Technical annex: Risk and return

Final determination

Annex 5

About the Utility Regulator

The Utility Regulator is the independent non-ministerial government department responsible for regulating Northern Ireland's electricity, gas, water and sewerage industries, to promote the short and long-term interests of consumers.

We are not a policy-making department of government, but we make sure that the energy and water utility industries in Northern Ireland are regulated and developed within ministerial policy as set out in our statutory duties.

We are governed by a Board of Directors and are accountable to the Northern Ireland Assembly through financial and annual reporting obligations.

We are based at Queens House in the centre of Belfast. The Chief Executive leads a management team of directors representing each of the key functional areas in the organisation: Corporate Affairs, Markets and Networks. The staff team includes economists, engineers, accountants, utility specialists, legal advisors and administration professionals.

Our mission

To protect the short- and long-term interests of consumers of electricity, gas and water.

Our vision

To ensure value and sustainability in energy and water.

Our values

- Be a best practice regulator: transparent, consistent, proportionate, accountable and targeted.
- Be professional – listening, explaining and acting with integrity.
- Be a collaborative, co-operative and learning team.
- Be motivated and empowered to make a difference.

Abstract

This technical annex sets out our final determination on risk and return, including our determination of price control allowances for renumeration of SONI's debt finance and equity capital. This annex expands on the main body section 7. In addition, we provide further information on our decision on the approach to SONI's RAB, which is referred to in the main body section 8.

Audience

This document will be of interest to SONI and potentially other stakeholders.

Consumer impact

SONI's TSO costs of running its business which we price control are typically around 2% of the NI consumers electricity bill. How it chooses to deploy the costs of running its business and performs its role has a larger impact on outcomes such decarbonisation, grid security and wider system costs (for example, system service, wholesale and transmission investment costs which make up part of the electricity bill for NI consumers); given the influence it has across the system. We incentivise SONI through the price control to deliver high quality service to contribute to these good outcomes.

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1. Introduction and overview of approach

Introduction

1.1 This document sets out and explains our final determinations on the remuneration of equity capital and debt finance under the 2020-25 SONI price control. This includes our proposed WACC allowance and proposals for other elements of the overall allowed return.

1.2 Our broader approach to the price control review put more accountability on SONI for the quality of its price control business plan than has been the case in the past. In line with this approach, our starting point for our draft determinations was SONI's business plan proposals for different components of the overall remuneration of equity capital and debt finance, and the evidence and justification provided in support of these.

1.3 For the purposes of our draft determinations, the primary question addressed by our review was which specific aspects of SONI's proposals for the remuneration of equity capital and debt finance we should use for our draft determination and which aspects we should "intervene" on, to adopt an alternative approach or alternative figures. In this context, a proposal not to intervene on a particular aspect of SONI's business plan proposals was not necessarily a full endorsement of the approach used by SONI, or the figure it had proposed. Our view may have reflected other considerations such as the need for proportionality and prioritisation across different parts of our determinations, taking account of SONI's proposals, the materiality of the issue and the availability of other sources of information.

1.4 SONI provided a detailed response across many (but not all) aspects of the proposals from our draft determinations on risk and return. There were some additional comments from other stakeholders in specific areas, but these were generally quite limited.

1.5 For our final determinations, we carried out considerable amount of further analysis and assessment. This included developments to our approach, and refinements to our assessment, in the light of stakeholder feedback on our draft determinations. We updated our assessment to take some account of the CMA's provisional findings in the water company redeterminations. We also changed our approach to the estimation of the cost of debt for a notional TSO, as a consequence of further information provided by SONI on its debt financing arrangements.

1.6 This section provides an overview of our approach to the remuneration for SONI's debt and equity finance through the price control. It then sets out the structure of the document by reference to different aspects of this approach. Before this, we cover a preliminary matter: the choice of inflation indexation for SONI's RAB.

1.7 Throughout the assessment presented in this annex, we have been guided by our statutory duties, including (but not limited to) the duty to have regard to the need to

secure that the TSO is able to finance the activities which are the subject of obligations imposed by or under Part II of the Electricity Order.[1]

1.8 In our draft determination, we said that the data and analysis used for our assessment of the remuneration of debt and equity finance pre-dated the Covid-19 pandemic. We recognised that Covid-19 had affected, and would continue to affect, financial markets, as well SONI's operations. We sought input from stakeholders on how specific aspects of SONI's cost of capital might be affected, and the potential implications for our final determination on specific elements of the remuneration of debt and equity finance through the SONI price control. SONI's response to our draft determinations referred to Covid-19 and associated risk in specific areas but this was not an issue that its response on risk and return emphasised. Overall, neither SONI nor other stakeholders gave reasons why the general approach we had taken was no longer applicable. In some specific areas, we have drawn on more recent data.

Choice of price control inflation index

1.9 For our March 2019 regulatory approach, we took a decision, following stakeholder consultation, to switch from RPI indexation to either CPI or CPIH indexation of the SONI RAB and revenue control for the 2020-25 period (without prejudice to what inflation measure is to be used for subsequent SONI price controls or for the price controls for other companies we regulate).

1.10 In its business plan SONI said that it agreed with the rationale for the transition to CPI or CPIH, and considered CPIH to be the most appropriate index.

1.11 Our view was that SONI has made a well-reasoned case for moving to CPIH indexation rather than CPI indexation. We did not identify good reason to adopt a different position.

1.12 We decided that, for our final determination on the 2020-25 SONI price control, both SONI allowed revenues and its RAB will be indexed to CPIH.

1.13 In this annex, we set out our decision on the WACC for SONI on a CPIH-real (or CPIH-stripped basis).

1.14 In its business plan (appendix Q, page 7) SONI said that it was critical that our decision on the cost of capital is consistently published in both nominal and real (CPIH-deflated) terms for the forthcoming price control period (2020-25) and for future control periods, to ensure that the WACC is estimated on a consistent basis over time and can be clearly compared on a like-for-like basis with the WACC determined for the current price control period (2015-20). We did not consider that it was critical to present our decision on a nominal and CPIH-deflated basis. We considered that it was critical to be clear what indexation basis our allowances are determined with respect to; and we have sought to make clear where allowances are on a CPIH-stripped basis. Furthermore, in the individual sections explaining our

[1] See Article 12(2)(b) of the Energy (Northern Ireland) Order 2003.

approach to individual WACC parameters, we explain how CPIH inflation has been taken into consideration where relevant.

1.15 In addition, to support comparability, our view is that a nominal WACC could be estimated by taking our allowed WACC on a CPIH-stripped basis and combining this with an estimate of CPIH inflation over the 2020-25 price control period.[2] We did not identify a good reason to make a formal decision on the *nominal* WACC.

1.16 In its business plan (appendix Q) SONI also proposed a way to implement the transition from RPI indexation to CPIH indexation in the calculation of the SONI RAB. We consider this separately in Appendix 1 to this annex.

Our remuneration channels for debt and equity finance

1.17 We decided that the overall remuneration for equity capital and debt finance within the SONI price control ("total allowed return") should be the sum of allowances from four separate remuneration channels (insofar as they are applicable): (a) allowed return on RAB; (b) allowed return on PCG; (c) adjustment to allowed return for asymmetric risk; and (d) allowed margin on revenue collection activities.

1.18 Figure 1 provides a high-level illustration of how the total allowed return is to be derived from these four remuneration channels. It shows, for instance, that the allowed return on the RAB is to be calculated by applying an allowed WACC (%) to the prevailing value of SONI's RAB. In addition to the allowed return to investors provided through these channels, which feed directly into the calculation of price control revenue allowances, equity investors also benefit from an element of return on capital through inflation indexation of the RAB (e.g. RPI or CPIH indexation), but this is not shown in the diagram for simplicity.

1.19 The remuneration channels in Figure 1 are consistent with those from our March 2019 regulatory approach decision, with SONI's business plan proposals and with our draft determinations.

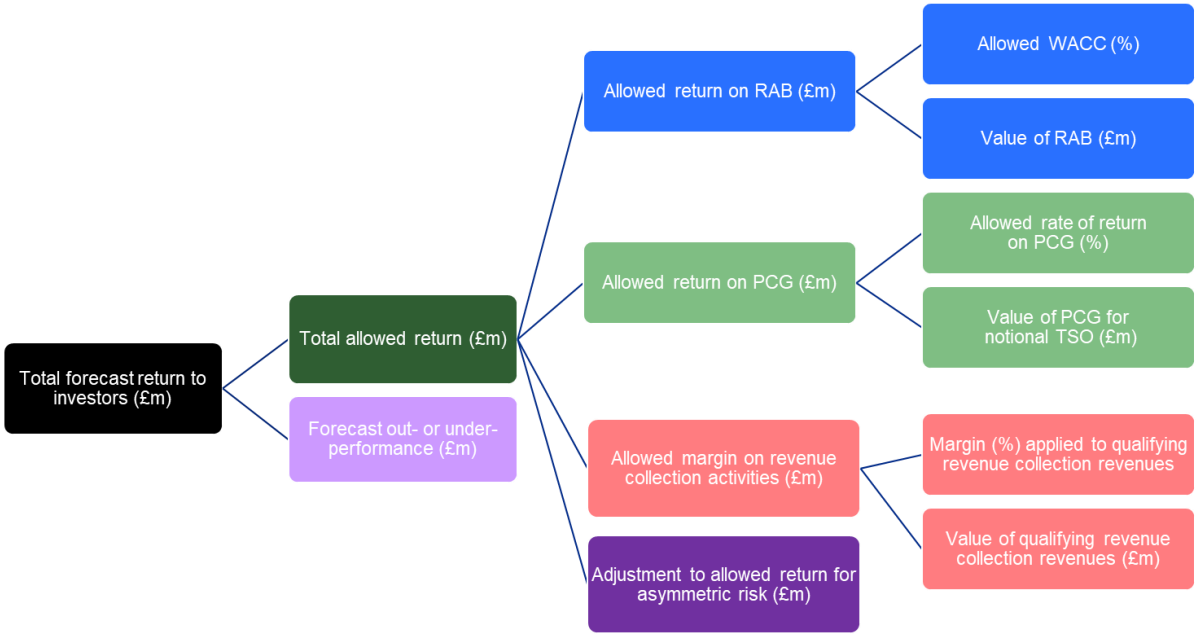
1.20 The inclusion of the relationship between the allowed return and forecast return in Figure 1 is a descriptive/presentational enhancement, which builds on suggestions from the UKRN report[3] on the benefits of drawing a distinction between the allowed return and the expected return, and does not change our approach. More specifically, Figure 1 highlights that the total forecast return to investors is the sum of the total allowed return and any forecast out-performance or under-performance of the SONI price control. For instance, if the allowed return was £1m per year and equity investors forecast SONI to receive a net financial gain of £250,000 per year from out-performance of price control incentive schemes (e.g. from under-spend of cost allowances subject to cost-sharing incentives), the forecast return to equity

[2] In the financial modelling used for our final determinations, for the purposes of making forecasts in nominal terms, we made assumptions on forecast CPIH inflation over the price control period, of 2%. This is in line with the inflation assumption from our draft determination and with the CMA's provisional findings in the water company redetermination. However, we also take some account of the possibility of lower CPIH inflation as part of our assessment of the TSO cost of debt.
[3] UKRN (2018) "Estimating the cost of capital for implementation of price controls by UK Regulators"

investors would be £1.25m per year (before corporation tax). Conversely, if the allowed return was £1m per year and equity investors forecast SONI to experience a net financial loss of £250,000 per year from price control under-performance (e.g. over-spend of price control allowances), the forecast return to equity investors would be £0.75m per year.

1.21 Ultimately, we need to set the SONI price control in such a way that the total forecast return to investors is reasonable, taking account of the requirements for debt and equity capital and of the risk borne by investors.

Figure 1 Overview of remuneration channels for debt and equity investors



How our allowances fit together

1.22 For the purposes of our assessment of the appropriate remuneration of the TSO's equity capital and debt finance, we make an explicit distinction between two categories of TSO activities:

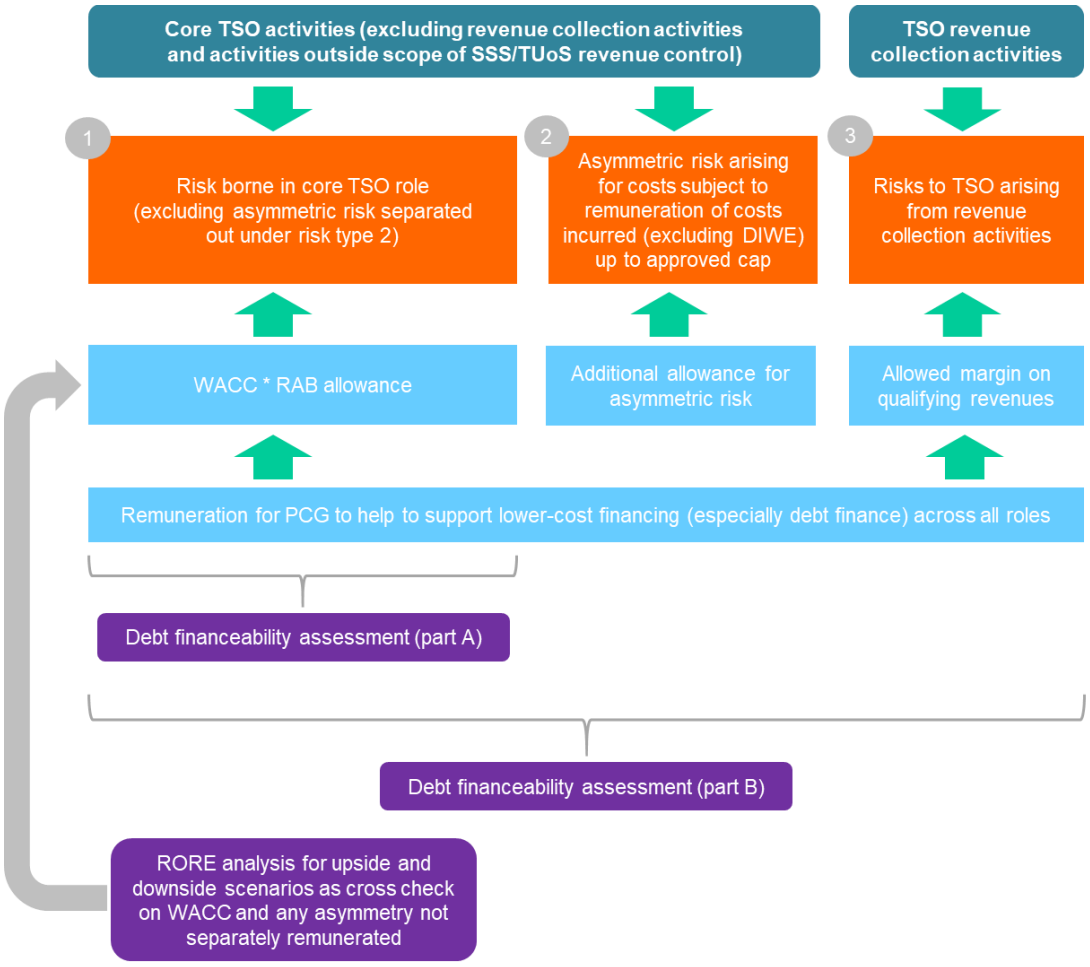
- **Revenue collection activities**. This includes the collection of revenues, and where applicable management of cash flow risk, in relation to system services, imperfections charges, TUoS and the Moyle interconnector.
- **Core TSO activities**. We define the core TSO activities as the activities covered by the SONI price control excluding revenue collection activities. This includes, for example, functions such as scheduling and dispatch, system planning, connections offers and industry governance activities.

1.23 As part of our engagement with SONI since our draft determination, SONI raised questions about how different aspects of our assessment for our draft determination related to SONI's different roles and the extent to which we have considered financeability overall.

1.24 For our final determinations, we considered further how our overall approach to remuneration of the notional TSO's required equity capital and debt finance should relate to the two types of activities highlighted above.

1.25 We provide an overview of our approach in the diagram below. This diagram shows how different aspects of the price control allowances (marked in blue) relate to different types risk (marked in red) for the two categories of TSO activities. It also shows how certain aspects of assessment and cross checks (marked in purple) help inform the determination of the allowances.

Figure 2 Overview of overall remuneration for TSO risk and return



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1.26 There are several points to highlight:

- The distinction between the core TSO role and the revenue collection role is a critical part of our overall approach. This is consistent with the outcome from the CMA appeal in 2017: the CMA addressed the margin for revenue collection as a separable matter of risk and return relating to revenue collection activities only.
- The WACC*RAB allowance is targeted at the core TSO activities. We considered the WACC for a notional TSO that does not carry out the

revenue collection activities.

- The WACC*RAB allowance is to be applied to the whole of SONI's RAB, including its TNPP RAB and special projects RAB. There is no basis for disregarding the TNPP RAB and/or special projects RAB when considering the appropriate WACC (as SONI's response to our draft determinations sought to do in places).

- Our allowance for asymmetric risk is targeted at the core TSO activities and recognises that the CAPM approach to the cost of equity component of the WACC does not allow for asymmetric risk.

- We recognise that remuneration of a PCG could potentially support both the core TSO role and the revenue collection role. We did not see a need to distinguish between its contribution to the two roles, or to allocate the PCG between them, for our determination of the 2020-25 SONI price control (although this might be something to reconsider in future price control reviews).

- Our debt financeability assessment considers both the core TSO role and the combined business across the core role and revenue collection.

- We did not consider there to be any meaningful or useful *test* of "equity financeability" for either of the two roles.

- We did not consider there to be any meaningful or useful *test* of "overall financeability" which applies across the two roles and covers both equity finance and debt finance.

Structure of this document

1.27 We briefly summarise below the approach we have taken under each of the four remuneration channels above, and how they fit within the structure of this report. We then briefly describe our further analysis, on debt financeability and RoRE risk analysis, which supports our overall assessment.

The WACC to be applied to the SONI RAB (section 2)

1.28 Section 2 of this annex considers different elements feeding into the estimated WACC for the SONI price control.

1.29 SONI's business plan proposals were for a pre-tax WACC. In line with our March 2019 regulatory approach decision, SONI's proposals involve remuneration of the SONI's corporation tax liabilities through an approximate uplift on cost of capital allowances rather than using separate and detailed financial modelling of corporation tax liabilities. This approach is called a pre-tax WACC approach and is used for the 2015-20 SONI price control. In contrast a post-tax approach is used, for example, for the NIE Networks transmission and distribution price controls. We have adopted the pre-tax WACC approach for our final determinations.

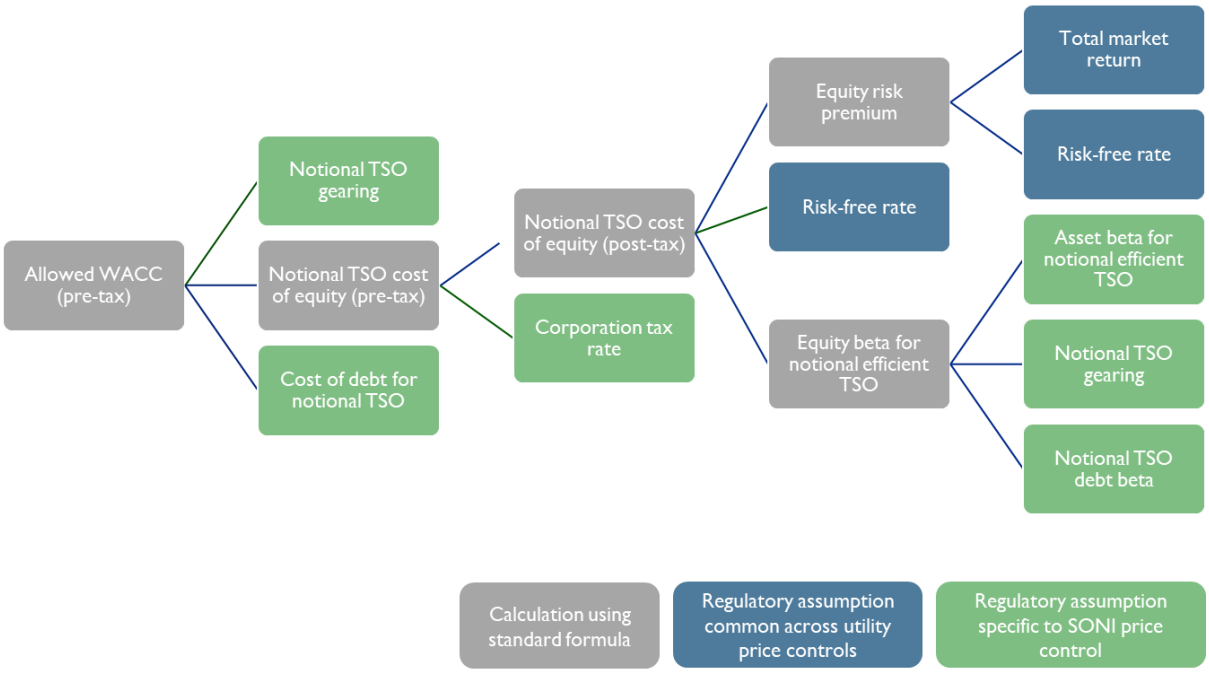
1.30 Our pre-tax WACC is built up using an established approach from UK price control regulation. Under this approach:

- A notional gearing assumption is used to determine the mix of debt and equity assumed to be remunerated within the overall capital structure.
- The CAPM approach is used to estimate the cost of equity for SONI on a post-tax basis, which is then converted to an estimate of the cost of equity on a pre-tax basis using an assumption on the corporate tax rate.
- There is a separate assessment of the cost of debt for SONI.

1.31 This broad approach is consistent with that from SONI's business plan and with that from our draft determinations.

1.32 We illustrate the main components of the WACC and how they are related in Figure 3 (e.g. the cost of equity on a pre-tax basis is calculated from the cost of equity on a post-tax basis, the corporation tax rate and the cost of debt).

Figure 3 Overview of components of WACC



1.33 The colour-coded boxes in Figure 3 show which components are specific to the SONI price control and which are common across UK RAB-based price controls. The review we carried out in our draft determinations placed less emphasis on CAPM parameters and other issues that are common across UK RAB-based price controls.

1.34 Given the relatively small size of the SONI price control, and the overlap with other price control reviews, we did not consider that it is proportionate to seek to duplicate work that has been carried out by other regulators or other parties on issues that are just as relevant to other regulated companies as they are to SONI (e.g. latest

market evidence to inform assumptions on the risk-free rate). And the SONI price control review does not seem well-suited to the exploration of new and alternative approaches for issues that are no more pressing for SONI than they are for other regulated companies. In these areas we gave emphasis in our review to recent regulatory precedent rather than exploring new lines of quantitative analysis. For our final determinations, we retained this approach and drew primarily on developments in regulatory precedent.

1.35 On this basis, we gave greater attention to the notional gearing assumption, the TSO asset beta, the TSO debt beta and the cost of debt.

1.36 Towards the end of section 2, we bring together the different components of the pre-tax WACC to show how the overall WACC for our final determinations is calculated. We also provide some targeted sensitivity analysis to show how the calculated pre-tax WACC would vary if we used different estimates or assumptions for some of the WACC parameters (e.g. figures provided by SONI or used in recent regulatory precedent). This analysis helps to show which parameters are more influential on the calculated pre-tax WACC, and those that have a less significant influence.

Remuneration of a parent company guarantee (section 3)

1.37 Section 3 concerns the remuneration of any parent company guarantee. We consider whether the notional efficient TSO should be assumed to have a PCG and, if so, the appropriate remuneration for that PCG.

Remuneration of risk from revenue collection activity (section 4)

1.38 Section 4 concerns the remuneration of SONI's revenue collection activities. We consider what revenue streams should be remunerated, through this separate remuneration channel, and what the appropriate remuneration rate should be.

Debt financeability analysis (section 5)

1.39 In section 5, we present analysis of debt financeability metrics. We provide analysis of debt financeability metrics for the assumed notional TSO (including and excluding revenue collection activities) under the UR's final determinations.

1.40 The main role of this analysis is to help address the risk of internal inconsistency in our estimation of the cost of debt. For instance, a finding of weak forecast credit metrics might indicate that the notional TSO would not be able to sustain the quality/grade of debt assumed, explicitly or implicitly, for the purposes of the cost of debt (section 2) based on its revenues and costs. More generally, analysis of debt financeability metrics is sometimes seen as a broader cross check on the cost of capital assessment.

Upside and downside scenarios for equity return (section 6)

1.41 In section 6 we present some analysis of the potential return to regulatory equity (RoRE) under a number of different scenarios for the 2020-25 period (e.g. different

scenarios for a notional TSO's performance incentives or cost risk). We used this type of analysis to help calibrate some of the financial incentives that formed part of our price control framework for the 2020-25 period. We wanted to check that our approach would give meaningful financial incentives without creating undue financial risk for investors.

1.42 We also present some comparisons of our estimated RoRE risk exposure for the TSO against that for the regulated water companies in England and Wales, drawing on Ofwat's RoRE analysis for its PR19 final determinations. These are particularly relevant given the availability of market evidence on the equity beta for these companies. We drew on this analysis to inform the assessment of the asset beta in section 2.

Adjustment to allowed return for asymmetric risk (section 7)

1.43 In line with the CMA's determination in the 2017 SONI appeal, we have explicitly considered the case for potential adjustments to allowed returns in relation to any asymmetric risk within the overall price control package.

1.44 As set out in our draft determinations, we consider that the assessment of asymmetric risk should take a broad and balanced view across the whole price control package. Section 7 provides our review of SONI's proposals for an upward adjustment to the allowed return for asymmetric risk that it considers adverse to its investors. It also provides further consideration of potential sources of asymmetric risk from the price control framework.

Potential use of EBIT profitability metrics (section 8)

1.45 Section 8 provides our review of SONI's view that, as part of our assessment of the TSO cost of capital and/or financeability, we must ensure that our price control framework provides SONI with sufficient profit margins, calculated on an EBIT basis (earnings before interest and tax), to meet certain thresholds. We disagreed with SONI's views on this matter and we explain why in this section.

2. Assessment of pre-tax WACC

2.1 This section presents our assessment of the pre-tax WACC for the notional efficient TSO in the 2020-25 period. It is organised as follows:

- The gearing assumption for the notional TSO.
- The total market return.
- The risk-free rate.
- The asset beta of the notional TSO.
- The debt beta of the notional TSO.
- The corporation tax rate and uncertainty mechanism.
- The cost of debt of the notional TSO.
- WACC build-up and sensitivity analysis.

The gearing assumption for the notional TSO

Recap of draft determinations

2.2 In our draft determinations, we proposed to calculate the pre-tax WACC on the basis of a notional financial structure involving 30% gearing (and no PCG).

2.3 This position reflected our review of SONI's business plan proposals and fresh analysis of the notional gearing assumption for the 2020-25 period, including drawing on RORE analysis, the scale of equity buffer, interactions with PCG, and the scenarios for notional gearing used for 2015-20 and CMA determination.

2.4 SONI's business plan proposed a 55% notional gearing assumption but we did not consider that there was sufficient explanation for this figure, nor sufficient consideration of alternative assumptions.

2.5 Our assumption of 30% was an approximate figure, which was roughly midway between the two scenarios for gearing used for the 2015-20 control (0% and 55%, with the CMA's determination in the 2017 appeal giving weight to the 0% scenario).

Stakeholder feedback

2.6 SONI was the only stakeholder who provided detailed comments on our notional gearing assumption.

2.7 SONI's draft determinations response was heavily critical of our proposal for a 30% notional gearing assumption. SONI made a series of comments and claims:

- That our approach was based on flawed RoRE analysis.

- That our approach to notional gearing was inconsistent with our approach to the asset beta assumption.

- That sensitivity analysis showed that our draft determinations approach to notional gearing was not consistent with finance theory.

- That any reduction in gearing below 55% should be applied alongside a corresponding decrease to debt beta in order to avoid artificial reduction in WACC.

2.8 There was no explicit proposal on the notional gearing assumption in SONI's response but its response was consistent with maintaining the 55% gearing assumption from SONI's business plan.

SONI's comments on consistency with asset beta comparators

2.9 SONI's response to our draft determinations raised concerns about inconsistency in the comparators that we had used for notional gearing and the comparators we had used for asset beta.

2.10 In particular, SONI said that if we wanted to invoke NERL and Openreach as legitimate risk parameterisation proxies for notional gearing, then logically they must also be legitimate asset beta proxies. If, on the other hand, National Grid and water companies are the preferred proxies for asset beta, then they are appropriate proxies for the notional gearing levels.

2.11 We considered that SONI's response substantially over-stated the extent to which our notional gearing assumption of 30% was driven by comparisons with BT Openreach and NERL. We drew on a series of other factors, including the following:

- 30% is approximately midway between the two scenarios for the notional gearing assumption for SONI used for the 2015-20 price control period (0% and 55%).

- Unlike the 0% gearing assumption that had been used for the 2015-20 price control period, a 30% gearing assumption would involve significant debt finance within the overall capital structure. This would help take account of the benefits of debt finance which may not be captured in calculations of the pre-tax WACC (e.g. contribution of debt holders to scrutiny of company management and business plans).

- Our RORE analysis indicated that, for SONI's proposed price control incentive structure, SONI would have a much higher RORE downside exposure than typically estimated for performance incentives applied to water companies in England and Welsh, and GB energy network companies. With a 30% gearing assumption, the higher amount of equity finance in the RAB provides a larger equity buffer in £m which, in turn, means that the impact on equity returns from downside scenarios would be lower, and more in line with that from other regulated sectors.

2.12 Furthermore, it seemed incorrect for SONI to imply that we had used the water companies' asset beta as the comparator for the TSO asset beta and then been inconsistent in the use of water company evidence for the TSO notional gearing assumption. Our approach to TSO asset beta started with water company asset beta estimates and then made large adjustments before proposing an asset beta for the TSO. Our position in the draft determinations was that the TSO business is higher risk than water companies, and this was reflected in both our asset beta assumption and our notional gearing assumption.

2.13 Nonetheless, we accept that our draft determinations had not taken as much account of the interactions between the evidence and arguments on asset beta and the evidence and arguments on notional gearing as would be desirable. On further consideration, we decided that our notional gearing assessment did not give enough weight to our view that, as part of the TSO asset beta assessment, SONI is lower risk than NERL and BT Openreach and the implications that this has for notional gearing.

Debt beta and the variance of the calculated WACC to gearing

2.14 One of the points that SONI made was about the interactions between the assumed TSO debt beta and the notional gearing assumption. SONI was concerned that the calculated WACC under our draft determination assumptions would reduce as assumed gearing reduces, which it considered inconsistent with financial theory.

2.15 SONI said that the assumed debt beta should fall as gearing decreases, as debt bears less non-diversifiable risk. We agreed with this point.

2.16 Furthermore, SONI said that the reduction in the WACC arising from a lower notional gearing assumption was due to our choice of a debt beta of 0.125 at 30% gearing, which compared to a debt beta of 0.15 at SONI's notional gearing assumption from its business plan. SONI referred to one of its advisors who said that one would reasonably expect the range of difference to be considerably greater than 0.025.

2.17 While we had not sought to imply in our draft determinations that the debt beta is invariant to the assumed notional gearing, the sensitivity analysis that we provided in our draft determinations for alternative WACC parameters was limited in the sense that it did not take account of potential variations in the debt beta.

2.18 For the purposes of our final determination, we reconsidered our assumptions on the TSO debt beta and updated the approach to our sensitivity analysis.

Notional gearing and RoRE risk exposure

2.19 SONI said that a lower gearing cannot be a substitute for addressing underlying financeability constraints. SONI said that based on the UR's RoRE analysis at a notional gearing of 55% the draft determination exhibits significantly higher downside risk than other UK regulated companies. SONI said that, rather than reducing the risk the company faces, the UR sought to address this through adjusting the level of notional gearing.

2.20 SONI also said we had applied an arbitrary reduction in notional gearing from 55% to 30% to reflect our analysis that SONI is exposed to more risk than asset heavy utilities such as water companies. SONI said that this was based on a flawed RoRE analysis which is distorted because of the difference in gearing between SONI and water companies and is incomplete as it does not capture all the risks that SONI is exposed to.

2.21 We were confused by these aspects of SONI's response. SONI seems to suggest that it was not legitimate or reasonable to assume a lower gearing for a company that faces higher risk.

2.22 We have not sought to design the price control framework to equalise the overall risk for the TSO with that for regulated companies such as water companies. Even if this were possible, we would be concerned that the resultant framework may lack sufficiently meaningful financial incentives. Instead, we have taken account of the higher risk nature of the TSO's activities, under the price control framework, by setting a substantially higher asset beta than for water companies. Compared to water companies, this higher asset beta provides for a higher cost of equity, regardless of the level of gearing assumed for the TSO.

2.23 We did not understand SONI's comment that our RoRE analysis is distorted because of the difference in gearing between SONI and water companies. The point of RoRE analysis is to focus on the perspective of equity investors, under the notional gearing assumption. It is entirely correct that upside/downside RoRE estimates are reduced if notional gearing is decreased. Indeed, this illustrates how companies with high underlying risk (e.g. high asset beta) can use lower gearing levels as a means to manage and moderate risk to equity investors.

2.24 It would be a mistake to compare RoRE upside/downside estimates for the TSO at 30% gearing against RoRE upside/downside estimates for water companies at 60% gearing and infer that the asset beta for the TSO is the same as that for water companies. But this is clearly not at all what we did in our draft determinations.

2.25 We considered that RoRE analysis is informative across different aspects of our final determinations, including notional gearing, asset beta and equity beta.

Further consideration of SONI's actual level of gearing

2.26 As part of our review of SONI's submissions to us after our draft determinations, we got a better understanding of SONI's actual financial structure. This was relevant to our assessment of the TSO cost of debt.

2.27 We discovered in the course of our review that the information that SONI had provided in its business plan on the company's actual level of gearing was potentially misleading. SONI's business plan did not present a clear statement of its actual level of gearing. However, Appendix O discussed its existing capital structure and said that: "*If the outstanding balance under the Term Loan is compared with the RAB (£17.3m) as at the same date, this suggests a current RAB gearing level of 73% for SONI.*" This figure of 73% was the only figure that SONI provided of its actual level of gearing and concerns the financial year 2019/20.

2.28 On further investigation after our draft determinations, we found that this figure would represent a misleading guide to SONI's actual level of gearing in the context of the 2020-25 SONI price control. It represents what might be seen as a quirk of timing: a point in time (2018/19) at which SONI had incurred substantial debt finance for the I-SEM and DS3 project but before the costs of these projects had formed part of SONI's RAB. For the 2020-25 period, these projects are included in SONI's RAB and as a consequence the denominator in the calculation of gearing is much higher, which acts to reduce the calculated level of actual gearing.

2.29 As part of the query process, we asked SONI whether the corresponding estimate for 30 September 2020 would imply actual gearing around 25%. SONI said that it broadly agreed with the calculation we set out. SONI did not offer any alternative calculation of its actual gearing for 2019/20 nor any estimates of actual gearing for the 2020-25 period. SONI added that it considered it important to recognise that SONI's gearing can fluctuate considerably from year to year due to its saw-tooth RAB and the inability of SONI to continuously access debt markets to achieve stable target gearing levels, which means that gearing in any single year cannot be used as a reliable benchmark for actual gearing.

2.30 In addition, we asked SONI further questions about how the target gearing policy of 50%-60% claimed in its business plan for the 2020-25 period reconciled with the information it had provided about its existing capital structure and plans for debt finance over the 2020-25 period. SONI explained that financing its business is complex. SONI's response did not give us any confidence that the target gearing of 50%-60% claimed in its business plan was a remotely reliable forecast of actual gearing (even at an approximate level). It said that there was significant uncertainty around the investment profile and the allowed returns for the 2020-25 period and that it will need to review its financing decisions and strategy in light of the final determination and funding requirement implied based on a holistic view of the overall capital structure.

2.31 Overall, SONI's response to queries about its actual capital structure and its planned use of debt finance offered no support for its 55% notional gearing assumption.

Final determination position on notional gearing

2.32 We reconsidered SONI's proposal for 55% notional gearing from its business plan in the light of its further comments in its response to our draft determinations. We remained of the view that SONI's proposal lacked sufficient justification and did not seem consistent with the higher risk nature of the TSO versus the network infrastructure companies such as water companies for which gearing is around 60%. We did not consider that the inclusion of a PCG in the notional financial structure was sufficient to render a 55% gearing appropriate for SONI. We found that SONI's submissions on notional gearing placed emphasis on criticising aspects of the analysis and consideration set out in our draft determination, with limited attention to providing a rationale for its own 55% notional gearing proposal. This seemed especially relevant given that SONI's actual gearing was very far below its proposed notional gearing.

2.33 While we had a firm view that SONI's proposed 55% notional gearing was not appropriate, we recognised that the figure of 30% from our draft determination was something of an approximation. It was significantly below the gearing levels seen for network utility companies and well above the 0% gearing scenario used as part of the CMA appeal process but we had not sought to calibrate it precisely.

2.34 We considered potential refinements. We decided that a 40% notional gearing assumption was more appropriate than the 30% assumption. This reflected the following considerations in particular:

- The regulatory precedent for a notional gearing assumption of 30% for NERL and BT Openreach suggest that, taken in conjunction with our view that SONI's business has less systematic risk exposure than NERL and BT Openreach, the notional TSO could sustain debt finance at a higher level than 30%.
- Our final determinations reduce the price control risk exposure to SONI by setting a lower cap on the maximum financial reward than proposed in our draft determinations which reduces the RoRE downside exposure when gearing is held constant. This would enable some increase in notional gearing for a similar scale of RoRE downside risk.
- Our inclusion of allowances for a £10m parent company guarantee (see section 3). provides additional risk protection to providers of debt finance to the TSO, which would tend to support a higher notional gearing than we had assumed for our draft determinations.

2.35 We did not consider that the figure of 40% is necessarily the only reasonable notional gearing assumption for the purposes of the 2020-25 SONI price control. But we considered that it was a reasonable one.

2.36 We gave further consideration to the interactions between the notional gearing assumption and the overall WACC when setting the debt beta assumption and in our WACC sensitivity analysis.

The total market return

Recap of draft determinations

2.37 Our draft determinations used a total market return estimate of 6.5% (on CPIH-real basis). This reflected a targeted review of SONI's proposals and the analysis underpinning it, and consideration of other regulatory precedent.

2.38 We used SONI's central estimate of 6.5% for the total market return from its business plan. We said that we considered this to be a proportionate approach for the SONI price control, taking account of the overall size of the price control and the impact on customers, and of its consistency with recent regulatory precedent.

Stakeholder feedback

2.39 No stakeholders other than SONI provided specific comments on the total market return parameter in their responses to our draft determinations.

2.40 SONI's response said that a number of the cost of capital parameters are – as recognised by the UR – being considered in other regulatory contexts including the water company CMA appeals for which provisional findings were expected shortly after SONI submitted its draft determination response. SONI said that the cost of capital would need to be updated to take into account the CMA's findings as well as the latest market data. SONI said that it welcomed the opportunity to engage with the UR on these developments ahead of the publication of the final determination.

2.41 Following publication of the CMA's provisional findings in the water company appeals, we asked SONI the following question: *does SONI consider it reasonable, for the purposes of setting the 2020-25 TSO control, for the UR to use the CMA range of 6.20% to 7.21% for the total market return from the CMA's provisional findings in the water company redeterminations? If not, please explain and provide/refer to supporting evidence.*

2.42 SONI said that:

- The CMA considered that the most robust approach to estimating TMR is to use historical ex post returns, with TMR estimates calculated using returns under both CED/CPI and CED/RPI inflation series and a range of different averaging techniques.
- The CMA continues to apply long-run ex ante cross checks, using a Fama-French dividend discount model and the DMS decomposition approach and that Bias Adjustments are applied to these ex ante cross checks in recognition of the inherent geometric averaging.
- SONI broadly supported the CMA's range although it considered that it is understated due to inconsistent use of historical inflation series and exclusion of non-overlapping data. SONI said that the CMA's discussion of CED/CPI and CED/RPI appears to adopt a more balanced approach to placing weight on both series relative to the position adopted by CMA in its NATS provisional findings, although the upper end of its range does not align with CED/RPI estimates. SONI considered that the upper end of the range should be increased to include a number of CED/RPI-based estimates so that evidence from both series is considered on an equal basis, in line with the CMA's own discussion of this issue.
- When deriving its range, the CMA has excluded non-overlapping returns, which are 10 and 20-year arithmetic averages, on the grounds of their small sample size. SONI said that it considered that statistical validity of an estimator should be determined on the basis of efficiency (i.e. level of variation around the true parameter value rather than the sample size). SONI said that it considered that that the range should be adjusted to place material weight on non-overlapping returns.

2.43 SONI said that, when the range in adjusted for the two issues above, the CMA's

chosen estimate for the total market return (6.95%) is close to the mid-point of the range.

Further discussion

2.44 Of the two points made by SONI, we thought the first, which concerns the internal consistency of the CMA's reasoning and CMA's use of evidence to be more relevant. SONI's second point, on sample size is not well-explained: it seems reasonable to give weight to sample size and SONI's response did not seem to recognise that the efficiency of an estimator is something that is itself subject to estimation error, which can be a particular concern in small sample sizes.

2.45 However, we considered that SONI's response to the CMA's provisional determinations was focused rather selectively on finding arguments for increasing the assumed total market return (and hence increasing the calculate WACC for SONI), rather than giving a balanced review of the CMA's provisional findings assessment. SONI's response did not explain why the figure we had used for our draft determinations, which was taken directly from SONI's own business plan, was inappropriate for our final determinations.

2.46 There also seem to be arguments that the CMA range is somewhat too high. For instance, the CMA said that all the survey/practitioner forecast evidence that it considered suggested that experienced investors were expecting returns towards the lower end of, or even below, the ranges estimated using historic data (paragraph 9.215). The CMA added that its range of 6.20% to 7.21% (in CPIH real terms) was "comfortably at the top end of investors' current expectations regarding market returns over the next few years".

2.47 While it would be unusual to place a large weight on this type of survey/practitioner forecast evidence, the CMA might conceivably have given more weight to it (or explained its limited relevance), especially in the context of the disputes about interpretation of other sources of evidence.

Final determination position on the total market return

2.48 The estimate of the total market return is a complicated matter. This is illustrated by the ongoing CMA water company redetermination, which has involved substantial dispute and extensive submissions from many stakeholders, including not only the main parties to the case but also from a number of third parties.

2.49 For SONI's price control, we sought to take a proportionate approach. We said in our draft determinations, that given the relatively small size of the SONI price control, and the overlap with other price control reviews, we did not consider that it was proportionate to seek to duplicate work that has been carried out by other regulators or other parties on issues that are just as relevant to other regulated companies as they are to SONI.

2.50 For our final determinations, we decided to use an assumption of 6.7% for the total market return.

2.51 This figure aligns with the mid-point of the range from the CMA's provisional findings from its water company redetermination. The CMA's range represents the latest position from the CMA on a sector-wide parameter, which reflects a substantial phase of updated assessment by the CMA.

2.52 We recognise that the CMA's range for the total market return is the subject of ongoing dispute and may change for the CMA's final determinations. SONI has provided potential reasons why this range might be a little too low, and water companies have also argued for a higher range. At the same time, we can see some arguments for a lower range and note that Ofwat and other parties have argued for a lower range.

2.53 We considered that an assumption of 6.7% was reasonable for our determination, but we highlight that we consider this an approximate estimate.

2.54 This is a slight increase on the figure from draft determinations, which itself was grounded in a body of relatively regulatory precedent. We note that the annual difference in allowed return from using the figure from our draft determination (6.5%) rather than 6.7% would be approximately £50,000. SONI's response to our queries suggested a total market return of around 6.95% which would add around £70,000 if used instead of 6.7%.

2.55 These differences are very small compared to the corresponding figures for the water company appeals. We did not consider it proportionate to seek to resolve, via our final determinations, matters that are proving challenging and time-consuming in the CMA process.

The risk-free rate

Recap of draft determinations

2.56 For our draft determinations, we used the figure of –0.6% for the risk-free rate, which SONI proposed in its business plan.

2.57 We carried out a targeted review of SONI's assessment of the risk-free rate, and considered recent regulatory precedent.

2.58 We identified small differences to some of the more recent regulatory precedent but this did not seem sufficient reason to intervene at the draft determinations stage, especially as we did not identify clear problems with SONI's methodology and because the relevant data could change again before our final determinations.

2.59 We said that for our final determinations we planned to take account of more up-to-date data. We asked that, as part of its response to our draft determinations, SONI update its own analysis of the risk-free rate using up-to-date data.

Stakeholder feedback

2.60 No stakeholders provided specific comments on the risk-free rate parameter in their responses to our draft determinations.

2.61 SONI's response said that a number of the cost of capital parameters are – as recognised by the UR – being considered in other regulatory contexts including the water company CMA appeals for which provisional findings were expected shortly after SONI submitted its draft determination response. SONI said that the cost of capital would need to be updated to take into account the CMA's findings as well as the latest market data. SONI said that it welcomed the opportunity to engage with the UR on these developments ahead of the publication of the final determinations.

2.62 SONI did not meet the specific request we had made for it to provide an updated version of its analysis of the risk-free rate.

2.63 Following publication of the CMA's provisional findings in the water company appeals, we asked SONI the following question: *Does SONI consider it reasonable, for the purposes of setting the 2020-25 TSO control, for the UR to use the CMA range of -1.40% -0.81% for the risk-free rate (CPIH-stripped) from the CMA's provisional findings in the water company redetermination? If not, please explain and provide/refer to supporting evidence.*

2.64 SONI broadly supported the CMA's range. In particular SONI agreed that the inclusion of AAA-rated UK corporate bonds can provide useful evidence around the requirements for a risk free asset. SONI also agreed with the CMA that ILG yields are likely to sit below the true RFR and that sole weight should not be placed on this evidence.

2.65 SONI also considered that the range should be adjusted to extend the 6-month trailing average to 12 months and should include a forward uplift. SONI said that the RFR estimate needs to hold for (at least) the duration of the charge control, as the allowed cost of equity needs to be sufficient to attract and retain investment over the duration of the 2020-2025 period.

- SONI said that the CMA makes no allowance for the possibility that the RfR might deviate from current levels during the price control. SONI said that this is particularly problematic at present because the Covid-19 pandemic and Brexit uncertainty mean that the possibility of material deviations are higher than normal.

- SONI said that half of the 6-month trailing average period used by the CMA falls within the Covid-19 pandemic which means that the estimate is unlikely to represent the RfR over a prolonged forward-looking period. SONI suggested that UR adopt a 12-month trailing average as employed in the SONI Business Plan to help mitigate this issue.

- SONI also considered that the estimate should account for the evolution of market rates by applying a forward uplift. Forward curves are a valuable source of evidence around future spot rates and reflect the expectations of a wide investor base. SONI said that, for the NERL determination, the CMA applied an uplift for anticipated increases in yields between the estimation date and the middle of next price control period.

2.66 SONI calculated a range of 1.28% to -0.64% (CPIH-real basis) by taking the CMA

range and adjusting for its view on the 12-month trailing average and its view that there should be a forward rate uplift.

Further assessment

2.67 Our position in our draft determinations was to accept SONI's methodology but to seek updated estimates for the purposes of our final determinations. We anticipated that our draft determinations assumption of –0.60% was likely to change.

2.68 Rather than directly updating its own methodology, SONI took the assessment provided in the CMA's provisioning findings in the water company redeterminations and adjusted this for two factors: (a) a 12-month trailing average rather than a 6-month trailing average; and (b) a forward rate uplift to reflect how market rates could evolve across the 2020-25 SONI price control.

2.69 SONI's range of –1.28% to –0.64% implied a mid-point of –0.96%. This compares to a midpoint of CMA's range of –1.11%. These differences are very small in the context of the SONI price control. We estimated them to have an impact of approximately £10,000 per year.

2.70 These figures reflect the view from the CMA's provisional findings that the estimation of the risk-free rate should place some weight on evidence from corporate bonds, rather than focusing solely on evidence from gilts. This was a matter that the CMA gave explicit consideration to in its provisional findings. We recognised that this view is relatively novel within the regulatory precedent and is being challenged during the ongoing CMA process.

2.71 SONI's updated estimates used the CMA's 20-year investment horizon for water companies. This is slightly different to the approach in SONI's business plan which was to take the average of 5-year and 20-year maturity gilts on the basis that SONI's assets have an "average useful life" of 5 years and investors in regulated assets have a long investment horizon (hence the relevance of 20-year gilts).

2.72 We saw a potential argument that the relevant time horizon for the TSO risk-free rate (or TSO cost of equity) was less than 20 years. This could result in a lower estimated risk-free rate. For instance, we estimated the 180-day trailing average to the end of September 2020 of the yield on 20-year UK zero coupon index linked gilts to be 44 basis points higher than that on corresponding 5-year gilts, and to be 42 basis points higher than on corresponding 10-year gilts.

2.73 On further consideration, we were not confident that the shorter asset lives for the TSO relative to network infrastructure companies represented a good reason to assume a short time horizon for the purposes of cost of equity estimation. Both the TSO and network infrastructure companies represent long-term businesses with entrenched monopoly positions. Furthermore, in both cases assets are developed and replaced on an ongoing basis. We did not see a clear link between the time horizons suitable for CAPM and average asset lives, so we were reluctant to use asset lives as a reason to assume a shorter time horizon for CAPM cost of equity than wider regulatory precedent.

2.74 There remained to us a broader question of whether the long-term time horizons used by the CMA and other regulators for cost of equity estimates might be too long in general, for water companies and energy network companies as much as for the TSO. However, we did not consider the SONI price control process an appropriate vehicle to explore this question.

Final determination on the risk-free rate

2.75 For the purposes of our final determination, we assume –1.0% for the risk-free rate.

2.76 This reflects SONI's updated assessment, rounded from the SONI range mid-point of –0.96% to –1.0% to help avoid an undue impression of the accuracy of estimation for this parameter.

2.77 This assumption represents a reduction relative to the risk-free rate from our draft determinations of –0.6%. We recognised an argument for choosing an even lower risk-free rate, by giving weight to estimates from a shorter-term time horizon. But on balance, and taking account of our overall approach to WACC, we did not consider it appropriate at this stage of our price control review process to enter into quite broad-reaching questions about the time horizon for the risk-free rate in UK price control regulation.

2.78 Our risk-free rate assumption for the 2020-25 SONI price control reflects the specific circumstances of the TSO. For subsequent price controls, especially for regulated companies for which small changes in WACC have a much large impact on costs for customers, it may be appropriate to give more detailed consideration to questions on the use of evidence on corporate bonds for the purposes of the risk-free rate and the appropriate time horizon.

The asset beta for the notional TSO

2.79 The assumption of the asset beta for the notional TSO is a component of the WACC that we have considered in greater detail, in both our draft and final determinations. This is in recognition of its degree of influence on the overall calculation of the WACC. This section is organised as follows:

- Recap of draft determinations.
- Stakeholder feedback.
- Updated application of the CMA Bristol Water adjustment method.
- Consideration of the evolution of risk and the 2015-20 TSO asset beta.
- Evidence from equity beta and RoRE comparisons with listed water companies.
- Wider regulatory precedent on asset beta (excluding Ofgem ESO).
- Ofgem's assumption on the asset beta for the GB ESO.

- Further consideration of regulatory discretion and asset beta.
- Final determination position on asset beta.

Recap of draft determinations

2.80 In its business plan submission, SONI had proposed an asset beta of 0.57 for the notional TSO. Our draft determinations set out our understanding of SONI's case for this asset beta, which in turn was supported by analysis carried out on its behalf by KPMG.

2.81 We saw merit in SONI's broad approach, including its decision to use the CMA Bristol Water method to adjust for operational gearing. However, our review of SONI's calculations identified a number of issues that cast doubt on its conclusions. Our draft determinations included a discussion of these issues and why they meant that we were unable to place weight on SONI's estimate of the TSO asset beta.[4]

2.82 Noting that we had used an asset beta of 0.60 for the notional TSO in setting the WACC for the 2015-20 price control (which the CMA did not disagree with), we said that we had good reasons to believe that the asset beta for the notional TSO for the 2020-25 period should be lower, referring in particular to the growth in SONI's RAB over time. We also considered recent precedents from regulators setting price controls in other sectors, including decisions from Ofwat, Ofgem, the CAA, Ofcom and the CMA.

2.83 We undertook further quantitative analysis to inform our assessment of the asset beta for the notional TSO. There were two strands to our analysis:

a) Estimation of the asset beta for the notional TSO using the CMA Bristol Water adjustment for operational gearing, updated for more recent evidence from other regulators and taking account of updated forecasts of operating cash flow (OCF) for SONI and comparator companies over the 2020-25 period.

b) A comparison of the expected risk to equity investors (proxied by RORE risk ranges), at the respective notional gearing levels, for SONI and listed water companies and assessment of the implications of this comparison for the TSO asset beta given market-based estimates of the cost of equity for those water companies.

2.84 In light of our analysis and of our review of regulatory precedents, we used an assumption of 0.50 for the TSO asset beta in our draft determinations.

Stakeholder feedback

2.85 While we received several responses to our draft determinations, only SONI's response directly addressed our provisional view on the asset beta. SONI's response was supported by a short report from one of its advisors, Professor Alan

[4] See Chapter 7 of our Draft Determinations Annex 7 for further details.

Gregory (Annex K).

2.86 The main points from SONI's response seemed to be as follows:

- SONI said that its overall risk exposure is expected to increase materially in the 2020-25 price control period but this was not captured in our assessment.
- SONI said that our approach was "based solely" on a comparison with the water sector in England and Wales and Ofwat's PR19 methodology. SONI said that we did not take adequate account of other relevant comparators, including the CMA's recent decision on NERL and Ofcom's decision on BT Openreach.
- SONI said that our calculations on the application of the CMA Bristol Water adjustment for operational gearing contained errors, and that it was not clear how the results of these calculations had been reflected in our draft determinations. SONI alleged that we made two errors. First, SONI said that we had incorrectly included revenues from the transfer of pre-constructions assets to NIE Networks in our calculation of SONI's operating cash flow. Second, SONI claimed that we had 'double counted' depreciation related to I-SEM investments. SONI claimed that these errors understate the appropriate asset beta for SONI under the CMA Bristol Water approach.
- SONI noted that we had used Ofwat's asset beta, and therefore relied on Ofwat's calculations, without trying to calculate the water company asset beta ourselves from first principles. SONI said that this meant that our estimates are vulnerable to any errors that Ofwat may have made. Annex K to SONI's response provided further details on the alleged errors made by Ofwat.
- SONI alleged that our analysis comparing RoRE risk ranges for SONI with the risk ranges for water companies was inconsistent with our view that the appropriate notional gearing for SONI is lower than that for water companies.

2.87 We provide further information on aspects of SONI's response in the individual sub-sections further below where relevant.

Updated application of the CMA Bristol Water adjustment method

2.88 We have updated our application of the CMA Bristol Water adjustment method as a means to inform the assessment of the asset beta for the notional TSO. In particular:

a) In September 2020 (after our draft determinations) the CMA issued its Provisional Determinations on the appeals by four water companies of Ofwat's PR19 decisions. We updated our analysis to take account of the CMA's provisional views on the appropriate equity and debt betas for regulated water companies.

b) We updated our analysis to reflect changes in expenditure allowances and expenditure forecasts between draft and final determinations.

2.89 In our draft determinations, we had presented the results of our analysis of the asset beta for the notional TSO, based on the UR/Reckon application of the CMA Bristol Water adjustment method used for SONI's CMA appeal in 2017. We used data from (then) recent regulatory decisions and data submitted by SONI as part of its business plan submission for the 2020-25 period.

2.90 We used two different approaches in our draft determinations:

- Approach A: This is the UR/Reckon approach and calculations for the CMA in 2017, applied using updated operating cash flow (OCF) measures for SONI based on its forecast revenues for the 2020-25 period.

- Approach B: This used the same approach as Approach A, with updated asset betas and OCF measures for comparator companies, drawing on Ofwat's final determinations for the PR19 price control period.

2.91 Our draft determinations provided further detail of these approaches and assumptions made. We updated our analysis for final determinations by including two further calculations, based on estimates used by the CMA in its recent provisional findings for appealing water companies:

- Approach C: This uses the same approach as Approach B, but we have updated the comparator asset beta to reflect the CMA's provisional findings. We took this asset beta to be 0.33 based on the unlevered beta and debt beta estimates used by the CMA.

- Approach D: This uses the same approach as Approach C, but rather than using OCF measures for listed water companies, we used OCF measures for the four water companies to which the CMA's provisional findings relate.

2.92 In each of the four approaches, we have updated the OCF measure for the notional TSO to take account of changes to our proposed allowances and our forecasts of expenditure over the 2020-25 period. We considered that approach A is out of date, but we include it for completeness and comparison with our draft determinations.

2.93 In our draft determinations, we had recognised some uncertainty about the appropriate treatment of income from the transfer of pre-construction assets to NIE. In this context, we did our modelling for two scenarios:

- A scenario where SONI forecasts of the income from transfers of pre-construction assets to NIE Networks, are treated as income contributing to revenue and profits, with the costs to SONI of these pre-construction assets recognised in its profit and loss statement in the same year as the income.

- A scenario with no forecast income or costs in the profit and loss statement from transfers of pre-construction assets to NIE Networks.

2.94 We note that SONI's own calculations of the OCF ratio to support its business plan submission included forecast income from transfers of pre-construction assets to NIE Networks, consistent with the first scenario as set out above.

2.95 However, in Annex J of its response to our DDs, SONI stated that the first scenario is an error stating that "*it is not clear why the transfers (effectively asset sales) should be included within revenues and their inclusion within the Profit and Loss statement is not consistent with the expected regulatory treatment.*".

2.96 We asked SONI queries about this. SONI said that the costs incurred by SONI in developing the asset are recognised as receivables on the balance sheet as these costs represent monies owed to SONI by NIE Networks to be paid upon transfer of the asset. SONI said that the receivables are updated quarterly for inflation with the double entry flowing through the profit and loss statement. SONI said that once the asset is transferred and the amount invoiced and paid by NIE Networks, the receivable is removed from the balance sheet. The invoice is for the total cost incurred adjusted for inflation and there is no element of profit on transfer as receivables are updated on a quarterly basis to adjust for the time value of money. While SONI has not invoiced NIE Networks to date, it said that this reflects its expected treatment and is consistent with EirGrid's accounting for ESB transfers. SONI said that, on this basis, the calculation of operational gearing for 2020-25 should exclude transfers on a consistent basis with the calculation for 2015-20, presented by UR to the CMA.

2.97 We found it difficult to know how exactly to apply the CMA Bristol Water adjustment method in relation to the NIE Networks transfers. This was not a matter that was considered as part of the 2017 CMA appeal.

2.98 SONI provided some information on its expected accounting treatment, but this was provisional and until SONI provides audited accounts which include such transfers, we cannot be sure how they will affect calculations of OCF. Furthermore, the regulatory treatment of the associated expenditure and income means that the income shares features with RAB depreciation allowances which are included in the numerator of the OCF measure:

- Expenditure on pre-construction assets (subject to caps) is added to SONI's RAB, and SONI earns the WACC return on this expenditure for as long as it remains in its RAB.
- The additions will remain on SONI's RAB until the assets are transferred to NIE Networks. Any shortfalls in recovery of expenditure from NIE Networks will be made good by consumers.
- From the perspective of the risk to creditors (which is one of the rationales for considering OCF measures), the forecast revenue from NIE Networks provides substantial extra risk protection, because it is cash-flow that could in a financial distress situation be used to pay creditors.

2.99 Overall, we recognised that there is some uncertainty about how the NIE transfers will be accounted by SONI, when they arise, and how the CMA's operational

gearing adjustment method should deal with such transfers (as well as uncertainty on the timing of such transfers). For the purposes of our analysis, we retained estimates for both scenarios for NIE Networks transfers: one with income (and costs) from transfers to NIE Networks included, and one without.

2.100 SONI also said that our draft determinations calculations "*understate the operational gearing measure for PC 2020-25 by double-counting 1.5 years of the depreciation for I-SEM assets. The calculation should be amended to remove the double count to ensure consistency and to avoid attaching too much weight to I-SEM which is a one-off project.*"

2.101 We disagreed with SONI. Our estimate of SONI's OCF measure for the 2020-25 period is based on forecast RAB and RAB depreciation over the period, including the RAB associated with I-SEM assets. This is now part of the RAB, and SONI's allowed return will be calculated on a RAB that includes I-SEM.

2.102 With the benefit of hindsight it may be the case that historical forecasts made in 2017 for SONI's RAB in the 2015-20 period were over-estimates. But that is no reason to exclude from our forecast RAB depreciation amounts which we forecast that SONI will receive in the 2020-25 period. The situation is simply one of updating forecasts for the latest available information. There is no basis for SONI's assertion that the I-SEM depreciation should be removed due to double counting; it is spurious.

2.103 The results from our analysis of asset betas using the CMA Bristol Water method are set out below.

Table 1 Estimated asset betas based on different approaches to the CMA Bristol Water method

Approach	Assumptions / Parameters used	Adjusted asset beta for the notional TSO	
		Including NIEN transfers	Excluding NIEN transfers
Approach A CMA 2017 comparator data with updated SONI OCF	Comparator asset beta: 0.37 Comparator OCF: 0.45 TSO OCF: 0.42 (with NIEN transfers) and 0.33 (without NIEN transfers)	0.39	0.51
Approach B Ofwat PR19 comparator data with updated SONI OCF	Comparator asset beta: 0.36 Comparator OCF: 0.51 TSO OCF: 0.43 (with NIEN transfers) and 0.33 (without NIEN transfers)	0.43	0.55
Approach C CMA P19 PD comparator data with updated	Comparator asset beta: 0.33 Comparator OCF: 0.51 TSO OCF: 0.43 (with NIEN transfers) and 0.33 (without	0.40	0.52

Approach	Assumptions / Parameters used	Adjusted asset beta for the notional TSO	
		Including NIEN transfers	Excluding NIEN transfers
SONI OCF	NIEN transfers)		
Approach D CMA P19 PD comparator data with updated SONI OCF, and using OCF for appellant companies	Comparator asset beta: 0.33 Comparator OCF: 0.48 TSO OCF: 0.43 (with NIEN transfers) and 0.33 (without NIEN transfers)	0.38	0.49

2.104 We considered that more weight should be given to the analysis for the scenario excluding NIEN transfers (in line with SONI's response) and to approaches B to D (approach A uses figures that are outdated). On this basis, and taking this strand of analysis in isolation, we did not consider that our updated assessment called for a change to the asset beta assumption of 0.50 from our draft determinations.

2.105 SONI provided an updated calculation of its asset beta adjustment in its response to our draft determinations (this preceded its formal draft determinations response). This calculation implied an asset beta for SONI of between 0.59 to 0.61. Apart from the exclusion of revenues from transfers to NIEN, the difference between SONI's results and our own are almost entirely attributable to two factors:

a) SONI made an adjustment to disregard £7.7 million of expected RAB depreciation in the 2020-25 period that it claims we have double counted. As explained above, this adjustment is wholly unjustified.

b) SONI used an "unadjusted" WACC before applying an uplift to the comparator asset beta to reflect SONI's higher operational gearing. This approach does not seem appropriate or necessary. Using the unadjusted WACC provides a misleading view of the actual operational gearing because it understates SONI's profit by basing this on a TSO asset beta of 0.38 (which is neither proposed by SONI or proposed in our draft determinations). Our approach is designed to be more internally consistent.

2.106 Removing these unjustified adjustments would align SONI's results closely with our own.

2.107 As highlighted in our draft determinations, there are limitations with the CMA operational gearing adjustment method as a means to determine the TSO asset beta. The specific aspect of operational gearing (OCF) that the method uses may not perfectly capture the way that operational gearing affects investors' perceptions of non-diversifiable risk. Furthermore, we would expect the asset beta of the notional TSO to be affected by features of the price control framework (e.g. the scale of financial incentives on costs and performance and the extent of protection

against risk through uncertainty mechanisms), but these are not taken into account in the CMA operational gearing adjustment. Finally, as discussed towards the end of this section, there is an argument that at least part of the asset beta of companies subject to RAB-based revenue controls is driven by risks relating to the regulator's determination of the WACC and RAB recovery. If so, the CMA operational gearing adjustment method would imply too strong a relationship between operational gearing and asset beta. In this context, the estimates above were part of the overall evidence base for our assessment of asset beta, but were not determinative on their own.

Consideration of the evolution of risk and the 2015-20 TSO asset beta

2.108 In its draft determinations response, as part of its overall response on allowed returns and financeability, SONI said that:

- It was important to consider the evolution of SONI's risk exposure between the current and forthcoming price controls for SONI, as the changes have significant implications for how the overall framework is calibrated and how returns should be set.
- Overall SONI faces a material increase in risks over the forthcoming price control and that, all else equal, this implies a higher remuneration requirement for SONI.
- In contrast, and counterintuitively, the draft determinations assume a material reduction in the allowed returns.

2.109 SONI provided some qualitative analysis of how it considered risks would change from the 2015-20 price control framework to the 2020-25 price control framework, under the proposals from our draft determinations (SONI Annex J, section J.1.4). Not all of this assessment is relevant to the TSO WACC (e.g. as opposed to remuneration of revenue collection), but most of it is relevant, especially to the TSO asset beta.

2.110 The particularly relevant aspects of SONI's assessment are its view that:

- The risk relating to cost recovery for costs covered by ex ante baselines has reduced substantially (due to the move from mechanistic cost-sharing with 50% incentive rate to conditional cost-sharing with 25% incentive rate).
- The risk relating to the "inherent uncertainty in controllable costs" has increased substantially. SONI said that the scale of its controllable costs is projected to increase materially relative to 2015-20, driven by a significant number of strategic initiatives designed to meet government policy objectives. It said that these initiatives are not only larger in scale but also significantly more uncertain – they are innovative and first of a kind in nature. SONI added that the inherent riskiness of the projects is further heighted by the transformation of the energy sector, which will require flexibility to meet continuously evolving requirements, require innovation to achieve objectives and could result in changes to scope and specification.

- The risk relating to cost recovery via Dt and TNPP provisions has increased to some degree. SONI said that the mechanism for these costs is largely consistent with the CMA framework, and highlighted that the draft determination proposed that performance on these costs would be taken into account as part of evaluative framework (with the reward / penalty subject to the overall £1m cap and collar, thereby constraining risk).

- The risk relating to performance on incentives has increase to a large degree. SONI said that the incentive regime is novel, untested and predominantly evaluative/discretionary. SONI said that the new evaluative performance framework has introduced up to £1m of downside risk per annum (compared to limited downside risk exposure on incentives in PC 2015-20), which materially increases systematic risk for SONI. SONI also said that the subjective and discretionary nature of the mechanism also reduces the degree on control that SONI has over the outcomes of the evaluation process.

- The risk related to operational gearing has reduced only slightly. SONI said that overall operational gearing has not changed materially compared to PC2015-20, with lower RAB expected based on the draft determination than at the end of the current control period.

2.111 As an over-riding comment, we found that SONI's assessment of changes in its risk exposure over time to be unbalanced. While there is inevitably a large degree of judgement involved in such an assessment, SONI's assessment was inadequate in relation to the factors causing reduction in risk, specifically on the issue of operational gearing.

2.112 SONI's stated position that "overall operational gearing has not changed materially" does not stand up to scrutiny and is misleading. It is not correct to compare the SONI RAB at the end of 2015-20 period with the forecasts SONI RAB at the end of the 2020-25 period, especially given the profile of the RAB over time, which SONI will have been well aware of. In setting allowances for SONI's cost of capital over the 2020-25 period, and comparing them to allowances for SONI's cost of capital over the 2015-20 period, it is necessary to look across the whole price control period (e.g. the average RAB over the period on which the WACC*RAB return will be generated). Our forecast of SONI's average RAB for the 2020-25 period is more than 60% higher than the forecast RAB for the 2015-20 period used for the CMA appeal.

2.113 SONI has repeatedly emphasised the importance of operational gearing as a contribution to the risk that should be remunerated through the allowed return under its price control. SONI's attempt to de-emphasise changes in operational gearing when comparing the 2015-20 framework to the 2020-25 framework acts to undermine its overall assessment.

2.114 Looking across the factors identified by SONI, our view was that:

- The move to conditional cost sharing incentives, with a lower incentive rate,

is likely to **decrease risk to SONI**. The reduction in the incentive rate means that, compared to the 2015-20 price control, SONI's investors face half the financial exposure to over-spends relative to ex ante allowances, and the conditional cost-sharing approach provides a channel for SONI to be fully remunerated for over-spend in certain circumstances.

- All else equal, an increase to the scale of forecast costs subject to ex ante allowances (leaving aside the RAB increase) is likely to increase risk to SONI. But this increase is combined with a larger forecast increase in the size of SONI's RAB and is directly related to operational gearing, which is separately assessed by SONI. We did not consider that it was appropriate to treat this as a separate source of risk, and we allow for it under operational gearing below.

- We found it difficult to take a firm view on SONI's argument that a greater role for enhancement projects acted to increase risk to SONI because of the nature of those projects. New initiatives may involve greater cost uncertainty than routine activities, but this feeds through to the way that price control allowances are set, with the regulator more reliant on forecasts from the regulated company which may then reduce risks of under-spend than for more repeatable activities based on historical benchmarks. However, aside from the specific argument made by SONI, we saw **a likely increase in risk** from the specification of price control deliverables related to enhancements or new initiatives, to which funding is tied in the 2020-25 price control framework: this reduces the scope to under-spend without financial consequences.

- The risk in relation to Dt and TNPP costs is likely to be similar (since our draft determination, we decided against including these costs in scope of assessment covered by evaluative framework).

- The introduction of the evaluative performance framework is **likely to increase risk to SONI**.

- The increase in the size of the RAB, *relative to* its operating expenditure or total expenditure (or expenditure subject to ex ante allowances) is likely to **decrease risk to SONI**.

2.115 From the type of qualitative assessment that SONI provided in its response to our draft determinations, it is difficult to tell which direction the net effect of the factors above would go in. This depends on the details (e.g. scale of downside risk under evaluative framework, size of the RAB etc).

2.116 We present separate analysis of what we considered to be implications of factors such as the size of SONI's RAB and the design of the 2020-25 price control framework in the section below that considers RoRE analysis to inform the TSO asset beta assessment.

2.117 In respect of the asset beta assumption for the 2015-20 SONI price control (0.60),

we considered that there was evidence that this would be too high for the TSO in the 2020-25 period. In particular:

- We noted the asset beta of 0.60 that was upheld by the CMA in the 2017 SONI appeal on account of evidence from an operational gearing adjustment that applied the CMA Bristol Water adjustment method to data on comparator company asset betas (particularly water companies), taking account of estimates reflecting forecasts of SONI's RAB, depreciation and controllable operating expenditure over the 2015-20 period.

- Since the 2017 CMA appeal, the available estimates for water companies' asset beta had reduced significantly. For the 2017 appeal, our figures had assumed an asset beta in the range 0.36 to 0.40 for water companies. The CMA's recent provisional determinations for the water company redeterminations implied an asset beta of 0.33. Taking this factor in isolation would indicate a reduction in the TSO asset beta from 0.60 to around 0.50 to 0.55.

- For the 2020-25 price control period, SONI's operational gearing has reduced substantially compared to the 2015-20 period. This, and the updated asset betas above, are reflected in our updated estimates from the CMA Bristol Water adjustment method provided in the subsection above. Looking beyond this, a more intuitive perspective comes from our estimates that, for the 2020-25 period, the increase in the measure of SONI's internal operational expenditure used for the operational gearing adjustment (a 37% increase in the five-year average) is outstripped by the increase in SONI's RAB (average RAB being 63% higher than in the 2020-25 period). Taking this factor in isolation (and assuming a proportional relationship between asset beta and operating expenditure/RAB) would indicate a reduction in the TSO asset beta from 0.60 to around 0.51.

- The 2020-25 price control framework introduces financial incentives for aspects of the SONI's performance beyond its control of its internal costs. However, we consider that it would not be entirely consistent and appropriate to make an upward adjustment to the 0.60 asset beta from 2015-20 for this factor. This is because the 0.60 asset beta figure did not itself include any downward adjustment for the lack of financial incentives on SONI for performance relative to the asset beta for the comparators. If the introduction of performance incentives for SONI in 2020-25 period is to be treated as a significant source of non-diversifiable risk then the lack of such incentives in the 2015-20 period is, with the benefit of hindsight, a factor which would have warranted a lower asset beta for that period. It seems more relevant to consider how the risk to the TSO under the 2020-25 framework compares with that of comparator companies, which also face significant financial incentives on performance.

2.118 The estimated effects of the updated comparator asset beta and decreased operational gearing would, taken together, suggest a TSO asset beta range of 0.42 to 0.46. This is significantly below the asset beta of 0.50 from our draft

determinations. We consider that, from this indicative perspective, an asset beta of 0.50 would allow for some significant additional non-diversifiable risk in the 2020-25 SONI price control framework compared to the latest market view on risk for comparator water companies (after adjusting for operational gearing).

2.119 The calculations presented above were not something that we placed large weight on for our view on the TSO asset beta. It seemed more directly relevant to update the CMA operational gearing assessment and, when comparing risk between SONI and comparator water companies, to use the lens of RoRE analysis (which can take account of factors such as downside risk exposure, cost-sharing incentive rates, performance incentives and the size of the RAB).

2.120 Nonetheless, we considered that the exercise above helps to explain why, despite changes to SONI's price control framework, it is reasonable for the overall asset for the TSO to have reduced significantly.

2.121 Finally, and in light of this exercise, we considered that SONI's claim that its overall risk exposure is expected to increase materially for the 2020-25 price control period lacked foundation and was potentially misleading. In particular:

- If operational gearing is major driver of the risk that should be remunerated via the TSO asset beta, then the large reduction in SONI's operational gearing in the 2020-25 period compared to the 2015-20 period needs to be factored into any assessment of the evolution of risk over time. SONI's assessment did not do so.

- Conversely, if operational gearing is not an important driver of the risk that should be remunerated via the TSO asset beta, then it is questionable why SONI's asset beta should be so much higher than recent estimates for other monopoly companies subject to RAB-based revenue controls (e.g. the CMA estimate of water company asset betas of 0.33).

Evidence from equity beta and RoRE comparisons with listed water companies

2.122 In our draft determinations, as part of the overall evidence base for the TSO asset beta assumption, we considered that some insight could be gained from efforts to compare the risk exposure to (notional) equity investors in the TSO against the risk exposure to (notional) equity investors in listed water companies regulated by Ofwat.

2.123 These listed companies provide a key source of *market evidence* for application of the CAPM approach to the estimation of the cost of equity for the purposes of UK RAB-based price control determinations. As far as we are aware, there are no other companies subject to UK RAB-based price control regulation which are listed on a stock exchange (enabling CAPM-based cost of equity estimates to be derived) as a corporate group that does not include substantial business activity that falls outside of the scope of that regulation. For instance, while National Grid Group and SSE plc both contain businesses that are subject to RAB-based price controls, a large amount of their turnover comes from other businesses. National Grid Group has US

operations and SSE has energy generation activities and, until recently, supply activities. Ofgem said that National Grid Group has only 45% of its total RAV in UK network assets.[5]

2.124 In our draft determinations, we said that an asset beta for SONI of around 0.40, as suggested by one of the scenarios for the application of the CMA Bristol Water adjustment methodology, would give rise to a cost of equity of 3.1% for the TSO at our notional gearing. Given that we had estimated that, at our notional gearing, the RoRE risk to notional equity investors in the TSO would be approximately similar to the RoRE risk borne by notional equity investors in listed water companies, we had a concern that an asset beta assumption of 0.40 would be on the low side for SONI in the 2020-25 period. Compared to the listed water companies, in approximate terms at least, it would involve a lower remuneration rate for notional equity capital (3.1% versus 4.2%) for what seemed a similar degree of risk.

2.125 We said that the comparison of the RoRE risk and allowed equity return with listed water companies suggested a higher asset beta assumption for SONI: taken in isolation, the analysis of RoRE and allowed equity return pointed to an asset beta assumption of around 0.5 for SONI: this would provide a similar allowance for the cost of equity as for the listed water companies for which our RoRE analysis indicated a similar extent of equity risk exposure.

2.126 We recognised in our draft determinations that there were significant limitations in the type of analysis we had carried out for these comparisons. For example, the RoRE risk analysis we carried out was quite high-level and may overlook significant differences in risk exposure between the SONI price control framework and Ofwat's price control framework for the listed water companies; and similarities in the risk exposure as measured by RoRE may not translate into similarity in the exposure to non-diversifiable risk for which equity investors require a return under the CAPM model. Furthermore, we recognised that Ofwat's PR19 final determinations had been referred to the CMA (though the listed companies which were the focus of our comparison above did accept Ofwat's final determinations).

2.127 SONI's response to our draft determinations was critical of our approach. In its response, SONI made raised the following points:

- That we placed significant weight on a comparison with water companies' risk and equity returns to set the asset beta and that this approach is not appropriate as it implies the systematic risk for SONI is the same as water companies and results in an inconsistent interpretation of risk between the estimates of asset beta and notional gearing.
- Our use of a RoRE comparison approach to the estimation of asset beta assumes that the systematic risk of SONI is identical to that of water companies.
- There is no evident justification for using the RoRE risk analysis to inform

[5] Ofgem (2020) *RIIO-2 Final Determinations – Finance Annex*, page 43.

the asset beta estimate.

2.128 SONI also referred to a report prepared by one of its advisors. This advisor said that our approach lacked any logic or justification and was entirely circular. He said, in addition that:

- Our approach implies an assumption that the systematic risk of SONI is identical to that of water companies. It essentially solves an equation for what the asset beta "must" be in order to be consistent with Ofwat's judgement.
- In benchmarking to Ofwat's analysis, we assumed away all the flaws in Ofwat's approach to beta estimation.
- We ignored other suitable proxies for NI utility risks, in particular NERL and Openreach, which are clearly relevant given the gearing discussion.
- It completely side-steps the operational gearing issue, despite having acknowledged its importance.

2.129 Our view is that SONI's response, and that of its advisor, reflects a fundamental misunderstanding of the approach we had used for our draft determinations and a failure to recognise the difference between the risk faced by equity investors and overall business risk.

2.130 In this context, it is highly important to draw a distinction between the non-diversifiable (or systematic) risk faced by a business (e.g. a notional TSO) and the non-diversifiable risk faced by an equity investor in that business. The first of these should be captured by the asset beta and should not depend on gearing. The second of these depends critically on gearing: if gearing is decreased, the risk inherent in the business is spread across a larger base of equity capital and any upside or downside risk exposure is lower as a percentage of equity capital.

2.131 While the overall risk exposure in total across all equity investors (e.g. in £m) might remain broadly the same irrespective of gearing, a lower gearing reduces the risk exposure per *£ of equity investment*. In turn, the cost of equity (or the reasonable remuneration per £ of equity capital) will fall as gearing reduces.

2.132 In seeking to benchmark the returns to equity investors, we made no assumption at all that the non-diversifiable risk of SONI or the notional TSO is the same as the non-diversifiable risk of regulated water companies. SONI and its advisor are wrong on this. It was absolutely clear from our draft determinations proposal for a TSO asset beta of 0.50 that we recognised that the non-diversifiable risk of SONI is likely to be greater that of regulated water companies.

2.133 What we recognised, quite rightly, was that:

- If the notional TSO operates with a lower level of gearing than regulated water companies, there may come a point at which the scale of non-diversifiable risk faced by equity investors in the TSO is similar to that of

equity investors in regulated water companies – and may even fall below it.

- It is meaningful to benchmark the cost of equity against the risk to equity capital (i.e. to compare the balance of risk and return). If £1 of notional equity capital in company A faces similar non-diversifiable risk exposure to £1 of notional equity capital in company B, then we would expect the two companies to have a similar cost of equity (or expected return per £1 of equity capital). This can provide a basis on which to infer an asset beta, taking account of notional gearing.

2.134 SONI's advisor was also wrong to claim that our approach side-stepped the operational gearing issue. The reality is the exact opposite. The higher operational gearing of SONI fed directly into the estimates of RoRE risk exposure. For example, the lower is SONI's RAB relative to its operating expenditure (an aspect of its operational gearing that SONI has emphasised), the higher will be the RoRE risk exposure (all else equal).

2.135 Furthermore, and in contrast to the CMA operational gearing adjustment set out in a previous section, a RoRE perspective can take account not just of aspects of operational gearing but also of aspects of the design of the price control framework which are likely to affect non-diversifiable risk (e.g. the scale of cost-sharing incentive rates).

2.136 Overall, we found that SONI's criticisms of our approach were unfounded and that it remained an approach that can offer a useful perspective on the TSO's cost of equity, especially in the absence of direct market evidence on the equity beta for the TSO.

2.137 With the hope that it may provide further clarity, we have sought to find a slightly different way to present the evidence and insight from this approach for our final determinations. We also updated our approach in the light of:

- CMA's provisional determination in the water company redeterminations.
- Other updates of our analysis of RORE, taking account of updated cost forecasts, changes to our notional gearing assumption and changes to the proposed incentive framework (e.g. lower downside risk exposure under the cost-sharing incentives and evaluative performance framework).

2.138 In relation to the first point above, SONI told is that it considered that the low end of the CMA's range for equity beta and asset beta was informed by estimates of beta which are not robust (driven by temporary effects from the Covid period for example) and should not be taken into account. We disagreed with the point on Covid-19. The CMA's overall range of beta estimates used different historical periods for analysis and we did not consider that the CMA's overall range, or point estimate, gave undue weight to figures distorted by Covid-19. Furthermore, we considered that the stock market's reaction to Covid-19 provides relevant information on the perceived riskiness of the listed water companies compared to the market as a whole, and that it would not be appropriate to discount this entirely. SONI also said that the CMA's range is on the basis of a different debt beta than

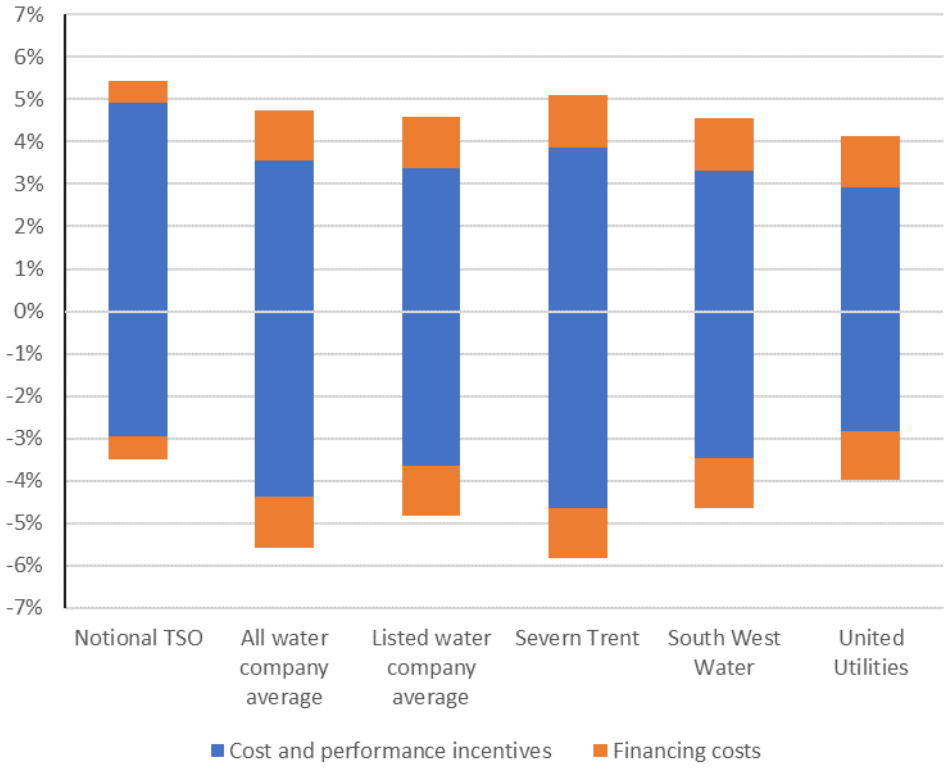
that adopted by the UR and so would need to be restated to align with our estimates of debt beta. This did not seem correct. We have made an assumption, for the purposes of our final determination, on the debt beta for the TSO and we have not sought to question or contradict the CMA's assessment of the debt beta for the water companies. Overall, for the purposes of the analysis presented below, we did not consider that we should make any adjustments to the assessment of beta from the CMA's provisional findings in the water redeterminations.

2.139 On that basis, we use the CMA's cost of equity estimates, which were a range of 3.56% to 5.60% on post-tax basis. Ofwat's PR19 assumption on the cost of equity was 4.19%, which is closer to the lower end of this range.

2.140 If we were to assume an asset beta of 0.50 for the notional TSO, as proposed in our draft determinations, then on the basis of our assumptions on the total market return and risk-free rate (which are aligned with the centre of the ranges from the CMA provisional determinations), and our assumptions on notional gearing and the debt beta, the implied cost of equity for the TSO would be 5.03% on a post-tax basis.

2.141 On this basis, an asset beta of 0.50 provides a return to TSO equity investors (cost of equity) that is significantly above the mid-point of the CMA range for the cost of equity for notional water company equity investors. The next step is to compare the risk exposure to equity investors between the notional TSO and the regulated water companies at notional gearing. Our updated RoRE risk analysis is summarised in the chart below and is further explained in section 6.

Figure 4 Comparison of estimated RORE risk exposure



2.142 This chart, and the further assessment in section 6, indicates that, for the risks captured in the RoRE assessment, the scale of risk per £ of equity investment in the notional TSO is similar, and potentially lower, than that for the listed water companies. This reflects several factors reflected in the RoRE risk exposure, including:

- The lower notional gearing which, all else equal, pushes down RoRE risk exposure faced by equity investors in the TSO.
- The larger totex relative to RAB for the TSO which, all else equal, pushes up RoRE risk for the TSO relative to water companies.
- The lower cost-sharing incentive rates which, all else equal, pushes down RoRE risk for the TSO.
- A lower level of gearing which reduces the risk associated with the fixed cost of debt allowance (financing costs).
- Estimates of the risk exposure relating to performance incentives and ODIs, and taking account of the downside cap on TSO RoRE risk for cost and performance incentives.

2.143 This RoRE perspective would, on its own, imply that an asset beta of 0.50 is sufficient for the notional TSO, as this provides a return to equity investors that is towards the higher end of the CMA's cost of equity range for water companies, for what seems a similar degree of risk exposure from the perspective of equity investors.

2.144 This perspective also suggests that a lower asset beta could be appropriate. For instance, an asset beta assumption of 0.46 for the TSO would lead to a post-tax cost of equity for the TSO that is around the centre of the CMA range from its provisional determination. An asset beta assumption of 0.44 would yield a post-tax cost of equity for the TSO that is in line with Ofwat's PR19 determination. Furthermore, the RoRE risk exposure for the TSO, might be seen as lower than that for the water company comparators, which could reduce the position on asset beta below these figures.

2.145 We recognise that these comparisons are not perfect. For example:

- Similarities in the risk exposure as measured by RoRE may not translate into similarity in the exposure to non-diversifiable risk for which equity investors require a return under the CAPM model.
- The RoRE risk analysis may overlook significant differences in risk exposure between the SONI price control framework and Ofwat's price control framework for the listed water companies. Furthermore, the approach to RoRE analysis used conventionally in UK price control regulation, and used above, focuses on within-year or medium-term RoRE impacts and does not necessarily capture the full long-term future impacts on returns to regulated equity that may arise via RAB adjustments (e.g. for over-spend or ODIs).

- The RoRE risk analysis primarily concerns risk within the price control period. It does not consider potential non-diversifiable risk relating to the determination of the WACC, which may be unaffected by operational gearing.

2.146 We considered the first point above on non-diversifiable risk. We did not identify a strong reason to consider that our approach would over-state or under-state the cost of equity for the TSO. We recognised that the price control framework we are establishing for SONI has a higher degree of within-period regulatory discretion than that for water companies, but overall returns for water companies are still affected by regulatory discretion at the price control review (e.g. on cost assessment and calibration of ODIs). Furthermore, within-period regulatory discretion can be used to reduce a regulated companies' exposure to market-wide factors and focus incentives more on its own performance, which could act to reduce non-diversifiable risk.

2.147 The second and third points above seemed also applicable, and in an arguably greater degree, to other sources of potential evidence on the asset beta, including SONI's analysis of operational gearing adjustments using other regulated companies and its references to regulatory precedent for NERL and BT Openreach.

2.148 We saw a possible argument that our approach could overstate the TSO cost of equity, by overlooking the potential for a positive relationship between the size of the RAB and non-diversifiable risk, but within the broader context of arguments in either direction this issue did not seem sufficiently clear to make an adjustment to the estimates above.

Wider regulatory precedent on asset beta (excluding Ofgem ESO)

2.149 SONI's draft determinations response criticised the emphasis we placed, for our asset beta assessment, on information from regulated water companies. SONI said that the comparator data set for beta benchmarking should be expanded to include energy networks, NERL and other utilities such as airports or the Openreach business of BT.

2.150 At the outset we consider it important to highlight the fundamental rationale for placing emphasis on equity and asset beta evidence for (listed) water companies, at least as a starting point before considering adjustments:

- These companies are, like SONI, monopolies subject to RAB-based price control regulation and revenue controls that protects them from volume risk.
- The companies are listed on stock markets enabling CAPM equity betas to be estimated directly (and their other business interests are relatively limited).

2.151 We considered that asset betas estimated for listed water companies seemed a good starting point for our application of the CMA operational gearing adjustment method, since this enables us to start with beta estimates derived relatively directly from market data.

2.152 We considered that there were risks of inconsistency if our operational gearing adjustment method did not start from listed company data. For example, while SONI suggested to us that regulatory precedent on the asset beta for NIE or for energy network companies regulated by Ofgem could be used, we were concerned that these asset beta assumptions were themselves vulnerable to the criticism that they were not based directly on market data focused on the regulated entity, and did not reflect adjustments for operational gearing. It did not seem right to adopt an approach which emphasised the importance of operational gearing as an important driver of asset beta and then to draw on regulatory precedent on asset beta that considered in any detail the implications of operational gearing for asset beta.

2.153 SONI's response also argued that we should have put more weight on asset beta estimates for NERL and BT Openreach.

2.154 A major part of SONI's response was to argue that it was inconsistent for us to treat NERL and BT Openreach as comparators for the purposes of setting the TSO notional gearing assumption, and then not to use them for the estimation of the TSO asset beta.

2.155 We considered that this aspect of SONI's response grossly overstated the reliance that we had placed on NERL and BT Openreach as part of our draft determinations on notional gearing.

2.156 In our draft determinations (Annex 7) we referred to several factors that we had taken into account in proposing a 30% notional gearing which had nothing to do with the NERL and BT Openreach notional gearing assumptions. We said that 30% gearing was approximately midway between the two scenarios for the notional gearing assumption for SONI used for the 2015-20 price control period (0% and 55%) and we also drew implications for TSO notional gearing from our RoRE analysis.

2.157 While we also referenced the NERL and BT Openreach gearing assumptions, we added the following: *"Our view is not that the gearing assumption for NERL is necessarily an appropriate reference point for SONI, but that the CMA position indicates that the typical gearing assumptions for asset-heavy network utilities (e.g. 50%-60%) is not necessarily a reliable guide to an appropriate notional gearing assumption for non-network companies such as NERL and SONI".*

2.158 In any event, for our final determinations we have assumed a slightly higher notional gearing for the TSO, which should remove or reduce any alleged inconsistency.

2.159 In terms of the asset beta estimates for NERL and BT Openreach, it should first be kept in mind that these are not based on market data for the specific busines activities for which price controls (or charge controls) are set. For NERL, the CMA had to draw on data for a range of other companies, including airports, which seem more distant from SONI than NERL. For BT Openreach, Ofcom relies on methods and assumptions to decompose the BT asset beta between different parts of BT Group, and to draw on data from a range of other companies.

2.160 Furthermore, for our draft determinations we explicitly considered asset beta estimates for BT Openreach and NERL. For NERL we said that there are significant reasons why NERL's asset beta could be higher than that for SONI (e.g. price control arrangements that directly expose NERL to volume risk, which in turn is correlated with wider market and economic conditions). Given differences between NERL and SONI that are difficult to gauge or adjust for, we were reluctant to give substantial weight to the NERL asset beta in setting the asset beta for SONI.

2.161 Our view is that exposure to demand risk (and the extent to which this is correlated with the market) is likely to be a significant factor that influences a company's asset beta and contributes to the asset beta. SONI faced very limited exposure to demand risk under the SONI price control framework, but this is not the case for BT Openreach or NERL.

2.162 The example of Covid-19 illustrates differences in risk profile between NERL and other regulated companies, such as SONI and water companies, in relation to demand risk. In its final determinations on the NERL price control, the CMA said that (paragraph 5.,2): "*In view of the sharp decrease of air traffic volume, and the resulting measures taken by Eurocontrol and the UK Government, it is clear that NERL will no longer be able to execute its RP3 Business Plan as conceived. Similarly, the CAA's RP3 Decision and most of the financial assumptions and forecasts we relied upon to reach our provisional findings are now largely outdated".* The CAA has decided to re-open the NERL price control.

2.163 SONI's business, and its price control framework, have not experienced the same degree of impact and disruption as for NERL. We consider that this is partly due to differences in the nature of demand for SONI's system operation functions compared to air traffic control services, and partly due to differences in the regulatory framework (e.g. the risk protection under the revenue control approach used for SONI).

2.164 Rather than supporting SONI's view that the TSO asset beta is 0.57 or 0.59, we considered that the precedent on BT Openreach or NERL asset beta assumptions suggested a considerably lower asset beta for SONI, given differences in demand risk. We also note the greater uncertainty surrounding the asset beta figures for these companies due to lack of direct market evidence.

Ofgem's assumption on the asset beta for the GB ESO

2.165 In its final determinations for the GB electricity system operator (ESO) price control from April 2021, Ofgem said that an asset beta of 0.55 was a reasonable assumption for the ESO for the five-year price control period. This was an increase from an asset beta of 0.45 from Ofgem's draft determination.

2.166 In principle the ESO should be a good comparator for a notional TSO, at least as a starting point. However, the asset beta used by Ofgem is not based directly on market data for the ESO. Instead, it seems to reflect a relatively high-level consideration of arguments submitted by National Grid as to why Ofgem's draft determination assumption for the asset beta was too low. The asset beta from

Ofgem's draft determinations was a figure at the lower end of range produced by Ofgem by its consultants CEPA (0.45 to 0.50) which presented analysis of the ESO asset beta.

2.167 Ofgem's decision to move from an asset beta of 0.45 to 0.55 increased the vanilla WACC for the ESO by around 80 basis points. However, Ofgem did not report any quantitative evidence to explain the scale of this change.

2.168 In its final determinations, Ofgem said that it disagreed with National Grid's view that it had sought to "aim down" in its draft determination on the ESO asset beta. In its draft determinations, Ofgem had explained its use of 0.45 as reflecting its judgement that systematic risk for the ESO sits between network companies and NERL, and in Ofgem's view closer to network companies than NERL.

2.169 In its final determinations, Ofgem defended its position that the ESO should have a lower asset beta than NERL. Ofgem referred to CEPA's analysis of relative risk exposure that suggested that the NERL incentive framework contains more RAV exposure than thee ESO's. Ofgem highlighted its view that one difference between the risk exposures is that NERL's exposure is heavily influenced by volume risk whereas the ESO's is heavily influenced by the evaluative incentive scheme. Ofgem's view was that it is easy to see that the evaluative incentive scheme should be a softer conduit of systematic risk than volume risk. Ofgem also disagreed with National Grid's criticism of CEPA's figures on the NERL asset beta and Ofgem's use of these figures.

2.170 The only factor that we identified from Ofgem's assessment, to explain the increase in the ESO asset beta from draft determinations to final determinations, was Ofgem's reference to the novelty of the framework. Ofgem said, of the ESO's other claims that an asset beta of 0.45 is too low, the most convincing, in its view, was that the ESO regulatory framework is new and untested. Ofgem said that it found that there was some legitimacy in this claim, although it added that many changes to the ESO's framework are designed to reduce risk. Ofgem also highlighted that the incentives framework is not completely new. Ofgem said that, nonetheless, it "could agree with the ESO that new mechanisms require implementation and testing, which can warrant a perception of risk until established and proven".

2.171 Against this, Ofgem also said that it was conscious of the arguments made by Citizens Advice and the RIIO-2 CG, that the ESO framework is low risk, which Ofgem said that it found persuasive.

2.172 Ofgem summed up as follows: "*Taking these arguments together, our Final Determinations could indicate a cautious judgement of ESO's asset beta, which should be reconsidered when its regulatory framework becomes more established. Overall, in our view, values of 0.075 for debt beta and 0.55 for the asset beta, are reasonable for the five-year period of RIIO-2 for the ESO"*

2.173 We considered the potential implications of Ofgem's asset beta assessment for the ESO for our determination of the SONI price control.

2.174 First, the use of the word "cautious" in Ofgem's explanation of its asset beta

assumption, taken together with the arguments set out by Ofgem, implied to us that Ofgem had decided to aim up on the ESO asset beta for the RIIO2 period. For the purposes of SONI price control decision, we found no good reason to aim up (or down) on cost of capital parameters. We comment further on this in the section further below on our overall WACC build-up.

2.175 Second, while the SONI price control framework for 2020-25 is clearly quite different to that for 2015-20, we were not persuaded that the framework being "new and untested" should call for a significant uplift to the TSO asset beta. We agree that a new and untested framework may entail uncertainty and risk, both for investors and for customers. However, it is questionable whether this implies a case for significant upward adjustments to the TSO asset beta:

- For asset beta the question is not whether there is risk but whether this risk is diversifiable or non-diversifiable. Aside from points concerning regulatory discretion rather than novelty (discussed in more detail in a separate sub-section below), we struggled to see how the uncertainty relating to the novelty of aspects of a specific price control framework for a specific company would, in itself, be correlated with the market and non-diversifiable. Changes to regulatory frameworks can provide unexpected gains to regulated companies as well as losses, and this is the type of risk that we would expect to be generally diversifiable.

- Given there is no direct market data on the asset beta for the ESO or TSO, information on beta has to come ultimately from equity betas estimated for listed comparator companies (e.g. other regulated companies). The relevant question then is not whether the ESO or TSO's regulatory framework has changed from one period to the next, but the extent of uncertainty about the changes over time in the regulatory framework compared to those that are "priced in" by equity investors in comparator companies. It is not usual for price control frameworks to entail quite significant changes from one price control period to the next.

- Our understanding is that it is not established UK regulatory precedent to apply an uplift to asset beta in cases where a regulatory framework contains significant elements that are new and untested. For instance, in its 2015 Bristol Water determination the CMA effectively endorsed the major changes to the water company regulatory framework that Ofwat made for PR14 (e.g. totex and outcomes approach), but did not see the need to consider uplifts to Bristol Water's asset beta for novelty. Similarly, in its NIE determination in 2014, the CMA established a very different price control framework than that which had applied in RP3 and did not consider uplifts to asset beta for novelty.

- While SONI's draft determination response referred to our proposed incentive regime as being novel and untested, it did not develop this into any form of argument about the relationship between novelty and asset beta. SONI's submissions on asset beta in its draft determination response did not propose any upward adjustment for the novelty of the framework.

- Substantial elements of the 2020-25 SONI price control framework are retained from the 2015-20 period or adapted from it, so the novelty should not be overstated.

2.176 We considered that it was reasonable in this context for us not to apply any adjustment to the TSO asset beta in respect of the novelty of the price control framework, as part of our assessment of the cost of equity for the notional TSO. We consider a related issue of regulatory discretion below which did seem more relevant to asset beta.

2.177 Finally, there are significant differences between the ESO and SONI which have implications for asset beta, even if we were to accept Ofgem's asset beta for the ESO as a starting point.

2.178 A central part of SONI's position on asset beta is that operational gearing matters: that, all else equal if a firm has a higher asset beta it should have a higher asset beta. By the same token, if a firm has lower operational gearing it should have a lower asset beta.

2.179 National Grid ESO seems to have higher operational gearing than SONI, which would imply a higher asset beta (all else equal). For instance, while SONI raises the point that its RAB is small compared to its operating expenditure, the ESO's RAB is even smaller on a like-for-like basis. For the ESO, based on information from Ofgem's published financial model, we estimate the RAB to operating expenditure ratio to be 1.92, which compares to 2.05 for SONI, and its OCF ratio to be 0.30 compared to our estimates for SONI of 0.33 (without NIE transfers) and 0.42 (with NIE transfers).

2.180 There are some differences between the ESO and SONI price control frameworks but it was difficult to see what they would imply about asset beta. In the ESO framework there are no separate incentives on internal costs as for SONI (e.g. cost-sharing arrangements around ex ante baselines) but within the ESO evaluative framework performance against targets on costs is part of the assessment and hence financial incentives or rewards. The overall downside caps for cost incentives and performance under the ESO framework and SONI framework seemed similar (e.g. if expressed relative to the RAB).

2.181 Overall, taking into account all of the considerations above, we considered that Ofgem's final determination for the ESO did not present good reasons for an asset beta for the notional TSO that was higher than 0.50. Indeed, allowing for differences in operational gearing, and our policy position not to aim up on the cost of equity, Ofgem's assessment could itself indicate an asset beta below 0.50 for the notional TSO.

Further consideration of regulatory discretion and asset beta

2.182 SONIs response to our draft determinations did not comment explicitly on the relationship between asset beta and regulatory discretion, but SONI did highlight the degree of regulatory discretion as relevant to its overall risk. Furthermore, Ofgem's final determinations for the ESO referred to interactions between

regulatory discretion and asset beta. This was not something that we had commented on explicitly in our draft determinations.

2.183 For our final determinations, we gave further consideration to the argument that the extent of regulatory discretion within the 2020-25 SONI price control framework should call for a higher asset beta for a notional TSO.

2.184 First, it was not obvious to us that there is greater regulatory discretion in the SONI price control framework than that of other regulated companies. The SONI framework may involve more scope for regulatory discretion during the price control period. But the more a regulator chooses to lock things down in its final determinations (e.g. in terms of expenditure allowances and calibration of mechanistic performance incentives) the more regulatory discretion it is exercising in making its final determinations.

2.185 We could see an argument that where a regulator has regulatory discretion, this may entail non-diversifiable risk; this concerns the broader political and social context in which regulators exercise judgement within price control processes. For instance, there is an argument that in an economic downturn a regulator may take (or been seen by equity investors to take) decisions that are tougher on the regulated company (e.g. in terms of cost allowances, WACC or performance incentives) than when conditions within the broader economy are better. Perceptions of this factor could explain some of the non-diversifiable risk implied by asset beta estimates derived from market data on regulated companies.

2.186 However, this view is not something that is routinely discussed or endorsed as part of regulatory decisions on asset beta (whether by sector regulators or the CMA). And there seem to be counterarguments in the opposite direction:

- It is typically not in the interests of economic regulators to expose regulated companies unnecessarily to non-diversifiable risk. Economic regulators tend to recognise that exposing regulated companies to non-diversifiable risk can costs consumers money (through the cost of capital), and they look for opportunities to reduce this risk. The use of aggregate revenue controls, rather than simply tariff controls, and the retention of RPI or CPIH indexation, can be seen as examples of regulatory discretion being used to reduce non-diversifiable risk.

- Regulatory discretion, and especially the type of discretion enabled by our price control framework for SONI, can act to reduce non-diversifiable risk. Part of the rationale for the evaluative performance framework is to recognise that SONI's performance and success can be impacted by external factors and to enable incentives to focus more on the performance and actions within its control (for which risk which should be more diversifiable).

- Investors might have perceptions that, in an economic downturn, regulators may feel less inclined to take decisions that challenge investment plans and reduce employment.

2.187 Furthermore, a view that regulatory judgement or discretion contributes significantly to non-diversifiable risk and the asset betas of regulated companies may suggest that operational gearing adjustments could have the effect of *over-estimating* asset beta for the TSO. To see this, it is helpful to distinguish between the following potential sources of discretionary risk:

- One area of regulatory judgement and risk is the level of price control expenditure allowances (and associated performance requirements or baselines that a company needs to achieve within those allowances to avoid penalties). This might provide a reason why a company with higher operating expenditure, or total expenditure, relative to its RAB would have a higher asset beta.

- Another area of regulatory judgement and risk is the determination of the level of WACC. The level of financial risk associated with this factor would be driven the size RAB, rather than with the size of operating expenditure or total expenditure. Furthermore, investors may perceive other non-diversifiable risks relating to the RAB such as the risk that the RAB is not fully remunerated in the future (i.e. residual risk around regulatory commitment).

2.188 To the extent that the second risk above contributes significantly to the investor perceptions of non-diversifiable risk embedded within asset beta (which seems plausible), the approach to asset beta used in the CMA Bristol Water adjustment method, and our RoRE-based analysis above, could lead to *over-estimates* of the asset beta for SONI, because they do not allow for part of the asset beta to be driven by risk related to the RAB and determination of WACC, rather than operational gearing or within-period RoRE risk exposure.

2.189 The various issues raised above are complex and, to our knowledge have not been investigated and resolved in previous regulatory precedent. For the purposes of our determination, we did not see good grounds to adjust upwards our estimates of the TSO asset beta on account of regulatory discretion. We also saw potential reasons, which may warrant further analysis in the future, of why a focus on operational gearing (or risk related to totex and ODIs) as the driver of asset beta could lead to over-estimates of asset beta for a company such as SONI with relatively high operational gearing.

Final determination position on asset beta

2.190 We considered SONI's submissions on asset beta in detail, updated and refined our quantitative analysis, reviewed Ofgem's final determinations for the GB ESO and considered further the implications of regulatory discretion and operational gearing for asset beta.

2.191 We found that there was significant uncertainty about the TSO asset beta. The evidence and regulatory precedent summarised above might point to a broad range of around 0.40 to around 0.60 (e.g. lower end of CMA Bristol Water adjustment method to upper end of precedent from NERL and BT Openreach). However, we

did not consider that we should simply pick the mid-point from such a range. Instead, we have sought to form an overall position on what would be a reasonable asset beta assumption for the notional TSO in light of our overall assessment and taking account of the relative strength and relevance of different figures and considerations.

2.192 Overall, we did not find good grounds to move away from the asset beta assumption of 0.50 from our draft determinations which was subject to stakeholder consultation.

2.193 We found a considerable amount of SONI's draft determinations response on the asset beta to be misguided, reflecting incorrect interpretations of what we had done for our draft determinations and proposing calculations for the asset beta that did not stand up to scrutiny. We considered that there had been an opportunity, within the lengthy process for our price control review, for SONI to have contributed genuine insight and new evidence on the TSO asset beta assessment. SONI did not take this opportunity.

2.194 In its response, SONI claimed that our draft determinations was based solely on water companies. This was not our position for our draft determinations. In any event, for the purposes of our final determinations position we highlight the following:

- We have given particular weight to estimates reported by regulators such as the CMA which are derived from market data from listed monopoly companies for which the main part of their business is subject to UK RAB-based revenue controls (i.e. listed water companies). We have sought to take account of differences between these companies and the notional TSO that may affect asset beta.

- We reviewed Ofgem's assessment for the GB ESO and considered that it is reasonable that our asset beta for the notional TSO is somewhat lower than the asset beta set by Ofgem in its final determinations.

- We considered the asset beta estimates for NERL and BT Openreach and found it reasonable that our asset beta for the notional TSO is lower than these estimates.

2.195 Our review of issues concerning the relationship between regulatory discretion and asset beta is somewhat tentative. This was not a matter we considered explicitly in our draft determinations and neither SONI's business plan nor draft determinations response sought to set out an understanding of this relationship. We saw some arguments that the degree of discretion in the 2020-25 TSO framework could act to increase asset beta, but we also saw counterarguments on this point.

2.196 Furthermore, part of our consideration of regulatory discretion and asset beta suggested that the notional TSO's asset beta may be less heavily influenced by operational gearing and RoRE risk relating to operating expenditure or total expenditure than implied by the estimates from our quantitative assessment.

2.197 These were complex matters. We considered that there were potential arguments concerning regulatory discretion in favour of both a lower TSO asset beta assumption and a higher TSO asset beta assumption, and there was not a sufficient overall case in either direction to warrant a deviation from the asset beta of 0.50.

2.198 Our assumption on the TSO asset beta is intended to represent an average asset beta for the 2020-25 price control period. We recognise that the profile of risk, and the underlying asset beta, might vary between different years within this period. For instance, SONI's RAB is forecast to be significantly lower at the end of the period than at the start and the financial incentives under the evaluative performance framework will not come into effect until the third year. Our asset beta assumption of 0.50 is not intended to be representative for any single year taken in isolation.

The debt beta for the notional TSO

Draft determination

2.199 For our draft determinations we used a debt beta assumption of 0.125 for the notional TSO.

2.200 We reviewed the proposals on the debt beta from SONI's business plan. We found that SONI had not provided any explanation for the debt beta assumption underpinning its proposals on the pre-tax WACC being at the upper end of the figures for debt beta in recent regulatory precedent.

2.201 We said that, in the absence of more detailed investigation of this issue, a figure of 0.125 seemed more suitable than SONI's proposal. We said that this was in the middle of the range from the recent UKRN report and was used by Ofwat for its PR19 final determination.

2.202 We added that while the CMA had recently used a lower debt beta assumption for its NERL provisional determination, the CMA seemed to show little conviction in its assumption of 0.05, noting the degree of uncertainty around this parameter. We said that we did not see a good case, from what the CMA had said at the provisional findings stage for NERL, for departing from the range from the recent UKRN report and from the other recent precedent. Our proposed figures lay between the CMA's debt beta from NERL and SONI's proposed figure, and closer to the latter.

Stakeholder feedback

2.203 SONI's response provided a number of comments on our choice of debt beta in DDs.

2.204 SONI said that debt betas should fall as gearing decreases, as debt bears less non-diversifiable risk. SONI said that the variance of debt beta with gearing is widely acknowledged by regulators and finance practitioners. SONI said that any reduction in the notional gearing should be applied alongside a corresponding decrease to debt beta in order to avoid artificial reduction in WACC.

2.205 SONI said that the apparent reduction in WACC, by changing notional gearing from 55% to 30%, was due to the UR's choice of debt beta of 0.125 at 30% gearing, which compared to a debt beta of 0.15 at 50% gearing in SONI's business plan. SONI quoted one of its advisors who said that one would reasonably expect the range of difference (in the debt beta) to be considerably greater than 0.025.

2.206 SONI did not propose a specific estimate for the TSO debt beta at the notional gearing assumed for our draft determination.

2.207 In addition, SONI provided some estimates of asset beta which it said were restated to use the debt beta of 0.125 debt beta from the draft determinations. SONI said that an asset beta of at least 0.56 (the SONI business plan asset beta restated to the 0.125 debt beta in line with the draft determination) was required to appropriately remunerate SONI. In addition, SONI said that the asset beta estimates for NERL and BT Openreach by the CMA and Ofcom are 0.54 to 0.64 and 0.60 when restated to debt beta of 0.125 included in the draft determination.

Further consideration

2.208 Before turning to the figures, we considered that two more conceptual or theoretical points are important to highlight in relation to the debt beta.

2.209 First, we agree with SONI that, all else equal, debt betas should fall as gearing decreases, as debt bears less non-diversifiable risk.

2.210 Second, the question of the debt beta for the notional TSO is a different question to that of the debt beta for comparator companies (especially where we recognise differences between those companies and SONI which affect the asset beta). We consider that we were not sufficiently clear on this point in our draft determinations. Furthermore, SONI's response to our draft determinations did not seem robust to this view. For instance, SONI's attempts to restate asset betas calculated for other companies by other regulators (including the CMA), so as to align the debt beta assumption did not seem well justified.

2.211 Further to these points, we considered that there was relatively limited evidence on the debt beta for a notional TSO (at our notional gearing) available for our final determination.

2.212 Similarly, in the context of the ongoing water company determinations, despite the large time, resources and efforts put into the PR19 process and CMA references by a range of parties, the CMA has struggled to find good evidence on the debt beta of water companies. The CMA's provisional findings said that the debt beta is difficult to measure and has a relatively small effect on the overall WACC. Its view is that the debt beta should be set at a level which is consistent as far as possible with the overall framework for the WACC, without acting contrary to financial market evidence.

2.213 The CMA's provisional findings used a central debt beta assumption of 0.04 but the CMA considered a relatively wide range of zero to 0.15.

2.214 We agreed with this perspective. In particular, we considered it appropriate, to the extent that did not conflict with available evidence, to ensure that the debt beta is set in a way that does not lead to counter-intuitive implications for the WACC (and in particular the relationship between WACC and notional gearing). This approach seemed consistent with SONI's position in its draft determination response that any reduction in the notional gearing should be applied alongside a corresponding decrease to debt beta "in order to avoid artificial reduction in WACC".

Final determination on the debt beta

2.215 We considered that the points above had not been taken into account sufficiently in our draft determinations, and we reconsidered the debt beta assumption for our final determination.

2.216 In terms of setting an assumption for the TSO debt beta, we gave weight to the following points:

- SONI's business plan had proposed a debt beta assumption (0.15) that was higher for the TSO than generally seen in regulatory precedent for regulated network infrastructure companies. In our draft determinations, we said that SONI had not explained this difference. However, on further consideration, it seemed to us quite probable that, at similar levels of gearing, the TSO would have a significantly higher debt beta than regulated network infrastructure companies, in reflection of higher risk and a higher asset beta.

- SONI's business plan proposed a debt beta of 0.15 for the TSO alongside a notional gearing assumption of 55%. We considered that, because we were setting a lower notional gearing assumption of 40% for our final determinations, the debt beta assumption should be significantly lower (all else equal).

- The CMA's provisional findings in the water company redeterminations, looking across a range of evidence on the debt beta, used a central estimate for the water company debt beta of 0.04 which was significantly lower than some of the regulatory precedent on debt beta we had considered for our draft determinations (e.g. 0.125 from Ofwat and Ofgem assumptions).

2.217 In the light of the above, we considered that a debt beta assumption of 0.075 was reasonable for our final determination.

2.218 This is an approximate figure. As shown at the end of section 2, we carried out sensitivity analysis around this figure which indicated that, holding other factors constant, the impact of some alternative debt beta assumptions (0.04 and 0.125) would have a financial impact of less than £50,000 per year.

2.219 In addition, and in light of the points set out in the sub-section above, we considered that the approach to the WACC sensitivity analysis for changes to notional gearing in our draft determinations was not appropriate, because it did not allow for a corresponding change to the debt beta. At least as an approximation, it seemed to us a better approach to assume that the debt beta would adjust with notional

gearing in a way that ensures that the post-tax cost of capital does not reduce with gearing. This approach overlooks the potential for post-tax cost of capital to reduce with higher gearing (e.g. because some risk from increased gearing is transferred to creditors other than providers of debt finance) but seemed a reasonable simplification and an improvement on the draft determinations approach.

The corporation tax rate and uncertainty mechanism

Recap on draft determinations

2.220 An estimate of the applicable corporation tax rate is needed to take an estimate of the (post-tax) cost of equity calculated using the CAPM formula and produce an estimate of the pre-tax cost of equity. Specifically, the pre-tax cost of equity for the notional TSO can be calculated as the post-tax cost of equity divided by one minus the applicable corporation tax rate.

2.221 In our draft determinations, we proposed to apply a mechanistic uncertainty mechanism as part of the SONI price control licence conditions so that the pre-tax WACC that applies in each year of the control is subject to adjustments to reflect the applicable statutory corporation tax rate in that financial year.

2.222 This means that what ultimately matters for SONI's revenue allowances would be the applicable statutory corporation tax rate rather than the assumption on the rate we make in our draft or final determinations.

2.223 For the purposes of the figures and forecasts presented in our draft determinations, we used a working assumption of a corporation tax rate of 17% over the 2020-25 period, in line with SONI's proposals. This was consistent with SONI's assumption, which allowed for more like-for-like comparisons. We said that we would consider this assumption further for our final determinations.

Stakeholder feedback

2.224 The Consumer Council said that it supported the adjustment mechanism for the prevailing applicable rate of corporation tax during the price control period. It said that this would provide assurance to consumers that any changes to the corporation tax rate during the control period is properly adjusted for within the pricing framework and does not lead to windfall gains or losses or consumers under or overpaying for the service that they receive.

2.225 As part of its response to our draft determination, in an annex providing comments on our assessment of its business plan, SONI included a short response to our proposal for an uncertainty mechanism for corporation tax. SONI said that it considered that there could be merit in a mechanism that trues-up the tax rate where it increases or decreases to ensure an appropriate allocation of risk across the company and customers. SONI said that it would welcome engagement with us on whether an uncertainty mechanism for changes in future tax rates would be appropriate and noted that such a mechanism would mirror mechanisms introduced for changes in tax rates in other sectors such as by Ofwat at PR19 for the water

sector.

Final determination on corporation tax allowance

2.226 We decided to adopt the uncertainty mechanism for corporation tax proposed in our draft determinations.

2.227 SONI's response referred to Ofwat's approach to tax for PR19. We consider that the application of an appropriate uncertainty mechanism for corporation tax rate is more straightforward for SONI's price control because we use a simpler approach to corporation tax than Ofwat, based on a pre-tax WACC that is calculated assuming that the statutory corporation tax rate in a financial year is the same as the notional TSO's effective rate of corporation tax. While SONI's response said that it wanted further engagement on this matter, this was not an issue that SONI prioritised in the engagement we had with it subsequent to our draft determinations.

2.228 For the purposes of the forecasts used for, and presented within our final determinations, we assumed a statutory corporation tax rate of 19% over the price control period. This reflects a change to the figure of 17% used for our draft determinations, which reflects more up-to-date information on the Government's planned corporation tax rates.

The cost of debt for the notional TSO

2.229 This section presents our assessment for the cost of debt for the notional TSO and is organised as follows:

- Recap on our allowances for cost of debt from draft determinations.
- Stakeholder feedback.
- Further consideration of debt finance transaction costs.
- Further insight from SONI's actual debt finance arrangements.
- SONI's views on the scale of its small company premium.
- Further analysis of the cost of debt for the notional TSO.
- Conversion from nominal to CPIH-real estimates.
- Consideration of potential adjustments for changes over time.
- Potential implications of our approach for future price control periods.
- Efficiency considerations relating to the use of SONI's actual costs.
- The cost of debt from Ofgem's final determinations for the GB ESO.
- Final determination position on the notional TSO cost of debt.

Recap on our allowances for cost of debt from draft determinations

2.230 In our draft determinations we proposed an allowance for SONI's cost of debt based on a cost of debt benchmark rate of 1.14% (on CPIH-real basis, which is around 3.14% nominal). This figure was based directly on a cost of debt benchmark that was proposed in SONI's business plan, calculated from the yields on long-term corporate bonds.

2.231 In its business plan, SONI used this benchmark rate as a starting point and then proposed adding two premiums on it:

- A small company premium (40 basis points) to account for SONI's smaller size and higher risk versus the companies (bonds) in the benchmark.
- A premium for transaction costs (60 basis points). SONI did not provide much evidence to support this additional cost, beyond references to some regulatory precedent.

2.232 Overall, SONI's business plan sought a cost of debt of 2.14% on a CPIH-real basis (i.e. around 4.14% nominal).

2.233 In our draft determinations, we considered SONI's proposal for a small company premium on the cost of debt benchmark that it had estimated. SONI's business plan did not provide direct evidence to support this additional cost, and placed emphasis on regulatory precedent. We said that, given EirGrid's larger size and state ownership, and the lack of evidence from SONI on the case for a cost of debt premium for a notional TSO that enjoys this parent company arrangement, we proposed no uplift for the TSO's special characteristics or circumstances under the current ownership and governance arrangements. We said that we had concerns about the tension between SONI's proposal for a small company premium uplift, and SONI's governance arrangements which imply a high degree of integration with SONI's parent company EirGrid. For the purposes of our draft determinations, we did not include a small company premium uplift on SONI's cost of debt benchmark rate.

2.234 Our draft determinations did not include SONI's proposed upward adjustment for debt transaction costs, due to the lack of evidence provided by SONI to support an adjustment and a view that any transaction costs may not be material.

Stakeholder feedback

2.235 SONI's draft determinations response objected to our draft determinations position on the small company premium and on debt transaction costs. SONI's response did not comment explicitly on the benchmark rate, but SONI reiterated its business plan estimate for the overall cost of debt of CPIH+2.14% (page J-42).

2.236 On the small company premium:

- SONI said that the small company premium is underpinned by financial and economic theory and is supported by extensive regulatory precedent.

- SONI said that the small company premium for SONI and other smaller companies is supported by direct market evidence.
- SONI said that it must be financeable on a standalone basis and able to recover efficient financing costs for a small company.
- SONI said that costs consistent with assumptions about a realistic and appropriate notional structure for SONI should be provided for in the cost of debt allowance.

2.237 On debt transaction costs:

- SONI said that no regulator has previously disputed the need to recognise transactions costs including arrangements fees.
- SONI said that transactions costs for a business like SONI are particularly high due to: (i) small scale; (ii) unique business characteristics; and (iii) shorter term/higher refinancing costs than for long term financing.
- SONI provided evidence on transaction costs incurred by SONI in 2019 in relation to bank finance arrangements.
- SONI claimed that transaction costs incurred in 2019 have not been recovered through the 2015-20 price control framework nor had they been included in the PC 2020-25 business plan submission (outside of proposed WACC).

2.238 SONI's draft determinations response provided considerable further analysis and information in relation to the cost of debt for the notional TSO, in particular in relation to its views on the small company premium and debt transaction costs. In addition, this was an area that SONI engaged with us on in detail after our draft determinations, and we raised a series of queries with SONI in relation to its evidence and actual debt finance arrangements.

Further consideration of debt finance transaction costs

2.239 We first consider debt finance transaction costs, which is a narrow issue, before turning to broader considerations on the TSO cost of debt allowance.

2.240 For our draft determinations, we considered that there was insufficient evidence on the scale of any debt finance transaction costs and that SONI had failed to provide evidence in support of its proposal for a 60 basis points uplift on the cost of debt for transaction costs. We also raised concerns about potential double counting if such an allowance were made alongside allowances for SONI's operating expenditure which reflected the operating expenditure it had incurred in the past.

2.241 On further review, in light of the additional information available subsequent to our draft determinations, we considered that:

- The proposition in SONI's business plan that there should be an allowance of 60 basis points on the cost of debt remained unjustified.

- There was evidence to support a smaller allowance for debt finance transaction costs.

2.242 Subsequent to our draft determinations, SONI provided evidence on the transaction costs based on the additional fees it incurred as part of a 2019 bank loan. These fees work out as a single payment of [REDACTED] of the value of the debt it raised, which had a term of five years.

2.243 SONI said in its draft determinations response that the [REDACTED] arrangement fee would equate to at least [REDACTED] uplift in each year of the price control.

2.244 We considered that SONI's calculation of the implied transaction costs from its loan arrangement, when expressed as an uplift on the cost of debt, would be higher than the figure of [REDACTED] which is obtained by dividing the [REDACTED] arrangement fee by five, relating to the five-year term of the loan. This did not seem correct in the context of loan with a declining balance.

2.245 The [REDACTED] administrative fee can be expressed as around [REDACTED] of the *average principal* outstanding over the five years of the loan. We considered that this figure provided a reasonable proxy for annual transaction costs as a percentage of the value of the debt component of the RAB.

2.246 We also considered that this figure did not seem unreasonable in light of recent regulatory precedent on debt transaction costs, including precedent cited by SONI.

2.247 SONI also reported that its corporate finance advisors (who were also its advisors on regulatory matters for the price control review) estimated that based on comparable transactions a small company like SONI would incur transaction costs of 0.75% –1.5% on term loans for asset finance. SONI did not provide any further explanation of evidence in relation to this statement. Our understanding is that, in line with the 2019 loan above, the figures quoted were a percentage of the total loan value.

2.248 We considered it appropriate to place weight on the evidence from SONI's 2019 bank loan, rather than the broader range quoted by SONI's advisors which was not supported or explained.

2.249 In our draft determinations, we raised concerns about double counting if we were to provide an allowance for debt transaction costs as part of our WACC determination, given that we are making separate allowances for SONI's operating costs which were based in part on SONI's historical operating costs. SONI assured us that the figures it had provided us for its operating costs in each year of the 2015-20 price control period did not include the transaction costs (or arrangement fee) for the 2019 term loan and that there was no double counting. While this situation raised some more general questions about the accuracy of cost figures provided to us by SONI, we did not consider that there was sufficient evidence of double counting risks to warrant no allowance for transaction costs within our WACC determination.

Further insight from SONI's actual debt finance arrangements

2.250 In responding to our draft determinations, SONI provided information and evidence in relation to its actual debt finance arrangements. This was prompted in part by our position in draft determinations that SONI had not provided evidence that it faces a small company premium on its cost of debt nor evidence on relevant transaction costs. In contrast, SONI's business plan submission had given limited attention to its actual debt finance arrangements.

2.251 In this context, we asked SONI a series of further questions about its actual debt finance arrangements. SONI also provided, after we escalated a series of requests, a copy of its 2019 term loan agreement, so that we would have a better understanding of its existing financing arrangements that SONI was referring to in its response to our draft determinations.

2.252 Based on information provided to date by SONI, our understanding is as follows:

- SONI's actual gearing in 2019/20 was around 25%, which was far lower than either its proposed notional gearing or the figures on its actual and target gearing set out in its business plan.
- SONI does not currently have any inter-company loans within the EirGrid group (it did have some historically).
- SONI has a term, bank loan with a variable interest rate paid every six months with the rate set at the six-month LIBOR rate plus [REDACTED].
- SONI also has a revolving credit facility with a bank, but it views this as relating to its revenue collection functions and not to its RAB-financed functions (we considered this view of the RCV reasonable for the purposes of price control determination).

2.253 This information called into question the reasonableness of the cost of debt assumption for the TSO from our draft determinations (CPIH plus 1.14%) and the reasonableness of SONI's business plan proposal on the TSO cost of debt (CPIH plus 2.14%) which SONI reiterated in its response to our draft determinations.

2.254 We found that SONI's response to our draft determinations had sought to use information about its actual financing arrangements in a selective way. SONI used information about its actual financing arrangements to support arguments for an increase to the cost of debt allowance from our draft determinations, while disregarding aspects of its actual financing arrangements that that would suggest a decrease to the cost of debt allowance (or at least offset any increase to some degree).

2.255 In its engagement with us after the draft determinations, as part of the query process, SONI provided a set of calculations purporting to show that estimates of the nominal cost of debt implied by its 2019 term loan equated closely to estimates of the cost of debt implied by its approach of taking a corporate bond benchmark (based on iBoxx A/BBB for 10-15-year debt) and making adjustments for the small company premium and transaction fees ([REDACTED]). On review, we found SONI's calculations contained errors and were unreliable for the purposes of our

final determinations. In Appendix 2, we review SONI's calculations and point out those mistakes.

2.256 We stepped back from the details of SONI's calculations and sought to take a balanced perspective on the implications of the information on SONI's actual debt finance arrangements for the TSO cost of debt allowance. We considered that there were factors pushing in two different directions away from the benchmark used for our draft determinations:

- **Factors pushing up SONI cost of debt in 2020-25 period**. Following SONI's submissions on its actual financing arrangements provided since our draft determinations, we considered that there was good evidence that, when it raises debt finance via a bank, SONI faces significantly higher borrowing costs than what a large network infrastructure company (e.g. a regional water company or national/regional energy network company) faces when it raises debt finance via corporate bond markets.

- **Factors pushing down SONI cost of debt in 2020-25 period**. SONI currently borrows, and has borrowed in the past, on terms that involve variable interest rates rather than fixed interest rates. This means that SONI receives the full benefit of the current environment of extremely low interest rates in the UK. In contrast, a large network infrastructure company is likely to be financed via long-term fixed rate (or index-linked) debt which means that some of its debt costs reflect the higher interest rates prevailing 15 or 20 years ago and the company does not face overall borrowing costs as low as implied by current low interest rates.

2.257 In its submissions to us since our draft determinations, SONI focused exclusively on the first of the points above, and it made no acknowledgement of the second point. SONI's response argued that the evidence on the first point above meant that we should increase the cost of debt allowance above the rate we proposed in our draft determinations and SONI's submissions to us ignored the implications of the second point for the TSO cost of debt.

2.258 Based on the additional evidence that became available, and the two points above, we did not consider that it would be reasonable for our final determination to be based on the type of approach which we had used for our draft determinations which, following the approach from SONI's business plan, started from a long-term corporate bond benchmark rate and considered potential adjustments to that rate While the effects above go in opposite directions we had no reason to expect them to cancel out.

2.259 We decided that we should draw on evidence from the 2019 term loan directly rather than seeking to make adjustments to corporate bond benchmarks for long-term debt. Before turning to this, we briefly respond to the specific claims that SONI made in its draft determinations response about the scale of its small company premium.

SONI's views on the scale of its small company premium

2.260 SONI told us that it entered into two term loan agreements, one in 2019 and one in 2009. Both were floating rate (or variable rate) arrangements.

2.261 SONI said that the 2009 loan was entered into as part of the acquisition of SONI by EirGrid and that the loan agreement identified SONI, EirGrid, EirGrid Holdings UK as borrowers and EirGrid, EirGrid Holdings UK as guarantors. Because this loan was not raised directly by SONI, and was over ten years ago in a period when the SONI business was quite different, we considered the 2019 most directly relevant to our final determinations and focus on this below.

2.262 In its response to our draft determinations, SONI said that the 2019 loan was raised externally and on a standalone basis and was issued at a premium of at least [REDACTED] to iBoxx. This loan was for a five-year period. SONI presented calculations that its 2019 loan implied, at date of issuance, an equivalent annual rate of [REDACTED], and calculated that this implied the following premia to various iBoxx indices:

- [REDACTED] basis points versus the 10 – 15 A/BBB index.
- [REDACTED] basis points against what SONI described as "iBoxx 5Y A/BBB (constructed)", which was an average of iBoxx indices for 3 – 5-year and for 5 – 7-year debt (there is no iBoxx indices for five years).

2.263 We considered that the second of these was most relevant, because it did not seem a sufficiently like-for-like comparison to compare the estimated rate at insurance for a five-year term loan against the yields on 10 – 15-year corporate bonds. While the second is not a perfect comparator, as it includes the

2.264 On its own this might suggest that the 2019 term loan was raised at interest rates that implied a premium of [REDACTED] basis points.

2.265 However, following detailed review of SONI's calculations, we found a significant mistake. This mistake concerns the way that SONI had sought to take the information on the variable interest rate that applies under the 2019 term loan and convert this into an "equivalent annual [fixed] rate" over the five-year loan period that would have applied at the time of issuance. At an intuitive level SONI's result did not make sense: it had calculated an equivalent annual rate for interest payments over a five-year period which was higher than the maximum value that the variable interest rate was expected to reach within the period. SONI's mistake concerned the way it had applied an NPV calculation to payments under the loan agreement.

2.266 We produced our own estimate of the equivalent annual [fixed] rate that SONI had sought to calculate, corrected for the mistake but otherwise based on the information used by SONI. This suggested an equivalent annual fixed rate of approximately [REDACTED] nominal, rather than [REDACTED] nominal.

2.267 This in turn implied a premium of around [REDACTED] to the 5-year benchmark constructed from iBoxx indices for 3 – 5-year and for 5 – 7-year debt.

2.268 We provide more information on SONI's mistake and our calculations in Appendix 2.

2.269 We were satisfied that, on the information available, when raising debt finance a notional TSO is likely to face significantly high borrowing costs than a large network infrastructure company that can borrow through long-term corporate bonds. We noted that SONI's calculation for the 2009 loan implied a smaller premium but this was not raised by SONI directly and EirGrid was a party to it.

2.270 We did not consider it appropriate to refer to this as a small company premium, which was SONI's term. The premium could reflect a mix of factors, such as:

- SONI's size.
- SONI's risk profile.
- The nature of SONI's investment (e.g. asset lives and fluctuations over time).
- Differences in implied borrowing costs between debt finance via corporate bonds and debt finance via bank loans.

2.271 The information available to us did not allow us to disentangle these effects and it did not seem necessary for our determination.

2.272 We recognised that the implied premium of around [REDACTED] basis points that we refer to above was larger than that allowed for in other regulator precedent (e.g. CMA Bristol Water 2015). However, given the extent of differences between SONI and other regulated companies that might be seen as "small", it seemed probable that the higher premium estimated for SONI reflected its circumstances rather than inefficiency or bad luck when it agreed the 2019 loan. We did not think that our assessment of the cost of debt for the TSO was likely to be improved by giving less weight to the 2019 loan and more weight to premiums calculated for companies that might be quite different to SONI. It made sense to us that SONI would be in a different position compared to, for example, Bristol Water.

2.273 Our overall approach, and the estimates we draw on for the TSO cost of debt, explicitly recognise that the borrowing costs for a notional efficient TSO are likely to be significantly higher on *a like-for-like basis*, but we also considered that other factors were important for the overall TSO cost of debt and that SONI's focus on a small company premium and transaction costs was wholly inappropriate.

Further analysis of the cost of debt for the notional TSO

2.274 For the reasons set out earlier, we decided that, for the TSO cost of debt allowance, we should give emphasis to the direct evidence from the 2019 term loan, rather than seeking to use this to make adjustments to the corporate bond benchmark from our draft determination.

2.275 As indicated above, based on a corrected version of SONI's estimate, we estimated

an equivalent annual fixed rate for the 2019 term loan, as at the date of the loan agreement (March 2019), of [REDACTED] (nominal). If CPIH inflation is assumed to be 2% per year, this would work out to be around CPIH+1.0%. However, we did not consider that this was an appropriate estimate without further adjustment for setting the TSO cost of debt.

2.276 The estimate of [REDACTED] above is based on a methodology from SONI which seeks to convert the variable interest rate (six-month LIBOR plus [REDACTED] paid twice a year) into a corresponding fixed rate that would have applied at that date of the loan agreement, based on market expectations at that date about LIBOR rates over the lifetime of the loan (based in turn on data on LIBOR swap rates). This is a reasonable approach if the aim is to estimate, at the time of the variable rate loan agreement (March 2019), a premium relative to a fixed-rate debt instrument (e.g. an iBoxx index) or fixed-rate loan.

2.277 For the purposes of our assessment of the cost of debt for a notional TSO, over the 2020-25 period, this estimate is inappropriate because it fails to take account of the significant reduction in LIBOR (and wider UK interest rates) since March 2019, and the market expectations for UK interest rates over the remainder of the 2020-25 period.

2.278 SONI told us that it had not sought to hedge its variable rate interest rate exposure and essentially lock-in to the March 2019 market expectations of future LIBOR rates, so the rate calculated for March 2019 is of limited relevance to SONI today.

2.279 One way to tackle this issue is to take our estimate of [REDACTED] and adjust this for changes over time in market interest rates.

2.280 Although an adjustment could be done using changes over time in the iBoxx index used by SONI, this did not seem the best approach. There seemed no specific reason to use the iBoxx index if the aim is to understand changes in broader market interest rates over time. Second, the 2019 term loan was for a five-year period and the 2020-25 price control is for a five-year period, so it would seem most consistent to use a measure of market interest rates (and interest rate expectations) that applies over a five-year period. We focus on changes over time in the yield in nominal zero coupon gilts of a five-year maturity.

2.281 Our approach was to take the equivalent fixed rate we calculated from our corrected version of SONI's methodology, which provides an estimated fixed rate as at March 2019, and adjust this for changes in yield of 5-year nominal zero coupon UK gilts between March 2019 and October 2020.

2.282 Table 2 sets out the results of the analysis. As shown in the table, we have used two different approaches to calculate the change in the yield on 5-year zero coupon nominal UK gilts. Under one approach, we calculate the difference in the spot rate of those yields at 25 March 2019 and at 1 October 2020. Under a second approach, we calculate the average yields in the 180-day period to each of those dates and calculate the difference between those two averages.

Table 2 Update to SONI analysis of rates implied by its 2019 loan

Ref.	Parameter	Value
A	Equivalent fixed rate on March 2019 loan at March 2019	[REDACTED
Calculation based on spot-rates		
B	Change in 5-year nominal zero coupon gilt yield between 25 March 2019 and 1 October 2020	– 0.78%
A+B	Corresponding rate on hypothetical October 2020 loan	[REDACTED
Calculation based on 180-day trailing average		
C	Change in 5-year nominal zero coupon gilt yield between 25 March 2019 and 1 October 2020	– 0.97%
A+C	Corresponding rate on hypothetical October 2020 loan	[REDACTED]

2.283 This approach provides an estimate of the annual interest rate that a notional TSO would face drawing on the rates in the March 2019 term loan, SONI's analysis of LIBOR swap rates and changes over time in UK gilt rates. The approach produced an estimate of [REDACTED] when we use data on the change in spot rates between 25 March 2019 and 1 October 2020, and a lower estimate of [REDACTED] when drawing on data in the change in 180-day trailing average between the two date.

2.284 The estimate above is based on corrections and adjustments to SONI's methodology. To bring an additional perspective, we also produced more direct estimates of a fixed interest rate on a hypothetical October 2020 loan that shares the following key characteristics with the March 2019 loan: (a) its duration is five years; and (b) the applicable interest rate is set as the sum of a [REDACTED] margin and the 6-month LIBOR rate. We drew on published data on LIBOR swap rates applicable to 5-year loans paying interest at GBP 6-month LIBOR to set out what might be a fixed rate equivalent of such a loan.

2.285 The results from this approach are set out in Table 3. This presents figures for the calculation where we use the spot rate on 1 October 2020 for the LIBOR swap rate, and for where we use a180-day trailing average of that swap rate.[6]

Table 3 Estimated fixed rate equivalent for hypothetical October 2020 loan: analysis based on data on LIBOR swap rates

[6] Benchmark Administration Limited (IBA), ICE Swap Rates, 11:00 A.M. (London Time), Based on British Pound, 5 Year Tenor [ICERATES1100GBP5Y], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/ICERATES1100GBP5Y, December 7, 2020.

Ref.	Parameter	Value
A	Margin	[REDACTED
Calculations based on spot rates		
B	5-year GBP 6-month LIBOR swap rate: 1 Oct 2020 spot rate	0.20%
A+B	Fixed-rate equivalent	[REDACTED]
Calculation based on 180-day trailing average		
C	5-year GBP 6-month LIBOR swap rate: 1 Oct 2020 180-day trailing average	0.28%
A+C	Estimated fixed-rate equivalent	[REDACTED]

2.286 A further perspective, and potential cross-check, which does not draw on LIBOR swap data, can be obtained as follows:

- We estimate that the current term loan implies a nominal, annual interest rate of [REDACTED] at the latest interest rate payment date.[7]
- This value would underestimate the interest rate applicable over the next five years if interest rates were expected to rise over that period.
- At 1 October 2020, the yield on 5-year nominal zero coupon gilts was −0.06%, which suggests that there were no expectations of significant interest rate rises over the five years.

Conversion from nominal to CPIH-real estimates

2.287 To convert the various estimates above from nominal to CPIH-real basis, our main approach was to use our broader price control and modelling assumption of CPIH inflation of 2% over the 2020-25 period.

2.288 The CMA's provisional determination in the water redeterminations used a 2% CPIH forecast. The CMA acknowledged that there was downward pressure on inflation projections related to Covid-19, but it said that did not think it would be appropriate to base its real cost of capital estimates for the entire price control on what could be temporarily distorted figures. The CMA considered that a longer-term view of CPIH inflation was appropriate.

2.289 On the basis of a CPIH inflation forecast of 2%, this implied range from the estimates in the two tables presented above would be around CPIH+ [REDACTED]

[7] Calculated as the sum of [REDACTED], and 0.095%, the GBP 6-month LIBOR on 24 September 2020 which we understand is the most recent interest payment date under that contract. The data for LIBOR was accessed from https://www.theice.com/marketdata/reports/170].

to CPIH+ [REDACTED].

2.290 We also considered, as a cross-check, the impact of the current lower levels of inflation related to Covid-19. For instance, the OBR forecasts for CPI annual change from 2020/21 to 2024/25 averaged 1.5%. If this figure were to be used to convert from a nominal cost of debt to a CPIH-real cost of debt, it could imply a cost of debt that is materially higher on a CPIH-real basis than the figures above. Given the potential materiality of this factor, we decided to give it some weight in our cost of debt assumption alongside the figures derived using a 2% longer-term inflation assumption for CPIH.

Consideration of potential adjustments for changes over time

2.291 We also considered whether we should make adjustments to the estimates for any differences in the 2020-25 price control period that might warrant setting a higher or lower cost of debt allowance.

2.292 First, we consider that SONI had ample opportunity since our draft determinations to provide evidence (if there were such evidence) that the terms of its 2019 loan agreement would not be sufficient to cover the debt financing costs of a notional efficient TSO in the 2020-25 period. SONI did not provide such evidence. Instead, SONI's submissions to us implied that the 2019 loan was a key piece of information for the cost of debt for the 2020-25 period.

2.293 Furthermore, we considered that the overall balance of changes in the price control framework did not indicate a sufficiently strong basis for an adjustment. We found factors operating in different directions. For instance:

- Some aspects of our 2020-25 price control framework introduce new risk for SONI (e.g. the evaluative performance framework), but the downside risk is capped at −£0.75m which provides protection to creditors against extreme risk scenarios.
- The increase in the scale of the SONI internal costs subject to cost-sharing has increased (e.g. operating expenditure allowances). However, against this we have reduced the cost-sharing rates from 50% to 25% and cost-sharing is subject to the £0.75m downside cap
- Because of a much higher RAB in the 2020-25 period than the 2015-20 period, the WACC*RAB allowances we estimate for the 2020-25 period is significantly more in £m than SONI received in the 2015-20 period, which provides more headroom to manage risk.

2.294 For our final determinations we are also retaining remuneration for a £10m PCG which provides extra protection to creditors.

2.295 In addition, we were concerned that any adjustment could be quite speculative, especially since the bank finance agreed in March 2019 was determined for a period that stretched well into the 2020-25 price control period and we would have expected the bank to have considered how the 2020-25 price control framework

might differ from that for 2015-20 (e.g. we consulted on our approach to the SONI price control in December 2019 and decide on our final approach in March 2019).

2.296 Overall, we did not identify grounds for making an explicit adjustment from the estimates derived from the 2019 term loan, but we consider the issues above as part of our overall position on the cost of debt

Potential implications of our approach for future price control periods

2.297 As reflected in the assessment above, we consider it appropriate to set the cost of debt for a notional TSO that would be funded through variable rate bank finance, rather than long-term fixed-rate corporate debt.

2.298 In effect, our approach does not seek to make allowance for "embedded" debt that reflects market interest rate over a series of previous years. This represents a move away from the approach implicitly implied in our draft determinations (and proposed in SONI's business plan) of setting the cost of debt for the notional TSO by reference to estimates of the cost of embedded debt in the form of long-term embedded debt which reflects interest rates.

2.299 SONI's submissions to us did not include a good reason to seek to make allowance for embedded debt which it does not have.

2.300 We also considered a potential argument that, if we were instead to maintain the approach from our draft determinations, then in future price control periods (e.g. 2025-30) consumers would benefit if market interest rates in the UK start to increase, as it would take longer for these increases to feed through to the cost of debt benchmark considered at the price control review.

2.301 However, we did not consider that this potential argument implied that we should retain an approach based on (hypothetical) long-term embedded debt costs.

- There is uncertainty about when interest rates in the UK will rise above the abnormally low levels experienced since the global financial crisis. In this context, any potential benefit to consumers in future price control periods from an embedded debt approach seems speculative, compared to the costs.

- Given that SONI seems to raise debt finance at variable interest rates, it seems far from clear that it would be sustainable for the UR to under-fund SONI's actual debt finance costs in future price control periods on the grounds that it is using a long-term cost of debt benchmark that has over-funded SONI in the past. It seems more probable that, if interest rates do increase in future price control periods, the upfront price control allowances for the cost of debt will need to increase, on financeability grounds.

Efficiency considerations relating to the use of SONI's actual costs

2.302 As part of our overall assessment, we considered whether it might be inappropriate to place a large weight on evidence from SONI's actual debt finance arrangements

when estimating the cost of debt for a notional efficiency TSO.

2.303 In some of its submissions to us, SONI implied that it would be inappropriate to use information on SONI's actual cost of debt to set the cost of debt allowance for the SONI price control, as this should be set for a notional company.

2.304 We considered that SONI was wrong on this point, and we briefly explain why below. This is an important point of principle and we were disappointed by various attempts by SONI to deter us from using information on 2019 term loan as key evidence on the TSO cost of debt.

2.305 First, our approach is entirely aligned with regulatory precedent, especially for companies that lack close comparators. For instance, the CMA gave weight to actual costs of debt in a number of past decisions, including the following two examples:

- The CMA's determination in *NERL* set cost of embedded debt based on the yield to maturity, at the date of issuance, of a bond issued by the regulated company in the past.
- In the Competition Commission's 2014 price control determination for NIE, the CC considered the choice between using an appropriate benchmark index for the cost of debt and setting the rate based on the actual cost of NIE's embedded deb. The CC said that it considered that the appropriate benchmark index was not obvious, noting that NIE's bond had traded at a premium to GB utility bonds. The CC used NIE's actual cost of embedded debt for its cost of debt allowance.

2.306 Second, it is established and uncontroversial regulatory practice to use information on the operating costs incurred by SONI in setting the SONI price control (e.g. salary costs and premises costs). As a matter of logic, there seemed no reason why it should be unacceptable to use information on the debt finance costs incurred by SONI.

2.307 We considered it entirely consistent with our approach to cost assessment for the TSO's operating expenditure to draw on evidence on the debt finance costs incurred by SONI under existing (or previous) loan agreements. SONI's position, in contrast, seemed inexplicably inconsistent across different areas of TSO costs.

2.308 Third, SONI's own submissions after our draft determination proposed that we use information on SONI's actual cost of debt in our assessment of debt transaction costs and a small company premium. SONI actively encouraged us to use information on its actual debt costs and the 2019 term loan (albeit in a way that suited its case).

2.309 Finally, while there can be benefits of seeking to use information (e.g. on debt costs) that is external to a regulated company when setting price controls, there are also risks to accuracy to be taken into consideration. This is especially so where, as is the case for SONI, there are a lack of close comparators to draw on for evidence on the costs for a notional efficient company performing the same role.

2.310 We recognised that, compared to a hypothetical approach in which the cost of debt for the TSO was set using data that was entirely independent of the TSO, our approach could conceivably lead to less strong efficiency incentives during the 2020-25 period in relation to debt finance costs. For instance, if a regulated company predicts that the costs it incurs in one price control period will be used as the basis for cost allowances in the next price control period, this may act to dampen its incentives to find efficiency savings or avoid unnecessary costs.

2.311 However, we did not consider that in the context of our final determinations, SONI would lack incentives to control its debt finance costs and achieve a reasonable degree of efficiency. This was for two main reasons:

- Our approach does not amount to cost pass-through: there is no guarantee or legitimate expectation for SONI that will be remunerated for the debt finance costs (including transaction costs) that it incurs in the 2020-25 period. SONI will bear risk in relation to the level of expenditure it incurs in future debt finance arrangements.

- Since our cost of debt allowance is applied to a notional gearing assumption, rather than to actual gearing levels, there is likely to be a disconnect between the actual debt finance costs incurred by SONI and the allowance set for our final determinations (and in future price control reviews).

2.312 To the extent that the use of information on SONI's actual debt finance costs does dampen its efficiency incentives to some degree, or increases risks of consumer exposure to any inefficient loan agreement incurred by SONI, we considered that these risks were justified by the benefits to the accuracy of price control cost allowances (and, turn, the financeability of the price control determination). In the case of the notional efficient TSO, there is a lack of close comparators on which to draw information on debt finance costs and it is reasonable to place more weight on SONI's actual costs than would be the case if good information on debt finance costs were to be available for companies other than SONI. The type of information and approaches on debt finance costs that can be used for regulated water companies or regulated energy networks in the UK is not available for SONI.

The cost of debt from Ofgem's final determinations for the GB ESO

2.313 Ofgem published its final determinations for the GB ESO on 8 December 2020. With regards to the ESO's cost of debt, Ofgem determined to make an allowance that was fully indexed. Specifically:[8]

- Ofgem set an allowance which reflected SONIA plus a spread element.

- The spread element was calculated as at the end of October 2020 at 1.80%. This is the sum of (i) the average of the 3-year trailing average asset swap rate margin on the 5-7 and on the 7-10 year iBoxx Utilities indices; and (ii) the 3-year trailing average of the differential between 6-month LIBOR and

[8] Ofgem (2020) "RIIO-2 Final determinations – Electricity System Operator", page 66.

overnight SONIA, and (iii) transaction costs of 0.10%.

- There will be annual iteration processes to true-up prior year allowances for outturn SONIA rates, and to update SONIA forecasts for subsequent years.

2.314 Ofgem forecast the allowance for the debt allowance over the RIIO-2 price control period to be CPIH −0.07%.

2.315 Ofgem's forecast is below the estimates. This was a relevant reference point for our cost of debt assumption. It highlights the consequences of the prevailing environment of low interest rates and low expected future interest rates, especially if the notional company is assumed to face borrowing costs at prevailing rates rather than being financed by a large element of long-term embedded debt at historical interest rates.

2.316 We did not consider that it would be appropriate to use the Ofgem forecast for the ESO to reduce the cost of debt assumption for the TSO to around CPIH+0%. We considered that the more specific information on SONI's loan would be more relevant to the notational TSO, especially given the greater size of the ESO compared to the TSO.

2.317 We did not consider that it would be proportionate for our price control determination to develop and apply to SONI the type of cost of debt indexation or true-up mechanism used by Ofgem. This would be a complex and time-consuming exercise, with risks of unintended consequences. We considered the use of a cost of debt indexation mechanism for our March 2019 regulatory approach and we decided against it.

Final determination position on the notional TSO cost of debt

2.318 In line with the policy position set out in our draft determinations, for the purposes of our final determinations we sought to assess the cost of debt for the notional based on SONI's existing ownership and governance arrangements (before consideration of the effects of any changes arising as a consequence of our separate work on SONI's governance arrangements). We did not consider it appropriate to consider a fully independent TSO (e.g. with no parent company or wider) as this could make customers pay for a hypothetical standalone TSO which they do not in practice benefit from. Furthermore, such an approach would not be consistent with the allowance we provided for remuneration of a PCG.

2.319 Subject to this, we considered the cost of debt for a notional efficient TSO. Nonetheless, for the reasons explained above, we placed weight on evidence on SONI's actual debt finance costs.

2.320 Our analysis of SONI's existing debt finance arrangements suggests not only that SONI's current interest rate is very low but that market expectations are for it to remain very low over the 2020-25 price control period. This, in turn, reflects the current Bank of England policy to achieve very low interest rates in the economy and market expectations that these rates will remain low during the next five years.

2.321 We decided that a reasonable assumption for the cost of debt for a notional efficient TSO was 0.75% (on a CPIH-real basis). This is an approximate figure, reflecting a degree of uncertainty. This is intended to cover the notional TSO's debt finance costs, including transaction costs.

2.322 Our decision on this figure reflects in particular:

- Our estimate above of transaction costs of [REDACTED] from the 2019 term loan.
- Our estimates above of what the interest rate terms from the 2019 term loan suggested about the interests rates applicable over the 2020-25 period, which are in a range of CPIH+ [REDACTED] to CPIH+ [REDACTED] (assuming 2% CPIH inflation), with more evidence towards the top of this range.
- We have given some weight to the argument that the lower forecast levels of inflation in 2020/21 could call for a higher cost of debt estimate over the 2020-25 period, when evidence in nominal terms is expressed on a CPIH-real basis.

2.323 While we have given weight to information from the 2019 loan, this does not mean that we would expect a notional efficient TSO's debt finance costs to match these terms or our cost of debt assumption of 0.75%. We could see arguments, and factors, that could push in either direction. Instead, our view is that 0.75% is a reasonable estimate of a notional efficient TSO's debt finance costs for the 2020-25 period, given the evidence available. We recognise in our RoRE analysis in section 6 that there is some risk around our assumption which equity investors bear.

2.324 We decided against making separate assumptions for transaction costs and ongoing borrowing costs. In relation to a notional TSO funded by debt finance from a bank, the distinction between transaction costs and ongoing borrowing costs might not be robust, because a bank is likely to have some discretion as to the amount of its costs and profit requirement that it seeks to recover from upfront charges (e.g. administrative fees) rather than interest payments over the life of a loan.

WACC build-up and sensitivity analysis

2.325 In this final part of Section 2, we bring together the different components of the pre-tax WACC to show how the overall WACC we propose for final determinations is calculated. We also show some sensitivity analysis for certain WACC parameters.

2.326 Finally, we comment on the potential case for aiming up or down on the WACC in the context of our determination of SONI's price control.

WACC build-up for final determinations

2.327 We set out our calculation of the pre-tax WACC in the table below (on a CPIH-real basis).

Table 4 Summary of WACC build-up for final determinations

Element of pre-tax WACC for notional TSO	FD parameter	Comment
1. Notional gearing assumption	40%	Assumption / judgement
2. Total market return	6.70%	Assumption / judgement
3. Risk-free rate	–1.0%	Assumption / judgement e
4. Equity risk premium	7.70%	= (2) – (3)
5. Asset beta	0.50	Assumption / judgement
6. Debt beta	0.075	Assumption / judgement
7. Equity beta	0.78	= [(5) – [(1) * (6)]] / [1 – (1)]
8. Post-tax cost of equity	5.03%	= (3) + (4) * (7)
9. Corporation tax rate	19%	Estimate, subject to uncertainty mechanism
10 Pre-tax cost of equity	6.21%	= (8) / [1 – (9)]
11. Overall cost of debt	0.75%	Assumption / judgement
12. Vanilla WACC	3.32%	= (1) * (11) + [1 – (1)] * (8)
13. Pre-tax WACC	4.03%	= (1) * (11) + [1 – (1)] * (10)

2.328 It is important to recognise that our final determination is for the overall pre-tax WACC of 4.03% on a CPIH-real basis. We have made estimates and assumptions for each individual parameter, but these are not independent of one another. When we have weighed potentially conflicting arguments and evidence, we kept in mind the overall balance of arguments and evidence across the various WACC parameters. Our overall pre-tax WACC is intended to be a central estimate but we would not necessarily describe each component as a central estimate. Furthermore, as explained in section 1, we have sought to take a proportionate and targeted approach to our overall assessment of risk and return and, within this, we have given less detailed consideration to some of the individual parameters.

2.329 We note that Ofgem's final determinations for the GB electricity system operator implied a forecast WACC of 3.36% on a vanilla basis, which is similar to the corresponding vanilla WACC figure in the table above. Ofgem's assessment for the GB ESO contained elements which implied higher financing costs than in the table above (asset beta) and elements that implied lower financing costs (risk-free rate, total market return and cost of debt).

Targeted sensitivity analysis for WACC parameters

2.330 In the table above, and for our overall assessment, we decided against an approach of starting with a range of values for each parameter, calculating an overall implied range for WACC from these ranges, and then deciding what value of WACC from

within that range to use.

2.331 A focus on ranges for each parameter could risk losing sight of the balance of evidence for choosing specific values within each range, and push our judgement towards the middle of the available estimates for each parameter even if the weight of evidence pointed to a different figure.

2.332 Furthermore, a practical difficulty with ranges is that of knowing what the upper and lower figures are intended to represent conceptually. Are they maximum/minimum plausible figures? Are they maximum/minimum reasonable figures? Are they intended to lie within a defined statistical confidence interval (e.g. P90/P10 figures)? Given the specific nature of the evidence we had available for our determination, we were concerned that ranges for each parameter might be internally inconsistent and cloud our assessment of the evidence.

2.333 We recognise that there may be a role for ranges in some other circumstances. For instance:

- Where the task is to review the reasonableness of a WACC figure made by another party (e.g. the CMA reviewing whether a WACC determined by a sector regulator was within a reasonable range) rather than to make a fresh assessment of WACC, there may be particular merit in a range.
- Where there is a reason to choose a WACC that is higher than the central estimate (e.g. "aiming up" arguments, or as an alternative means to adjust for asymmetric risk) there may be more merit in a range. We discuss this issue further in a sub-section below.
- Where there is good evidence to determine a consistent and well-specified lower value and upper value for each parameter (e.g. estimates of the range that provides a 90% confidence interval), this could potentially improve the overall calculation of WACC.

2.334 Furthermore, although we have not presented ranges, we recognise the key underlying principle that there is uncertainty about the cost of capital parameters, and more so for some than others. We have recognised throughout our assessment that there is substantial uncertainty, and limitations in the available evidence. Ultimately our final determination on the pre-tax WACC for SONI represents our judgement on the best estimate in light of the available evidence and within the wider context of the SONI price control review. We also carried out targeted sensitivity analysis for our calculation of the pre-tax WACC, as explained in the section below.

2.335 We carried out some targeted sensitivity analysis to understand better how alternative assumptions of estimates for certain parameters (taking all other parameters as given) would affect the calculation of the pre-tax WACC. We focused our analysis in areas that seemed most relevant (e.g. some key areas where we took a different position to SONI's proposals, or some areas where our parameters differed from recent regulatory precedent).

2.336 We summarise the main results from our sensitivity analysis in Table 5. The estimated impact on allowed RAB return is based on our forecast of the average, over the price control period, of SONI's RAB, which is £33.8m. We consider sensitivity to notional gearing separately further below.

Table 5 Targeted sensitivity analysis

Element of pre-tax WACC	Alternative value considered	Impact of alternative value, keeping remaining elements unchanged	
		Impact on pre-tax WACC	Impact on allowed return
Risk-free rate	– 1.58% (Ofgem RIIO-2 FD)	− 9 basis points	− £31k per year
	– 0.60% (our DD)	+ 6 basis points	+ £22k per year
Total market return	6.95% (CMA point estimate from provisional findings on water company redeterminations)	+ 15 basis points	+ £49k per year
	6.50% (Ofgem RIIO2 FD and our DD)	− 12 basis points	− £39k per year
Asset beta for the notional TSO	0.40 (lower end of our figures from CMA Bristol Water adjustment method)	− 95 basis points	− £321k per year
	0.59 (higher figure from SONI DD response)	+ 86 basis points	+ £289k per year
Debt beta for the notional TSO	0.04 (CMA point estimate from provisional findings on water company	+ 13 basis points	+ £45k per year
	0.125 (our DD)	− 19 basis points	− £30 per year
Corporation tax	17% (forecast from our DD)	– 9 basis points	– £30k per year
Cost of debt (overall)	2.14% (SONI business plan)	+ 56 basis points	+ £188k per year
	1.14% (our DD)	+ 16 basis points	+ £53k per year
	– 0.07% (Ofgem forecast of cost of debt for ESO from RIIO FD)	– 33 basis points	– £111k per year

2.337 This sensitivity analysis helps to show the impacts of specific changes to parameters since our draft determination and compared to aspects of SONI's business plan or other proposals and further regulatory precedent. It also helps to show which parameters are more influential on the calculated pre-tax WACC, and those that have a less material influence. For instance, we can see that the alterative figures for the SONI asset beta have the greatest influence on the pre-tax WACC. In line with this observation, the assessment of the SONI asset beta was an issue that we explored in more depth in this appendix and we considered a number of different sources of evidence. In contrast, the tables show that considering

different values for the risk-free rate as well as different values of debt beta has relatively modest impact on the pre-tax WACC and, consequently, on the calculated allowed return.

2.338 As reported in the table, the impact of considering a corporation tax rate of 17%, rather than the rate of 19% as we assume in our modelling, is to lower the pre-tax WACC by 9 basis points and to lower the return on RAB by around £30,000 per year. Since we have determined an uncertainty mechanism will apply to the corporation tax rate, this impact is an impact on a forecast and not on price control allowances.

2.339 In our draft determinations, we presented sensitivity analysis for the notional gearing assumption. In its response to our draft determinations, SONI questioned our debt beta assumption, stating that it would expect the debt beta to reduce as notional gearing is reduced. We considered that SONI had made a valid point and that the specific approach to sensitivity analysis for the notional gearing assumption in our draft determinations is not appropriate, because it did not take account

2.340 As set out earlier in this section, we considered that there was particular uncertainty about the TSO debt beta parameter at our notional gearing of 40%. For similar reasons, we consider that there is uncertainty about the value of the debt beta parameter at alternative gearing levels, or the extent to which the debt beta increases with notional gearing.

2.341 In these circumstances, we did not consider that our sensitivity analysis could provide a reliable guide to how the pre-tax WACC for the TSO would vary with notional gearing. However, we made comparisons against SONI's notional gearing of 55% using illustrative assumptions on the corresponding debt beta. We identified that:

- If we assumed 55% notional gearing and a debt beta of 0.10, the calculated post-tax vanilla WACC would be 3.39%.
- If we assumed 55% notional gearing and a debt beta of 0.125, the calculated post-tax vanilla WACC would be 3.28%.

2.342 We compared these figures to a post-tax vanilla WACC of 3.32% from Table 4 above. On this basis, we did not consider that our WACC estimate, or the parameters behind it, were inconsistent with finance theories that (under certain assumptions) the post-tax vanilla WACC should be invariant to notional gearing. The figures above suggest that the post-tax vanilla WACC would be the same at 40% gearing and 55% gearing if the debt beta was someway between 0.10 and 0.125 at 55% gearing, which did not seem implausible.

2.343 There seemed to be sufficient uncertainty on the debt beta, and its relationship with notional gearing, that we found no reason to consider our assessment of the TSO WACC to be inconsistent with the view that the allowed WACC should be invariant to the level of notional gearing (a view that SONI emphasised in its response to our draft determinations).

2.344 In any event, our pre-tax WACC is an estimate which involves imperfect information and approximations, and we would not consider it realistic to expect it to behave exactly in line (e.g. to one decimal place), with specific theoretical models about the relationship between gearing and the cost of capital.

The case for aiming up or aiming down

2.345 A further issue for consideration on the overall allowance for remuneration of SONI's equity capital and debt finance is that of whether to "aim up" or "aim down" in setting the cost of capital.

2.346 For instance, aiming up or down might involve setting an allowance for the cost of capital above or below the centre of a range of available estimates, or might involve specific upward or downward adjustments. There are interactions with the approach we adopted of considering a specific adjustment for asymmetric risk exposure (see section 7 below), but the debate about aiming up or down covers a wider set of issue.

2.347 This a complex and controversial area and we did not consider that it was appropriate for the SONI price control review to review this matter in detail. Instead, we sought to make a reasonable position for the purposes of our final determination.

2.348 We pick out a few relevant points below points:

- The cost of capital submission in SONI's business plan did not propose aiming up within a cost of capital range.
- A widely cited study for the UKRN advocated that, in setting the cost of capital, what matters is investors' *expected return*, which comprises not simply the allowed return but ex ante expectations of out-performance or under-performance (e.g. against cost allowances and regulatory incentive schemes). Our approach, which involves explicit consideration of asymmetric risk, is intended to be consistent with this: see section 7 for further discussion.
- Some regulated companies (and some practitioners) argue that it is better to set the cost of capital too high than too low, because if it is too low this could harm customers by deterring investment that benefits customers whereas is too high this is just an increment on customers' bills. At the same time, we are aware of counterarguments to this (e.g. concerning other safeguards in the regulatory framework against under-investment, a lack of evidence that the risk of under-investment applies in practice, and the acceptability of the price control framework for customers).
- Ofgem's RIIO2 final determinations included downward adjustments to the allowed return for regulated energy network companies, based on Ofgem's analysis that across a large sample of previous price control decisions at different points in time and different sectors, there was evidence that companies had greater scope to out-perform than under-perform financially,

leading to an expected out-performance for the RIIO2 price controls in addition to the allowed cost of capital. Ofgem's approach also included an ex post correction mechanism in relation to realised performance.

- The CMA, in its recent provisional findings for the water company redeterminations explicitly aimed up on the WACC. The CMA's reasoning for this is a little difficult to disentangle because it refers to both asymmetric risk exposure of the water companies (e.g. on ODIs) and to the argument above that it is better to set the WACC to higher than too low to avoid deterring investment.

2.349 We considered these issues but did not see grounds to increase (or decrease) the allowed return for SONI relative to the detailed assessment set out above. Taking our assessment across the individual WACC parameters as given, we have sought to aim straight in determining the overall pre-tax WACC.

2.350 In the case of SONI, the argument for aiming up on the cost of capital to avoid under-investment seems particularly weak. We are introducing a new evaluative performance framework which is intended to financially reward SONI for developing and implementing new investment and new initiatives that are expected to improve outcomes (and to penalise it if it performs poorly in this area).

2.351 Furthermore, we consider that it is preferable to respond to evidence of asymmetric risk by considering explicit adjustments to the allowed return, for asymmetric risk, taking account of evidence on the direction and scale of that risk. An approach of aiming up within a WACC range does not seem well-suited to deriving an adjustment for asymmetric risk that is proportionate to, and targeted at, the scale of any asymmetric risk.

3. Remuneration of parent company guarantee

Draft determination

3.1 SONI's business plan was presented on the basis that there would continue to be a £10m PCG to support SONI activities. The business plan stated that the PCG "*provides a necessary component of SONI's financial security, important to protect benefits to customers and avoid undue transfer of risk, that gives it access to efficient credit facilities and permits it to carry out the functions necessary for day-to-day system operations*".

3.2 SONI's business plan proposed remuneration of this £10m PCG at the same rate as determined by CMA determination in the SONI appeal in 2017 (i.e. 1.75% nominal).

3.3 In our draft determination, we questioned the need for a PCG, taking account of substantial changes over time in the size of SONI's business and RAB (the RAB was much smaller when the PCG was introduced) and the scale of equity buffer that would be available under our 30% notional gearing.

3.4 We said that, while SONI should be remunerated reasonably for the obligations it faces, including any PCG requirements, the implementation of the 2020-25 SONI price control will involve modifications to existing licence conditions and there seems no reason to assume that existing SONI obligations such as the PCG would need to be maintained.

3.5 We said that we did not consider that SONI had provided a good justification for the position that the notional TSO would require a £10m PCG. SONI indicated that the PCG was a necessary component of its financial structure, but did not provide evidence for this. SONI did not explain why £10m was an appropriate amount for the PCG rather than a higher or lower amount. Furthermore, while SONI's advisors recognised that the PCG was a substitute in some way for a structure involving a higher proportion of equity capital finance for the RAB, they did not show consideration of scenarios for the notional capital structure in which there was less debt, which might enable the PCG to be removed.

3.6 For the purpose of estimating the pre-tax WACC for the notional TSO, we proposed a notional capital structure involving no PCG, and our draft determinations did not therefore involve remuneration of a PCG.

3.7 We also proposed to amend the TSO licence such that the PCG obligation in relation to TSO activities would not apply provided that SONI's actual level of debt is less than 40% of the prevailing level of its RAB (in the relevant price control financial year). This arrangement to retain a PCG in circumstances in which SONI operates with higher gearing would provide a safeguard to ensure that SONI does not operate in a way that provides significantly lower financial resilience to

customers and the wider electricity system than funded through our price control allowances and assumptions on the notional TSO financial structure. The 40% threshold would provide SONI with some flexibility above our notional gearing assumption of 30%.

Stakeholder feedback

3.8 SONI objected strongly to the draft determination position that did not remunerate the PCG (and proposed to remove the existing PCG requirement).

3.9 SONI claimed that remuneration of PCG under the SONI price control is necessary regardless of whether any PCG obligation applies.

3.10 SONI made the following comments:

- SONI claimed that our draft determination position was not consistent with the 2017 CMA determination.
- SONI claimed that the CMA considered that the PCG was required to ensure that the SONI business was able to achieve a credit quality similar to investment grade.
- SONI claimed that equity capital provided by the PCG is required to manage potential extreme downside risks and to ensure liquidity and financial viability in extreme downside scenarios (and that equity buffer in RAB not sufficient for these risks).
- SONI claimed that additional equity capital commitment (beyond RAB) is needed for SONI's business irrespective of whether there is a PCG requirement.
- SONI claimed that it relies on the PCG to maintain financial resilience, as highlighted in the Certificates as provided to Utility Regulator on the Adequacy of Available Resources.
- SONI claimed that that removing the PCG would require an alternative mechanism to maintain credit quality and financial resilience.
- SONI said that its cost of debt request assumes the presence of a PCG.
- SONI questioned the vires of the UR to remove an obligation put in place and required by its SEM Committee.

3.11 The Consumer Council recognised the low notional gearing assumption which can provides protection in event of financial distress, but said that it saw value in consumers in having the extra assurance of the PCG to avoid the risk of SONI facing financial distress in extreme downside scenarios. The Consumer Council suggested a lower PCG of £5m to provide protection to consumers. The Consumer Council also said that this approach would also support the use of a 0% small company premium in the cost of debt rather than the 0.4% proposed by SONI, since it reflects the benefits to SONI of being able to raise debt as part of EirGrid rather

than as a fully independent company.

3.12 Business Alliance made the following comment. Whilst noting that the draft determination approach seeks to reduce the overall cost of the SONI business model, *"we need to reflect on whether the change in gearing and loss of guarantee increases the perception of risk by the markets that in turn determines the price at which SONI can attract finance. A saving in one area that results in an increased cost in the other."*

Further consideration

3.13 SONI provided a range of arguments in support of its contention that our final determinations should include allowance for a £10m parent company guarantee.

3.14 Some of these arguments seemed to concern the remuneration of equity and the concept of an equity buffer. We did not accept SONI's proposition that an additional equity capital commitment (beyond the RAB) is needed for SONI's business irrespective of whether there is a PCG requirement. We did not understand the logic for SONI's argument that seemed to imply that the cost of equity calculated via a CAPM methodology would provide insufficient remuneration for equity investors. SONI did not provide evidence or argument as to why this was the case.

3.15 SONI suggested that because its equity investment was tied up in investment in physical assets, it has limited equity buffer to accommodate extreme downside scenarios. However, we considered that in the event of extreme downside scenarios, equity investors could inject equity or withhold dividends as a means to ensure the solvency of the company (and, in doing so, retain the financial benefit of the allowed return and depreciation allowances in future years). We considered this to be a very extreme scenario, given the financial protections within the price control framework and the level of allowed return. We did not consider that this possibility of an extreme scenario in which equity investors would inject equity or withhold dividends meant that there was another layer of equity capital at risk beyond SONI's RAB. Instead, we considered this part of the risk that is borne as part of investment in SONI's RAB. We did not consider that it required an additional return.

3.16 However, taking account of the feedback from SONI as well as the Consumer Council and Business Alliance, we considered further whether a PCG had a role to play as a means to support efficient debt finance and/or as a means to provide additional financial resilience and protection to customers in relation to extreme downside scenarios.

3.17 As set out in section 2, subsequent to our draft determinations SONI provided additional information about its debt finance arrangements. These highlighted that the TSO is in a likely to be in very different position to the regulated infrastructure companies when it comes to debt finance.

3.18 In light of the information provided by SONI, we decided to place more weight on evidence from SONI's loan arrangements with banks when setting the cost of debt component of the TSO WACC (see section 2 for further discussion).

3.19 Since these loan arrangements were agreed in a context where SONI did have a PCG, we were concerned that there could be an inconsistency across different aspects of our final determinations if we used information on the terms of the 2019 loan for our assessment of the cost of debt but we did not remunerate a PCG (though we also consider it *possible* that similar borrowing terms would be available in the absence of a PCG).

3.20 We considered that, on the balance of probabilities, it was more likely than not that a bank considering offering debt finance to the TSO would offer to charge a significantly lower interest rate to a notional TSO that has a £10m PCG than to a notional TSO that does not have such a PCG.

3.21 While we consider the SONI price control framework includes considerable protection against extreme downside events that might threaten the TSO's solvency, the price control framework may be less well understood by banks offering the TSO finance. This is especially so in a context where the price control and licencing framework is quite complex relative to the scale of the TSO business. The value to a bank from providing debt finance may not be sufficient for a bank to take the time and effort need to properly understand the way that the regulatory framework interacts with the risk exposure of the TSO (and hence lenders to the TSO). In this context, a PCG may provide a way to give providers of debt finance additional comfort on the low-risk nature of the TSO business.

3.22 This would mean that the evidence on debt finance costs considered in section 2 could understate the cost of debt for a notional TSO that does not have such a PCG.

3.23 Building on the feedback from the Consumer Council, we also recognised that remuneration of the PCG can provide some value to consumers in an extreme downside scenario (though it is rather difficult to conceive of the extreme scenarios given the extent of risk protection under the SONI price control).

3.24 We saw an argument that the value to consumers of a PCG is greater for a company that is ultimately owned by the state of another country, as the finance provided to the company might be withheld for political rather than commercial reasons (e.g. due to constrained fiscal policies of that state).

3.25 While the Consumer Council proposed retention of a PCG but with a reduction to £5m, we were concerned that this proposal might not give sufficient weight to the points above on the interactions with the cost of debt allowance.

Final determination position

3.26 We did not consider that there was strong evidence that a £10 PCG was needed as part of an efficient capital structure for the TSO. But nor did we consider that there was strong evidence that an efficient capital structure for the TSO would exclude a PCG.

3.27 In this context, we gave weight to what we saw as a reasonable theoretical case that a PCG could act to decrease overall financing costs, by improving the terms of

debt finance offered by banks.

3.28 We were also concerned that the information we used for the TSO cost of debt (see section 2) could be rendered less relevant, and potentially inconsistent, if applied to a notional TSO without a PCG.

3.29 Furthermore, we considered that such a PCG obligation can bring additional value to consumers via additional protection in extreme downside scenarios, and that this is particularly relevant given SONI's existing ownership structure.

3.30 On the basis set out above, we decided to include remuneration for a £10m PCG (nominal) at a rate of 1.75% per year (nominal). This is the same rate as determined by the CMA in the 2017 SONI appeal.

3.31 The annual cost of the PCG to customers would represent around £163k (April 2019 prices).

4. Remuneration of risk from revenue collection activity

Recap of draft determination

4.1 In our draft determinations we considered both the role of SONI in relation to revenue collection and the appropriate margin for its revenue collection activities.

4.2 We proposed changes to the financial arrangements between NIE Networks and SONI which would have the effect of de-risking SONI so that it is in a similar position with TUoS revenues as it is with Moyle interconnector revenues (e.g. so that SONI's obligations to make payments to NIE only relate to money that it has collected). We proposed that no margin would apply to TUoS revenues once TUoS revenues have been de-risked in this way.

4.3 We said that we did not consider that SONI's business plan provided a sound basis for maintaining arrangements for the 2020-25 under which:

- SONI bears some cashflow risk on behalf of NIE Networks, in recognition of which suppliers (and ultimately energy consumers) face the cost of a 0.5% margin on TUoS revenues.
- NIE Networks does not pay any charge for the cashflow management service provided to it by SONI, despite this service having an economic cost that is imposed on other parties in the electricity system.

4.4 We said that, as a larger company, with a larger balance sheet and higher profits, NIE Networks seemed better placed than SONI to manage and potentially absorb any cash flow risk relating to TUoS revenue collection.

4.5 For the remaining aspects of SONI's revenue collection role, we proposed to retain the margin rate of 0.5% on qualifying revenues that applies under the 2015-20 price control framework.

4.6 We reviewed SONI's explanation of its case for a higher margin of 0.6%. We did not consider that SONI has provided sufficient grounds to make an adjustment from the 0.5% margin set as part of the CMA determination in the SONI appeal.

Stakeholder feedback

4.7 SONI's response objected to our proposals to de-risk its TUoS revenue collection role and remove the margin on revenue collection activities. SONI highlighted some practical issues that would need to be worked through if the TUoS role were to change. And SONI claimed that, because it considers TUoS a lower-risk part of revenue collection, the margin on residual revenue collection amounts would need to increase above 0.5% if TUoS were to be excluded.

4.8 SONI made a series of arguments against our proposals to change its role in relation to TUoS and to remove the associated margin. In particular:

- SONI claimed that the that draft determination position was not consistent with the CMA determination and assessment.

- SONI claimed that the extent to which cashflow timing risk on TUoS can be removed from SONI is unclear based on a separate proposal UR is consulting on regarding GTUoS arrangements.

- SONI claimed that market benchmarks will not vary depending who carries out the TUoS collection function and as a result customer bills would remain unchanged.

- SONI claimed that the transfer of the TUoS activities would represent a material restructure of the industry and may not be feasible from a legal perspective (in time available).

4.9 In terms of the margin applied to other revenue collection revenue flows, SONI made the following arguments:

- SONI claimed that overall risk exposure is increasing in the 2020-25 period but that this is not reflected in the draft determinations.

- SONI claimed that TUoS is the least risky of the collection agent cash-flows and if we removed the TUoS collection role, a higher margin would be required on the remaining flows.

- SONI claimed that it would face residual risk exposure on TUoS even if cash flow timing risks are reallocated to NIE Networks (reputational and exchange rate risk) and these need to be remunerated.

Further consideration of proposal to de-risk TUoS role

4.10 We remain concerned that the current TUoS arrangements impose unnecessary costs on consumers.

4.11 SONI's response to our draft determinations provided no evidence of why it was in the interests of customers to maintain the existing arrangements, and no explanation of why SONI is best-placed to perform the role it currently does.

4.12 SONI claimed that customer bills would remain unchanged under our proposals because market benchmarks will not vary depending who carries out the TUoS collection function. We considered this a weak argument in favour of the current arrangements. Throughout the CMA appeal process in 2017, and during the current price control review process, SONI has emphasised how its small size and small balance sheet mean that it is particularly exposed to financial risk and requires additional price control allowances to accommodate risk. In these circumstances, it is difficult to see why SONI is well-placed to bear the risk associated with TUoS or how this would lead to lower costs to customers. Other parties, such as NIE, seem likely to be able to bear financial risk at lower cost than SONI. Furthermore, SONI's claim overlooks the costs of counter-party risk: the current arrangements introduce an additional counter-party into the flow of funds between suppliers/generators and

NIE Networks and it is right to question what is gained by this.

4.13 However, on further consideration of the points raised by SONI, we recognised that there are some significant practical implementation issues to work through in relation to the de-risking of SONI's revenue collection role. We did not consider that our final determinations provided the most appropriate way to resolve these issues.

4.14 We plan to carry out a separate consultation on specific licence modifications that would de-risk SONI's TUoS role. If a change is to be made to the TSO licence to de-risk the TUoS revenue collection role we would, at the same time, make appropriate changes to the SONI price control allowances for the margin on TUoS revenue collection risk. These would apply from the time that the change became effective (including pro rata for any part-year).

The level of the margin on revenue collection

4.15 The approach set out above means that some of SONI's comments on the appropriate level of the revenue collection margin, which concern TUoS being lower risk than other revenue collection elements or residual risk for TUoS, are not relevant to our final determination.

4.16 There remains a residual question of whether the allowed margin across all revenue collection activities should be increased above 0.5%. SONI had proposed a margin of 0.6% in its business plan.

4.17 In its draft determination response SONI explained its view that risks across the system services and DBC cashflows are expected to increase over the 2020-25 period due to a number of factors:

- Higher reputational risks driven by increase scale and scrutiny of the cashflows, as well as legislative changes on DBC.
- Higher income variation risks driven by the increasing scale of the cashflows and the heightened challenges in forecasting due to uncertainty arising from COVID-19 and the energy transition.
- Higher cost variation risks driven by increasing volatility in the context of I-SEM and high renewables penetration

4.18 SONI's response also provided some quantitative analysis concerning the profile of the net cashflows and the drawdowns under its working capital facility. SONI said that this indicates that the scale, volatility and working capital requirement of these cashflows have become significantly more pronounced since I-SEM has gone live.

4.19 However, we considered that SONI's submissions on this matter was limited in an important way: it did not provide evidence to address the question of whether, given the 2020-25 risk position, the margin on revenue collection activities of 0.5% was insufficient.

4.20 At first sight, it might seem obvious that if there is evidence of increased risk in the 2020-25 period, a higher margin is appropriate. However, we consider such a

position to be overly simplistic. This is due to three main factors:

- Under the margin approach, SONI receives a higher margin in £ as the scale of revenue collection costs increases. Put simply, if certain revenue collection cashflows increase from £25m to £50m, then SONI would automatically get twice as much money in exchange for bearing the risk associated with these cashflows. Much of SONI's argument and evidence seemed to concern an increase in risk due to "increasing scale of the cashflows". SONI's quantitative evidence did not strip out the effects of increased scale of cash-flows to allow assessment of whether the cash-flow risk per £m of revenue collection has increased.

- The proposition that evidence of an increase in risk in the 2020-25 period relative to the 2015-20 period should (on its own) lead to an increase in the allowed margin is dependent on the margin that was allowed for the 2015-20 period being carefully and precisely calibrated to the risk exposure in that period. This is not the case. The margin allowed for the 2015-20 must be seen as a high-level approximation, derived from evidence on margins in diverse sectors that perform quite different functions, and bear quite different risks, compared to the TSO revenue collection roles. These comparisons, and the high-level approximation derived from them, may still be valid following changes in underlying risk to the TSO.

- We considered that there is likely to be leeway within the 0.5% margin to accommodate somewhat greater risk in the 2020-25 period should that materialise. The CMA explained that its figure of 0.5% was derived from a range of 0.25%–0.5% and that in selecting a margin rate of 0.5%, at the top of this range, it had "erred on the side of caution" (paragraph 12.152). For our final determinations for the 2020-25 period, we were unconvinced that there is any good basis to err one way or another in making a regulatory judgement on the margin rate to apply to SONI's revenue collection activities. This indicates that there should be room within the 0.5% to accommodate an increase in risk.

4.21 Further to the points above, we do not consider that SONI has shown that overall revenue collection risk will be higher in the 2020-25 period. SONI's submissions on this matter seemed focused on potential arguments on factors increasing risk, rather than presenting a balanced assessment of changes in risk over time.

4.22 For instance, it seems quite possible that the cash-flow risk (per £m of revenue collection) would reduce to some degree as I-SEM becomes established, as market participants become more familiar with it, and as SONI develops ways to better manage the cash-flow risk arising from the new arrangements. We recognise that the market arrangements are evolving over time, but I-SEM was a major development and we would expect a well-run TSO to gradually develop improved ways to understand and manage the associated revenue collection risk.

4.23 Finally, there is also a potential double counting concern. The margins drawn on by the CMA in setting the 0.5% figure represented the full remuneration for the cost of

capital from the relevant comparator companies/sectors. The remuneration in the margin will reflect remuneration for risk as well as remuneration for investment required to run the business. In contrast, while SONI's remuneration for the risk of its revenue collection activities is primarily through the margin, some of SONI's capital assets (e.g. IT system, facilities) will be used for its revenue collection activities and SONI earns a WACC*RAB return on its RAB in respect of such capital assets. This means that SONI's revenue collection activities are remunerated through both the margin and through an element of the WACC*RAB return, which means an additional element of allowed return compared to benchmarks. The lack of granularity in SONI's cost reporting at present means it was difficult to assess the materiality of this issue.

4.24 We made a number of the points above in our draft determinations and SONI did not respond to them, choosing to focus on narrow analysis purporting to show an increase in risk over time, rather than the critical question of the sufficiency of the 0.5% margin allowance.

Final determination on remuneration of revenue collection risk

4.25 Our final determination is to retain the margin rate of 0.5% from the 2017 CMA determination and apply this to the same set of revenues as under the CMA remedies.

4.26 We considered SONI's submissions for an increase in the margin rate from 0.5% (e.g. to 0.6% as proposed by SONI in its business plan) but did not consider that these submissions demonstrated that such a change was necessary.

4.27 We remain of the view that it is not in the interests of customers for SONI to perform a TUoS revenue collection role that exposes it to the current levels of risk. We plan to develop a separate consultation on licence modifications to de-risk SONI's revenue collection role and, as part of that consultation, we will propose any reductions to the TSO revenue collection allowances that we consider appropriate in consequence of the change to SONI's risk exposure.

5. Debt financeability analysis

Recap of approach used for draft determinations

5.1 We set out our approach to debt financeability analysis in our draft determinations. Our approach drew on SONI's own approach to the analysis of financeability as set out in Section 12.10 of its business plan.

5.2 We said that the debt financeability metrics proposed by SONI in its business plan provide a reasonable basis for our analysis and these have the potential to help highlight any errors or inconsistencies in our overall capital remuneration framework. We estimated these metrics within our own financial model, relying on our forecasts of the notional TSO's costs and revenues.

5.3 We estimated the following metrics for the notional TSO:

- Adjusted interest coverage ratio (AICR). This is earnings (excluding collection agent margins) before interest and taxation (EBIT) divided by notional interest costs.
- FFO/net debt. This is estimated as earnings (excluding collection agent margins) before interest, taxation, depreciation and amortization (EBITDA) minus interest on notional debt minus notional tax liability divided by the notional debt element of the RAB.
- Net debt/RAB. This is the ratio of the notional debt element of the RAB to the RAB. This is equal to the notional gearing assumption used to determine the WACC under the CAPM approach.

5.4 While we said that SONI's proposed thresholds for the first two metrics (AICR and FFO/net debt) were open to challenge, we also noted that our results at DDs were sufficiently far above SONI's thresholds that it was not an issue that we tried to resolve at DDs.

5.5 In addition to these debt financeability metrics, we considered SONI's proposed profitability metrics using our financial model. In particular, we calculated an EBIT margin as the ratio between forecast EBIT and forecast revenues. Our analysis did not indicate a problem in relation to these profitability metrics.

5.6 We questioned SONI's proposed threshold range for EBIT margins. SONI's business plan proposed a range of 1.5% to 3% from the various sources that it identified in its business plan, without explaining how the range was derived. Our own review of the CMA energy market investigation report (which SONI quoted prominently in its business plan), suggested that EBIT margins in GB regulatory determinations have been between 0.5% to 1.5%, which was consistent with estimated EBIT margin range for SONI.

Stakeholder feedback

5.7 As part of its response to our DDs (Annex J) on financeability. SONI raised a

number of points on financeability, but nearly all of those points related to profitability and 'equity financeability' rather than debt financeability. We deal with the points raised on profitability in section 8.

5.8 In relation to debt financeability metrics, SONI did not comment directly on the values for the debt financeability metrics presented in our DDs. However, SONI's response suggested that our analysis of debt financeability was incomplete because we had not considered certain costs in our baseline scenario and we had not estimated those metrics under extreme downside scenarios.

5.9 SONI suggested three amendments to our baseline scenario:

- SONI assumed an actual cost of debt equal to its Business Plan request, which was 2.14% (CPIH stripped), rather than our own figure for the cost of debt used in calculating the WACC.
- SONI assumed annual disallowances against capped expenditure that is equal to the asymmetric risk allowance.
- SONI assumed that it would have borrowings of £13.5m (30% of £45m) against its revolving credit facility (RCF) at all times, at an interest rate of LIBOR plus 2%, which is recovered through charges with a 2-year lag.

5.10 SONI also presented the results of its own analysis of its preferred debt financeability metric (AICR) under two extreme scenarios:

- A scenario where SONI is exposed to a £1m penalty through the evaluative incentive mechanism *and* suffers DIWE disallowances of £500,000 on pass-through expenditure subject to a cap, in *each year* of the price control period.
- A scenario where SONI is exposed to a £1m penalty through the evaluative incentive mechanism in each year of the price control period *and* is fully drawn on its £45m working capital finance facility at all times during the price control period.

5.11 SONI's response said that "*[the] results indicate that AICR declines materially, remaining below the minimum threshold in all years. This level of deterioration is likely to constrain debt financeability.*"

5.12 We address SONI's points in the section below.

Final determination position

5.13 Following our draft determinations, and as set out in Section 1, we have broadened our debt financeability assessment to separately consider debt financeability of the core TSO activities (as we had done for draft determinations) as well as the overall notional TSO that includes both the core role and the revenue collection activity. These are referred to as 'Debt financeability assessment (Part A)' and 'Debt financeability assessment (Part B)' respectively in Figure 1 from section 1 of this

annex.

5.14 Separately we have updated our debt financeability analysis as follows:

- We have updated our forecasts of allowed WACC return and depreciation allowances, to reflect increases in the WACC and expenditure allowances over the 2020-25 period relative to our daft determination position.
- We have excluded forecast revenues and costs associated with transfers of transmission network pre-construction projects (TNPP) to NIE Networks from our revenue and cost measures. This change is only presentational and has no impact on the debt financeability metrics.

5.15 We have not included in our base case costs relating to borrowings against the RCF as SONI has done. We did not see a good basis for SONI's assumption that it would utilise 30% of its £45m RCF (equivalent to debt of £13.5m) in the base scenario. We asked SONI to provide details of any actual drawings against its credit facilities in order to substantiate SONI's assumption (or to support a different assumption), but SONI did not provide this. The RCF is used to fund SONI's revenue collection activities and these are remunerated via the 0.5% margin allowance on qualifying revenues. That margin allowance is intended to cover the costs of RCF facilities needed to provide working capital or short-term finance for revenue collection activities. We did not consider that it was appropriate to include any drawdown position against such a facility within our base case. Furthermore, we note that SONI is able to recover borrowing costs associated with its end-of-year 'K factor' position separately from the remuneration channels modelled as part of our analysis, albeit with a 2-year lag. In any case, we note that SONI's own analysis of debt financeability under its base scenario (which included additional debt of £13.5m) showed that its thresholds are exceeded by a substantial margin in all years.

5.16 The results of our analysis are set out in the tables below. Table 6 shows the results from our debt financeability analysis (Part A), which covers the core TSO role and Table 7 shows the results from our debt financeability analysis (Part B), which includes the revenue collection function.

5.17 In both cases, the green cells show that, as in our DDs, the debt financeability metrics comfortably exceed the SONI thresholds in all cases.

Table 6 Results from debt financeability assessment (Part A) – Core TSO role

Metric	SONI threshold	2020/21	2021/22	2022/23	2023/24	2024/25	Avg. 2020-25
AICR	1.8	4.81	4.76	4.56	4.78	5.29	4.84
FFO/net debt	12%	52%	55%	60%	76%	49%	58%
Net debt/RAB	55%	40%	40%	40%	40%	40%	40%

Table 7 Results from debt financeability assessment (Part B) – Notional TSO including revenue collection role

Metric	SONI threshold	2020/21	2021/22	2022/23	2023/24	2024/25	Avg. 2020-25
AICR	1.8	6.64	6.63	6.52	7.23	8.89	7.18
FFO/net debt	12%	57%	60%	65%	82%	59%	65%
Net debt/RAB	55%	40%	40%	40%	40%	40%	40%

5.18 We do not agree with SONI that it is necessary for these credit metrics to reach its proposed thresholds in extreme downside scenarios. Part of the rationale for credit agencies using metrics such as interest cover is to provide information on how much headroom a company has to accommodate future downside scenarios. It is not logical to assume that the same credit metric thresholds that apply in a base case, or on current financial information, should also be required to be met in an extreme downside scenario.

5.19 The CMA considered this issue in its provisional findings for water company redeterminations. It seems that the CMA considered downside scenarios but, following Ofwat, reduced the threshold it considered relevant in a downside scenario (e.g. used an adjusted interest cover ratio of 1.0 rather than 1.5) and described the lower threshold as a "cross-check [that] provides us with further confidence in the financeability of our determination" (page 700). Furthermore, the CMA implied that it would not necessarily be a problem if these lower thresholds were not met and recognised that, in some instances of a downside scenario, "companies facing a financeability constraint have a responsibility to consider a range of mitigating actions to address impact, such as absorbing headroom in credit ratios, requiring a contribution from equity, eg to forego dividends or inject fresh capital".

5.20 In addition, we thought that SONI's proposed thresholds were open to challenge for being too high. For instance, as highlighted in our draft determinations, the threshold for AICR seemed high compared to regulatory precedent, without explanation from SONI.

5.21 A further consideration arises from the interactions between our assumptions on the notional TSO cost of debt and the debt financeability metrics used above. As set out in section 2, our approach assumed that, when the notional TSO raises debt finance, it would face borrowing costs which, leaving aside transaction costs, reflect a substantial premium on the borrowing costs that would be faced by a large, regulated network infrastructure company (e.g. perhaps a premium of around [REDACTED] basis points on debt of the same type and maturity). We considered that at least some of the premium would be likely to reflect perceived lower

creditworthiness of the TSO. On this basis, there is an argument that it would not be internally consistent to adopt an approach to debt financeability analysis that requires from the notional TSO the same thresholds for credit metrics that are expected from large, regulated network infrastructure companies that have lower borrowing costs (on a like-for-like basis).

5.22 However, our results were sufficiently far above the thresholds proposed by SONI that it was not necessary, for the purposes of our analysis and our final determinations, to assess whether significantly lower thresholds ought to be applied.

5.23 Overall, our debt financeability analysis did not indicate any problem with our final determinations for the various elements of the SONI allowed return. Indeed, the analysis summarised above indicates that the metrics on debt financeability for the notional TSO seem healthy. While these metrics cannot by themselves provide an overall test of the financeability, they support our overall view that our final determination is financeable.

5.24 We consider SONI's arguments on EBIT profitability metrics in section 8.

6. Upside and downside scenarios for equity return

6.1 This section sets out our updated analysis of upside and downside scenarios for the return on regulatory equity (RoRE).

6.2 We used this type of analysis to help calibrate some of the financial incentives that formed part of our price control framework for the 2020-25 period. We wanted to check that our approach would give meaningful financial incentives without creating undue financial risk for investors. This analysis has also informed our notional gearing assumption.

6.3 We also present some comparisons of our estimated RoRE risk exposure for the notional TSO against that for the regulated water companies. We drew on this analysis to inform the assessment asset beta in section 2.

Recap of approach used for draft determinations

6.4 In developing our draft determinations, we used analysis of upside and downside risk to equity returns, estimated by the return on regulatory equity (RoRE) to help inform our assessment of the risk faced by equity investors in the notional TSO. Our analysis considered the impact of hypothetical upside and downside scenarios for the costs and performance of the notional TSO on its return on regulatory equity relative to our assumed baseline performance for the notional TSO.

6.5 We considered a number of scenarios where the notional TSO would face:

- Different levels of financial incentive rewards and penalties under our proposed evaluative performance framework.
- Over- or under-spends against its operating expenditure and capital expenditure allowances.
- Higher interest rates on its debt than we had assumed.
- A disallowance against transmission network preconstruction project expenditure already incurred.

6.6 We also compared our estimates of the range of RoRE impacts from upside and downside scenarios for the notional TSO against the RoRE ranges estimated by Ofwat for water companies in England and Wales in its PR19 Final Determinations. In particular, we looked at RoRE ranges for maximum upside and downside risk scenarios reported by Ofwat for the three listed companies regulated by Ofwat (Severn Trent, South West Water and United Utilities). We considered these companies to be particularly relevant because estimates of the equity beta for these companies derived from stock market data provide a key source of information on asset beta for other companies subject to RAB-based incentive regulation in the UK (including the TSO). We drew on this analysis for our assessment of asset beta.

6.7 Based on our analysis, we provisionally concluded that the overall downside risk faced by the notional TSO did not seem excessive, or to present an undue threat to its longer-term financial viability.

6.8 We also used our RoRE analysis to inform the design of financial incentive parameters for the notional TSO. In particular, we considered the impacts on RoRE of different options for the calibration of the evaluative performance framework, the incentive rate for the conditional cost-sharing incentives and the cap on maximum financial rewards and penalties. We also considered how RoRE impacts were affected by alternative gearing assumptions for the notional TSO, which we took into account in our consideration of notional gearing.

Stakeholder feedback

6.9 SONI's response said that the UR had undertaken a "*flawed RoRE analysis that does not fully capture the risks to which SONI is exposed*". It said that the UR's analysis of SONI's RoRE risk range, and the comparison we had drawn in our draft determinations to the risk ranges for water companies regulated by Ofwat, is '*misleading*' for two reasons.

- SONI said that our use of the notional gearing for the TSO of 30% when calculating the RoRE "artificially increases the level of SONI's regulatory equity and distorts the results of the analysis", and therefore invalidates the comparison with water companies where Ofwat has assumed a notional gearing of 60%.
- It disagreed with the inclusion of what it refers to as the '*side RAB*' (the TNPP and Special Projects elements of SONI's RAB) in the calculations, on the grounds that the risks associated with TNPP have not been taken into account in our analysis.

6.10 It said that in order to undertake the analysis on a more "*comparable basis*", it is necessary to use estimate returns on the whole RAB rather than on regulatory equity, so that '*regulated equity is not distorted by the assumed level of gearing*' and because '*changing the level of notional gearing does not alter the asset risk the business faces*'.

6.11 SONI presented its own analysis of impacts of the upside and downside risks to the notional TSO, along with a comparison with listed water companies. This analysis compares returns on RAB (including and excluding the 'side RAB'). SONI's analysis included additional downside risks that we had not included in our analysis: 'DIWE risk on internal costs' and asymmetric risk on TNPP costs.

6.12 SONI concluded that based on its own RoRE analysis and comparisons with the water companies, "*SONI has materially higher exposure to risk than other utilities such as water companies.*"

Review of SONI's response

6.13 First of all, in response to SONI's comments, it is important to state that our RoRE

analysis is not intended to show that the overall business risk to SONI the same as that for water companies. There is a fundamental difference between overall business risk and risk to equity capital.

6.14 We disagree with SONI's claim that our use of RoRE in the case of SONI is wrong because our notional gearing 'artificially' increases the level of regulatory equity and therefore distorts the results of our analysis. The concept of regulatory equity, is by definition, determined by the regulatory assumption on the efficient level of gearing (the notional gearing), and therefore the level of debt in the notional TSO. We consider it meaningful to carry out analysis of the upside and downside risk to notional equity capital.

6.15 SONI is free to choose the level of actual gearing it operates under. However, for the purposes of our analysis, we saw no reason to model scenarios in which SONI operates at a higher level of gearing (and therefore lower level of equity) than we have assumed. We saw no basis in SONI's claim that our analysis 'artificially increases' the level of regulatory equity. We note too that SONI's actual level of gearing at the end of the 2015-20 price control period was lower, rather than higher, than our notional gearing.

6.16 Furthermore, we do not consider return on the RAB to be a meaningful concept for the purposes of estimating risk to equity investors. A significant proportion (i.e. our assumed notional gearing) of the RAB is funded through debt – for which we have carried out separate debt financeability analysis.

6.17 We also disagree with SONI that the 'side RAB' (as SONI refers to part of its RAB), covering TNPP and Special Projects, should be excluded from our RoRE calculations. The TNPP RAB involves equity capital like the other elements of SONI's RAB – and is remunerated through the WACC*RAB remuneration channel. The asymmetric risk associated with TNPP (and other pass-through items subject to a cap) is remunerated through the asymmetric risk allowance. For the specific purposes that we are using RoRE analysis for it is entirely appropriate to include the TNPP and Special Projects RAB components within the measure of regulatory equity.

6.18 We do not agree with SONI that risks associated with TNPP have not been taken into account in our analysis. We have explicitly modelled downside scenarios involving disallowances of TNPP expenditure subject to capping as set out further below.

6.19 We do not agree with SONI that DIWE risk on internal costs should be considered as part of our RoRE analysis. The DIWE provision is a safeguard against very extreme circumstances – and we did not consider it necessary, or a priority, to model such scenarios for a notionally efficient TSO. We consider SONI's position on asymmetric risk relating to DIWE in section 7 below.

Updates to our RoRE analysis

6.20 We have updated our RoRE analysis to take account of changes to our position on the WACC return, notional gearing, expenditure allowances and forecast

depreciation allowances relative to our DDs. We set out an updated list of our assumptions on the specification of the notional TSO in the base case in the table below.

Table 8 Specification of notional TSO: base case

Aspect	Our assumption in draft determinations	Our updated assumption in final determinations
Notional gearing	30% of RAB	40% of RAB See section 2 for details of our rationale for the change.
RAB	Our estimates of historical RAB and central forecasts of RAB over 2020-25 period	We have updated our RAB forecasts for the 2020-25 period. See Appendix 1.
Parent company guarantee	No PCG	We have included PCG remuneration. See section 2.
Level of operating expenditure and capital expenditure incurred in relation to TSO cost categories subject to conditional cost-sharing approach	Central forecasts of notional TSO costs equal central forecast of ex ante expenditure allowances in respect of those costs No under- or over-spend	We have updated our central forecasts, and retained our assumption of no under- or over-spend.
Level of expenditure subject to remuneration up to approved cap approach	Central forecasts. No spend in excess of approved cap	We have updated our central forecasts, and retained our assumption of no under- or over-spend.
Level of costs incurred by TSO on system support / ancillary services	Central forecasts based on forecasts provided by SONI	As in draft determinations No updated forecasts provided by SONI in its DD response.
Value of TUoS and Moyle revenues falling under revenue collection role	Central forecasts based on forecasts provided by SONI	As in draft determinations No updated forecasts provided by SONI in its DD response
Pension deficit repair	Equal to our proposed allowances for pension deficit repair	As in draft determinations.
Interest costs on debt	Nominal interest rate applies on proportion of RAB assumed to be debt-financed Interest rate calculated as our cost of debt assumption (CPIH-stripped) forecast annual CPIH inflation of 2%.	As in draft determinations See section 2 for our assumption on the cost of debt

Aspect	Our assumption in draft determinations	Our updated assumption in final determinations
Effective rate of corporation tax paid by notional TSO	17% on modelled pre-tax profit	Updated to 19% See section 2
Financial incentive under new evaluative performance framework	Assumed zero for base case; we consider alternative outcomes as part of scenario analysis.	As in draft determinations for the base case.
Expenditure disallowed by the UR – costs subject to capping (Dt, TNPP and Zt)	Zero	As in draft determinations.
Opening K factor position at 1 October 2020	Zero	Notional TSO assumed to have no over- or under-recovery of price control allowances at end of 2015-20 price control period
Forecast surplus from connections activities	The surplus forecast by SONI was included in the base RoRE estimates	The surplus forecast by SONI is excluded from the base RoRE estimates, as we do not consider connections activities to be within the core activities of the notional TSO which are most relevant for the RoRE analysis used here.

6.21 We have also updated our upside and downside scenarios for our RoRE analysis in our final determinations. The table below summarises the changes relative to the scenarios that we had used in draft determinations.

6.22 We set out in the table below the specific scenarios we used.

Table 9 Upside and downside risk scenarios considered

Risk area	Draft determinations	Final determinations
TSO performance on the performance evaluation incentive	**Downside scenarios** * Large incentive penalty of £1m * Moderate incentive penalty of £0.5m **Upside scenarios** * Large incentive reward of £1m * Moderate incentive reward of £0.5m	**Downside scenario** * Incentive penalty of £0.75m (years 3-5 only) **Upside scenario** * Incentive reward of £1.25m (years 3-5 only) These figures are extremes and reflected the revised caps on the maximum financial reward or penalty across the performance framework and cost-sharing incentives

Risk area	Draft determinations	Final determinations
TSO performance on operating expenditure	**Downside scenarios** * Large overspend of 20% of allowance * Moderate overspend of 10% of allowance **Upside scenarios** * Large underspend of 20% of allowance * Moderate underspend of 10% of allowance	As in draft determinations
TSO performance on capital expenditure	**Downside scenarios**: * Large overspend of 30% of allowance in year 1 * Moderate overspend of 15% of allowance in year 1 **Upside scenarios**: * Large underspend of 30% of allowance in year 1 * Moderate underspend of 15% of allowance in year 1 In all cases we assume that the financial incentives are applied in full to the over- or under-spend	As in draft determinations
TSO performance on total expenditure (totex)	Not separately modelled in draft determinations	**Downside scenarios** * Large overspend of 20% of allowance * Moderate overspend of 10% of allowance **Upside scenarios** * Large underspend of 20% of allowance * Moderate underspend of 10% of allowance We have modelled the combined impact of an overspend/ underspend on total expenditure by ignoring differences between the treatment of opex and capex under/overspends (i.e. the timing difference). This allows a different perspective on capex variations compared the approach set out in draft determinations.

Risk area	Draft determinations	Final determinations
Out-turn debt interest rates for the notional TSO	**Downside scenarios:** * Interest rate higher by 2% * Interest rate higher by 1% **Upside scenarios:** * Interest rate lower by 2% * Interest rate lower by 1%	As in draft determinations. We think our scenarios represent relatively extreme circumstances. We note that our maximum downside scenario is significantly worse than that assumed by Ofwat in its PR19 determination. SONI did not include scenarios relating to higher interest rates in its business plan
Disallowances on overspends against TNPP (or Special Projects) expenditure caps	**Downside scenarios**: * Extreme scenario of a disallowance on expenditure overspend of 5% of project caps in year 1 (with revenue impacts in year 3). * Less extreme scenario of a disallowance on expenditure overspend of 2.5% of project caps in year 1 (with revenue impacts in year 3).	As in draft determinations
Combined downside risk scenario	**Combination of:** * Large incentive penalty of £1m * Interest rate higher by 2% * Extreme scenario of a disallowance on expenditure overspend of 5% of project caps in year 1 (with revenue impacts in year 3).	**Combination of:** * Large incentive penalty of £0.75m * Interest rate higher by 2% * Extreme scenario of a disallowance on expenditure overspend of 5% of project caps in year 1 (with revenue impacts in year 3).

6.23 The table below sets out the results of our analysis. The results for the corresponding upside scenarios in most cases are symmetric so we do not reproduce them here.

Table 10 TSO RoRE impacts under downside scenarios relative to base case

Base case / downside scenario	Average RoRE impact (2020-25)
Base RoRE (***excluding*** asymmetric risk allowances and collection agent margins)	4.63%
Base RoRE (***including*** asymmetric risk allowances, but excluding collection agent margins)	5.21%

Evaluative performance incentive	
£0.75m penalty	No impact in years 1 and 2 -3.26% on average in years 3, 4 and 5
Opex performance	
20% overspend	-3.16% (capped to -2.95% on average)
10% overspend	-1.58%
Capex performance	
30% overspend in Y1	-0.11%
15% overspend in Y1	-0.05%
Totex performance	
20% overspend	-3.85% (capped to -2.95% on average)
10% overspend	-1.92%
Debt interest	
2% higher	-1.08%
1% higher	-0.54%
TNPP/Special Projects	
5% disallowance in year 1	-1.08% (in year 3) and zero in other years. -0.22% on average over 5 years.
2.5% disallowance in year 1	-0.54% (in year 3) and zero in other years. -0.11% on average over 5 years.
Combined	
Combined extreme downside risk scenario (Maximum penalty under combined cost and performance incentive, 2% higher debt interest costs, 5% TNPP/Special Projects disallowance in year 1)	-4.24% (Annual average over 5 years)

6.24 In light of the figures above, we did not think that the overall downside risk faced by equity investors in the notional TSO is excessive or presents an undue threat to its longer-term financial viability. Based on our assumptions, we find that equity investors would take a significant financial hit in the downside scenarios, but they would still receive a positive return on regulatory equity even in extreme downside scenarios. We also consider that these figures indicate that the incentives in relation to cost-sharing and the evaluative framework are sufficiently to be meaningful from the perspective of notional equity investors and equity returns.

Comparisons to the RoRE risk for regulated water companies

6.25 In our draft determinations, we had compared our estimates of the range of RoRE impacts from upside and downside scenarios for the notional TSO against the

RoRE ranges estimated by Ofwat for water companies in England and Wales in its PR19 Final Determinations.

6.26 We have updated this comparison for our final determinations as set out in Figure 5. We draw on this in our assessment of asset beta as set out in section 2.

6.27 To ensure more like-for-like comparability between the RoRE analysis for the notional TSO and the analysis presented by Ofwat for water companies, we have modelled the following upside and downside risk scenarios for the notional TSO as follows:

- Under our final determinations, we have set caps covering the combined financial incentive position from the incentive rewards/penalties under the performance evaluation framework and the cost sharing incentives. For this analysis, we assume that the notional TSO would earn combined rewards equal to the cap (£1.25m) in the upside scenario and penalties up to the collar (£0.75m) in the downside scenario. We have decided that the performance evaluation incentive will not be operational in the first two years of the price control, which means that the overall cap and collar are extremely unlikely to materialise in those years.

- For the cost of borrowing, we have assumed that SONI would face interest costs that are 100 bps higher than the allowed cost of debt in the downside scenario, and 100 bps lower than the allowed cost of debt in the upside scenario.

6.28 Our comparison with the water companies focuses on those elements of the core TSO role that are remunerated through the WACC*RAB remuneration channel. This is because we have drawn on this comparison as a source of evidence to inform our decision on the appropriate asset beta for the notional TSO. This means that, for this exercise, it is not appropriate to cover risks that are separately remunerated outside of the WACC*RAB channel (i.e. risks remunerated by the asymmetric risk allowance and margin on collection agent revenues). Doing so could bring double counting.

6.29 We think that our assumptions for upside and downside risk for the notional TSO allow us to draw reasonable comparisons with Ofwat's RoRE risk ranges for the water sector. Ofwat's analysis takes account of the following risk factors:

- Totex over and underspends (wholesale and retail). Ofwat's modelled range is based on analysis of historical under and overspends within the water sector.

- Performance against financial incentives (ODIs). Ofwat's range is based on its view of the P90 and P10 values for rewards and penalties that water companies can earn under its incentive mechanisms.

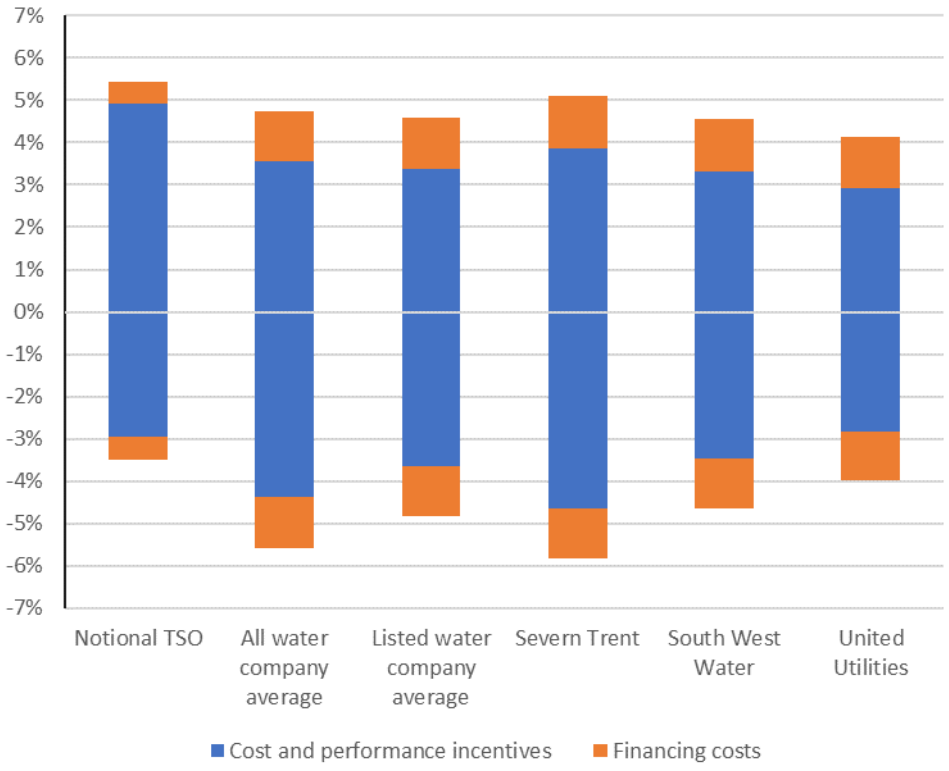
- Performance on debt interest costs. Ofwat has modelled the impact of interest rates for new debt that is higher than allowed by 25 bps (50 bps for Bristol Water and SES), and lower than allowed by 100 bps. For embedded

debt, Ofwat's assumptions imply a range of +85 bps to -85 bps against the allowed cost of debt.

6.30 We consider that our upside and downside scenarios for the cost sharing and performance evaluative incentives for the notional TSO are broadly comparable to (and potentially more extreme than) the combined ranges for totex expenditure risk (across wholesale and retail) and ODI performance risk for the water companies. Separately, we consider that our upside and downside scenarios for debt interest costs are broadly comparable to (and potentially more extreme than) the debt financing cost scenarios used by Ofwat for the water companies.

6.31 Figure 5 sets out the results of our comparisons between the notional TSO and regulated water companies in England and Wales.

Figure 5 Comparison of estimated RORE risk for TSO and water companies



6.32 This aspect of our RoRE analysis indicates that the downside RoRE risk exposure for the notional TSO is broadly similar to, and potential lower than, the downside RoRE risk exposure for regulated water companies. Because of differences in notional gearing, this does not in any way imply overall busines risk is similar. We consider the implications of this analysis for asset beta in section 2, which also discusses some of the limitations of the analysis in this context.

Conclusions from our analysis

6.33 We maintain our view that our analysis of the RoRE for the notional TSO provides valuable insight into the level of risk exposure for SONI's equity investors from our

price control remuneration framework and incentive package. We believe that our RoRE analysis shows that the package of cost and performance incentives are sufficient to provide meaningful incentives for the TSO.

6.34 The overall downside risk faced by the notional TSO does not seem excessive, or to present an undue threat to its longer-term financial viability. While equity investors would take a significant financial hit in the downside scenarios, they would still receive a positive return on regulatory equity.

6.35 We discuss our conclusions from our comparisons of RoRE risks with regulated water companies in the asset beta part of section 2.

7. Adjustment to allowed return for asymmetric risk

Recap of draft determination

7.1 In our draft determinations we considered the case for potential adjustments to allowed returns, either upwards or downwards, in relation to asymmetric risk not captured in other aspects of our remuneration of risk and return.

7.2 We proposed not to intervene on SONI's proposal for a 3% adjustment, in SONI's favour, for asymmetric risk in respect of costs subject to remuneration up to approved caps (e.g. transmission network planning costs). SONI's proposal was consistent with the outcome of the 2017 CMA appeal.

7.3 We propose that, as for the CMA remedies, the adjustment would applied to ex ante forecasts of qualifying costs, rather than to SONI's actual spend during the price control period. We said that SONI could have perverse incentives to incur costs unnecessarily (at least up to approved caps) if it is entitled to a return of WACC plus 3% for every £1 that it spends.

7.4 In our draft determinations, our central forecast of annual expenditure subject to remuneration up to approved caps was £4.4m. SONI's business plan had forecast zero expenditure on special projects, but we considered that this was likely to be an underestimate. We replaced SONI's forecasts for special projects with our own central forecasts. On that basis, we proposed to include an asymmetric risk allowance of £132,000 a year, which was 3% of our forecast of eligible annual expenditure.

7.5 We did not propose any other adjustments for asymmetric risk. Leaving aside the costs to be subject to remuneration up to approved caps, our high-level review suggested that the remainder of the price control framework that we were proposing is, if anything, asymmetric to the benefit of SONI. However, without significant further analysis it would be difficult to determine an appropriate adjustment for this asymmetry and doing so was not a priority for our draft determinations.

Stakeholder feedback

7.6 In its response to our draft determination SONI claimed that our forecast of qualifying costs for the asymmetric risk allowance was understated.

7.7 SONI also argued that its operating costs are subject to asymmetric risk (due to DIWE risk) and queried whether the UR has adequately taken account of this risk.

7.8 SONI also argued that, in addition to TNPP and Dt costs, our draft determination proposals created asymmetric risk for SONI in other cost categories due to conditional cost sharing and insufficient cost allowances.

Review of SONI's arguments on understated of costs subject to cap

7.9 We did not consider that SONI had provided a good explanation of why our draft determination understated the costs subject to capped allowances. SONI said that the draft determinations assumes that only £5m of Dt costs are expected across the 2020-25 period, compared to £22m PC 2015-20, which does not capture projected costs for strategic initiatives and as a result under-estimates on an ex ante basis SONI's exposure to asymmetric risk.

7.10 SONI's response overlooked the policy on uncertainty mechanisms we had set out in our draft determinations, which was to introduce a new (and additional) form of uncertainty mechanism which differed from the current Dt mechanism. Under this new uncertainty mechanism, we would provide ex ante allowances for new initiatives with cost-sharing of over-spends and under-spends, rather than remuneration on the basis of costs incurred up to a cap. This approach would apply as the default arrangement for new initiatives (excluding transmission network planning costs).

7.11 Our draft determinations forecasts reflected our expectation that we would use this new mechanism as well as the Dt mechanism. We forecast allowing £7.5m of additional expenditure for new initiatives through increases to the ex ante allowances subject to cost sharing. These costs are rightly outside of the scope of the costs subject to an additional allowance for asymmetric risk.

Updating of forecasts of costs subject to capped allowances

7.12 In its response to our draft determinations, SONI claimed that our forecast of qualifying costs for the asymmetric risk allowance was understated.

7.13 We have updated our forecasts of qualifying costs in light of our overall final determination position, and our central view on potential additional allowances during the five-year period that would be subject to the remuneration up to a cap approach. We consider that our forecasts, and the allowances derived from it, are reasonable.

7.14 In line with the policy position in annex 3 on our approach to additional funding for new initiatives via uncertainty mechanisms, the bulk of the forecast additional allowances during the price control period would have an ex ante allowance and be subject to mechanistic cost-sharing. We have made some provision in our forecasts for new initiatives to be funded via the renumeration up to cap uncertainty mechanism, but this would be an exception to our general approach for these types of costs out in annex 3. Furthermore, a forecast that the bulk of allowances for specific new initiatives will be funded via ex ante allowances subject to cost sharing, rather than remuneration up to a cap, is consistent with the approach we have used for those projects for which we have approved price control funding for in our final determination.

Asymmetric risk and the DIWE provision

7.15 SONI's said that it would expect to see some consistency between the pricing of the

cost risk on operating costs on the one hand and uncertain costs subject to 3% premium on the other (Dt, Zt and TNPPs). SONI said that the latter category is exposed to the risk of expected loss due to the application of DIWE which was priced by the CMA at 3%. SONI's operating costs reflect its higher operational gearing (relative to typical regulated utilities) and - based on the cost recovery mechanisms proposed by the UR in the Draft Determination - are subject to the risk of ex-post disallowance through DIWE. SONI said that it would like to understand how the UR has considered the issue of the consistency of pricing of costs risk, particularly because operating costs solely attract remuneration for the higher operating leverage and no remuneration for the DIWE.

7.16 We found SONI's response to be misleading.

7.17 SONI said that the risk of expected loss due to the application of DIWE was priced by the CMA at 3% of costs. This is untrue.

7.18 In setting the 3% allowance for asymmetric risk the CMA placed emphasis on the existence of caps on the level of expenditure incurred by SONI which would be remunerated under the price control, and the risk that such caps might be breached. In its final determination (2017) the CMA decided on "an adjustment to reflect the existence of asymmetric risk within the capped cost recovery mechanisms applied to Dt and PCNPs is appropriate" (paragraph 12.103).

7.19 It is also relevant to highlight that the current TSO licence conditions apply the DIWE provision to the whole of SONIs operating expenditure which is subject to mechanistic cost-sharing incentives. Despite the extensive consideration that the CMA gave to SONI's allowed return and asymmetric risk during the 2017 appeal, the CMA did not impose any margin for asymmetric risk on this operating expenditure subject to DIWE.

7.20 We did not consider that it is correct to attribute the 3% allowance introduced by the CMA to risks of post disallowance through DIWE and we did not consider it appropriate (for reasons for consistency or otherwise) to provide SONI with a 3% allowance for other categories of costs (e.g. operating expenditure) on account of the DIWE provision.

7.21 On the basis above, we see no inconsistency in our approach, as alleged by SONI.

7.22 More generally, our position is that it is not appropriate to provide an additional allowance for asymmetric risk in compensation for the existence of a DIWE provision. This reflects several factors:

- DIWE, or similar provisions, are a familiar part of UK regulatory practice (including in the CMA's NIE determination in 2014) without being complemented by an allowance for asymmetric risk.
- We would expect investors in regulated companies subject to DIWE provisions to back themselves to appoint and monitor a management team that is capable of reducing DIWE risk to negligible levels.

7.23 Even putting these points aside, we consider that it would be inappropriate to make an allowance for asymmetric risk from DIWE without considering the broader price control incentives on the relevant cost category. For instance, if a DIWE provision were to be applied as part of a cost-sharing approach applied to a category of operating expenditure, it would be relevant to also consider potential asymmetry (which may be offsetting) in the baselines for operating expenditure around which cost sharing is to be applied.

Review of asymmetry across the broader price control package

7.24 As a check on our overall allowed return, we reviewed the overall balance of risk across the price control framework arising from our final determinations.

7.25 The key points to highlight from our review and consideration are as follows:

- For those costs that are subject to what we have called conditional cost-sharing incentives we did not identify good grounds to expect significant asymmetric risk in either direction. While the process we determined places evidential requirements on SONI, we consider that SONI is well-placed to provide this information. In taking any decisions under this approach we would be expected to act reasonably, and we have produced draft guidance on the called conditional cost-sharing incentives alongside our final determinations.

- In respect of the costs of new initiatives for which we provide hypothecated allowances, we are reliant to a significant degree on information provided by SONI on the level of costs to deliver these. While we have tried to set central forecasts, there is a chance that the information asymmetry in SONI's favour gives it greater scope to under-spend than over-spend these costs. These costs will not be within scope of the conditional sharing incentives.

- The evaluative performance framework that we are introducing provides greater opportunity for SONI to earn financial rewards than to suffer financial penalties.

- Under the global cap that we specified across the evaluative performance framework and the conditional cost-sharing incentives, SONI faces significantly higher upside than downside risk.

- In relation to the allowance we provide for SONI's cost of debt, there is a possible view that there is greater risk of its actual interest rates being significantly higher rather than significantly lower, given the current low Bank of England base rate and practicalities surrounding negative nominal interest rates.

- It is arguable whether investors in a notional efficient TSO would expect any material DIWE risk, but if they did this would be asymmetric downside risk.

- There seems to be a significant asymmetry in SONI's favour arising from the existence of the CMA appeal process. Setting price controls involves a

considerable amount of estimation and judgement in a context of imperfect information and a need for proportionality in resource allocation. The CMA appeal process provides an opportunity for our final determinations to be reviewed in greater detail and for errors found by the CMA to be remedied. However, it seems more likely that the CMA process would be used to address errors that give SONI too little money than errors that give SONI too much money. This is because of the greater likelihood of SONI, as opposed to customers, customer representatives or suppliers, triggering a CMA appeal of the SONI price control. This in turn reflects both the legal basis for appeals and the relative scale of expected costs and benefits to different parties from an appeal.

7.26 We saw no basis for providing additional remuneration to SONI for asymmetric risk under the price control framework. Even if there was a view that aspects of the conditional cost-sharing approach are overall, somewhat asymmetric in favour of customers rather than SONI, we consider that this is likely to be outweighed by factors indicating asymmetry in SONI's favour.

7.27 Our view is that, putting aside the treatment of costs remunerated up to a cap, the price control package is slightly favourable to SONI. We considered whether we should make a downward adjustment to reflect this view.

7.28 This a complex matter and we considered that it would be challenging to quantify the overall risk position sufficiently accurately to justify an adjustment.

7.29 This is especially so given the changes we are making to the price control framework. For instance, the evaluative performance framework is new and it is difficult to gauge the extent to which the apparent structural asymmetric risk in SONI's favour is likely to arise in practice.

7.30 Similarly, in relation to the potential under-spends and over-spends against ex ante allowances for new initiatives, the balance of evidence from across regulated sectors over multiple price control periods would tend to suggest that there is more scope for SONI to out-perform than under-perform such allowances.[9]. However, we have taken some steps for our final determinations to tackle this, including the introduction of conditional cost-sharing incentives and greater specification of the deliverables expected of SONI in relation to cost allowances for new initiatives. It is not straightforward to determine a net risk position in the light of these various factors.

7.31 Furthermore, while we decided to give weight to the CMA precedent in relation to the treatment of costs remunerated up to caps under the SONI price control, we considered that introducing further adjustments or allowances to the SONI price control for asymmetric risk (in either direction) was not necessarily a guaranteed way to improve the balance of risk and return. Without reasonably good evidence on the scale of asymmetry, there is a risk that any financial adjustment intended to reflect asymmetry in one direction could go too far and worsen rather than improve

[9] See discussion of expected versus allowed return in Ofgem (2020) "Consultation - RIIO-2 Draft Determinations – Finance Annex".

the balance of risk and return.

7.32 In the absence of reasonably good evidence (in either direction), we decided that it was not appropriate for our final determinations to seek to develop and apply a downward adjustment to allowed returns (alongside, and potentially offsetting, the upward adjustment set out above).

Final determination on adjustments for asymmetric risk

7.33 We decided to adopt the approach proposed in our draft determinations, of including an adjustment for asymmetric risk based on forecasts of costs subject to the approach of remuneration up to a cap. Based on updated forecasts, and the 3% allowance we had proposed, this gives an additional element of annual allowed return of £0.136m (pre-tax). This provides consistency with a specific aspect of the SONI price control framework determined by the CMA in 2017.

7.34 We decided that it was not appropriate to include an additional allowance for asymmetric risk in respect of costs which are subject to the DIWE provision.

7.35 We decided not to make any further adjustments for asymmetric risk. Leaving aside the costs to be subject to remuneration up to approved caps, our review indicated that the remainder of the framework is likely to be slightly asymmetric to the benefit of SONI. However, given the complexity of the matter, we decided that it was not appropriate for our final determinations to seek to develop and apply a downward adjustment to allowed returns.

7.36 Were specific aspects of our determination to be substantially modified via a CMA appeal process that focuses narrowly on those aspects, it is possible that this could significantly disrupt the balance of risk across different aspects of the price control package that we have specified in our final determinations. We may then consider whether, in consequence of any such modifications and in light of the CMA's wider assessment, we should make targeted amendments to the allowed return under the SONI price control, in respect of asymmetric risk, to achieve a closer balance between risk and return.

8. Potential use of EBIT profitability metrics

Context

8.1 In its business plan, SONI said that, reflecting the heightened role for equity in SONI's financial management, as with comparable asset-light businesses, it considered that profitability metrics are most relevant for the assessment of financeability for the purposes of the price control review. In particular, SONI emphasised margins for Earnings Before Interest and Taxes (EBIT), and proposed financeability thresholds as follows for the TSO:

- EBIT/controllable revenues: 10 to 13%.
- EBIT/total revenues: 1.5 to 3%.

8.2 In its reporting of financeability metrics in its business plan, SONI placed emphasis on the second of these.

8.3 In our draft determinations, we said that we found a lack of evidence for SONI's proposed EBIT threshold of 1.5% and that its business plan did not explain how it derived the margin. We did not consider SONI's EBIT to be sufficiently well justified to be used for the financeability assessment in our draft determinations.

Stakeholder feedback

8.4 In its response to our draft determinations, SONI said that the financeability assessment needs to test equity financeability in-the-round, on the basis of profitability benchmarks with robust, market-based thresholds.

8.5 SONI's response said that:

- An important component of a financeability assessment is consideration of broader metrics that cross-check the regulator's bottom-up analysis.
- In an equity-weighted financeability assessment, such as SONI's, profitability benchmarks are especially relevant in addition to conventional credit metrics. Giving weight to such structured benchmarks would provide confidence to investors that total profitability is consistent with comparable sectors. An over-reliance on bottom-up assessment of the remuneration requirement is not a sufficient basis for investor confidence.
- Profitability metrics are logically structured with a profit-related measure as the numerator and some measure of business activity as the denominator. EBIT is naturally the first choice for a profit-related measure and turnover is the first choice for a measure of business activity. A suitable benchmark for such a metric would then be derived from considering the metric's levels in businesses with a risk profile that is comparable to SONI.
- The UR had not considered an overall cross-check on allowed returns based on total profitability (such as EBIT margins) and as a result had not carried

out meaningful analysis of equity financeability.

8.6 SONI's response emphasised the view that, to ensure equity financeability, the financial modelling for the 2020-25 price control determination should indicate that it meets both of the following:

- An EBIT margin threshold of 10% on "controllable revenue".
- An EBIT margin threshold of 1.5% on total revenues.

8.7 SONI's position was essentially that, unless the allowed return from the remuneration channels considered above meets these thresholds, it should receive additional funding as a top-up to achieve those thresholds.

8.8 SONI referred to a range of evidence in support of these figures. We comment on the most relevant of these as part of our assessment set out below.

Our assessment of SONI's position on EBIT metrics

8.9 We set out below our assessment of SONI's position on EBIT metrics, taking the following topics in turn:

- Insight from the 2017 CMA appeal.
- Review of SONI's submissions on Moody's EDBIT methodologies.
- Review of SONI's submissions on EBIT margins for other companies.
- SONI's evidence from the Smart DCC margin.
- Assessment of SONI's margin thresholds for total revenue.
- The need for EBIT benchmarks as a minimum financeability threshold.

Insight from the 2017 CMA appeal

8.10 SONI made similar arguments on the EBIT metrics as part of the appeal to the CMA in 2017. For instance, the CMA reported that SONI requested that it should expect to earn an EBIT margin of 11% on its controllable revenues.[10] SONI placed considerable emphasis on the importance of EBIT margins on controllable revenues/costs, including as a test of equity financeability, in its Notice of Appeal to the CMA.[11]

8.11 The CMA rejected the margin-based approach that SONI had argued for. The CMA did not provide any support for using EBIT margins as a financeability test in the context of the SONI price control determination.

8.12 The CMA adopted a different approach, which involved accepting the UR's

[10] CMA (2017) *SONI*, paragraph 7.56
[11] https://assets.publishing.service.gov.uk/media/5914232940f0b638b000001b/soni-notice-of-appeal-energy-licence-modification.pdf

WACC*RAB approach for the core TSO business but supplementing this with a separate margin (0.5%) on revenue collection activities (plus adjustments for asymmetric risk and remuneration of the PCG obligation). This is the approach we have followed for our final determination.

Review of SONI's submissions on Moody's EBIT methodologies

8.13 SONI's response to our draft determinations reiterated the importance of the EBIT thresholds. Given the emphasis that SONI gave to these EBIT margin thresholds in its response tom our draft determinations, we raised queries with SONI to try to understand the source for its thresholds.

8.14 In its draft determinations response, SONI had reported that "Moody's EBIT credit methodology margin for asset light sectors" implied a minimum EBIT margin of 10-15% to achieve "an investment credit rating for a company similar to SONI".

8.15 We looked at the three Moody methodologies that SONI referred us to and found that:

- The methodology for "Business and Consumer Service Industry" (3 October 2016) does not reference any EBIT margin benchmarks. It does use benchmarks based on EBITA, which are given a 10% weight in the overall assessment. This indicates an EBITA margin of 25% to 35% for A ratings and 10 to 15% for a B rating.

- The methodology for "Diversified technology" (3 August 2018) does not reference any EBIT margin benchmarks. It does use benchmarks based on EBITDA, which are given a 10% weight in the overall assessment. This indicates an EBITDA margin of 21% to 24% for A ratings and 12% to 15% for a B rating.

- The methodology for "'Global Postal and Express Delivery" (1 December 2011) that SONI referred to was marked as "no longer in use by Moody's".

8.16 At best, SONI's submissions on the Moody's benchmarks were mistaken. SONI clearly reported in its draft determinations response that Moody's uses EBIT profitability margins as part of its ratings methodologies. But, when asked for full references to source documents, we found that Moody's uses either EBITA or EBITDA rather than EBIT margins.

8.17 There is a considerable difference between EBIT and EBITDA (or EBITA) margins. EBIT margins are the margins after deducting depreciation and amortisation from earnings. EBITDA margins are margins before deducting depreciation and amortisation. EBITA margins are margins before deducting amortisation but after deducting depreciation. The terms EBIT, EBITDA and EBITA are not substitutable.

8.18 As part of the queries we raised with SONI on its draft determination response, and only after we had asked SONI to provide the source documents, SONI revealed that it knew that the Moody's methodologies it had used referred to EBITDA rather than EBIT.

8.19 SONI said that the EBIT range it had stated in its draft determination response had been "developed by translating the EBITDA margins required for a Baa rating into EBIT margins based on the differences between EBIT and EBITDA margins for these sectors over 5 years based on the data from Thomson Reuters Eikon".

8.20 We considered that SONI's approach, and the presentation of it in its draft determination response, was wholly inappropriate. If the Moody's methodology is for EBITDA, it is not legitimate to apply the adjustment indicated by SONI and present this is as a Moody margin on EBIT.

8.21 We considered that SONI's submissions in its draft determinations response on the Moody's benchmarks were misleading and provided no basis at all for its contentions on the required EBIT threshold.

Review of SONI's submissions on EBIT margins for other companies

8.22 SONI's draft determination response also referred to results from analysis it had done of EBIT margins for companies operating in competitive markets. It drew on those results to support its proposed EBIT thresholds for SONI. In Annex J (table J.3) of its response, SONI reported an outturn EBIT margin 10% to 13% on "controllable revenue" for comparator companies.

8.23 We asked for information on the methodology and the data used to produce these figures. SONI did not provide the data and provided very limited information on the methodology.

8.24 SONI briefly explained that the estimates were for companies in two sectors deemed comparable to SONI: Industrial and Commercial Services, and Software and IT Services. SONI said that these sectors were deemed comparable to SONI because, "*inter alia, they have similar financial and business characteristics to SONI, in particular; in relation to asset turnover, systematic risk and capital intensity; they can be characterised as having low pass-through costs, and as such their total revenue is comparable to SONI's controllable revenue; they are also service based businesses, i.e. have low tangible assets and use intangible assets such as human capital to provide services, which more closely resemble the nature of SONI's core business activities*".

8.25 We made a further request to SONI on the methodology and on the data used by SONI. In the event that SONI were to consider it could not, for good reasons, share the data with us, we asked that it provide:

- The EBIT estimates for the 68 companies in the sample referred to by SONI in its response, with each of these companies named.
- A description of the methodologies used to select companies from these two sectors and to calculate the EBIT margins for these companies.
- Assurance that there are no errors in the calculations used by SONI.

8.26 SONI did not meet this further request. It provided only a high-level description of

the methodology, and did not respond to the first and third points above.

8.27 We considered that SONI had provided, without good reason, insufficient information on the approach it had used to produce results that it was using to try to influence our determination.

8.28 In this context, we were concerned about a number of risks concerning the reliability of SONI's evidence:

- There may have been mistakes.
- Aspects of the methodology used to derive the estimates could be inappropriate, but we would not be able to tell this from the description of the methodology provided to us.
- The results from the methodology might not support the inferences SONI had drawn. We had asked for EBIT estimates for the 68 companies SONI had referred to because we considered that the spread of EBIT margins across those companies might be relevant.

8.29 In the context of our price control review, these risks seemed significant in practice. For example, on further review we had found SONI's claims on Moody's EBIT benchmarks to be misleading, and we had found a significant mistake in SONI's calculation of its small company premium on its 2019 loan.

8.30 These points aside, we considered that SONI's approach was vulnerable to the criticism that it was using figures derived from estimated EBIT margins for companies subject to demand risk and operating in competitive markets, and that treating these as minimum EBIT requirements to ensure the financeability of a regulated monopoly which operates under a price control framework that insulates it heavily against demand risk.

8.31 Within the limited information that SONI provided about its methodology, it said that the EBIT thresholds it proposed were based on the lower bound of its reported ranges, to take into account the fact that the companies in the sample operate in competitive industries and could be considered higher risk. However, we had no reason to think that the lower bound would take adequate account of the differences in risk for SONI versus companies in the sample. Furthermore, SONI said that its approach had removed outliers, without giving further details, so the lower bound was not actually the lower bound with the sample of companies used.

SONI's evidence from the Smart DCC margin

8.32 SONI's response highlighted the smart DCC as a regulated company that is remunerated using a margin and operates under an ex-post regulatory regime. SONI reported an EBIT margin benchmark on controllable from the smart DCC of 12%.

8.33 We did not consider that this implied a threshold such that the notional TSO needed a margin of around 12% or 10% to be financeable.

8.34 We note that for some versions of the EBIT metric that we estimated for the notional TSO (using SONI's controllable revenue concept) the EBIT was around 10% over the period. However, we were reluctant to give weight to this finding.

8.35 The two companies are quite different, and we consider that the analysis of cost of equity and cost of debt in section 2 is more informative for the TSO. This is especially so without a detailed comparison of the respective price control frameworks and drivers of risk, which SONI did not provide.

Assessment of SONI's margin thresholds for total revenue

8.36 SONI's response to our draft determinations presented EBIT margin benchmarks for the TSO's total revenues (i.e. revenues covering core TSO activities and revenue collection). SONI put forward a minimum EBIT margin threshold for the TSO of 1.5% on total revenue.

8.37 We considered that SONI's position on this threshold was not correct, and highlighted broader problems with its approach to EBIT margins.

8.38 Following the CMA precedent from 2017, we are allowing a 0.5% margin on revenue collection revenues. This is a much lower level of profit than we are allow for the core TSO activities (calculated using WACC*RAB), given the lower-risk nature of revenue collection. As a consequence, the overall EBIT margin on total revenue is lower the greater are the forecast revenue collection revenues.

8.39 Whether the minimum EBIT threshold claimed by SONI is reached will depend on the forecast mix between revenue collection revenues and other TSO revenues within the overall revenue allowance. If the forecast revenue collection revenues is relatively large for one price control period, SONI's margin threshold may not be met. By SONI's view, this would indicate a financeability problem.

8.40 This seems spurious. It is entirely right that, as the proportion of lower-risk activity within the overall business increases relative to the higher-risk activity, the overall profit margin should reduce.

8.41 SONI's proposed margin benchmarks are not sufficiently tailored to the TSO business to be informative, and would be misleading if applied as a cross check.

8.42 The approach established by the CMA in 2017, separating out remuneration for revenue collection from remuneration for SONI's other activities, seems superior to SONI's approach.

The need for EBIT benchmarks as a minimum financeability threshold

8.43 Leaving aside the specific thresholds proposed by SONI, we considered the broader principle of SONI's contentions on EBIT margins.

8.44 As part of its response to queries we made on SONI's methodology for estimating EBIT ranges for comparator companies, SONI said the following: "*Ultimately we consider that it is critical to develop an EBIT margin benchmark as a minimum threshold for the assessment of financeability. … We would welcome engagement*

from the UR concerning the calibration of financeable benchmarks for a notional company like SONI."

8.45 We disagreed that, for the purposes of our determination, it was critical to develop an EBIT margin benchmark as a minimum threshold for the assessment of the financeability of a notional efficiency TSO under our price control determination.

8.46 The use of an EBIT margin benchmark, especially as a minimum threshold for the assessment of financeability, is not established practice in UK regulatory precedent (including for CMA determinations concerning more asset-light companies such as SONI and NERL). SONI did not provide a good explanation of its contention on the criticality for the SONI price control review. We could not identify a reason for this criticality.

8.47 We also considered that SONI's submissions implied, and suffered from, an artificial distinction between the cost of capital assessment and the assessment of overall financeability.

8.48 SONI's response to our draft determination complained that we had not carried out meaningful analysis of "equity financeability". However, we did not consider there to be any concept of equity financeability that is analogous to the debt financeability assessment that is established in UK regulatory practice.

8.49 In particular, while it is possible in principle that evidence on EBIT margins might be relevant to the assessment of the TSO cost of capital (if good comparators were to be found), we considered that it would be wrong to treat EBIT margins as providing a threshold or test that must be passed to ensure financeability.

8.50 Furthermore, although evidence on EBIT margins for companies other than SONI could provide additional evidence on the TSO cost of capital assessment, this depends on the nature of the comparators used. If the comparators are not good comparators for SONI for the purposes of assessing the cost of capital (or if differences between SONI and comparators are not adjusted for) then drawing on evidence on EBIT margins for such comparators can worsen, rather than improve, the overall evidence base for the cost of capital assessment.

8.51 We did not identify opportunities to use EBIT margins from comparator companies to improve our overall assessment of the TSO cost of capital assessment set out in section 2 above. This reflected, in particular, the importance we attached to SONI's monopoly position and its protection from demand risk under the price control framework to its cost of capital. These features of SONI's business are particularly relevant to the non-diversifiable risk that a CAPM approach seeks to remunerate through the cost of equity, and which we have taken into account directly in our cost of equity assessment and our cost of debt assessment.

Final determination position

8.52 Overall, we found that the arguments and evidence submitted by SONI in its draft determination response did not support the application of its proposed EBIT margin thresholds as a means to test and ensure the financeability of SONI under the

2020-25 price control framework.

8.53 Furthermore, we did not consider that our overall assessment of the cost of capital would be improved by giving weight to estimated EBIT margins for companies operating in other sectors.

Appendix 1: SONI's RAB

8.54 This Appendix sets out our final determinations and forecasts for SONI's RAB in the 2020-25 period. We also set out our decision on our approach to the transition from RPI indexation of the RAB to CPIH indexation.

Recap of approach used for draft determinations

8.55 In our DDs, we said that we proposed to retain the four types of RAB that were used in the 2015-20 SONI price control for the 2020-25 period. These are:

- **Building assets RAB**. Additions to this RAB relate to capital expenditure by the TSO on buildings, facilities and premises. Additions to this RAB are depreciated over 25 years (straight line).
- **Transmission network pre-construction projects (TNPP) RAB.** Additions to this RAB relate to expenditure by the TSO on TNPP projects. Additions to this RAB are not depreciated and they remain in the TSO's RAB until the value is transferred to NIE Networks (or written off the RAB and charged to SONI's customers, with the UR's permission).
- **Special Projects RAB.** Additions to this RAB relate to expenditure by the TSO on special projects approved by the UR from time to time. Different depreciation periods may apply to individual special projects.
- **Non-building assets RAB.** Additions to this RAB relate to all other capital expenditure. Additions to this RAB are depreciated over 5 years (straight line).

8.56 We then set out the decisions we proposed to take on the historical RAB up to and including the financial year 2019/20 for the purposes of setting the 2020-25 SONI price control, and how we made other estimates and forecasts of the RAB for the purposes of our modelling analysis. We also clarified aspects of the rules on the RAB that we propose for the 2020-25 period. This included, in particular:

- How we proposed to update the non-buildings and buildings RAB, for the implementation of the 50:50 cost-sharing incentives applied to capital expenditure incurred in the 2015-20 period.
- Our approach to updating the TNPP RAB and special projects RAB for the expenditure incurred in the 2015-20 period.
- Proposed RAB policies for the 2020-25 period (e.g. asset lives for regulatory depreciation purposes).
- How we made forecasts of RAB values, for the financial years 2020/21 to 2024/25, we made forecasts of RAB values, taking account of our proposed capital expenditure allowances.

8.57 We also published, as part of our draft determinations, a draft financial model which

included draft figures for the various elements of the SONI RAB.

8.58 Finally, we set out our proposed approach to managing the transition from RPI to CPIH indexation as far as the calculation of the RAB is concerned. We said that we had decided to move from indexing SONI's RAB using the RPI inflation measure to indexing using the CPIH inflation measure, for the price control period from 1 October 2020 to 30 September 2025.

8.59 In its business plan submissions, SONI proposed a specific methodology and calculations to be used to make the transition from RPI indexation of the RAB to CPIH indexation. We said that we did not consider that SONI had justified the need for the relatively complicated approach it had proposed. Furthermore, if combined with a CPIH-stripped WACC (as proposed by SONI in its business plan and as we propose), we considered that it would lead to excessive returns to SONI at the expense of customers.

Stakeholder responses on the RAB

8.60 In its formal response to our draft determinations, SONI said that it was "generally content" with the majority of our proposals on its RAB. However, it raised two points:

- It said that the UR needed to reflect accurate and up-to-date historical data on RAB additions (for 2019/20) and depreciation claimed through tariffs during the 2015-20 period.
- It said that the UR had made "insufficient" adjustments to its RAB to reflect the transition from RPI to CPIH. However, it did not provide further explanation of why our proposed approach to the transition in DDs is not appropriate.

8.61 We agree with SONI that our analysis should be updated to take account of accurate and up-to-date data on capital expenditure and depreciation claimed through tariffs, which has now been provided by SONI in response to a follow up query from us.

Our decisions on SONI's RAB

8.62 Aside from updating our RAB calculations for updated estimates provided by SONI, we have decided to adopt the approach to SONI's RAB proposed in our draft determinations. We highlight aspects of this below and the full approach is as set out in more detail in our draft determinations.

8.63 In relation to the Building assets RAB and Non-building assets RAB for the 2015-20 period, we have decided to adopt the 50:50 cost sharing approach to actual capital expenditure in the 2015-20 period as set out in draft determinations. We will apply the same approach to implementing the cost sharing incentive to actual capital expenditure in the 2020-25 period.

8.64 We have also decided to apply the approach set out in our draft determinations to

ensure consistency between the RAB depreciation figures used for the purposes of determining maximum regulated revenue, tariffs and the K factor for the 2015-20 period and the RAB depreciation figures for the 2015-20 period used for the calculation of the 2020-25 SONI price control. We have updated our analysis to take account of information provided by SONI.

8.65 We confirm the following principles that we had proposed to apply for the 2020-25 period for the building and non-building RAB:

- Opening value of RAB in year t (in nominal terms) would be calculated as the value of the closing RAB in year t–1 (in nominal terms) uplifted by the growth in the CPIH between the midpoint (April) of year t and the midpoint of year t–1.
- All additions to the TSO's building assets RAB would be depreciated in a straight line over 25 years and additions to the non-building assets RAB would be depreciated in a straight line over 5 years.
- All additions to the building assets RAB and non-building assets RAB would attract half a year's worth of depreciation in the year of addition – consistent with the assumption that the addition is made midway through the year.
- A separate legacy depreciation adjustment would be applied to reflect differences between modelled depreciation over the 2015-20 period and depreciation values used for, and recovered via, tariffs over the 2015-20 period.

8.66 In relation to the Special Projects RAB and TNPP RAB, we confirm that we will maintain, for the 2020-25 period, the RAB rules and policies for the TNPP and pre-construction RABs that are set out in the current TSO licence for the 2015-20 period.

Stakeholder views on the transition from RPI to CPIH

8.67 SONI disagreed with our approach to the transition from RPI indexation to CPIH indexation, and said that we had made "insufficient adjustments" to SONI's RAB to take account of the transition. However, SONI did not provide any further details to support that view.

Final determination on the transition from RPI to CPIH

8.68 We consider that our proposed approach to the transition from RPI to CPIH is appropriate, and have therefore decided to implement that approach.

8.69 SONI did not provide any analysis or evidence to substantiate its view that our approach would lead to insufficient adjustments to its RAB.

Appendix 2: Cost of debt further assessment

8.70 As part of the evidence on its cost of debt, SONI presented analysis that benchmarked the yield on its 2009 and 2019 loans against the fixed yield on particular iBoxx indices. We believe the analysis it carried out in relation to the 2019 loan contained an error in calculation. In this appendix, we first identify the source of that error. We then replicate SONI's analysis after correcting for the error, and contrast the two sets of results.

Overview

8.71 The rate of interest applicable to SONI's 2019 loan is expected to vary over the lifetime of the loan: interest is paid every six months and the applicable interest rate is calculated as the 6-month LIBOR on the first day of each six-month period plus a fixed margin. The interest rate on its 2009 loan was defined similarly. For the purpose of its benchmarking analysis on the cost of debt, SONI first calculated an "equivalent fixed rate" for each of those two loans. SONI then drew comparisons between the calculated "equivalent fixed rate" for the 2009 and for the 2019 loans with the yield on specific iBoxx indices. SONI set out its approach in its response to draft determinations and shared with us an Excel file with the relevant calculations.[12]

8.72 As described in Appendix J of SONI's response to our Draft Determinations, SONI calculated the equivalent fixed rate for each of the two loans as the rate "such that the NPV of interest payments and principal repayments were equal to the value of the issued loan. The resulting rate was annualised".

8.73 We believe there is an error in the way SONI implemented the calculation in the Excel file in the analysis that it did in respect of the 2019 loan. Correcting the error has a material impact on the calculated fixed rate equivalent, and, on the subsequent benchmarking with iBoxx indices that SONI carried out. In turn, SONI draws on that comparison with the iBoxx indices to put forward the estimates of the small company premium that SONI considers should be included in its cost of debt.

8.74 That something had gone wrong in SONI's calculation of the equivalent fixed rate for that 2019 loan seemed evident from noting that SONI's estimate of that rate, [REDACTED] (on an annual basis) is greater than the variable rate – defined as LIBOR plus [REDACTED] margin – anticipated in any one of the periods over the five-year life of the contract. We have had the benefit of receiving a copy of SONI's 2019 contract with the bank. This has allowed us to confirm that SONI's implementation in Excel does indeed have errors, and that the calculations do not reflect idiosyncrasies that there might have been in the contract itself.

8.75 Regarding the calculations of the equivalent fixed rate for the 2019 loan, we believe the error lies in the way that SONI's calculation handles the timing of the interest payments and of principal repayments. We detected the error by comparing the timing of payments that is assumed within SONI's calculations, and the timing of

[12] SONI's response to Draft Determinations, Appendix J, footnote 23, page J-37 [REDACTED].

payments defined in the March 2019 contract with the bank.

8.76 There are two elements to the error: one related to the how the discounting is handled within the NPV calculation, and the other related to the calculation of the balance on which interest is applied. We take each of these points in turn, and then examine the impact of correcting for these errors.

Error in discounting future payments

8.77 Table 11 sets out a timeline of principal repayments and interest payments under the 2019 loan, assuming that the loan is taken out on the day the contract is signed, 25 March 2019.[13] For each of those payments, the table also sets out two further columns:

a) **SONI approach**. Against each of the payments, this column reports the number of times that the payment is discounted by the assumed six-month discount rate as part of SONI's NPV calculation. The table shows, for example, that under SONI's calculation the second principal repayment is discounted by applying the discount rate once.

b) **Alternative approach.** Against each of the payments, this column reports the number of times that the payment is discounted by the assumed six-month discount period under an alternative NPV calculation, which we discuss further below.

Table 11 Timeline of payments for March 2019 loan

Date	Elapsed time from start of contract	Event	Number of 6-month periods discounted	
			SONI approach	Alt approach
25 Mar 2019	–	Contract signed	–	–
1 Apr 2019	1 week	1st principal repayment	0	0
24 Sep 2019	6 months	Interest payment	0	1
1 Oct 2019	6 months + 1 week	2nd principal repayment	1	1
24 Mar 2020	12 months	Interest payment	1	2
1 Apr 2020	12 months + 1 week	3rd principal repayment	2	2
24 Sep 2020	18 months	Interest payment	2	3
1 Oct 2020	18 months+ 1 week	4th principal repayment	3	3

[1313] The timeline in the table is based on our reading of the SONI's contract with [REDACTED] and on the assumption that (i) SONI took out a loan on 25 March 2019, the day of the contract, and (ii) that SONI opted to make interest payments every six months. Given that, the principal would be paid in instalments starting on 1 April 2019, and every six-months after that; the date of the first instalment is defined in the contract in section 6.1.1. The interest payments on the other hand, would be due on the last day of each successive six-month period from the date at which the loan is taken out, assumed to be 25 March 2019.

Date	Elapsed time from start of contract	Event	Number of 6-month periods discounted	
			SONI approach	Alt approach
[…]				
[…]				
1 Oct 2023	54 months + 1 week	10th principal repayment	9	9
24 Mar 2024	60 months	Interest payment	9	10

8.78 As set out in the table, SONI's NPV calculation "under-discounts" each of the interest payments by one six-month period worth of discounting. Taking the first interest payment as an example, made on the 24 September 2019, SONI's NPV calculation applies no six-month discount factor to that payment, even though it is made six months after the start of the contract. For the second interest payment, SONI's NPV calculation applies the six-month discount factor once, even though that repayment is made 12 months after the start of the contract. And so on. The "Alternative approach" corrects for this misalignment in SONI's NPV calculation.

Error in calculating the balance on which interest is due

8.79 Further to the impact on how payments are discounted within its NPV calculation, the timing of payments that is assumed implicitly in SONI's analysis also leads to an error in the calculation of the balance on which interest is due and, therefore, on the calculation of the value of the interest payments due.

8.80 As an example, consider the first interest payment. SONI calculates this by applying the relevant interest rate to a balance of £14 million. However, as indicated by Table 11, that first interest payment will have been due six months after the start of the contract and SONI will already have made its first £1.4 million repayment a week after the start of the contract. As such, for all but the first week of that six-month period, the balance will have been £12.6 million. The contract stipulates (paragraph 8.6) that interest accrues daily, and so the interest due on the first interest payment will reflect, approximately, the sum of one week's worth of interest on a balance of £14 million and 23 weeks' worth of interest based on a balance £12.6 million. SONI's calculation consistently overestimates the interest due on each interest payment day.

Impact of correcting errors

8.81 We have replicated SONI's analysis correcting for the two issues discussed above. Specifically:

a) We assume that the first interest paid is based on a balance of £12.6 million, rather than £14 million, and that each successive interest payment is based on a balance that falls by a further £1.4 million. Though still a simplification (see discussion below), this assumption is much better aligned with SONI's contract than the assumption made in SONI's calculation.

b) For the NPV calculation, we assume that that the discounting applied to the stream of interest payments and principal repayments is as set out in the column "Alternative approach" in Table 11 above.

8.82 Table 12 contrasts the annual equivalent rate that is reported by SONI with that which would be got if SONI's NPV analysis were repeated after correcting for the errors discussed above, namely: (i) correcting the discounting that is applied to interest payments, and (ii) correcting the calculation of the balance on which interest is calculated.

Table 12 Equivalent fixed rate, annual for 2019 loan

Approach	Equivalent fixed rate nominal (annual)
SONI	[REDACTED]
SONI after corrections	REDACTED

8.83 The table shows that correcting for the points set out above the equivalent fixed rate is just over [REDACTED]. SONI had calculated this as [REDACTED].

8.84 The [REDACTED] figure reported in Table 12 is based on revising the calculations set out in SONI's Excel file in line with the corrections discussed above. The unit of time around which 'those revised calculations are structured is a six-month period, as is the case with SONI's own calculations. Using blocks of six-months is an approximation as it does not capture the one-week gap between the scheduling of the payments of interest and that of repayment of the principal. For example, the calculation assumes that, for the purpose of the NPV calculation, the value of the interest payment made on the 24 September 2019 is discounted by the same factor as the repayment made one week later on the 1 October 2019. To examine the materiality of this simplification, we recast SONI's calculations into a setting where the unit of time are days, which allows for the one-week difference in the timing of payments to be taken into consideration. We found that this makes no material difference to the result reported in Table 12.

Comparison with yields on iBoxx indices

8.85 In its response to Draft Determinations, SONI drew on its calculation of the equivalent fixed rates for its 2009 and 2019 loans to show that there is a premium between the yield on those loans and the yield on two iBoxx indices.[14]

8.86 Restricting ourselves to the 2019 loan, SONI's analysis rested on a comparison of:

a) the equivalent fixed rate on its 2019 loan, as derived by SONI and discussed above; with

b) the yields on bonds issued on 25 March 2019, the date of SONI's 2019 contract, relating to iBoxx non-financials A/BBB bonds of (i) 10-15 years,

[1414] The analysis is presented in Appendix J of SONI's response to the Draft Determinations, paragraphs J.180 to J.186.

and (ii) of five years.

8.87 Table 13 contrasts the benchmarking of SONI's March 2019 loan against the two iBoxx benchmarks as submitted by SONI, with that same benchmarking after correcting for the errors in SONI's analysis which we presented earlier.

Table 13 Benchmarking analysis of SONI's March 2019 loan

Measure	SONI	Corrected
Equivalent fixed rate on March 2019 loan	REDACTED	REDACTED
iBoxx 10-15Y A/BBB	2.59%	
iBoxx 5Y A/BBB (constructed)	2.07%	
Premium to IBoxx 10-15 A/BBB	REDACTED	REDACTED
Premium to IBoxx 5Y A/BBB	REDACTED	REDACTED

8.88 In its response to Draft Determinations, SONI had pointed to the size of the premium of its 2019 loan to the two iBoxx benchmarks to support its view of a small company premium on cost of debt of at least 100 basis points.[15] The table shows that correcting the equivalent fixed rate is leads to a significant fall in the premium to the instruments captured by the two iBoxx indices put forward by SONI.

[15] Appendix J of SONI's response to the Draft Determinations, paragraph J.180