as a "smart" technology.

(B) Second, GEMA explained, in the spreadsheet underlying its calculation of the £137m, that these benefits were defined as *"Half the benefits in reinforcement less smart metering benefits"*.[30] No rationale was provided for this at the time, nor is any rationale explained in the Response, despite the issue being raised by DNOs in response to Draft Determination and in the WS of John France.[31] GEMA's final calculation therefore appeared to

[26] Draft Determination Business Plan Expenditure Assessment [**NOA1/13**], §§11.20.-11.21.

[27] Final Determination Business Plan Expenditure Assessment [**NOA1/16**], §11.18.

[28] ENWL Business plan, Section 8 (*Innovation*) [**Tab 11**].

[29] [**NOA1/16**], Table 11.5.

[30] [**JMF1/15**], Sheet 'Benefits'.

[31] WS of John France, §57.

be entirely arbitrary, contrary to GEMA's claim that this figure was based on ENWL's business plan.

35. In either case, a number of serious challenges to the validity of this apparent evidence arise on inspection of the sources.

C. Further comments on the denominator error

36. Frontier calculated an adjustment of £5.8m to NPg's costs as a result of correcting GEMA's error. GEMA considers this should, in fact, be £5.1m (Response, §165(c)), a difference of £700k.

37. We understand GEMA to consider there are two errors in the methodology adopted by Frontier in calculating the adjustment.

    (A) First, GEMA states that Frontier used an incorrect value for SGBs embedded in the plans in respect of Condition Based Risk Management ("**CBRM**") (§165(c)(i)(1) of the Response).

    (B) Second, GEMA states that Frontier has incorrectly assumed that SGBs embedded in submitted plans are the same as SGBs embedded in efficient plans i.e. plans as modified by GEMA's cost assessment benchmarking (§§165(c)(i)(2) & (3) of the Response). GEMA considers that the SGBs embedded in efficient plans should be lower than the SGBs embedded in submitted plans. GEMA says this has two effects:

        (i) For all SGB categories, GEMA considers that Frontier's alleged error affects the calculation of total potential SGBs (§165(c)(i)(4)a.).

        (ii) For the "Other" category, GEMA considers that Frontier's alleged error affects the apportionment of SGBs within this category (§165(c)(i)(4)b.)

38. In response, we note that:

    (A) The first apparent "error" is not, in fact, an error made by Frontier. It is instead a (potential) error made by GEMA itself in the Final Determination. Frontier made the reasonable assumption that the quantum of SGBs arising from CBRM, which GEMA identified to be embedded in the business plans, was correct[32]. Frontier therefore took GEMA's own figure for CBRM as given, without challenging the basis of GEMA's calculation for this figure (or any other embedded SGBs identified by GEMA). The Response makes clear that GEMA now considers that its own view of SGBs embedded in the plans related to CBRM was, in fact, incorrect. If the CMA were to accept GEMA's revision of its own view of embedded SGB benefits, the change accounts for £400k of the difference between GEMA's figure and Frontier's figure.

    (B) The second alleged "error" results from a string of convoluted logic, which is far from straightforward (as GEMA describes it). In any event, it is clear that what GEMA describes as an "error" is, in fact, a matter of applying different modelling assumptions. Frontier made a simplifying assumption

[32] See Annex 5 of the Frontier Report [**FE1/2**], §5.2.

that the level of SGBs embedded in the submitted plans was the same as the SGBs in plans after GEMA's cost assessment. Frontier acknowledged that the impact of any alternative assumption was likely to be small.[33] The simplifying assumption reduced the computational complexity and avoided introducing unnecessary new logical steps to a model that Frontier already considered to be illogical and inappropriate. The alternative modelling assumption that GEMA now proposes is substantially more complex; requires steps which GEMA has simply asserted are appropriate; and in any case gives an answer which is only c.£300k different to Frontier's.[34] NPg considers that a simpler, clearer and more straightforward methodology is preferable to GEMA's attempt to achieve what can only be described as a spurious degree of accuracy.

39. We also note that GEMA has made an error in its presentation of its post-IQI figures, since it has only calculated the effect of IQI interpolation. GEMA has failed to also factor in the impact of the two other components of the IQI, namely the Additional Income and the Sharing Factor. Based on GEMA's calculations (i.e. +£5.1m impact on total costs pre-IQI), correcting the error would:

    (A) increase NPg's baseline cost allowances by £3.8m vs. Final Determination;

    (B) increase NPg's Additional Income by £1m vs. Final Determination; and

    (C) increase NPg's efficiency sharing rate by 0.1 percentage points vs. Final Determination.

40. Overall, we disagree that there are any errors in the calculations provided to the CMA. We therefore consider that (pre-IQI) NPg's disallowance should be reduced by £5.8m, which amounts to £4.4m post-interpolation. This will also increase NPg's Additional Income and affect NPg's final sharing factor through the IQI. The precise effect on these IQI components will depend on the CMA's determination in relation to the other components of NPg's appeal.

[33] See Annex 5 of the Frontier Report [**FE1/2**], footnote 13.

[34] This represents the remaining difference after accounting for GEMA's error in relation to CBRM above.

ANNEX 2 – INCENTIVE EFFECTS OF USING ACTUAL PAY SETTLEMENTS TO SET LABOUR RPEs

1. This Annex addresses the points raised by GEMA in the Response in relation to the incentive effects of using actual pay settlements to set labour RPEs and presents two worked examples that demonstrate that GEMA's concerns are without foundation.

A. Summary of points made on incentives in the NOA

2. For all of the reasons given in the NOA and the Reply, NPg considers that it would be right to use actual DNO pay settlement data to set near term RPEs.

3. In its NOA, NPg addressed criticisms of the potential incentive effects of setting near-term labour RPEs on the basis of outturn pay settlement data (§7.21). This issue was also addressed in some detail in the Frontier Report [**FE1**] (§§4.44-4.53), which concluded that any concerns of potential perverse or weakened incentive effects are unfounded. In summary, Frontier's reasoning for that conclusion was:

   (A) DNOs were set fixed, *ex ante* cost allowances for each year of the DPCR5 price control period;

   (B) any overspend (i.e. where actual spend was above the DNO's allowance) was shared between the DNO and its customers, which meant that a DNO that agreed an inefficient pay deal would suffer a direct and very substantial reduction in pre-tax profits (in this regard it is worth noting that labour costs on average account for approximately 66% of DNOs' costs); in addition

   (C) DNOs faced a further incentive to agree efficient pay deals as they would have expected GEMA to benchmark their outturn costs against their peers as part of the RIIO-ED1 review, implying that any inefficiency in agreeing a pay deal is unlikely to inflate one's allowance going forward.

4. These arrangements ensure that DNOs face strong incentives to agree efficient pay settlements and would continue to do so if near-term labour RPEs were set on the basis of outturn DNO pay settlements (as set out in the following worked examples).

B. Using the average of all DNOs' pay settlements to set labour RPEs

5. The following worked example assumes that near-term labour RPEs would be set with reference to the average of DNOs' pay settlements, and is therefore in line with NPg's proposed remedy in the NOA (§2.14).

6. Suppose that, in advance of 2014/15, a DNO whose allowance was fixed in DPCR5 is contemplating its pay settlement cognisant of the fact that its own pay settlement would now influence labour RPEs. Further suppose that the DNO contemplates increasing its labour rates by 1% more than some notional efficient level. This would have the following effects:

   (A) Since labour constitutes 66% of the DNO's cost base, a 1% increase in the DNO's labour rates for 2014/15 would increase the DNO's total costs for 2014/15 by 0.66%.

   (B) The DNO's increase in labour costs in 2014/15 (i.e. the last year of DPCR5) would not influence its cost allowance for that year.

(C) If we assume that the DNO's cost incentive rate is 50%,[1] the 0.66% increase in total costs in 2014/15 would translate into a 0.33% increase in costs that the DNO has to bear,[2] relative to the case where the DNO did not increase its labour rates by the additional 1%. The DNO's pre-tax profits would therefore be directly reduced by this amount.

(D) If, at RIIO-ED1, GEMA had used the average of all DNOs' pay settlements (as suggested by NPg) to determine labour RPEs for 2014/15, then the 1% pay increase set by the DNO in question would have increased the 2014/15 labour RPEs by 0.17% (i.e. 1% divided by 6 DNOs) relative to a counterfactual where the DNO did not increase its labour rates by this 1%.

(E) Since labour accounts for 66% of total costs, this 0.17% increase in 2014/15 labour RPEs would have increased the RPE applied to total costs in 2014/15 by 66% of this amount, i.e. 0.11%. Further, given the cumulative nature of RPE calculations, this uplift to the RPE applied to total costs in 2014/15 would continue to affect RPEs in the later years of RIIO-ED1.

Case 1: this case assumes that the DNO cannot reduce its labour costs in subsequent years to unwind the 2014/15 increase

7. Since the DNO is unable to reduce its labour costs in 2015/16, or any later year in RIIO-ED1, its total costs would be 0.66% higher in each year of RIIO-ED1 than the counterfactual where it had not increased its labour costs by 1% in 2014/15. As explained above, the DNO's allowance would increase owing to higher RPEs by 0.11% per year. The DNO would therefore underperform by 0.55% of totex in each year, approximately half (0.27%) of which it would be required to bear owing to the cost incentive arrangements.

8. In summary, the DNO would have seen pre-tax profits in the last year of DPCR5 fall by 0.33% of totex, followed by an ongoing reduction in pre-tax profits of 0.27% of totex in each year of RIIO-ED1.[3]

Case 2: this case assumes that the DNO can return its labour costs to efficient levels in the first year of RIIO-ED1

9. Under this assumption, while the DNO must pay increased labour costs during the last year of DPCR5 (2014/15), it can avoid excess labour costs during RIIO-ED1 by making an exactly offsetting downward adjustment to pay in the following year (2015/16). The DNO's actions therefore do give rise to increased allowances of 0.11% in each year of RIIO-ED1 with no offsetting cost increase in that period. All else being equal, the DNO would underspend its allowances by 0.11% in each year of RIIO-ED1. If we assume a sharing factor of approximately 50%, this would result in an increase to pre-tax profits of 0.05% of totex in each year of RIIO-ED1.

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[1] This is broadly consistent with actual DPCR5 incentive rates (see Frontier Report **[FE1]**, §4.47).

[2] The other half of the cost increase would lead to a 0.33% increase in customers' bills.

[3] Using a WACC of 4% to calculate the net-present benefit of following this strategy, the DNO would ultimately obtain a disbenefit of 2.10% of totex (discounting back to 2014/15).

10. In summary, the DNO would benefit from an increase to pre-tax profits of 0.05% of totex in each year of RIIO-ED1, but would suffer from a reduction in pre-tax profits of 0.33% of totex in the last year of DPCR5.[4]

11. We therefore conclude that the "*perverse incentive*" that GEMA has identified as a potential risk (Response, §184) is highly unlikely to influence any DNO. The potential benefit in the best possible case is tiny. Any form of lag or imperfection in eliminating the excess costs would result in this strategy reducing profits overall for the company.

12. Furthermore, should the strategy outlined above result in any incremental loss (e.g. through benchmarking, the IQI, or GEMA's wider assessment of the DNO's efficiency at the RIIO-ED1 review), this would be enough to render the strategy loss-making even in the most positive assessment of its effectiveness. Therefore, GEMA's concerns are exaggerated and unsupported by the facts.

C. Using the average of all *other* DNOs' pay settlements to set labour RPEs

13. Based on the analysis above, it is not reasonable to harbour any concerns over the incentive effects of using the average of all DNOs' pay settlements to set near-term labour RPEs. However, should any concern remain, it could be addressed entirely by setting labour RPEs for a given DNO on the basis of the average of all other DNOs (i.e. excluding the DNO's own pay settlement). Below the worked example is extended to consider this alternative.

14. Under this alternative formulation the DNO would gain no benefit itself from inflating its labour costs, but would continue to bear all of the cost.

Case 1: in this case (where the DNO is unable to unwind a 1% increase in its 2014/15 labour costs in later years) the DNO would face increased costs in the final year of DPCR5 and throughout RIIO-ED1

15. Here, the DNO would overspend in the last year of DPCR5 by 0.66% of totex, leading to a reduction in pre-tax profits of 0.33%, and would continue to overspend (and suffer lower profits) by this amount in every year of RIIO-ED1 This is because it is not able to return its labour costs to an efficient level, and does benefit from its higher labour costs through RPEs.[5]

Case 2: in this case (where the DNO is able to return its labour costs to efficient levels in the first year of RIIO-ED1) the DNO would only face increased costs in the final year of DPCR5, but receive no benefit

16. As in Case 1, the DNO would overspend in the last year of DPCR5 by 0.66% of totex, and would face a reduction in pre-tax profits of 0.33%. While it would be able to avoid any under-performance during RIIO-ED1 by returning its labour costs to efficient levels in 2015/16, it would not benefit through higher RPEs under this alternative formulation.

17. The total impact on the DNO would be a 0.33% reduction in pre-tax profits (as above) for the last year of DPCR5, with no further gains or losses.

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[4] Using a WACC of 4% to calculate the net-present benefit of following this strategy, the DNO would ultimately obtain a benefit of 0.03% of totex (discounting back to 2014/15).

[5] Using a WACC of 4% to discount back to 2014/15, following this strategy, would result in a net present benefit of -2.45% of base year totex.

18. It is quite clear that there would be no incentive at all for the DNO to follow the strategy considered here.

D. The context for GEMA's concerns

19. While the worked examples above are based on RIIO-ED1 for ease of comparison, the concerns identified by GEMA about the potential weakening of incentives (or creation of perverse incentives) cannot arise in respect of the ED1 price control. DNOs faced the incentives identified by NPg in the NOA and above to ensure their costs were efficient and GEMA's concerns relate to the effect that taking DNOs' own pay settlements into account may have on *future* incentives.

20. Moreover, GEMA's theoretical concerns about perverse incentives in relation to future price control are without foundation. In addition to the lack of any viable incentive for DNOs to reach inefficient pay settlements in the future (for the reasons set out above), the risks of which GEMA recognises could be further mitigated by adopting NPg's alternative proposal (where benchmarking occurs on the basis of other DNOs' pay settlements), DNOs can not have certainty over the approach to RPEs that the regulator will take in eight years' time.

ANNEX 3: ALLEGED ERRORS IN THE FRONTIER REPORT

1. In Annex 3 of its Response, GEMA stated that it had identified a number of "errors" in the Frontier Report [**FE1**]. NPg and Frontier have reviewed all instances where GEMA challenged this expert analysis and has found that, in fact, GEMA has not identified any errors in the Frontier Report, but only points where GEMA does not agree with Frontier's approach or propositions, or considers that Frontier has been insufficiently precise.

2. In order to avoid any impression that the analysis set out in the NOA contained such 'errors', NPg makes the following comments addressing each of the points raised by GEMA in the order they appear in Annex 3 of GEMA's Response:

   (A) GEMA suggested that Frontier was incorrect to refer to the figures in Table 2 of the Frontier Report as total adjustments to submitted costs, since this table only contained the regional labour adjustments to submitted costs. Frontier was aware of this fact, since the title of the table is "*GEMA's regional labour cost adjustments*". When Frontier used the wording 'total adjustments' in §2.17, this meant the total regional labour cost adjustments, which should have been clear to the reader by context, since that sub-section referred only to GEMA's regional labour cost adjustments, not other adjustments (the next sub-section discussed company-specific adjustments for example).

   GEMA also suggested that Frontier was incorrect to use the phrase "*GEMA* ***considers*** *there are relatively low labour costs*" in §2.17 of the Frontier Report, when referring to NPg's labour costs relative to the rest of Great Britain. GEMA stated that its conclusion was based on ASHE data, which in its view revealed a clear labour premium in London and the South East. As shown in §2.12 of the Frontier Report, Frontier was aware that GEMA had based its conclusions on ONS ASHE data, so this was not disputed. The relevant quantum of the premium is of course an element of NPg's appeal. And in any case, it is true that GEMA "***considers*** *there are relatively low labour costs"* in the regions referred to in Frontier's quotation, so there was no error in the Frontier Report.

   (B) GEMA questions the completeness of Frontier's discussion of pre-modelling adjustments made by GEMA in support of its benchmarking. However, GEMA itself stated that §2.27 of the Frontier Report is factually correct; no error was made.

   (C) In §2.30 of the Frontier Report, first bullet, Frontier stated that no historical performance was incorporated in GEMA's assessment of efficiency. Frontier was not incorrect to state this, nor to draw the contrast with RIIO-GD1, given the overwhelming reliance on forecast data in informing GEMA's RIIO-ED1 assessment. Frontier might usefully have added a footnote indicating that historical data was incorporated into GEMA's RIIO-ED1 cost models in order to derive relationships between cost drivers and efficient costs that GEMA used in its assessment of the efficiency of the companies' future plans. However, since no efficiency scores for historical years were estimated by GEMA, it remains the case that existing levels of relative efficiency did not influence GEMA's judgement of the relative efficiency of the companies' plans. This does not constitute an error.

(D) This argument, in respect of pre-adjustment to costs, is the same as that in point (B). There is no error.

(E) GEMA questions Frontier's description of GEMA's approach to calculating efficiency scores in its cost assessment. However, GEMA noted that Frontier has captured "*in essence what happened*", so no error was made.[1]

As to the detail, GEMA's calculation in its Scores and Allowances spreadsheet[2] contained two steps:

(i) it calculated the weighted average of the difference between GEMA's view of efficient costs for each DNO and the DNO's submission across each of the three models; and

(ii) compared this to the weighted average of GEMA's view of efficient costs across the three models.

This determined the combined efficiency score, and is mathematically identical to Frontier's description of weighting the efficiency scores of the three models. Frontier chose its description of the calculation since it was factually correct, and intuitively simpler to understand. GEMA suggested that Frontier was wrong to use that description, as the actual calculation was to weight together the difference between its view of efficient costs and the DNOs' submission for each of the three models. However, that only constitutes the first of its two steps, and on its own does not produce the combined efficiency score.

(F) GEMA asserted that Frontier's choice of wording ("benchmark cost") in §2.37 of the Frontier Report is misleading. Frontier defined its terms in Section 2 of the Frontier Report and those terms were used consistently throughout the Frontier Report and the NOA and, in any event, it seems that GEMA has fully understood what process Frontier was intending to describe. As such, Frontier's choice of wording was in fact clear.

(G) GEMA suggests that Frontier made an error by failing to note that its approach to the assessment of SGBs was made in a way that avoided double counting. Frontier did not state that the additional adjustment was undertaken in a way that avoided double counting, because Frontier do not believe that to be the case. This is not an error, but is the subject of a part of NPg's appeal.

(H) GEMA takes issue with an example provided in the Frontier Report and considers it to be misleading. However, the example was provided to illustrate the mechanics of the IQI and it did so effectively. While GEMA was free to make its assertion in respect of this example, again, it did not identify anything that is in error.

3. GEMA also disagreed with §4.9 of the Frontier Report. It stated that "*Contrary to paragraph 4.9, the Authority did not rely only on general labour cost indices. It also had regard to specialist labour indices*".[3]

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[1] See Response, Annex 3, §5.

[2] GEMA spreadsheet, Scores & allowances 2014-20141120-1_7 [**FE2/10**].

4. As shown in Table 21 of the Frontier Report, Frontier was well aware of the approach that GEMA had used. However, the wording adopted in the Frontier Report reflected accurately Frontier's view that the labour cost series relied upon by GEMA in determining its labour RPEs did not capture the labour cost pressures faced by the DNOs. Frontier's assessment of the relevance, or otherwise, of those series to DNO labour cost pressure was presented in Annex 7 of the Frontier Report.

[3] Response, §199(a)(ii).