

Guidance

Guidance on our approach to the Economic Regulation of Sizewell C

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This guidance document outlines aspects of Ofgem’s approach to the economic regulation of Sizewell C (the “**nuclear licensee**”).

This document is for people who want to know how Ofgem expects to approach the economic regulation of a nuclear licensee. It explains Ofgem’s approach and the principles it expects to use when making decisions that affect the nuclear licensee, and where to find more information.

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Foreword

I am pleased to present Ofgem's economic guidance on our approach to the economic regulation of Sizewell C. We have been supporting the Department of Energy Security and Net Zero in their design of the economic regulatory regime, and look forward to becoming the economic regulator for this project.

The government has ambitious targets for decarbonising the electricity system. This will require a rapid expansion of our energy system as we transition away from our dependence on fossil fuels. We recognise the importance of implementing new regimes that enable cost effective investment into reliable, low carbon energy generation. It is with the delivery of energy projects, such as Sizewell C, that the energy system will be on track for net zero.

While supporting the government's design of the economic regulatory regime for Sizewell C, we have kept the interests of consumers at the forefront of our priorities. We have done this by ensuring a large degree of consistency with our approach to regulation across the energy sector. We are confident that the economic regulatory regime provides a robust framework that protects the consumers interests, and enables the investment into Sizewell C to secure large-scale, low carbon power for our future energy system.

Ofgem looks forward to carrying out our important role as the economic regulator for Sizewell C, and any future nuclear projects delivered under the Regulated Asset Base model.

Rebecca Barnett, Director

1. Introduction

Background

1.1. The government has made clear that large-scale nuclear projects will play an important role in decarbonising Britain’s energy sector and achieving net zero ambitions. It has also emphasised the importance of Ofgem’s role in achieving net zero, and is seeking to introduce a specific mandate for Ofgem to protect consumers’ interests by supporting Government to meet its net zero obligations. We welcome this proposal for a statutory net zero duty for Ofgem and the opportunity to fulfil it through the effective economic regulation of nuclear energy.

1.2. The government has also prioritised implementing a sustainable funding model for new nuclear projects that represents value for money for consumers. Following assessment and consultation, the Department of Energy Security and Net Zero (DESNZ) has decided to pursue the implementation of a Regulated Asset Base (RAB) model for new nuclear projects. This model would allow for a nuclear company to receive regulated revenues throughout the life of the project, partly funded by charges to electricity suppliers, who may pass on the costs to consumers. RAB models can be an efficient way to finance large scale infrastructure projects such as water and electricity networks. Based on currently available evidence, DESNZ has found the RAB model would be the most effective option for financing new nuclear projects, and could reduce consumer bills while still preserving incentives for the private sector to complete nuclear projects to time and budget.¹

1.3. In March 2022, the Nuclear Energy (Financing) Act 2022 (“the NEFA”) came into force, which established the legislative basis for a RAB model to support new nuclear energy projects. It also confirmed Ofgem’s role as the economic regulator for the sector. In November 2022, the Secretary of State for DESNZ² (SoS) designated NNB Generation Company (Sizewell C) Limited as the first company to be licensed to implement a nuclear project using a RAB model.³

1.4. In fulfilling our role as regulator, Ofgem will aim to ensure that licensees and investors are incentivised to deliver new nuclear projects whilst achieving a positive outcome for

1 Department for Business, Energy & Industrial Strategy Consultation outcome published 22 June 2022: [Revenue stream for the nuclear regulated asset base \(RAB\) model - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/revenue-stream-for-the-nuclear-regulated-asset-base-rab-model)

² Formerly the Department for Business, Energy & Industrial Strategy

³ Department for Energy Security and Net Zero Consultation response published 28 November 2022 - [Designation of NNB Generation Company \(SZC\) Limited: draft reasons - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/designation-of-nnb-generation-company-szc-limited-draft-reasons)

consumers. We believe that the effective implementation of a RAB model will support our aims to protect current and future consumers and will contribute to achieving to net zero ambitions.

Legislative framework

Ofgem's legislative framework and duties

1.5. Ofgem (the Office of Gas and Electricity Markets) is Great Britain's independent energy regulator. It is governed by the Gas and Electricity Markets Authority ("the Authority"). The Authority's powers and duties are largely provided for in legislation.⁴ The Authority's principal objective is to protect the interests of existing and future consumers in relation to gas conveyed through pipes, and electricity conveyed by distribution or transmission systems. With the passage of the Energy Bill, Ofgem has a statutory net zero duty, such that the interests of existing and future consumers will be taken to include their interests in the Secretary of State's compliance with the duties in sections 1 and 4(1)(b) of the Climate Change Act 2008 (the net zero target for 2050 and five-year carbon budgets).

1.6. The Authority is required to carry out its functions in the manner that it considers best calculated to further its principal objective. Wherever appropriate, this includes by promoting effective competition between persons engaged in, or certain commercial activities in connection with the generation, transmission, distribution, or supply of electricity.

1.7. The Authority must also have regard to the:⁵

1.7.1. need to secure that, so far as it is economical to meet them, all reasonable demands in Great Britain for gas conveyed through pipes are met;

1.7.2. need to secure that all reasonable demands for electricity are met;

1.7.3. need to secure that licence holders are able to finance their activities under the Electricity Act 1989, the Gas Act 1986, and other specified enactments (such as the NEFA);

⁴ Including but not limited to the following: Electricity Act 1989 (the Electricity Act), Competition Act 1998 (the Competition Act), Utilities Act 2000 (the Utilities Act), Enterprise Act 2002 (the Enterprise Act), Energy Acts of 2004, 2008, 2010 and 2011, the NEFA.

⁵ Section 3A(2) and (3), Electricity Act 1989 and section 4AA(2) and (3), Gas Act 1986)

1.7.4. need to contribute to the achievement of sustainable development; and

1.7.5. interests of individuals who are disabled or chronically sick, of pensionable age, with low incomes, or residing in rural areas.

1.8. Subject to the above, the Authority is required to carry out its functions in the manner that it considers is best calculated to:

1.8.1. promote efficiency and economy on the part of those authorised by licensed or exemption under the Electricity Act 1989 or the Gas Act 1986;

1.8.2. promote the efficient use of the electricity conveyed by distribution systems or transmission systems, or gas conveyed through pipes;

1.8.3. protect the public from dangers arising from the generation, transmission, distribution or supply of electricity, the conveyance of gas through pipes or the use of gas conveyed through pipes, or the provision of the smart meter communication service; and

1.8.4. secure a diverse and viable long-term energy supply.

1.9. In this guidance we set out how we intend to further our principal objective when developing and implementing the regulatory approach to the nuclear licensee.

Legislative framework for Nuclear RAB projects

1.10. The NEFA⁶ makes provisions for the implementation of a Regulated Asset Base (RAB) model for nuclear generation projects. By virtue of the Schedule to the NEFA, certain of the Authority's powers and duties under the Electricity Act are extended to the provisions within the NEFA and to nuclear licensees, enabling Ofgem to regulate new nuclear projects under the RAB model.

⁶ This is available here: <https://www.legislation.gov.uk/ukpga/2008/32/contents>.

1.11. Under the NEFA, a “nuclear company” is a company that holds an electricity generation licence in respect of a nuclear energy generation project and has been designated by the SoS as a relevant nuclear company as outlined in section 2(3) of the NEFA.⁷

1.12. The NEFA also makes provisions for special administration and ring-fencing regimes for nuclear companies by extending the application of relevant provisions of the Energy Act 2004, amended where necessary, and supplements provisions on associated corporate bodies for the purposes of programmes relating to funding the decommissioning of nuclear sites under the Energy Act 2008.

1.13. The nuclear licensee is subject to other regulation to ensure continued compliance with safety and environmental obligations, for example by the Office for Nuclear Regulation (ONR) and the Environment Agency. We will work together with other public bodies regulating the nuclear licensee, building on existing experience of working with other regulatory bodies. We recognise the need for continued compliance with safety and environmental obligations and shall ensure that the efficient costs of such compliance continue to be recovered as part of the ERR over the whole life of the plant.

The purpose of this guidance

1.14. This guidance sets out the approach we expect to take to the economic regulation of Sizewell C Limited (the “nuclear licensee”).

1.15. This guidance should be read alongside other documents in the Economic Regulatory Regime, including the nuclear licensee’s electricity generation licence (the “economic licence”) which will be regulated by Ofgem.⁸ The economic licence sets out the standard licence conditions and other key provisions, such as how the nuclear licensee will receive the allowed

⁷ A nuclear company may benefit from the implementation of the RAB model if: a) it is designated by the SoS, subject to the designation criteria outlined in section 2(3) of the NEFA and following a consultation procedure in line with section 3 of the NEFA; b) the SoS modifies the designated nuclear company’s electricity generation licence, as defined under section 6(1)(a) of the Electricity Act 1989. as set out under section 6(1) of the NEFA – for the purpose of facilitating investment in the design, construction, commissioning, and operation of a nuclear energy generation project; and c) the designated nuclear company becomes party to a revenue collection contract as defined in 15(2) of the NEFA. The revenue collection contract is what underpins the revenue mechanism by which the nuclear licensee recovers its allowed revenue.

⁸ As defined under section 6(1)(a) of the Electricity Act 1989 (see www.ofgem.gov.uk/industry-licensing/licences-and-licence-conditions for more information, including standard terms and conditions), and as amended under the NEFA]

revenue. Where there is any conflict between this guidance and the economic licence, the economic licence text should be regarded as authoritative.

1.16. We do not seek to provide a comprehensive guide on all regulatory issues in this guidance. Rather, we set out the principles we will have regard to when exercising our powers across the life of the nuclear licensee economic regulatory regime (the “ERR”). We do this in recognition of the value to stakeholders of a statement of some of the factors we expect to consider in our regulatory decision-making within the scope of the ERR, to provide clarity over our approach.

1.17. In performing its duties and functions Ofgem will have regard to the need to adhere to principles of regulatory best practice, under which regulatory activities should be transparent, accountable, proportionate, consistent, and targeted only at cases in which action is needed.

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2. Overview and periodic review process

Section summary

This section provides a high-level overview of the ERR and the periodic review process.

Overview of the regime

2.1. The ERR for the nuclear licensee has two distinct phases:

2.1.1. the pre-PCR (Post Construction Review) construction and commissioning phase;
and

2.1.2. the post-PCR operational phase.

2.2. The overarching approach to regulating the nuclear licensee differs between these phases. This includes the calculation of the licensee's allowed revenue, the treatment of allowed expenditure, the approach to setting an appropriate return on capital, as well as the incentive regime that will apply in each phase.

Pre-PCR construction and commissioning phase

2.3. For the pre-PCR phase, most aspects of the regulatory regime are either defined in the initial modifications of the electricity generation licence made by the SoS when the nuclear licensee enters into a revenue collection contract, or are the responsibility of the SoS. As the pre-PCR phase covers the construction and commissioning phases of the nuclear licence, the risks are well understood and are defined in the economic licence to provide a clear framework for their allocation.

2.4. The initial licence modification process reflects our extensive involvement advising the SoS to develop the ERR and we are content that the licence modifications represent a fair allocation of risks between consumers and investors. We therefore do not expect to modify the economic licence during the pre-PCR phase, excluding a set of specific pre-defined conditions that are set out in the licence.

2.5. Conditions we do not expect to change include the capacity targets, the Initial Weighted Average Cost of Capital (IWACC), the principles by which the nuclear licensee will be able to recover allowed revenue, the principles of the incentive mechanisms, and the protection against market movements in the cost of debt. There are also no Periodic Reviews prior to the PCR.

The conditions that may result in licence modifications during the pre-PCR phase provide protections for changes in circumstances (such as changes in law) that may occur. Therefore, investors can take comfort from some certainty on the scope of licence modifications that could take place in the pre-PCR phase.

Ofgem's interaction with the Independent Technical Adviser during the pre-PCR phase

2.6. The Independent Technical Adviser (ITA) is expected to have an integral role in facilitating the implementation of the regime during the pre-PCR phase. Among other things, the ITA will provide independent scrutiny of costs, and will review and comment on reports prepared by the nuclear licensee on project specific matters.

2.7. We recognise the crucial role of the ITA, who will have a duty of care to Ofgem, the nuclear licensee, the SoS and Senior Creditors, and a duty of candour to the ONR and EA. We will work within the framework provided by the Liaison Agreement to engage positively and proactively with the ITA to resolve issues at the working level in the first instance if any issues were to occur.

2.8. We expect to ordinarily accept the ITA's recommendations during the pre-PCR phase. This includes their recommendation on the achievement of the commercial operations date as prescribed in the economic licence, and their recommendations on determining allowable and excluded expenditure during the pre-PCR phase.

Post Construction Review

2.9. Before the licensee moves into the operational phase, we will undertake the PCR, which constitutes the start of first price control that will apply for the initial five-year operational period.

2.10. At the PCR, Ofgem make a series of regulatory determinations, including calculating the Regulated Weighted Average Cost of Capital (RWACC). The RWACC will be set on a forward looking basis, analysing the risks and associated reasonable returns for the operation of the Project. The returns earned by investors prior during the pre-PCR phase, will not be a factor in determining the RWACC at the PCR.

Post-PCR Operational phase

2.11. The economic licence sets out details of the calculation of allowed revenue and relevant building blocks that are expected to apply during the operations phase, as set by the SoS when

making the relevant licence modifications under NEFA. This guidance provides further details on Ofgem’s expected regulatory approach, building on the positions set out in the economic licence.

2.12. We expect there to be a long construction phase, over which, several relevant factors to the economic regulation of a nuclear licensee may change. Ofgem has the power to modify these licence conditions as part of the PCR. This is standard practice in other regulatory sectors, such as the RIIO-2 price controls, where we review and modify licences at the start of each price control to give effect to our determinations.

Ofgem’s consultation policy

Where we are proposing to make material changes to the economic licence, we expect to consult in line with Ofgem’s Consultation Policy.* When we do consult, we will consult fairly. What is fair will depend on the circumstances, but we must consult in accordance with four basic principles:

- a. When proposals are still at a formative stage.
- b. There must be good reasons for particular proposals.
- c. There must be adequate time for consideration and response.
- d. Responses must be conscientiously taken into account.

We work with Licensees to maximise the value of the consultation and minimise the effect on the project/process:

- e. Enabling stakeholder views to be considered but respecting normal project execution plans.
- f. Consulting at appropriate points in project and procurement processes, focus on avoiding major disruption to the company/supply chain/industry.

If we diverge from our consultation policy it will likely be because, on balance, we consider that not consulting provides a more appropriate means of discharging our statutory duties (for example, an urgent decision which makes formal consultation not possible). However, we expect to engage with affected stakeholders, including facilitating the means to receive representations and submissions.

* See: [Ofgem's consultation policy](#)

Periodic price control review process

2.13. During the operational phase, the periodic economic review process forms the backbone of the ERR. Through it, we will assess the nuclear licensee’s business plan and determine its

allowed revenue for each price control period, as well as calibrating relevant operational incentives for the coming price control period.

2.14. The mechanics underpinning the periodic economic review process have been in use in monopoly utility sectors (gas and electricity networks, water, aviation) for decades and are well understood by investors.

Case study: Ofgem’s recent RIIO ED2 process

Aug 2019	Open letter setting out context and aims
Dec 2019	Framework decision published
Jul 2020	Sector specific methodology consultation
Dec 2020	Decision on methodology
Dec 2021	Distribution companies submitted business plans
Mar 2022	Open hearings
Jun 2022	Draft determination for consultation, with stakeholder engagement
Nov 2022	Final determination
Dec 2022	Consultation on licence modifications (following industry working groups)
Mar 2023	Decision on licence modifications
Apr 2023	Start of ED2 period

2.15. We expect to align our overall approach with other relevant RAB-based regimes as far as possible to provide a stable foundation for regulation during the operations phase. We, therefore, expect our periodic price control process to involve several process steps and significant consultation with interested parties:

- 2.15.1. the publication of a strategy document setting out the nuclear licensee’s objectives for the upcoming price control and a request for the nuclear licensee to submit a well-justified business plan detailing how it intends to meet those objectives;

- 2.15.2. consulting on a proposed methodology to determining the nuclear licensee's allowed revenue and the incentives that will apply in the upcoming price control;
- 2.15.3. an initial assessment of the business plan developed by the company and the publication of a draft determination on this plan;
- 2.15.4. a final determination, following a consultation period, consideration of the representations submitted by the nuclear licensee and other industry stakeholders, and any subsequent analysis; and
- 2.15.5. Licence modifications necessary to give effect to our determination, following consultation.

2.16. We expect that the licensee's business plan submission for the PCR or subsequent periodic review, will set out how it expects to operate the regulated assets during the upcoming price control period. We expect it would align with our overall methodology, developed following extensive consultation, and should also:

- 2.16.1. set out the nuclear licensee's stakeholder engagement relevant to the business plan development;
- 2.16.2. provide a clear justification and rationale for the licensee's proposed approach;
- 2.16.3. be accompanied by relevant supporting evidence and information; and
- 2.16.4. set out the level of assurance provided on the plan by the licensee's directors.

2.17. We expect to provide further guidance on the expected content of business plans nearer the time of the PCR.

3. Economic regulatory regime

Section summary

This section details our guidance on the expected ERR. It contains guidance on the determinations we expect to make throughout the ERR in relation to expenditure, depreciation, and indexation. We also include guidance on specific features of the regulatory incentives.

Revenue channel

3.1. The revenue channel is the means by which the nuclear licensee recovers the allowed revenue.⁹ This will be through a combination of market revenue and difference payments administered by the revenue collection counterparty. Where outturn market revenue differs from forecast market revenue, true-ups will be included in future periods.

3.2. Reflecting the expectation that once the nuclear licensee is operational it will act as a low carbon provider of baseload electricity, the economic licence sets out that the Baseload Market Reference Price (BMRP) currently used in the Contracts for Difference (CfD) scheme is the most suitable market reference price for the nuclear ERR.¹⁰

3.3. The market reference price will be used both to set difference payments and to incentivise a nuclear licensee to trade efficiency in relevant markets.

3.4. The economic licence sets out that the licensee must use its best endeavours to optimise its market revenues in respect of any electricity generated or capable of being generated by either unit. Given the licence establishes the BMRP as the market reference price for the Market Price Adjustment Building Block, implementing a trading strategy that seeks to capture the BMRP would be likely to fulfil our current interpretation of the licensee's licence obligation to optimise market revenues in respect of any electricity generated or capable of being generated by either unit.

⁹ We determine the licensee's allowed revenue based on the building blocks discussed in subsequent chapters, such as operational expenditure, return on capital, and any incentives.

¹⁰ The BMRP is currently used as the CfD reference price for baseload electricity generation. It is calculated twice a year (April and October), pursuant to condition 15 of the CfD Standard Terms and Conditions, by EMRS (EMR Settlement Limited), using a traded volume weighted average based on forward season data received from LEBA (The London Energy Brokers' Association).

3.5. Given the duration of the nuclear ERR and the possibility of changes to the wider energy market, or changes to the way the BMRP is calculated, the BMRP may in the future cease to be a suitable market reference price for the nuclear licensee.

3.6. Should the BMRP become unfit for purpose, we anticipate considering factors including:

3.6.1. whether amendments to the BMRP calculation can remedy any deficiency in the BMRP;

3.6.2. whether a different market reference price is more suitable for its consistency, market transparency or to provide a better incentive on the nuclear licensee; and

3.6.3. whether a completely different approach to forecasting expected wholesale market revenues is necessary.

3.7. We will consider at the PCR and at subsequent periodic reviews whether the market reference price remains fit for purpose and expect the nuclear licensee to provide evidence and representations on its suitability within its business plans. This may be provided in the context of wider plans around how a nuclear plant can best serve consumers' needs as the electricity system changes over time. If we consider it is necessary to use a different market reference price, or prices, we will consult on this as part of our price control setting process.

Pre-PCR phase expenditure

3.8. During the pre-PCR phase, expected capital and operational expenditure for the nuclear licensee will be assessed on an ex-ante basis, with a prescriptive framework in place under the economic licence and related project documentation.

3.9. This process is designed to allow the ITA to provide clear and unambiguous verification of the costs that can be added to the RAB or recovered as allowable Opex. We expect to follow the ITA's recommendations on their assessment of determining allowable and excluded expenditure during the pre-PCR phase.

Post-PCR Operational phase expenditure

3.10. During the operational phase, we expect that we will apply a 'totex' approach for all capital and operational expenditure (apart from, for example the Funded Decommissioning Programme (FDP), tax, and pass-through costs, which are subject to bespoke funding arrangements).

3.11. Under a totex regime, we expect to assess the efficiency of expenditure set out in the nuclear licensee's business plan on an ex-ante basis as part of the periodic review process, through cost assessment.

3.12. Investors should take comfort that the ERR is designed such that the nuclear licensee will be funded for safety critical costs that are required to maintain the plant in a safe state. We will fund costs where the nuclear licensee provides evidence for their justification and a clear cost breakdown. The nuclear licensee's cost submission will be assessed with reference to their approved business plan, and with regard to our value-for-money assessment.

3.13. Given the length of the ERR and the fact that our first cost assessment is anticipated to take place more than 15 years after the first project reaches financial close, it is not possible to provide fixed guidance on the approach that we will use to determine the nuclear licensee's totex allowances.

3.14. In our assessment of the nuclear licensee's business plan submissions, we expect that we will not materially diverge from our approach to regulating network companies.¹¹ We expect that:

3.14.1. Assessment of 'scope' will have reference to the nuclear licensee's regulatory and consenting requirements (including Nuclear Site licence, and Environmental permits).

3.14.2. Price assumptions should have reference to efficient, competitive tendering where relevant. Where appropriate we will follow a gated review process to enable the use of tendered prices in our assessment.

3.14.3. We will seek to use benchmarking of efficient costs, however if there are limited comparators, or the benchmarking data is not robust we may place limited reliance on its ability to determine efficient costs.

3.15. In scrutinising the nuclear licensee's business plan submissions, we will also consider:

¹¹ For the approach taken in regulated networks, please refer to the following document: [RIIO-2 Business Plans Guidance Document | Ofgem](#).

- 3.15.1. the quality of the information provided in the business plan submission;
- 3.15.2. the level of confidence with which we could reasonably expect the nuclear licensee to forecast the required work and associated cost;
- 3.15.3. the quality of the nuclear licensee’s asset management plan;¹² and
- 3.15.4. the principle of cost materiality, in detail and in aggregate.

3.16. We recognise the differing regulatory frameworks that are applied by the other bodies that have a regulatory role within the nuclear industry. We expect to work collaboratively with the ONR and Environment Agency, building on our existing track record of working with other bodies (for example, the Health and Safety Executive) when regulating networks.¹³ Where appropriate, Ofgem may work with the ONR and Environment Agency to understand how extant safety frameworks have informed the nuclear licensee’s submissions.

Capitalisation of expenditure onto the RAB

3.17. When deciding what proportion of the nuclear licensee’s totex expenditure should be capitalised on the RAB, we will take account of, among other things:

- 3.17.1. The nuclear licensee’s proportion of capital expenditure, as compared to its relevant total expenditure (ie, considering non-incentivised spend like pass through items and FDP payments), as reported, and audited in its statutory accounts and regulatory reports.
- 3.17.2. An assessment of whether the nuclear licensee’s business plans contain an economic and efficient mix of operational and capital expenditure.¹⁴

¹² In line with best practice asset management, we expect that we will require that the nuclear licensee maintains an asset management plan throughout the life of the economic licence, and submit this to us alongside its business plans as part of our approach to undertaking price controls.

¹³ In other regulatory sectors, such as RIIO-2 price controls, Ofgem has a proven track record of working with the Health and Safety Executive, and the Environment Agency. Engaging with industry regulators is an expected, and well understood part of Ofgem’s role as an economic regulator.

¹⁴ Opex expenditure consists of those costs that are not capital in nature and defined as these costs incurred that typically meet the accounting definition of an ‘expense’ (eg, paying staff), whereas capital expenditure constitutes those costs incurred buying an asset (eg, an item of plant or machinery).

3.17.3. The impact of our determination of the appropriate capitalisation rate on consumers' bills and the financeability and credit quality of the nuclear licensee on a notional basis.

3.17.4. The calibration of any incentives, and whether it is appropriate that any remuneration due to the nuclear licensee from a particular incentive should be capitalised and subsequently funded via the RAB.

Totex Incentive

3.18. As noted above, we expect that our overall approach to determining the nuclear licensee's efficient expenditure will rely on upfront scrutiny of its business plan (ie, an ex-ante approach) to determine the funding it will receive in its allowed revenue. To promote an efficient allocation of risk, the economic licence provides for a financial incentive based on the difference between our allowances and actual incurred spend each year.

3.19. When calibrating the totex incentive sharing factor at each periodic review, we will undertake analysis and consultation in calibrating the totex expenditure sharing incentive, drawing on our experience in regulating the network businesses and taking into account the following factors, among others:

3.19.1. the nuclear licensee's past performance on totex expenditure;

3.19.2. the degree of control the nuclear licensee has over the circumstances that resulted in any over or under-spend with reference to their expenditure allowance, and their ability to bear risk in this area; as well as

3.19.3. the interaction of any expenditure sharing with the wider regime, for example other incentives the licensee might be subject to.

How we manage uncertain expenditure in our regulation of networks businesses

Our approach to managing uncertain expenditure in the context of the nuclear licensee will draw on our experience in the network business price controls, such as the uncertainty mechanisms included in networks price controls. These include:

- Pass-through mechanisms (such as those outlined above for the ERR) to adjust allowances for expenditure categories over which licensees have limited control.

- Indexation (both to inflation and external sector-specific cost drivers) to protect against the risk that outturn prices are different to those forecasted when setting a price control.
- Volume drivers to adjust allowances in line with actual volumes of a defined activity are delivered during a period. This approach is taken when the volume of a given activity required over the price control is uncertain at the time of the review but where the cost of each unit is stable.
- Use-it-or-lose-it (UIOLI) mechanisms to adjust allowances where the need for work has been identified, but the specific nature of work or costs are uncertain. Such mechanisms provide licensees with allowances and flexibility in delivering qualifying activities, while protecting consumers at the same time by ensuring that unspent allowances are returned to them.

In addition to the above, we ultimately rely on re-opener mechanisms to decide whether broader changes in allowances are needed within a price control period. We will consult at the PCR if we consider additional reopeners to those set out in elsewhere in this document mechanisms are necessary.

Regulatory Depreciation

3.20. The depreciation of the RAB forms a part of the nuclear licensee's allowed revenue. It represents the remuneration that the nuclear licensee receives for the previously incurred costs it was permitted to capitalise onto the RAB.

3.21. To preserve intergenerational equity, and to ensure appropriate incentives exist on management and investors over the duration of the regulatory regime, we remunerate capitalised expenditure over a specific time horizon.

3.22. We will consult as part of the PCR process on the appropriate profile of depreciation allowances. As part of our consultation, we will take account of representations made in response to consultation, and among other things:

- 3.22.1. The impact of any changes on the financeability of the nuclear licensee, including its ability to raise capital to finance subsequent capital expenditure or refinance existing debt, and our view of whether the approach we propose is likely to materially impact the licensee's credit quality, when assessed on a notional company basis.

3.22.2. The interaction between the depreciation methodology and other aspects of the price control.

3.22.3. A risk-adjusted view of the remaining duration of the ERR, as well as the remaining asset life and the risk of early closure.

3.22.4. A consideration of the impact of our proposed methodology on intergenerational fairness, including on consumers' bills.

3.22.5. The impact of our proposed methodology on the licensee's credit quality (on a notional capital structure basis), including the impact of our methodology on credit ratios which we consider are material for the licensee's ability to retain an appropriate credit rating such that it can finance and refinance debt efficiently.

3.23. Where we consult and consider representations on the impact of regulatory depreciation on the licensee's credit quality, we will carefully consider the impact and interaction of the depreciation profile on relevant credit ratios that may impact the licensee's ability (on a notional capital structure basis) to achieve an appropriate level of credit quality consistent with the assumptions we make in our financeability assessment.

3.24. We currently expect this would fully depreciate all of the capex logged on the RAB until PCR over the expected [57] year operational asset life from PCR, using a 'straight line' profile.

3.25. For RAB additions during the operational phase, we will consider at the time the most appropriate depreciation methodology to use when we consult on our price control methodology and assessment of business plans.

Changes in asset life

3.26. The ERR is expected to last for the duration of the regulated asset's operating lifetime. The nuclear licensee is required to provide a declaration of the target operational lifetime for the regulated assets as a whole, or any individual part of the nuclear plant forming part of the regulated asset. This is part of the due diligence process for this project.

3.27. We recognise that there are uncertainties in providing an accurate assessment of the operational lifetime of the regulated asset. The nuclear licensee is obliged to notify Ofgem of any changes to the asset lifetime, in a timely manner, at any point during the ERR.

3.28. Where the licensee reports, with supporting evidence, a change to the remaining lifetime of the regulated asset compared with the target operational lifetime, we will consider amendments to the allowed revenue or depreciation profile.

Shortfalls in asset lifetime

3.29. The nuclear licensee is expected to maintain the regulated assets in order to meet or exceed their target operational life. We will assess whether a shortfall in asset lifetime was as a result of a breach in the nuclear licensee's obligations, taking into account a range of factors, including the specific facts and complexity of the issues, as set out in the enforcement guidelines.

3.30. Notwithstanding the above, where we are notified of any changes to the asset lifetime, we expect to consider reprofiling depreciation.

3.31. Before reprofiling depreciation for the remaining asset lifetime and applying any further adjustment to the nuclear licensee's allowed revenue, we will consider among other things:

- 3.31.1. the extent to which the shortfall in asset lifetime is a result of matters that were within the control of and/or predictable or could have been anticipated by the nuclear licensee;
- 3.31.2. the extent to which the circumstances relating to the cause of the fault were within the nuclear licensee's control;
- 3.31.3. the adequacy of funds that were made available for the operation and maintenance of the plant;
- 3.31.4. the adequacy of reporting submitted to Ofgem through the ERR, and the accuracy of the projections of the expected lifetime for relevant components of the nuclear asset;
- 3.31.5. any consumer bill impacts as a consequence of any foreshortening of the depreciation schedule; and

- 3.31.6. the timing of any notification received by Ofgem for the anticipated closure of the plant.¹⁵

Extension of asset lifetime

3.32. Where the nuclear licensee expects the asset lifetime to extend past the declared target operational life, our assessment of whether to extend the ERR, will consider, among other things:

- 3.32.1. any additional capital expenditure required to extend the asset life, subject to ex-ante assessment and value-for-money considerations; and
- 3.32.2. any consumer bill impacts as a consequence of the extension.

RAB Indexation

3.33. The Economic Licence indexes revenues to the Consumer Prices Index including owner occupiers' housing costs (CPIH). This aligns with our approach for network companies. Recognising the importance of inflation protections to the integrity of the wider regulatory regime, we do not expect to materially diverge from the approach we take to remunerating general inflation in our regulation of energy networks, unless there are compelling reasons to do so.

3.34. However, it is possible that the most appropriate measure of inflation may change. Before we make changes to regulatory RAB indexation, we will likely follow our consultation procedure, and take account of the following factors, among others:

- 3.34.1. advice from relevant statistics authorities;
- 3.34.2. regulatory precedent in the UK and elsewhere; and
- 3.34.3. relevant legislation, and rulings by the Competition and Markets Authority (CMA).

¹⁵ Where the time period between notification and the revised closure date is short, Ofgem may consider this when adjusting the depreciation profile.

Incentive framework

Pre-PCR phase

3.35. Incentives that apply to the nuclear licensee during the construction and commissioning phases are set by the SoS and are fully defined in the licence.

3.36. We do not expect to revise these incentives during the pre-PCR phase, recognising that investor expectations for the nuclear licensee's cost of capital have been set on the assumption that these incentives will remain in place without modification.

Post-PCR Operational phase

3.37. The incentives that are expected to apply during the post-PCR operational phase are set out in the economic licence. As noted above, we expect to consider fully the operations phase economic regulatory regime at the PCR. As part of this, we will review the incentive package to ensure it encourages the nuclear licensee to optimise operational performance and value for money for consumers.

3.38. We recognise that new and untested financial incentives can lead to adverse outcomes for consumers and/or licensees if not appropriately calibrated, and expect to manage this risk when calibrating incentive targets and financial rewards or penalties, particularly where there is no or limited historic performance or benchmarking data. To address this, the economic licence includes the Operational Incentive Adjustment, which is designed to ensure stability of cashflows under most circumstances.

3.39. Furthermore, the economic licence prescribes a cap and floor mechanism which will limit the impact of Output Delivery Incentives, and we will consider the impact on financeability of different outturn scenarios when calibrating incentive targets.

3.40. We expect to calibrate incentives at a level that encourages the nuclear licensee to forecast accurately within its business plans and will take a balanced approach when calibrating rewards and penalties by:

3.40.1. setting stretching but achievable incentive targets that can be met by a well-managed and efficient company;

3.40.2. calibrating rewards and penalties with Return on Regulated Equity analysis used to determine the incentive strength; and

- 3.40.3. implementing, where relevant, a sharing mechanism between the nuclear licensee and consumers.
- 3.40.4. aligning to regulatory best practice, acting on a forward-looking basis, and avoiding retrospective changes to previous determinations.

3.41. The operational phase incentives placed on the nuclear licensee are specified ex-ante in the nuclear licence. However, these are not fixed throughout the duration of the operational phase of the ERR, and we reserve the right to amend or discontinue particular incentives or to introduce additional ones if appropriate, following consultation with stakeholders and considering the terms of the economic licence.¹⁶

3.42. Recognising the duration of the operational phase of the ERR and the careful consideration any future incentive framework would require, it is not possible to readily identify all factors we would take into account when making changes.

3.43. However, when designing and calibrating any future incentive framework, we will undertake work to satisfy ourselves that any changes are appropriate and that any determinations are in accordance with our statutory duties. In doing so, we expect to consider how our proposed incentive framework compares to the other sectors we regulate, if and to the extent that appropriate comparisons can be made, as well as looking at:

- 3.43.1. the nuclear licensee's record of out- or under-performance within any particular incentive, as well as the nuclear licensee's broader performance, including any behaviour that we consider does not align with consumers interests;
- 3.43.2. the impact that any incentive framework modification would have on the nuclear licensee's ability to maintain an appropriate credit rating based on the notional capital structure;
- 3.43.3. whether the behaviour intended to be encouraged/discouraged by a potential incentive is sufficiently within the nuclear licensee's control; and

¹⁶ Where such changes trigger a licence modification, we will follow the licence modification process as set out in the Electricity Act, which includes a right for the nuclear licensee to appeal any decision we make in respect of modifications to the CMA.

3.43.4. the alternatives to an incentive, including specifying additional obligations on the nuclear licensee, or enforcement action.

3.44. We will review the overall incentives package for the operational phase at PCR and subsequently at each periodic review. In doing so we will consider any relevant evidence presented by the licensee.

3.45. Incentive compatibility issues may result from relevant market conditions or external benchmarks that may change over time. Where an incentive ceases to encourage appropriate behaviour, introduces excessive risk, or is based on an external benchmark that becomes no longer relevant, we may decide to select an alternative benchmark, or adjust the risk sharing mechanism between consumers and the licensee. We expect to follow our consultation procedure before making such changes, to ensure they are appropriate and proportionate.

Availability incentive

3.46. To maximise value for money for consumers, the nuclear licence includes an availability incentive to encourage the nuclear licensee to safely maximise plant availability.¹⁷

3.47. The availability incentive will apply where we provide the nuclear licensee an availability target and therefore will not apply prior to the PCR.

3.48. We will set the availability target at the PCR and at each periodic review. This target will apply for each regulatory year, which will include an allowance for efficiently planned maintenance, based on the licensee's maintenance plan for the upcoming price control period.

3.49. The availability target will also include an allowance for unplanned outages, recognising the difficulty in forecasting the specific duration of outages to conduct planned maintenance.

3.50. At PCR and at each periodic review, we will determine the appropriate availability target based on several factors, including:

3.50.1. projected plant performance for the relevant review period, and historic performance against the availability target;

¹⁷ See special condition 55. Availability Incentive

- 3.50.2. benchmarking against other relevant nuclear power plants;
- 3.50.3. the nuclear licensee’s asset management plan and business plans;
- 3.50.4. any specific issues that might affect performance, including plant safety case, and whether these issues were within the nuclear licensee’s control or were as a result of external factors;
- 3.50.5. the impact of other regulatory obligations/incentives relevant to the nuclear licensee, including those set by other relevant regulators on performance.

Availability incentive multiplier

3.51. The availability incentive set out in the economic licence includes two incentive mechanisms: one applicable to the nuclear licensee’s outperformance relative to their annual availability target, another applicable for underperformance.

3.52. Both incentive mechanisms include an Availability Incentive Multiplier which calibrate the incentive adjustment calculation for the availability incentive.

3.53. We expect to consider the Availability Incentive Multiplier at the PCR and each periodic review. In doing so we will consider factors including:

- 3.53.1. the expected availability target and relevant provisions therein for unplanned outages;
- 3.53.2. the potential value to consumers that may result from out- and under-performance; and
- 3.53.3. the financial impact on the licensee that could result from out- and under-performance.

3.54. At the PCR we expect to retain the respective Availability Incentive Multipliers specified in the economic licence. However, we will consult on this approach at PCR, alongside our review of the nuclear licensee’s business plans.

Revenue support

3.55. The economic licence sets out that the nuclear licensee may apply for revenue support for a Significant Unavailability Event. Investors should take comfort from this protection mechanism that has been designed specifically for this project, which provides secure revenue during periods where the nuclear licensee is offline.¹⁸

3.56. By default, revenue support is issued to the licensee on a two year lag, unless the authority approves an application for in-year revenue support. The economic licence clearly defines the circumstances on which the nuclear licensee is able to gain access to revenue support, and our determination for the provision of support is intended to be mechanistic, in accordance with those conditions.

3.57. Following the provision of revenue support, the authority will determine the duration of the repayment period. We expect to consider any representations made by the nuclear licensee when determining the repayment period, in addition to, among other things:

- 3.57.1. the quantum of revenue support provided to the nuclear licensee during the unplanned outage, for example, where the licensee has requested a small quantity of revenue support, they may request to shorten the associated repayment period;
- 3.57.2. the nuclear licensee's application for revenue support, including an assessment of the nuclear licensee's ability to repay the support over a period shorter than the maximum 10 year period;
- 3.57.3. the remaining duration of the initial Regulatory Period, for example, where the remaining duration of the initial regulatory period is less than 10 years, the repayment period for revenue support could be reduced accordingly.

¹⁸ Refer to the eligibility criteria for a Significant Unavailability Event in Special Condition 56. Part A: Application for Revenue Support.

Output Delivery Incentives cap and floor mechanism

3.58. The economic licence sets out that there will be a cap and floor on output delivery incentives in the operations phase.¹⁹ Output delivery incentives relate to the Market Price Adjustment and the Totex Incentive.

3.59. This mechanism has been designed specifically for the Sizewell C nuclear project, to limit the potential impact of output delivery type incentives, given that there will be limited historic operational performance to support the calibration of our initial targets and sharing factors.

3.60. For the first price control, we expect to retain the ODI cap and floor range determined by the SoS prior to the Final Investment Decision (FID) and specified in the licence. We will consult on this approach at the PCR and at each periodic review, alongside our review of the nuclear licensee's business plans. We will also consider the potential impact on performance against incentives when assessing financeability as part of our stress testing work.

Through-life capacity incentive

3.61. The economic licence includes an incentive on through-life capacity to incentivise the nuclear licensee to maintain plant capacity across the whole operational lifetime. This incentive is based on the approach taken with the PCR capacity incentive.²⁰

3.62. At the relevant price control review prior to the through-life capacity incentive coming into effect (ie, ten years following the start of the operations phase), we expect the nuclear licensee to provide relevant evidence around the ongoing applicability of these parameters in its business plan. We will consult on whether to deviate from the PCR Capacity Incentive targets as part of the price control process.

¹⁹ See Special Condition 53, part C: Totex Incentive and Special Condition 54. Market Price Adjustment Building Block.

²⁰ See Special Condition 46. Through Life Capacity Incentive

4. Return on Capital and financeability

Section summary

This section contains our guidance on matters in relation to how Ofgem will determine the appropriate return on capital that the nuclear licensee will earn on the RAB during the construction, commissioning phases and operational phases. It also contains our guidance on how we will assess financeability.

Construction and commissioning phases

Cost of Debt Adjustment Mechanism

4.1. The IWACC that will be used to remunerate the nuclear licensee for financing the capital cost of the project through the construction and commissioning phases will be set by SoS. This will occur prior to financial close and prior to the commencement of the ERR.

4.2. The IWACC will remain fixed throughout the duration of the construction and commissioning phases up to the PCR.

4.3. Where the nuclear licensee accesses private sector sources of debt finance, the Cost of Debt Adjustment Mechanism (CDA) is designed to remunerate the licensee for movements in the cost of borrowing driven by changes in the financial markets, while also incentivising the licensee to borrow efficiently. Similarly, If the nuclear licensee is accessing debt financing from public sector sources, and the cost of that debt varies, the CDA will remunerate the licensee for those movements.

4.4. The recalibration of the Sector Specific Adjustment (SSA) component of the CDA ensures that the point at which the licensee is exposed to changes in its project-specific premia can be reset periodically throughout the construction phase, if required. The detailed mechanics, as well as the milestones at which we will be recalibrating the SSA are explained fully in the economic licence.

4.5. When recalibrating the SSA we anticipate we will primarily utilise the observed cost of private debt raised by the nuclear licensee in primary and secondary markets as our principal source of evidence. We will ensure that our recalibration of the SSA considers anticipated changes in the nuclear licensee's debt portfolio, and accounts for changes to market conditions. We will also consider:

- 4.5.1. the need for an efficient nuclear licensee to continue to finance its regulated activities;
- 4.5.2. the need for there to be sufficient incentives on the nuclear licensee to raise finance efficiently.

4.6. We expect that our approach to interpreting this data would evolve at each recalibration point to determine an SSA that we consider will allow us to discharge our statutory duties. Our approach will be based on the relevant circumstances at the time and a consideration of the views of the nuclear licensee and relevant stakeholders. We recognise that the CDA mechanism has been explicitly designed around creating a regime that allows Ofgem to discharge its financeability duty effectively.

Operational phase

- 4.7. During the operational phase of the ERR, we will determine the allowed return²¹ on capital the nuclear licensee will earn on the RAB at each periodic review.
- 4.8. To do this we will determine the allowed return based on our assessment of the weighted average cost of capital for a nuclear licensee at our notional capital structure.
- 4.9. Our approach to determining the nuclear licensee's allowed return during the operational phase will align with the approach and methodology we use to determine the allowed return that regulated gas and electricity network businesses receive, unless justified by factors specific to the nuclear ERR.
- 4.10. We will follow relevant best practice at the time, acting prospectively, and will avoid retroactive changes to previously determined matters.

²¹ We note that there is a difference between the allowed return that we set for the nuclear licensee, and the total return that the nuclear licensee may achieve for its investors. The allowed return is the WACC that will be funded in our price reviews, while the total return the nuclear licensee will achieve will be equal to the allowed return plus the sum of any operational or financial out- or under-performance.

4.11. Where relevant, we also expect to align to any further regulatory guidance, for example, the current UK Regulators Network (UKRN) cost of capital guidance²².

Factors that may affect the nuclear licensee’s exposure to systematic risk relative to network businesses

4.12. In determining the allowed return during the operational phase of the ERR we expect our approach to be broadly consistent with the approach we use for the network businesses, but we recognise that despite similarities in the overall regulatory regime the nuclear licensee is likely to have a different risk profile to that of a network business. The allowed return on capital set by Ofgem differs for each relevant price control so that returns are calibrated to compensate for the level of systematic risks faced by investors.

4.13. We expect the relative characteristics and risk profiles of the different sectors we regulate to vary over the duration of the regulatory regime. Subject to an assessment of the degree to which different risks are systematic, some of the factors we may take into account when determining the WACC for the nuclear licensee include:

4.13.1. The nuclear licensee is envisaged to be a single-asset company, with limited scope to expand throughout its operational life and comparatively more restricted on the scope and timing of efficient capital expenditure programmes due to the stringent safety and regulatory obligations on nuclear licensees. This is likely to give it a higher risk profile relative to network companies with a portfolio of geographically dispersed operational assets and significant historical non-depreciating RABs.

4.13.2. A nuclear licensee in the operational phase will typically have a lower level of on-going capital expenditure relative to an energy network, which will reduce the nuclear licensee’s ability to mitigate overspend or regulatory underperformance in one part of the regulatory settlement with underspends or regulatory outperformance in other parts of the regulatory settlement (although this factor also works to reduce the overall quantum of risk).

²² UKRN guidance for regulators on the methodology for setting the cost of capital available at: [CoC-guidance_22.03.23.pdf \(ukrn.org.uk\)](https://www.ukrn.org.uk/guidance_22.03.23.pdf)

4.13.3. Operating a generation asset that uses nuclear energy has a different portfolio of technically complex operating risks in comparison to operating an electricity or gas networks business. For example, where these operating risks involve factors such as complex international supply chains or bespoke financing arrangements, licensees may be exposed to a greater degree of systematic risk.

4.13.4. The provisions of the Government Support Package (GSP) and the impact this has on the limiting or mitigating the overall systematic risk exposure of the nuclear licensee in respect of access of market closure facility, certain political risks and insurance of last resort.

Outline of an approach taken to assess beta in other sectors:

We have outlined an example of an approach taken in other regulated sectors for assessing an appropriate beta when there are limited comparable listed companies, for illustration purposes. In the case of the nuclear licensee, we expect there will initially be either no or a limited cohort of directly comparable companies so we may take a similar approach, adapting as appropriate for the facts and circumstances at the time. We expect our approach to adapt over time as more information becomes available.

- a) Regulators typically rely on relevant listed comparators to estimate the beta that is appropriate for the companies subject to the specific price control being set. This process is made more difficult where there are no or limited directly comparable listed peers.
- b) Regulators face this constraint on a regular basis. There are no 'pure play' listed Gas and Electricity Network companies of Great Britain (the G&E Networks ie, listed companies who only undertake activities related to regulated G&E Networks), limiting the ability of Ofgem to directly assess the beta of G&E Network companies. In the RIIO-2 price controls, Ofgem met this challenge by using a mix of listed comparators and weighting towards the most appropriate. Specifically, Ofgem noted that:
 - i) Water companies Severn Trent plc (SVT), United Utilities plc (UU) and Pennon plc (PNN), as well as energy company National Grid, were the best proxies of the systematic risk faced by energy networks.
 - ii) National Grid plc (NG) data captured risks for all relevant sub-sectors within the price control, notwithstanding it had exposure to US network assets.
 - iii) NG had approximately 45% of its total RAV in UK networks (with approximately the same exposure to US network assets).

- iv) Analysis suggested that NG's relative risk has varied over time – sometimes the risks of the US business appearing higher, and sometimes the risks of the UK business appearing higher.
- v) SSE plc (SSE) had a higher beta because of its material retail supply operations and generation activities – both of which have higher systematic risk than G&E Networks.

Taking all of these factors into account, Ofgem based its G&E Network beta estimate on data from SVT, UU, PNN and NG, but not SSE, placing greater weight on NG data.²³

Determining notional capital structure during the operational phase

4.14. We will set the allowed return at each price control by weighting the debt and equity allowances in line with our determination of the notional capital structure of an efficient nuclear licensee. We expect to do this by determining notional gearing at each price control, and where relevant, may also make assumptions about the composition of debt instruments within the capital structure.²⁴

4.15. This means the nuclear licensee bears the risks arising from its own financing decisions where they diverge from our notional company assumptions, noting that Ofgem will generally calibrate price controls, weighing up our statutory duties (particularly regarding financeability) to a nuclear licensee with an efficient notional capital structure.

4.16. In making the determination of an appropriate notional capital structure, we expect to consider:

- 4.16.1. the nature of the assets;
- 4.16.2. the proposed length of the regulatory cycle;
- 4.16.3. other utility and infrastructure gearing levels;
- 4.16.4. the risks the licensee will face;

²³ Further details of Ofgem's approach for the RIIO-2 price controls can be found in the RIIO-2 Final Determinations – Finance Annex (REVISED): [RIIO-2 Final Determinations for Transmission and Gas Distribution network companies and the Electricity System Operator | Ofgem](#)

²⁴ Notional capital structure is intended be broadly synonymous with notional gearing. However, notional capital structure may also extend to assumptions around debt mix, for example IL debt.

4.16.5. credit rating agency views on appropriate gearing;

4.16.6. the impact of medium-term market conditions on debt servicing, and adequate but not excessive debt headroom; and

4.17. In the case of nuclear licensee, we expect that there may be a lack of 'regulatory cohort', or only be a small cohort of nuclear generators with an economic regulatory regime. Reflecting this, we expect to carefully review the:

4.17.1. current, historical, and anticipated capital structure of the project

4.17.2. the anticipated gearing profile of the project assumed by the SoS at the FID

4.17.3. the current and likely sources, quantum, and tenor of finance extant and likely to be available to the licensee at each periodic review date.

4.18. We further expect that when we determine the level of gearing within the notional capital structure, we will also take account of, among other things:

4.18.1. a broader assessment of issues and trends in comparator projects and similar sectors (eg, other large construction, single asset regulatory nuclear licensees, and electricity generation projects).

4.18.2. wider trends in macro-economic factors that may be relevant to us forming a view on the appropriate notional capital structure of a nuclear licensee.

4.18.3. the pace with which we consider an efficient notional licensee is able to make changes to its capital structure, where the notional capital structure changes.

Assessing debt allowances during the operational phase

4.19. At PCR and for a limited period thereafter we anticipate that the nuclear licensee will have:

4.19.1. 'Embedded construction debt' that comprises debt instruments raised during the construction phase but with maturities extending into the operating phase; and

- 4.19.2. 'New debt' that comprises debt instruments raised to refinance embedded construction debt, or to finance capital expenditure incurred during the operations phase.

Embedded construction debt

4.20. We expect that the construction period CDA will incentivise the nuclear licensee to raise private debt efficiently throughout the construction period.

4.21. For construction period debt we, therefore, expect to set an allowance based on the nuclear licensee's observed financing costs incurred on pre-PCR construction debt instruments for as long as these remain relevant, unless there is demonstrable evidence that these instruments are inefficient. When considering whether such instruments are inefficient, we will consider the relevant market conditions at the time each instrument was raised as well as any agreed financing plan in place at the FID, and any deviation therefrom.

New debt

4.22. For any new debt that the nuclear licensee raises (eg to refinance embedded construction debt or to finance additional capex), we expect that we will use a similar approach to the one we use to determine debt allowances for network businesses, making appropriate adjustments to reflect the differing circumstances between the nuclear licensee and regulated networks sector at each price control.

4.23. Currently, in the network businesses, we use an indexed external benchmark approach to determine debt allowances. We are not aware of any circumstances that would suggest a similar approach is inappropriate for 'new debt' in the nuclear ERR in the initial years of the operational phase.

4.24. Where the nuclear licensee has publicly traded debt instruments, we also expect to look at the trading history of the nuclear licensee's debt instruments and compare these, where appropriate, to comparator companies (weighted for relevance). Where appropriate, we expect to consider:

4.24.1. the nuclear licensee's performance compared to other companies with similar credit ratings;

4.24.2. alternative refinancing opportunities;

4.24.3. general debt market dynamics; and

4.24.4. the degree to which the nuclear licensee can justify decisions that diverge from our assessment of an efficient notional nuclear licensee.

4.25. Throughout the operational phase, the nuclear licensee will refinance embedded debt into new debt. Where we make assumptions on the quantum and timing of refinancing, we will have regard to the relevant factors that may constrain the nuclear licensee's ability to act in this area, and will reflect these factors when considering the overall incentives on the nuclear licensee in this area. We consider that this approach is likely to protect both consumers and the licensee from any risks arising from refinancing (ie, the risk of either windfall gains to the licensee, or losses due to higher refinancing costs), without the need to introduce any additional refinancing gain-sharing mechanisms.

4.26. We also expect that over time there will cease to be specific consideration for 'embedded construction debt' as this is fully refinanced in the operations phase.

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Worked example of determining the cost of debt allowance during the operational phase

The nuclear licensee will receive a debt allowance as a component of the WACC each year of the operations phase.

The total debt allowance will consist of an allowance for both pre-PCR debt instruments, and an allowance for debt instruments raised post-PCR that we will determine at each periodic review.

Years	1	2	3	4	5
Embedded debt (£bn) [A]	10.0	9.0	8.0	7.0	6.0
Embedded debt allowance (%) [B]	4.0%	4.0%	4.0%	4.0%	4.0%
New debt (£bn) [C]	1.0	2.0	2.0	3.0	3.0
New debt allowance (%) [D]	3.2%	3.2%	3.2%	3.2%	3.2%
Total debt allowance $\left(\frac{[A]}{[A] + [C]} \times [B]\right) + \left(\frac{[C]}{[A] + [C]} \times [D]\right)$	3.9%	3.9%	3.8%	3.8%	3.7%

Assessing equity allowances during the operational phase

4.27. We do not envisage materially diverging from our approach to equity allowances that we use when regulating networks.

4.28. Our current approach in the network businesses is underpinned by the principles of the Capital Asset Pricing Model (CAPM). Under the CAPM, the cost of equity is made up of three components:

- 4.28.1. the risk-free rate (RFR);
- 4.28.2. the total market returns (TMR); and
- 4.28.3. the equity beta for the licensee at the notional capital structure.

4.29. The equity beta is the only input in the CAPM that is sector or company specific, set to reflect the exposure of the nuclear licensee's equity investors to systematic (or undiversifiable) risks. In determining the nuclear licensee's equity beta, we expect to consider, among other factors:

4.29.1. the observed asset betas of a suitable benchmarking cohort of comparators,²⁵ making adjustments where relevant (eg, to separate the beta of nuclear generation activities from other activities a company may be involved in);

4.29.2. the relative systemic risk profile of the nuclear licensee as compared to different comparators;

4.29.3. our determination of the most appropriate way of estimating observed asset betas (eg, with respect to estimation windows and averaging);

4.29.4. differences between the capital structure of comparators and the notional nuclear licensee; and

4.29.5. our determination of the debt beta.

4.30. The RFR and TMR are market-wide parameters that do not tend to be sector or company specific. Subject to market movements at the time of estimation, we expect that these will be the same or similar for the nuclear licensee ERR as for the wider regulated energy sector.

²⁵ We acknowledge that the cohort of firms we are likely to benchmark against will evolve, but if we were to do this today, it would include a wide range of regulated utilities, and nuclear (and non-nuclear) generators.

Worked example of determining the cost of equity allowance during the operational phase, relative to the cost of equity for the network businesses

At the PCR, we expect to determine a cost of equity allowance, which will be used as a component for the calculation of the return on capital. The return on capital is one of the building blocks of the allowed revenue calculation as set out in the economic licence. We currently expect our approach to estimating the cost of equity allowance to mirror the approach used in the network businesses. This methodology is underpinned by the principles of the Capital Asset Pricing Model (CAPM). Under the CAPM, the cost of equity is made up of three components:

Metric	Notes	Formula
Risk-Free Rate (RFR)	Market-wide parameter.	A
Total Market Return (TMR)	Market-wide parameter.	B
Equity Risk Premium (ERP)	Calculated as difference between the TMR and the RFR	$C = B - A$
Asset beta	Estimate based on analysis of systematic risk exposure relative to comparator data	D
Debt Beta	Estimate of appropriate debt beta (used when calculating equity beta)	E
Notional Gearing	Level of debt assumed within the notional capital structure (used when calculating equity beta)	F
Equity Beta	Calculation based on asset beta, debt beta and gearing within the notional capital structure	$G = (D - (E * F)) / (1 - F)$
Cost of Equity	CAPM formula	$= A + G * C$

Approach to financeability

4.31. In addition to its primary duty to the consumer, Ofgem is required to have regard to the need to secure that licence holders can finance the activities which are the subject of the obligations imposed under relevant legislation. This is commonly referred to as our ‘financeability duty’.

4.32. The funding of the nuclear licensee will reflect the appropriate discharge of Ofgem’s statutory duties. This may mean that while the Economic Licence sets an obligation for the nuclear licensee to maintain an investment grade credit rating to ensure financial resilience, we may assess that it would be appropriate for an efficient nuclear licensee at the notional capital structure to be able to achieve a credit rating higher than the minimum investment grade rating to enable it to access and refinance debt at an efficient cost and in required volumes. The judgement on the appropriate credit rating for the financeability assessment would be made based on the prevailing market conditions at the time. In order to facilitate a particular credit rating, if deemed appropriate, we will consider whether available policy levers are required, including accelerating the depreciation of the RAB.

4.33. In forming our views, we expect to receive evidence from the nuclear licensee in its business plan to support the credit rating it considers appropriate to finance its activities efficiently alongside assurance the business plan is financeable.

4.34. We expect to undertake a financeability assessment at each periodic review, doing so on an efficient notional company basis, in line with our approach to regulating network businesses. We will only diverge from our approach in networks if there are compelling reasons to do so.

4.35. We expect to take into account:

4.35.1. the credit quality of the nuclear licensee;

4.35.2. the appropriate notional capital structure for nuclear licensee (noting the allocation of risks between consumers and taxpayers via the GSP); and

4.35.3. any relevant evidence provided by the nuclear licensee to support our decision making, including information on:

4.35.3.1. the licensee's own target credit rating as contained in its business plan;
and

4.35.3.2. applicable rating agency methodologies.

4.36. Our assessment will also include stress testing against a range of scenarios. The outputs of this testing may inform our decision making on the balance of risks in the financial settlement.

4.37. We anticipate working closely with the nuclear licensee, to provide assurance that the licensee remains financeable on both a notional and actual capital structure basis. We will also consult on our assessment and approach to financeability (including our construction of an appropriate notional capital structure for a nuclear licensee), providing the licensee and stakeholders with the opportunity to support or critique our draft positions.

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5. Conclusion

5.1. This guidance aims to provide clarity to stakeholders on our regulatory approach and reduce ambiguity by explaining what we will take into account when making regulatory determinations alongside the nuclear licence and other associated documents that affect the nuclear licensee throughout the duration of the ERR.

5.2. The construction phase of this project is expected to last nearly 15 years, therefore, at this stage there are aspects of the ERR where it is not possible to specify detailed guidance. We therefore anticipate that we will update this guidance during the term of the economic licence and have provided clarity on our approach to decision making in the future where possible.

5.3. The nuclear RAB model has the potential to facilitate the development of additional low carbon electrical generation using nuclear technologies at a competitive cost to consumers, while offering a suite of incentives to the nuclear licensee that support an efficient allocation of risk while encouraging delivery on time and on budget. We look forward to our role as economic regulator of the first nuclear project applying the RAB model in Great Britain.

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