



# Contents

Introduction.....	2
Key credit metrics (and underlying assumptions) .....	4
Financial projections.....	10
Risk management scenarios .....	15
Actual financing .....	23
Appendix 1: impact of alternative inflation working assumption .....	30

## Introduction

The credit ratings of companies and the bonds that they issue are an important indicator of the interest rate that those bonds will attract. Companies with worse credit ratings are likely to need to pay a higher interest rate on their borrowings. Credit metrics are a significant factor in rating agency decisions over credit ratings. We have therefore given consideration to the credit metrics we would achieve under the plan assumptions and the credit ratings these would be consistent with.

We have an obligation under our licence to maintain an investment-grade credit rating, which in our case means maintaining a BBB- or higher rating with Fitch and S&P and a Baa3 or higher rating with Moody's. In practice we target a higher rating of A- and A3, because this provides the business with financial flexibility in unexpected circumstances. It also allows for potential major increases in investment requirements like those associated with decarbonisation. Targeting a lower rating would mean issuing more debt finance (and paying the proceeds as dividends) but this can be costly to reverse in future, for example because debt is more expensive to buy back in the open market once it has been issued.

Quantitative credit rating factors are likely to be more challenging in the 2023-28 period with reduced scope for operational outperformance of the settlement. This is because we expect more challenging regulatory cost allowances and output delivery incentives than in the current period, 2015-23. There is also limited opportunity for us to further reduce average cash interest costs following our financing and refinancing activities in the 2015-23 period. These have reduced average interest costs on long-term debt by around 1.5-2 percentage points.

This annex:

- considers the qualitative factors that rating agencies take into account when determining credit ratings;
- considers the appropriate proportion of equity finance (and financial gearing);
- sets out our key credit metrics, and the modelling assumptions they are based on, for:
  - the “notional” company the regulatory system assumes; and
  - our actual financial structure;
- sets out our financial projections (under a notional and actual financing structure); and
- presents the results of Ofgem's stress tests under a notional financing structure and under our actual financing structure.

## Qualitative factors

As well as the key financial ratios considered in this annex, the rating agencies also consider qualitative factors when arriving at a credit rating. These include:

- The regulatory environment and asset ownership model, which covers:
  - the stability and predictability of the regulatory regime;
  - the asset ownership model;
  - cost and investment recovery; and
  - revenue risk;
- the scale and complexity of the capital programme; and
- financial policies

Northern Powergrid (Northeast) plc ('Northeast') and Northern Powergrid (Yorkshire) plc ('Yorkshire') score highly on qualitative factors with rating agencies due to our prudent financial policies, which are reflected in gearing below sector peers and regulatory assumptions. We benefit further from having a track record of strong operational performance, particularly on output delivery incentives.

## Equity ratio

The proportion of equity finance used in financing the regulatory asset value (RAV) is an important determinant of the outcome of credit metric modelling. If companies make use of more equity funding they have less debt and this makes them financially more robust to risks – because debt generally comes with fixed interest payments that do not vary depending on company performance. Credit rating agencies will therefore assign better credit ratings, all else held constant. Indeed, the gearing ratio (which is debt to RAV, or 1 minus the equity ratio) is one metric they consider directly in their assessment.

We have considered different levels of gearing while developing this plan:

- Levels of gearing above 60 per cent could save energy customers some tax costs, because more of the overall financing cost would be in the form of debt payments, which are shielded from corporation tax. However, at higher gearing levels, equity finance becomes more expensive (reflecting the fact it is more exposed to risk), therefore there are no wider benefits from switching apparently more expensive equity finance for apparently less expensive debt finance. When the wider effect on higher equity finance costs is taken into account, we would not expect a reduction in finance costs from higher gearing (ignoring any tax effects).
- Higher gearing could limit the financial flexibility of the sector to fund investments for the net zero transition. Companies with a lot of equity finance are better able to fund investments internally, without the need to always rely on tapping markets. At higher gearing this flexibility is lost.
- Reducing gearing for the notional company comes at a cost, since the associated equity issuance costs need to be funded during a step change like this.

Overall we have judged that the notional assumption used by Ofgem at the recent transmission and gas distribution reviews, of an equity ratio of 40 per cent, appears at this stage to be a reasonable notional assumption for the electricity distribution sector over 2023-28. We have therefore reflected this in our credit metric modelling under Ofgem's working assumptions below. Our actual equity ratio is higher, and debt-gearing lower; reflecting our corporate decisions. Our results presented on an actual company basis, below, therefore include this different value as their starting point.

## Key credit metrics (and underlying assumptions)

Below we set out the underlying assumptions we have used in our financial modelling, along with the key credit metrics that result.

We do this first for the notional company, which has the financing structure and costs in line with our regulator's working assumptions, followed by results under our actual financing structure and debt costs.

### Notional financing

Ofgem's Business Plan Financial Model (BPFM) generates the ratios used by Moody's to evaluate credit ratings. We have therefore used these ratios to assess whether our plan meets the relevant credit metrics under Ofgem's working assumptions on a notional company and actual basis. Ofgem has also incorporated in the model its view of the Moody's credit rating assessment.

We have assessed ourselves against a threshold of BBB+ or Baa1 for the credit tests set out in this business plan. This allows a modest amount of clearance compared to the very bottom of the investment grade range, and helps avoid the risk of unexpected circumstances pushing metrics below acceptable levels.

For the purposes of modelling the "notional company" base case that Ofgem uses to normalise differences across companies, we have used the assumptions set out in appendix five of Ofgem's RIIO-ED2 Business Plan Guidance document which are:

Financial variable	Ofgem's guidance	Assumption used				
		2023-24	2024-25	2025-26	2026-27	2027-28
Allowed return (weighted average cost of capital (WACC))	As set out in Table 3 of the <a href="#">Sector Specific Methodology Decision</a> - Finance Annex.	3.199%	3.120%	3.025%	2.913%	2.803%
Equity portion of RAV	Working assumption of 40% equity.  Working assumption of an additional expected returns of 0.25% of equity portion of RAV representing an earned amount for the notional company in each year over 2023-28.	Assumptions as per Ofgem's guidance.				
Totex allowances	Totex allowances are assumed to equal totex cost forecast for 2023-28.	Assumption as per Ofgem's guidance.				
Net debt	Net debt is reset to the working assumption notional gearing level (60% net debt to RAV) at the start of 2023-28, with any opening de-gearing assumed to be achieved by an equity injection or re-gearing assumed to be achieved by debt issuance.	Assumption as per Ofgem's guidance.				

Financial variable	Ofgem's guidance	Assumption used				
Debt costs	Debt costs assumed to be equal to the working assumption for allowances set out in Ofgem's publication (Sector-Specific Methodology Decision for 2023-28).	2023-24	2024-25	2025-26	2026-27	2027-28
		2.424%	2.277%	2.108%	1.910%	1.715%
Licensee debt	25% of the licensee's debt is assumed to be inflation linked. <sup>1</sup>	Assumption as per Ofgem's guidance.				
Tax allowances	Tax allowances are equal to tax costs, as calculated using the BPFM.	Assumption as per Ofgem's guidance.				
WACC allowance and RAV calculations	Immediate transition to CPIH from 1 <sup>st</sup> April 2023 for WACC allowance and RAV calculations.	Assumption as per Ofgem's guidance.				
Opening RAV	Opening RAV to be based on totex forecasts for the 2015-23 period as provided in business plan data template (BPDT) submission, and inclusive of any known logged-up adjustments.	Assumption as per Ofgem's guidance.				
Revenues	Lagged revenue impacts arising from the 2015-23 period are excluded.	Assumption as per Ofgem's guidance.				
Depreciation rates	Depreciation rates to be proposed by the licensee based on useful economic lives and/or evidenced justification.	45 years.				
Capitalisation rates	Capitalisation rates to be clearly explained by the licensee, reflective of the split between opex and capex and the 'natural rate'.	Northeast 70%. Yorkshire 72%.				
Dividend yield	Dividend yield working assumption for modelling purposes of 3%.	Assumption as per Ofgem's guidance.				
Equity issuance transaction costs	Equity issuance transaction costs working assumption of 5% of any amount forecast to be issued.	Assumption as per Ofgem's guidance.				
Inflation	Inflation is assumed to be equal to the working assumption set out in Ofgem's publication ( <a href="#">Sector-Specific Methodology Decision for 2023-28</a> ). <sup>2</sup>		2021-22	2022-23	2023-24	Later yrs
		RPI	1.57%	2.57%	2.99%	2.99%
		CPI	1.55%	1.73%	1.91%	2.00%

Table 1: Modelling notional company base case against Ofgem business plan guidance

<sup>1</sup> The base scenario uses CPIH inflation (i.e. inflation measured using the consumer prices index including owner occupiers' housing costs) while a sensitivity uses RPI inflation (i.e. inflation using the retail prices index)

<sup>2</sup> Ofgem's financial model at 1 December 2021 applies an inflation working assumption which differs from the one in the [Sector-Specific Methodology Decision](#). We therefore set out the variance that adopting this alternative working assumption would cause to our notional company credit metrics in the appendix to this annex.

Taking Ofgem's modelling assumptions for the notional company, the base case gives an implied rating with Moody's, as calculated within Ofgem's model, of Baa3 for Northeast and Ba1 for Yorkshire. This shows the Moody's rating is non-investment grade and is driven by the relatively low adjusted interest cover and FFO/net debt. These financeability challenges would however be addressed if Ofgem took some simple steps that are justified for other reasons, specifically:

- adopting a cost of equity that reflects the evidence that this parameter should be higher; and
- reversing its recent policy on regulatory depreciation (which is inappropriately depressing today's distribution charges and pushing the cost of the net zero transition onto future generations).

Notional company	ED2 Average	
	Northeast	Yorkshire
Opening gearing	60%	60%
Average gearing	63%	63%
Funds from operations (FFO) Interest Cover (including accretions)	3.77x	3.65x
FFO Interest Cover (cash interest)	4.28x	4.13x
Adjusted Interest Cover Ratio (AICR) or post maintenances interest coverage ratio (PMICR)	1.36x	1.36x
Nominal PMICR	2.00x	2.00x
FFO/Net Debt	11.0%	10.4%
Retained cash flow (RCF)/Net Debt	9.1%	8.5%
Ofgem-implied Moody's rating	Baa3	Ba1

Key	A	Baa	Strained
-----	---	-----	----------

*Table 2: Results for the notional company base case*

### Actual financing

In addition to modelling the notional company, we also set out our results based on our actual debt costs and equity structure. For the purposes of modelling the actual company base case we have used the assumptions set out in appendix five of Ofgem's RIIO-ED2 Business Plan Guidance document which are:

Financial variable	Ofgem's guidance	Assumption used				
		2023-24	2024-25	2025-26	2026-27	2027-28
<b>Allowed return (WACC)</b>	Allowed return (WACC) as set out in Table 3 of the sector specific methodology decision (SSMD) Finance Annex.	3.199%	3.120%	3.025%	2.913%	2.803%
<b>Equity portion of RAV</b>	Equal to 1-debt ratio (see below).  Working assumption or additional expected returns of 0.25% of equity portion of RAV representing an earned amount for the actual company in each year of 2023-28.	A "starting point" assumption of 49% equity finance for Northeast and 51% for Yorkshire as at 1 April 2023, in line with our current financing structure. Beyond this the equity ratio is driven by the dividend yield assumed (at 3% of the equity portion of RAV in the prior year).  Additional return assumption in line with Ofgem guidance.				
<b>Totex allowances</b>	Totex allowances are assumed to equal totex cost forecast for 2023-28.	Assumption as per Ofgem's guidance.				
<b>Net debt</b>	Net debt to reflect actual company forecast net debt position for each year, as completed in the finance tables of the BPDTs.	Assumption as per Ofgem's guidance.				
<b>Debt costs</b>	Debt costs to reflect actual company forecast for debt costs, as set out in the finance tables of BPDTs.	As per the BPDTs – in line with actual forecast debt costs.				
<b>Inflation</b>	Proportion of inflation linked debt and proportion of interest expense that is principal inflation accretion in each year to reflect actual company forecast, as set out in the finance tables of BPDTs.	No inflation linked debt.				
<b>Tax costs</b>	Modelled forecast actual tax costs, incorporating forecasted financial information.	As per the BPDTs.				
<b>WACC allowance and RAV calculations</b>	Immediate transition to CPIH from 1 <sup>st</sup> April 2023 for WACC allowance and RAV calculations.	Assumption as per Ofgem's guidance.				
<b>Opening RAV</b>	Opening RAV to be based on totex forecasts for the 2015-23 period as provided in BPDT submission, and inclusive of any known logged-up adjustments.	As per the BPDTs.				
<b>Revenues</b>	Lagged revenue impacts arising from 2015-23, where these are expected, should be included if relevant.	Assumption as per Ofgem's guidance.				



Financial variable	Ofgem's guidance	Assumption used
<b>Depreciation rates</b>	Depreciation rates to be proposed by the licensee based on useful economic lives and/or evidenced justification.	We have used Ofgem's working assumption (45 years) so that our actual company results are comparable to the notional company and to the results other companies are likely to present. We have provided extensive evidenced justification that faster depreciation (and slower RAV growth) would be justified.
<b>Capitalisation rates</b>	Capitalisation rates to be clearly explained by the licensee, reflective of the split between opex and capex and the 'natural rate'.	Northeast 70%.  Yorkshire 72%.
<b>Dividend yield</b>	Dividend and equity issuance to reflect actual company dividend policy and forecast equity issuance, as set out in finance tables of the BPDs.	Dividends assumed at 3% of equity portion of RAV.
<b>Equity issuance transaction costs</b>	Equity issuance transaction costs as forecast by licensee for forecast equity issuance.	No equity issuance is assumed as the relevant thresholds are not reached.
<b>Inflation</b>	Inflation is assumed to be equal to the working assumption set out in Ofgem's publication ( <a href="#">Sector-Specific Methodology Decision for 2023-28</a> ).	See notional company modelling.

**Table 3: Modelling credit metrics using actual financing structure against Ofgem business plan guidance**

Taking Ofgem's modelling assumptions for the actual company, the base case gives an implied rating with Moody's of A3 for both Northeast and Yorkshire and would therefore pass Ofgem's credit tests.

Actual company	2015-23 average	
	Northeast	Yorkshire
Gearing	55%	57%
FFO Interest Cover (including accretions)	6.97x	6.09x
FFO Interest Cover (cash interest)	6.97x	6.09x
AICR or PMICR	2.83x	2.61x
Nominal PMICR	4.11x	3.74x
FFO/Net Debt	16.7%	15.7%
RCF/Net Debt	14.0%	13.2%
Ofgem implied Moody's rating	A3	A3

Key	A	Baa	Strained
-----	---	-----	----------

*Table 4: Credit metric results for the actual financing structure base case*

## Financial projections

Our regulator has required us to include financial projections as part of [our business plan](#).

On each of the four panels below, we set out these financial projections in the form of an income statement and a cashflow statement. We provide them in turn for:

- Northeast under notional regulatory financial assumptions;
- Yorkshire under notional regulatory financial assumptions;
- Northeast under its actual financing structure; and
- Yorkshire under its actual financing structure.

## Notional financing – Northeast

£m	2024	2025	2026	2027	2028
<b>INCOME STATEMENT</b>					
Operating revenue	332.1	333.8	343.7	360.4	377.4
Controllable opex	(83.0)	(90.3)	(95.0)	(106.3)	(109.5)
Non-controllable opex	(38.6)	(39.7)	(41.0)	(42.5)	(43.9)
Equity issuance cost	(3.9)	-	-	-	(6.1)
Established pension deficit repair	(5.6)	-	-	-	-
Costs associated with other revenue allowances	(2.0)	(2.0)	(2.3)	(2.3)	(2.4)
<b>Earnings before interest, taxes, depreciation and amortisation (EBITDA)</b>	<b>199.2</b>	<b>201.8</b>	<b>205.4</b>	<b>209.3</b>	<b>215.5</b>
Depreciation (regulatory)	(118.4)	(119.8)	(121.9)	(123.3)	(124.9)
<b>Earnings before interest and taxes (EBIT)</b>	<b>80.8</b>	<b>82.0</b>	<b>83.4</b>	<b>86.0</b>	<b>90.6</b>
Net interest paid (excluding principal inflation accretion)	(37.6)	(39.7)	(41.8)	(43.8)	(41.9)
Net interest paid (principal inflation accretion)	(4.2)	(5.0)	(5.7)	(6.4)	(6.5)
<b>Profit before tax (PBT)</b>	<b>39.0</b>	<b>37.3</b>	<b>35.9</b>	<b>35.9</b>	<b>42.2</b>
Tax paid	(28.6)	(27.5)	(26.5)	(26.6)	(28.5)
<b>Profit after tax (PAT)</b>	<b>10.4</b>	<b>9.8</b>	<b>9.5</b>	<b>9.3</b>	<b>13.7</b>
Dividends paid	(19.8)	(21.3)	(22.9)	(24.8)	(26.9)
<b>Retained earnings for the year</b>	<b>(9.4)</b>	<b>(11.4)</b>	<b>(13.4)</b>	<b>(15.6)</b>	<b>(13.2)</b>

Table 5: Income Statement for Northeast under notional regulatory financial assumptions

£m	2024	2025	2026	2027	2028
<b>CASH FLOW STATEMENT</b>					
Operating revenue	332.1	333.8	343.7	360.4	377.4
Total operating costs	(133.0)	(132.0)	(138.4)	(151.0)	(161.9)
Net cash flow from operations	199.2	201.8	205.4	209.3	215.5
Net interest paid (excluding principal inflation accretion)	(37.6)	(39.7)	(41.8)	(43.8)	(41.9)
Tax paid	(28.6)	(27.5)	(26.5)	(26.6)	(28.5)
<b>Funds from operations (FFO)</b>	<b>133.0</b>	<b>134.7</b>	<b>137.1</b>	<b>138.9</b>	<b>145.1</b>
Dividends paid	(19.8)	(21.3)	(22.9)	(24.8)	(26.9)
<b>Retained cash flow (RCF)</b>	<b>113.2</b>	<b>113.4</b>	<b>114.2</b>	<b>114.1</b>	<b>118.2</b>
Net cash flow from capex	(193.7)	(210.8)	(221.7)	(247.9)	(255.5)
Pre-vesting and post-vesting disposal proceeds	(80.5)	(97.4)	(107.5)	(133.9)	(137.3)
<b>Net cash flow before financing</b>	<b>77.1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>123.0</b>
Equity issuance	77.1	-	-	-	123.0
Net cash flow from financing	(3.5)	(97.4)	(107.5)	(133.9)	(14.4)
<b>Change in net debt</b>	<b>332.1</b>	<b>333.8</b>	<b>343.7</b>	<b>360.4</b>	<b>377.4</b>

Table 6: Cash flow statement for Northeast under notional regulatory financial assumptions

## Notional financing – Yorkshire

£m	2024	2025	2026	2027	2028
<b>INCOME STATEMENT</b>					
Operating revenue	443.6	448.1	456.1	499.5	498.4
Controllable opex	(112.6)	(119.6)	(122.7)	(145.2)	(146.2)
Non-controllable opex	(50.9)	(52.2)	(54.0)	(55.7)	(57.6)
Equity issuance cost	(5.2)	-	-	(7.0)	-
Established pension deficit repair	(2.7)	-	-	-	-
Costs associated with other revenue allowances	(2.9)	(3.0)	(3.4)	(3.5)	(3.5)
<b>Earnings before interest, taxes, depreciation and amortisation (EBITDA)</b>	<b>269.3</b>	<b>273.2</b>	<b>276.0</b>	<b>288.0</b>	<b>291.1</b>
Depreciation (regulatory)	(156.6)	(159.5)	(161.5)	(163.5)	(168.2)
<b>Earnings before interest and taxes (EBIT)</b>	<b>112.7</b>	<b>113.7</b>	<b>114.5</b>	<b>124.6</b>	<b>123.0</b>
Net interest paid (excluding principal inflation accretion)	(51.7)	(55.6)	(59.2)	(58.0)	(62.0)
Net interest paid (principal inflation accretion)	(5.7)	(7.0)	(8.1)	(8.4)	(9.5)
<b>Profit before tax (PBT)</b>	<b>55.2</b>	<b>51.1</b>	<b>47.1</b>	<b>58.1</b>	<b>51.4</b>
Tax paid	(41.3)	(38.2)	(35.0)	(41.0)	(34.7)
<b>Profit after tax (PAT)</b>	<b>13.9</b>	<b>12.9</b>	<b>12.1</b>	<b>17.2</b>	<b>16.7</b>
Dividends paid	(27.3)	(29.6)	(32.0)	(35.2)	(38.4)
<b>Retained earnings for the year</b>	<b>(13.4)</b>	<b>(16.7)</b>	<b>(19.9)</b>	<b>(18.0)</b>	<b>(21.7)</b>

Table 7: Income statement for Yorkshire under notional regulatory financial assumptions

£m	2024	2025	2026	2027	2028
<b>CASH FLOW STATEMENT</b>					
Operating revenue	443.6	448.1	456.1	499.5	498.4
Total operating costs	(174.3)	(174.8)	(180.1)	(211.5)	(207.3)
Net cash flow from operations	269.3	273.2	276.0	288.0	291.1
Net interest paid (excluding principal inflation accretion)	(51.7)	(55.6)	(59.2)	(58.0)	(62.0)
Tax paid	(41.3)	(38.2)	(35.0)	(41.0)	(34.7)
<b>Funds from operations (FFO)</b>	<b>176.3</b>	<b>179.4</b>	<b>181.8</b>	<b>189.1</b>	<b>194.4</b>
Dividends paid	(27.3)	(29.6)	(32.0)	(35.2)	(38.4)
<b>Retained cash flow (RCF)</b>	<b>149.0</b>	<b>149.8</b>	<b>149.7</b>	<b>153.9</b>	<b>156.0</b>
Net cash flow from capex	(289.4)	(307.6)	(315.6)	(373.4)	(375.9)
Pre-vesting and post-vesting disposal proceeds	(140.4)	(157.8)	(165.8)	(219.6)	(219.9)
<b>Net cash flow before financing</b>	<b>104.8</b>	<b>-</b>	<b>-</b>	<b>141.0</b>	<b>-</b>
Equity issuance	104.8	-	-	141.0	-
Net cash flow from financing	(35.6)	(157.8)	(165.8)	(78.6)	(219.9)
<b>Change in net debt</b>	<b>443.6</b>	<b>448.1</b>	<b>456.1</b>	<b>499.5</b>	<b>498.4</b>

Table 8: Cash flow statement for Yorkshire under notional regulatory financial assumptions

## Actual financing – Northeast

£m	2024	2025	2026	2027	2028
<b>INCOME STATEMENT</b>					
Operating revenue	357.9	356.3	343.8	360.5	377.6
Less actual controllable opex	(71.9)	(74.0)	(74.3)	(78.1)	(79.3)
Less non-controllable opex	(38.6)	(39.7)	(41.0)	(42.5)	(43.9)
Less equity issuance cost	-	-	-	-	-
Less established pension deficit repair	(5.6)	-	-	-	-
Less costs associated with other revenue allowances	(2.0)	(2.0)	(2.3)	(2.3)	(2.4)
<b>Earnings before interest, taxes, depreciation and amortisation (EBITDA)</b>	<b>239.9</b>	<b>240.7</b>	<b>226.2</b>	<b>237.6</b>	<b>251.9</b>
Depreciation (statutory)	(82.4)	(90.9)	(99.8)	(109.4)	(114.2)
<b>Earnings before interest and taxes (EBIT)</b>	<b>157.5</b>	<b>149.8</b>	<b>126.4</b>	<b>128.2</b>	<b>137.8</b>
Net interest paid (excluding principal inflation accretion)	(24.3)	(26.2)	(29.1)	(32.9)	(37.6)
Net interest paid (principal inflation accretion)	-	-	-	-	-
<b>Profit before tax (PBT)</b>	<b>133.2</b>	<b>123.6</b>	<b>97.3</b>	<b>95.3</b>	<b>100.2</b>
Tax paid	(39.4)	(37.7)	(31.1)	(31.0)	(31.2)
<b>Profit after tax (PAT)</b>	<b>93.8</b>	<b>85.8</b>	<b>66.2</b>	<b>64.3</b>	<b>69.0</b>
Dividends paid	(26.0)	(27.6)	(28.6)	(29.7)	(30.9)
<b>Retained earnings for the year</b>	<b>67.8</b>	<b>58.3</b>	<b>37.6</b>	<b>34.7</b>	<b>38.0</b>

Table 9: Income statement for Northeast under its actual financing structure

£m	2024	2025	2026	2027	2028
<b>CASH FLOW STATEMENT</b>					
Operating revenue	357.9	356.3	343.8	360.5	377.6
Total operating costs	(118.0)	(115.6)	(117.7)	(122.9)	(125.6)
Net cash flow from operations	239.9	240.7	226.2	237.6	251.9
Net interest paid (excluding principal inflation accretion)	(24.3)	(26.2)	(29.1)	(32.9)	(37.6)
Tax paid	(39.4)	(37.7)	(31.1)	(31.0)	(31.2)
<b>Funds from operations (FFO)</b>	<b>176.2</b>	<b>176.8</b>	<b>166.0</b>	<b>173.7</b>	<b>183.1</b>
Dividends paid	(26.0)	(27.6)	(28.6)	(29.7)	(30.9)
<b>Retained cash flow (RCF)</b>	<b>150.2</b>	<b>149.2</b>	<b>137.4</b>	<b>144.1</b>	<b>152.2</b>
Net cash flow from capex	(204.8)	(227.2)	(242.4)	(276.1)	(285.7)
Pre-vesting and post-vesting disposal proceeds	-	-	-	-	-
<b>Net cash flow before financing</b>	<b>(54.6)</b>	<b>(78.0)</b>	<b>(105.1)</b>	<b>(132.0)</b>	<b>(133.5)</b>
Equity issuance	-	-	-	-	-
Net cash flow from financing	-	-	-	-	-
<b>Change in net debt</b>	<b>(54.6)</b>	<b>(78.0)</b>	<b>(105.1)</b>	<b>(132.0)</b>	<b>(133.5)</b>

Table 10: Cash flow statement for Northeast under its actual financing structure

## Actual financing – Yorkshire

£m	2024	2025	2026	2027	2028
<b>INCOME STATEMENT</b>					
Operating revenue	452.1	465.6	456.2	499.7	498.6
Actual controllable opex	(84.2)	(86.4)	(86.0)	(90.0)	(92.5)
Non-controllable opex	(50.9)	(52.2)	(54.0)	(55.7)	(57.6)
Equity issuance cost	-	-	-	-	-
Established pension deficit repair	(2.7)	-	-	-	-
Costs associated with other revenue allowances	(2.9)	(3.0)	(3.4)	(3.5)	(3.5)
<b>Earnings before interest, taxes, depreciation and amortisation (EBITDA)</b>	<b>311.3</b>	<b>324.0</b>	<b>312.9</b>	<b>350.5</b>	<b>345.0</b>
Depreciation (statutory)	(97.1)	(104.9)	(111.8)	(119.5)	(128.4)
<b>Earnings before interest and taxes (EBIT)</b>	<b>214.2</b>	<b>219.1</b>	<b>201.1</b>	<b>231.0</b>	<b>216.6</b>
Net interest paid (excluding principal inflation accretion)	(37.1)	(41.0)	(46.7)	(53.2)	(60.7)
Net interest paid (principal inflation accretion)	-	-	-	-	-
<b>Profit before tax (PBT)</b>	<b>177.1</b>	<b>178.1</b>	<b>154.3</b>	<b>177.8</b>	<b>155.9</b>
Tax paid	(48.5)	(48.0)	(40.2)	(44.3)	(37.5)
<b>Profit after tax (PAT)</b>	<b>128.6</b>	<b>130.0</b>	<b>114.1</b>	<b>133.5</b>	<b>118.4</b>
Dividends paid	(35.5)	(37.3)	(38.6)	(39.9)	(41.7)
<b>Retained earnings for the year</b>	<b>93.1</b>	<b>92.8</b>	<b>75.6</b>	<b>93.5</b>	<b>76.7</b>

Table 11: Income statement for Yorkshire under its actual financing structure

£m	2024	2025	2026	2027	2028
<b>CASH FLOW STATEMENT</b>					
Operating revenue	452.1	465.6	456.2	499.7	498.6
Total operating costs	(140.8)	(141.6)	(143.4)	(149.2)	(153.6)
Net cash flow from operations	311.3	324.0	312.9	350.5	345.0
Net interest paid (excluding principal inflation accretion)	(37.1)	(41.0)	(46.7)	(53.2)	(60.7)
Tax paid	(48.5)	(48.0)	(40.2)	(44.3)	(37.5)
<b>Funds from operations (FFO)</b>	<b>225.7</b>	<b>234.9</b>	<b>226.0</b>	<b>253.0</b>	<b>246.8</b>
Dividends paid	(35.5)	(37.3)	(38.6)	(39.9)	(41.7)
<b>Retained cash flow (RCF)</b>	<b>190.2</b>	<b>197.7</b>	<b>187.4</b>	<b>213.0</b>	<b>205.1</b>
Net cash flow from capex	(317.8)	(340.8)	(352.3)	(428.7)	(429.5)
Pre-vesting and post-vesting disposal proceeds	-	-	-	-	-
<b>Net cash flow before financing</b>	<b>(127.6)</b>	<b>(143.2)</b>	<b>(164.9)</b>	<b>(215.6)</b>	<b>(224.5)</b>
Equity issuance	-	-	-	-	-
Net cash flow from financing	-	-	-	-	-
<b>Change in net debt</b>	<b>(127.6)</b>	<b>(143.2)</b>	<b>(164.9)</b>	<b>(215.6)</b>	<b>(224.5)</b>

Table 12: Cash flow statement for Yorkshire under its actual financing structure

## Risk management scenarios

### Notional financing

In support of our overall assessment of Northern Powergrid's financial risk, we stress-tested the business against short and long-term risks using scenarios that Ofgem specified. These scenarios are set out in the table below. In line with Ofgem's guidance we have not combined any of the risk scenarios.

Scenario	Variance
Interest rate	±1% compared to forward implied rates as per the base case in each year (for risk-free rate (RFR), Libor and iBoxx inputs)
CPIH	±1% in each year
CPIH divergence	±0.5% from assumed RPI-CPIH wedge
RPI divergence	±0.5% from assumed RPI-CPIH wedge
Totex	±10%
Return on regulatory equity (RoRE)	±2% compared to base assumption
Proportion of inflation linked debt	±5%

*Table 13: Ofgem specified risk management scenarios*

We set out below the full results of these risk management scenarios for the notional and actual company, dedicating a single page to each for clear presentation.

The stress-test scenarios for a notional financing structure result in an implied Moody's rating, under Ofgem's prescribed calculations, of Baa3 for Northeast and Ba1 for Yorkshire in most scenarios, which is comparable to the base case assessment. In two downside scenarios (underperforming totex allowances by ten percentage points and a two percentage point decrease in RoRE) our financial ratios would be placed under even more stress in the Northeast. Overall these two scenarios would imply a rating of or Ba1 both Northeast and Yorkshire.

PMICR is the most strained of all the metrics, falling below the Baa range in all of the downside scenarios. Whilst this metric alone does not determine the credit rating, additional headroom (for example through an increased cost of equity) would be necessary to ensure that Ofgem's credit metric requirements would be satisfied.



### Interest rate

There is no impact on the implied Moody's rating of Baa3/Ba1 of one percentage point increase or decrease in interest rates in each year, for either of our licensees.

The underlying metrics are affected, but each scenario (higher or lower interest rates) tends to improve some while worsening others.

Northeast	Ofgem base case	High interest rate (+1%)	Low interest rate (-1%)
Gearing	63%	63%	63%
FFO Interest Cover (including accretions)	3.77x	3.69x	3.87x
FFO Interest Cover (cash interest)	4.28x	4.16x	4.42x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.36x	1.38x	1.34x
Nominal PMICR	2.00x	1.99x	2.02x
FFO/Net Debt	11.0%	11.1%	10.8%
RCF/Net Debt	9.1%	9.2%	8.9%
Ofgem implied Moody's rating	Baa3	Baa3	Baa3

*Table 14: Northeast results for the interest rate stress test under notional financing*

Yorkshire	Ofgem base case	High interest rate (+1%)	Low interest rate (-1%)
Gearing	63%	63%	64%
FFO Interest Cover (including accretions)	3.65x	3.57x	3.73x
FFO Interest Cover (cash interest)	4.13x	4.02x	4.27x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.36x	1.38x	1.34x
Nominal PMICR	2.00x	1.99x	2.02x
FFO/Net Debt	10.4%	10.6%	10.2%
RCF/Net Debt	8.5%	8.7%	8.3%
Ofgem implied Moody's rating	Ba1	Ba1	Ba1

*Table 15: Yorkshire results for the interest rate stress test under notional financing*

**CPIH**

There is no impact on the implied Moody's rating of Baa3/Ba1 of one percentage point increase or decrease in CPIH in each year, for either of our licensees.

The underlying metrics are affected, but each scenario (higher or lower CPIH) tends to improve some while worsening others.

<b>Northeast</b>	<b>Ofgem base case</b>	<b>High CPIH (+1%)</b>	<b>Low CPIH (-1%)</b>
Gearing	63%	63%	63%
FFO Interest Cover (including accretions)	3.77x	3.56x	4.00x
FFO Interest Cover (cash interest)	4.28x	4.29x	4.26x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.36x	1.37x	1.36x
Nominal PMICR	2.00x	2.25x	1.71x
FFO/Net Debt	11.0%	10.8%	11.1%
RCF/Net Debt	9.1%	8.9%	9.2%
Ofgem-implied Moody's rating	Baa3	Baa3	Baa3

*Table 16: Northeast results for the CPIH stress test under notional financing*

<b>Yorkshire</b>	<b>Ofgem base case</b>	<b>High CPIH (+1%)</b>	<b>Low CPIH (-1%)</b>
Gearing	63%	63%	64%
FFO Interest Cover (including accretions)	3.65x	3.46x	3.84x
FFO Interest Cover (cash interest)	4.13x	4.16x	4.09x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.36x	1.37x	1.34x
Nominal PMICR	2.00x	2.27x	1.69x
FFO/Net Debt	10.4%	10.2%	10.4%
RCF/Net Debt	8.5%	8.3%	8.6%
Ofgem-implied Moody's rating	Ba1	Ba1	Ba1

*Table 17: Yorkshire results for the CPIH stress test under notional financing*

**RPI-CPIH divergence (CPIH)**

There is no impact on the implied Moody's rating of Baa3/Ba1 of half a percentage point increase or decrease in CPIH from the assumed RPI-CPIH wedge, for either of our licensees. Some individual metrics can be pushed into a strained category but, as with the CPIH scenario, different metrics tend to move in opposite directions.

<b>Northeast</b>	<b>Ofgem base case</b>	<b>+0.5% from assumed wedge</b>	<b>-0.5% from assumed wedge</b>
Gearing	63%	64%	63%
FFO Interest Cover (including accretions)	3.77x	3.87x	3.68x
FFO Interest Cover (cash interest)	4.28x	4.26x	4.30x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.36x	1.36x	1.37x
Nominal PMICR	2.00x	1.87x	2.13x
FFO/Net Debt	11.0%	11.0%	10.9%
RCF/Net Debt	9.1%	9.1%	9.0%
Ofgem-implied Moody's rating	Baa3	Baa3	Baa3

*Table 18: Northeast results for the RPI-CPIH divergence (CPIH) stress test under notional financing*

<b>Yorkshire</b>	<b>Ofgem base case</b>	<b>+0.5% from assumed wedge</b>	<b>-0.5% from assumed wedge</b>
Gearing	63%	64%	64%
FFO Interest Cover (including accretions)	3.65x	3.74x	3.53x
FFO Interest Cover (cash interest)	4.13x	4.12x	4.12x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.36x	1.35x	1.36x
Nominal PMICR	2.00x	1.87x	2.11x
FFO/Net Debt	10.4%	10.4%	10.2%
RCF/Net Debt	8.5%	8.6%	8.3%
Ofgem implied Moody's rating	Ba1	Ba1	Ba1

*Table 19: Yorkshire results for the RPI-CPIH divergence (CPIH) stress test under notional financing*

**RPI-CPIH divergence (RPI)**

There is no impact on the implied Moody's rating of Baa3/Ba1 of half a percentage point increase or decrease in RPI from the assumed RPI-CPIH wedge, for either of our licensees.

This scenario has a relatively small impact on the underlying metrics.

Northeast	Ofgem base case	+0.5% from assumed wedge	-0.5% from assumed wedge
Gearing	63%	63%	63%
FFO Interest Cover (including accretions)	3.77x	3.78x	3.77x
FFO Interest Cover (cash interest)	4.28x	4.29x	4.27x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.36x	1.37x	1.36x
Nominal PMICR	2.00x	2.03x	1.98x
FFO/Net Debt	11.0%	11.0%	10.9%
RCF/Net Debt	9.1%	9.1%	9.0%
Ofgem implied Moody's rating	Baa3	Baa3	Baa3

*Table 20: Northeast results for the RPI-CPIH divergence (RPI) stress test under notional financing*

Yorkshire	Ofgem base case	+0.5% from assumed wedge	-0.5% from assumed wedge
Gearing	63%	63%	64%
FFO Interest Cover (including accretions)	3.65x	3.65x	3.64x
FFO Interest Cover (cash interest)	4.13x	4.14x	4.13x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.36x	1.36x	1.36x
Nominal PMICR	2.00x	2.02x	1.98x
FFO/Net Debt	10.4%	10.4%	10.4%
RCF/Net Debt	8.5%	8.5%	8.5%
Ofgem- implied Moody's rating	Ba1	Ba1	Ba1

*Table 21: Yorkshire results for the RPI-CPIH divergence (RPI) stress test under notional financing*

## Totex

A ten percentage point underperformance in totex would result in a one notch decrease in the implied Moody's rating for Northeast to Ba1, and Yorkshire maintaining the Ba1, with particular strain being placed on the PMICR and FFO/Net Debt ratios.

A ten percentage point over performance in totex would see the Moody's rating improve to Baa2 for Northeast and Baa3 for Yorkshire.

Northeast	Ofgem base case	Totex out-performance (-10%)	Totex under-performance (+10%)
Gearing	63%	61%	65%
FFO Interest Cover (including accretions)	3.77x	3.99x	3.60x
FFO Interest Cover (cash interest)	4.28x	4.53x	4.08x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.36x	1.52x	1.23x
Nominal PMICR	2.00x	2.15x	1.88x
FFO/Net Debt	11.0%	11.9%	10.2%
RCF/Net Debt	9.1%	10.0%	8.3%
Ofgem-implied Moody's rating	Baa3	Baa2	Ba1

*Table 22: Northeast results for the totex stress test under notional financing*

Yorkshire	Ofgem base case	Totex out-performance (-10%)	Totex under-performance (+10%)
Gearing	63%	62%	64%
FFO Interest Cover (including accretions)	3.65x	3.81x	3.52x
FFO Interest Cover (cash interest)	4.13x	4.32x	3.99x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.36x	1.49x	1.25x
Nominal PMICR	2.00x	2.12x	1.90x
FFO/Net Debt	10.4%	11.1%	9.8%
RCF/Net Debt	8.5%	9.2%	7.9%
Ofgem-implied Moody's rating	Ba1	Baa3	Ba1

*Table 23: Yorkshire results for the totex stress test under notional financing*

### Return on regulated equity (RoRE)

A two percentage point decrease in RoRE would result in a one notch decrease in implied Moody's rating to Ba1 for Northeast, with Yorkshire maintaining this rating, with particular strain being placed on the PMICR and FFO/Net Debt ratios.

A two percentage point increase in RoRE would see the Moody's rating improve to Baa1 for Northeast and Baa2 for Yorkshire.

Northeast	Ofgem base case	RoRE (+2%)	RoRE (-2%)
Gearing	63%	62%	64%
FFO Interest Cover (including accretions)	3.77x	4.13x	3.43x
FFO Interest Cover (cash interest)	4.28x	4.69x	3.89x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.36x	1.74x	1.00x
Nominal PMICR	2.00x	2.34x	1.68x
FFO/Net Debt	11.0%	12.4%	9.6%
RCF/Net Debt	9.1%	10.5%	7.7%
Ofgem-implied Moody's rating	Baa3	Baa1	Ba1

*Table 24: Northeast results for the RoRE stress test under notional financing*

Yorkshire	Ofgem base case	RoRE (+2%)	RoRE (-2%)
Gearing	63%	63%	64%
FFO Interest Cover (including accretions)	3.65x	3.95x	3.34x
FFO Interest Cover (cash interest)	4.13x	4.48x	3.79x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.36x	1.71x	1.01x
Nominal PMICR	2.00x	2.31x	1.70x
FFO/Net Debt	10.4%	11.6%	9.1%
RCF/Net Debt	8.5%	9.7%	7.3%
Ofgem-implied Moody's rating	Ba1	Baa2	Ba1

*Table 25: Yorkshire results for the RoRE stress test under notional financing*

## Inflation-linked debt

There is no impact on the implied Moody's rating of Baa3/Ba1 of a five percentage point increase or decrease in proportion of inflation-linked debt compared to the notional company assumption of 25%, for Northeast or Yorkshire.

Northeast	Ofgem base case	Inflation linked debt (+5%)	Inflation linked debt (-5%)
Gearing	63%	63%	63%
FFO Interest Cover (including accretions)	3.77x	3.78x	3.77x
FFO Interest Cover (cash interest)	4.28x	4.40x	4.17x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.36x	1.40x	1.33x
Nominal PMICR	2.00x	2.01x	2.00x
FFO/Net Debt	11.0%	11.0%	11.0%
RCF/Net Debt	9.1%	9.1%	9.1%
Ofgem-implied Moody's rating	Baa3	Baa3	Baa3

*Table 26: Northeast results for the inflation linked debt stress test under notional financing*

Yorkshire	Ofgem base case	Inflation linked debt (+5%)	Inflation linked debt (-5%)
Gearing	63%	63%	63%
FFO Interest Cover (including accretions)	3.65x	3.65x	3.64x
FFO Interest Cover (cash interest)	4.13x	4.25x	4.02x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.36x	1.40x	1.32x
Nominal PMICR	2.00x	2.00x	2.00x
FFO/Net Debt	10.4%	10.4%	10.4%
RCF/Net Debt	8.5%	8.5%	8.5%
Ofgem- implied Moody's rating	Ba1	Ba1	Ba1

*Table 27: Yorkshire results for the inflation linked debt stress test under notional financing*

## Actual financing

As well as the financials stress tests under a notional financing structure, set out above, we have also calculated the impact on the credit metrics of each of the stress-test scenarios on the actual company for Northeast and Yorkshire. These are set out below.

In summary, the actual company stress-test scenarios for:

- Northeast result in an implied Moody's rating, under Ofgem's prescribed calculations, of A3 in all scenarios.
- Yorkshire result in an implied Moody's rating of A3 in all but one scenario (a two percentage point reduction in RoRE, which would imply a rating of Baa1).

No metrics are strained in any of the scenarios.



### Interest rate

A one percentage point increase in the interest rate compared to the implied rates as per the base case would result in the A3 rating being maintained for both Northeast and Yorkshire. There is no impact on the implied rating in any other case under this scenario.

Northeast	Ofgem base case	High interest rate (+1%)	Low interest rate (-1%)
Gearing	55%	55%	56%
FFO Interest Cover (including accretions)	6.97x	6.44x	7.44x
FFO Interest Cover (cash interest)	6.97x	6.44x	7.44x
Adjusted Interest Cover Ratio (AICR) or PMICR	2.83x	2.69x	2.94x
Nominal PMICR	4.11x	3.85x	4.33x
FFO/Net Debt	16.7%	16.7%	16.4%
RCF/Net Debt	14.0%	14.3%	14.0%
Ofgem- implied Moody's rating	A3	A3	A3

*Table 28: Northeast results for the interest rate stress test under actual financing*

Yorkshire	Ofgem base case	High interest rate (+1%)	Low interest rate (-1%)
Gearing	57%	57%	57%
FFO Interest Cover (including accretions)	6.09x	5.49x	6.70x
FFO Interest Cover (cash interest)	6.09x	5.49x	6.70x
Adjusted Interest Cover Ratio (AICR) or PMICR	2.61x	2.41x	2.80x
Nominal PMICR	3.74x	3.41x	4.08x
FFO/Net Debt	15.7%	15.5%	15.5%
RCF/Net Debt	13.2%	13.3%	13.3%
Ofgem-implied Moody's rating	A3	A3	A3

*Table 29: Yorkshire results for the interest rate stress test under actual financing*

## CPIH

There is no impact on the implied Moody's rating of A3 for Northeast and Yorkshire, of a one percentage point increase in CPIH in each year. But a one percentage decrease would result in a one notch decrease in implied Moody's rating to Baa1 in Yorkshire.

Northeast	Ofgem base case	High CPIH (+1%)	Low CPIH (-1%)
Gearing	55%	54%	57%
FFO Interest Cover (including accretions)	6.97x	7.06x	6.69x
FFO Interest Cover (cash interest)	6.97x	7.06x	6.69x
Adjusted Interest Cover Ratio (AICR) or PMICR	2.83x	2.83x	2.73x
Nominal PMICR	4.11x	4.77x	3.36x
FFO/Net Debt	16.7%	17.0%	16.0%
RCF/Net Debt	14.0%	14.4%	13.8%
Ofgem-implied Moody's rating	A3	A3	A3

*Table 30: Northeast results for the CPIH stress test under actual financing*

Yorkshire	Ofgem base case	High CPIH (+1%)	Low CPIH (-1%)
Gearing	57%	56%	59%
FFO Interest Cover (including accretions)	6.09x	6.18x	5.84x
FFO Interest Cover (cash interest)	6.09x	6.18x	5.84x
Adjusted Interest Cover Ratio (AICR) or PMICR	2.61x	2.64x	2.52x
Nominal PMICR	3.74x	4.34x	3.07x
FFO/Net Debt	15.7%	16.0%	15.1%
RCF/Net Debt	13.2%	13.6%	13.0%
Ofgem-implied Moody's rating	A3	A3	Baa1

*Table 31: Yorkshire results for the CPIH stress test under actual financing*

**RPI-CPIH divergence (CPIH)**

There is no impact on the implied Moody's rating of A3 for both Northeast and Yorkshire, of a half a percentage point increase or decrease in CPIH from the assumed RPI-CPIH wedge.

Northeast	Ofgem base case	+0.5% from assumed wedge	-0.5% from assumed wedge
Gearing	55%	56%	55%
FFO Interest Cover (including accretions)	6.97x	6.84x	6.94x
FFO Interest Cover (cash interest)	6.97x	6.84x	6.94x
Adjusted Interest Cover Ratio (AICR) or PMICR	2.83x	2.79x	2.81x
Nominal PMICR	4.11x	3.77x	4.36x
FFO/Net Debt	16.7%	16.4%	16.7%
RCF/Net Debt	14.0%	14.1%	14.2%
Ofgem-implied Moody's rating	A3	A3	A3

*Table 32: Northeast results for the RPI-CPIH divergence (CPIH) stress test under actual financing*

Yorkshire	Ofgem base case	+0.5% from assumed wedge	-0.5% from assumed wedge
Gearing	57%	58%	57%
FFO Interest Cover (including accretions)	6.09x	5.96x	6.05x
FFO Interest Cover (cash interest)	6.09x	5.96x	6.05x
Adjusted Interest Cover Ratio (AICR) or PMICR	2.61x	2.57x	2.59x
Nominal PMICR	3.74x	3.43x	3.96x
FFO/Net Debt	15.7%	15.4%	15.6%
RCF/Net Debt	13.2%	13.2%	13.3%
Ofgem-implied Moody's rating	A3	A3	A3

*Table 33: Yorkshire results for the RPI-CPIH divergence (CPIH) stress test under actual financing*

**RPI-CPIH divergence (RPI)**

There is no impact on the implied Moody's rating of A3 for both Northeast and Yorkshire, of a half a percentage point increase or decrease in RPI from the assumed RPI-CPIH wedge.

Northeast	Ofgem base case	+0.5% from assumed wedge	-0.5% from assumed wedge
Gearing	55%	55%	56%
FFO Interest Cover (including accretions)	6.97x	6.94x	6.84x
FFO Interest Cover (cash interest)	6.97x	6.94x	6.84x
Adjusted Interest Cover Ratio (AICR) or PMICR	2.83x	2.82x	2.78x
Nominal PMICR	4.11x	4.12x	4.00x
FFO/Net Debt	16.7%	16.7%	16.4%
RCF/Net Debt	14.0%	14.3%	14.1%
Ofgem- implied Moody's rating	A3	A3	A3

*Table 34: Northeast results for the RPI-CPIH divergence (RPI) stress test under actual financing*

Yorkshire	Ofgem base case	+0.5% from assumed wedge	-0.5% from assumed wedge
Gearing	57%	57%	58%
FFO Interest Cover (including accretions)	6.09x	6.05x	5.97x
FFO Interest Cover (cash interest)	6.09x	6.05x	5.97x
Adjusted Interest Cover Ratio (AICR) or PMICR	2.61x	2.59x	2.56x
Nominal PMICR	3.74x	3.75x	3.64x
FFO/Net Debt	15.7%	15.6%	15.4%
RCF/Net Debt	13.2%	13.3%	13.2%
Ofgem- implied Moody's rating	A3	A3	A3

*Table 35: Yorkshire results for the RPI-CPIH divergence (RPI) stress test under actual financing*

## Totex

There is no impact on the implied Moody's rating of A3 for both Northeast and Yorkshire, of a ten percentage point underperformance in totex.

Northeast	Ofgem base case	Totex out performance (-10%)	Totex under performance (+10%)
Gearing	55%	53%	56%
FFO Interest Cover (including accretions)	6.97x	7.31x	6.79x
FFO Interest Cover (cash interest)	6.97x	7.31x	6.79x
Adjusted Interest Cover Ratio (AICR) or PMICR	2.83x	3.00x	2.71x
Nominal PMICR	4.11x	4.32x	3.99x
FFO/Net Debt	16.7%	17.9%	16.1%
RCF/Net Debt	14.0%	15.2%	13.7%
Ofgem- implied Moody's rating	A3	A3	A3

*Table 36: Northeast results for the totex stress test under actual financing*

Yorkshire	Ofgem base case	Totex out performance (-10%)	Totex under performance (+10%)
Gearing	57%	54%	57%
FFO Interest Cover (including accretions)	6.09x	6.33x	5.98x
FFO Interest Cover (cash interest)	6.09x	6.33x	5.98x
Adjusted Interest Cover Ratio (AICR) or PMICR	2.61x	2.72x	2.56x
Nominal PMICR	3.74x	3.88x	3.69x
FFO/Net Debt	15.7%	16.7%	15.2%
RCF/Net Debt	13.2%	14.2%	13.0%
Ofgem- implied Moody's rating	A3	A3	A3

*Table 37: Yorkshire results for the totex stress test under actual financing*

## RoRE

A two percentage point decrease in RoRE would result in a one notch decrease in implied Moody's rating to Baa1 for Yorkshire, while Northeast would remain at A3. A two percentage point increase in RoRE would maintain the implied Moody's rating of A3 for both Northeast and Yorkshire.

Northeast	Ofgem base case	RoRE (+2%)	RoRE (-2%)
Gearing	55%	54%	57%
FFO Interest Cover (including accretions)	6.97x	7.32x	6.45x
FFO Interest Cover (cash interest)	6.97x	7.32x	6.45x
Adjusted Interest Cover Ratio (AICR) or PMICR	2.83x	3.17x	2.42x
Nominal PMICR	4.11x	4.45x	3.67x
FFO/Net Debt	16.7%	17.8%	15.3%
RCF/Net Debt	14.0%	15.3%	13.0%
Ofgem- implied Moody's rating	A3	A3	A3

*Table 38: Northeast results for the RORE stress test under actual financing*

	Ofgem base case	RoRE (+2%)	RoRE (-2%)
Gearing	57%	56%	58%
FFO Interest Cover (including accretions)	6.09x	6.37x	5.66x
FFO Interest Cover (cash interest)	6.09x	6.37x	5.66x
Adjusted Interest Cover Ratio (AICR) or PMICR	2.61x	2.89x	2.27x
Nominal PMICR	3.74x	4.03x	3.38x
FFO/Net Debt	15.7%	16.7%	14.4%
RCF/Net Debt	13.2%	14.4%	12.2%
Ofgem- implied Moody's rating	A3	A3	Baa1

*Table 39: Yorkshire results for the RORE stress test under actual financing*

## Inflation-linked debt

As Northern Powergrid has no inflation-linked debt, this scenario is not relevant for the company under its actual financing structure.

## Appendix 1: impact of alternative inflation working assumption

Ofgem's financial model at 1 December 2021 uses an alternative inflation assumption to the working assumption set out in Ofgem's [Sector Specific Methodology Decision](#) (SSMD).

This annex sets out the impact of using this alternative inflation assumption on our notional company credit metrics- which is generally small (at the level of individual metrics) and unlikely to alter a rating assessment.

### Base scenario

	Credit metrics at model inflation assumption		Variance to metrics at SSMD inflation assumption	
	Northeast	Yorkshire	Northeast	Yorkshire
Gearing	63%	64%	0.28%	(0.27%)
FFO Interest Cover (including accretions)	3.77x	3.61x	0.01x	0.04x
FFO Interest Cover (cash interest)	4.30x	4.12x	(0.02x)	0.02x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.37x	1.36x	(0.01x)	0.01x
Nominal PMICR	2.06x	2.04x	(0.06x)	(0.04x)
FFO/Net Debt	11.0%	10.3%	(0.04%)	0.07%
RCF/Net Debt	9.1%	8.4%	(0.03%)	0.07%
Moody's implied rating	Baa3	Ba1		

Table 40: Base scenario sensitivity to inflation assumption used

### Interest rate stress test (+1 percentage points)

	Credit metrics at model inflation assumption		Variance to metrics at SSMD inflation assumption	
	Northeast	Yorkshire	Northeast	Yorkshire
Gearing	63%	64%	0.28%	(0.24%)
FFO Interest Cover (including accretions)	3.69x	3.53x	0.01x	0.04x
FFO Interest Cover (cash interest)	4.18x	4.01x	(0.02x)	0.01x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.39x	1.38x	(0.01x)	0.00x
Nominal PMICR	2.05x	2.03x	(0.05x)	(0.04x)
FFO/Net Debt	11.2%	10.5%	(0.04%)	0.07%
RCF/Net Debt	9.3%	8.6%	(0.04%)	0.06%
Moody's implied rating	Baa3	Ba1		

Table 41: Interest rate stress test (+1 percentage points) sensitivity to inflation assumption used

## Interest rate stress test (-1 percentage points)

	Credit metrics at model inflation assumption		Variance to metrics at SSMD inflation assumption	
	Northeast	Yorkshire	Northeast	Yorkshire
Gearing	63%	63%	0.28%	0.21%
FFO Interest Cover (including accretions)	3.86x	3.72x	0.01x	0.01x
FFO Interest Cover (cash interest)	4.44x	4.28x	(0.02x)	(0.01x)
Adjusted Interest Cover Ratio (AICR) or PMICR	1.35x	1.34x	(0.01x)	(0.00x)
Nominal PMICR	2.07x	2.07x	(0.06x)	(0.05x)
FFO/Net Debt	10.8%	10.2%	(0.04%)	(0.02%)
RCF/Net Debt	8.9%	8.3%	(0.03%)	(0.02%)
Moody's implied rating	Baa3	Ba1		

Table 42: Interest rate stress test (-1 percentage points) sensitivity to inflation assumption used

## CPIH divergence stress test (+1 percentage points)

	Credit metrics at model inflation assumption		Variance to metrics at SSMD inflation assumption	
	Northeast	Yorkshire	Northeast	Yorkshire
Gearing	63%	63%	0.34%	0.27%
FFO Interest Cover (including accretions)	3.56x	3.45x	0.00x	0.01x
FFO Interest Cover (cash interest)	4.31x	4.18x	(0.02x)	(0.02x)
Adjusted Interest Cover Ratio (AICR) or PMICR	1.37x	1.37x	(0.01x)	(0.01x)
Nominal PMICR	2.31x	2.32x	(0.05x)	(0.05x)
FFO/Net Debt	10.8%	10.3%	(0.05%)	(0.04%)
RCF/Net Debt	8.9%	8.4%	(0.04%)	(0.03%)
Moody's implied rating	Baa3	Ba1		

Table 43: CPIH divergence stress test (+1 percentage points) sensitivity to inflation assumption used

## CPIH divergence stress test (-1 percentage points)

	Credit metrics at model inflation assumption		Variance to metrics at SSMD inflation assumption	
	Northeast	Yorkshire	Northeast	Yorkshire
Gearing	63%	64%	0.22%	0.21%
FFO Interest Cover (including accretions)	3.98x	3.82x	0.01x	0.01x
FFO Interest Cover (cash interest)	4.27x	4.10x	(0.01x)	(0.01x)
Adjusted Interest Cover Ratio (AICR) or PMICR	1.36x	1.35x	(0.00x)	(0.00x)
Nominal PMICR	1.76x	1.75x	(0.06x)	(0.06x)
FFO/Net Debt	11.1%	10.5%	(0.03%)	(0.02%)
RCF/Net Debt	9.2%	8.6%	(0.02%)	(0.02%)
Moody's implied rating	Baa3	Ba1		

Table 44: CPIH divergence stress test (-1 percentage points) sensitivity to inflation assumption used



## RPI-CPIH divergence stress test (CPIH)

	Credit metrics at model inflation assumption		Variance to metrics at SSMD inflation assumption	
	Northeast	Yorkshire	Northeast	Yorkshire
Gearing	63%	64%	0.28%	0.21%
FFO Interest Cover (including accretions)	3.86x	3.73x	0.01x	0.01x
FFO Interest Cover (cash interest)	4.28x	4.13x	(0.02x)	(0.01x)
Adjusted Interest Cover Ratio (AICR) or PMICR	1.36x	1.36x	(0.01x)	(0.00x)
Nominal PMICR	1.93x	1.93x	(0.06x)	(0.05x)
FFO/Net Debt	11.0%	10.5%	(0.04%)	(0.02%)
RCF/Net Debt	9.1%	8.6%	(0.03%)	(0.02%)
Moody's implied rating	Baa3	Ba1		

Table 45: RPI-CPIH divergence stress test (CPIH) sensitivity to inflation assumption used

## RPI-CPIH divergence stress test (RPI)

	Credit metrics at model inflation assumption		Variance to metrics at SSMD inflation assumption	
	Northeast	Yorkshire	Northeast	Yorkshire
Gearing	63%	63%	(0.66%)	0.27%
FFO Interest Cover (including accretions)	3.62x	3.52x	0.06x	0.01x
FFO Interest Cover (cash interest)	4.26x	4.14x	0.04x	(0.02x)
Adjusted Interest Cover Ratio (AICR) or PMICR	1.36x	1.36x	0.02x	(0.01x)
Nominal PMICR	2.15x	2.16x	(0.02x)	(0.05x)
FFO/Net Debt	10.8%	10.3%	0.15%	(0.04%)
RCF/Net Debt	8.9%	8.4%	0.13%	(0.03%)
Moody's implied rating	Baa3	Ba1		

Table 46: RPI-CPIH divergence stress test (RPI) sensitivity to inflation assumption used

## Totex stress test (-10%)

	Credit metrics at model inflation assumption		Variance to metrics at SSMD inflation assumption	
	Northeast	Yorkshire	Northeast	Yorkshire
Gearing	61%	62%	0.35%	0.34%
FFO Interest Cover (including accretions)	3.99x	3.81x	0.00x	0.00x
FFO Interest Cover (cash interest)	4.56x	4.34x	(0.03x)	(0.02x)
Adjusted Interest Cover Ratio (AICR) or PMICR	1.53x	1.50x	(0.01x)	(0.01x)
Nominal PMICR	2.21x	2.18x	(0.06x)	(0.06x)
FFO/Net Debt	12.0%	11.2%	(0.07%)	(0.06%)
RCF/Net Debt	10.0%	9.3%	(0.05%)	(0.05%)
Moody's implied rating	Baa2	Baa3		

Table 47: Totex stress test (-10%) sensitivity to inflation assumption used

## Totex stress test (+10%)

	Credit metrics at model inflation assumption		Variance to metrics at SSMD inflation assumption	
	Northeast	Yorkshire	Northeast	Yorkshire
Gearing	64%	64%	0.21%	0.14%
FFO Interest Cover (including accretions)	3.59x	3.50x	0.01x	0.02x
FFO Interest Cover (cash interest)	4.09x	4.00x	(0.01x)	(0.01x)
Adjusted Interest Cover Ratio (AICR) or PMICR	1.24x	1.25x	(0.00x)	(0.00x)
Nominal PMICR	1.93x	1.96x	(0.05x)	(0.05x)
FFO/Net Debt	10.2%	9.8%	(0.02%)	(0.01%)
RCF/Net Debt	8.3%	7.9%	(0.02%)	0.00%
Moody's implied rating	Ba1	Ba1		

Table 48: Totex stress test (+10%) sensitivity to inflation assumption used

## RORE stress test (-2 percentage points)

	Credit metrics at model inflation assumption		Variance to metrics at SSMD inflation assumption	
	Northeast	Yorkshire	Northeast	Yorkshire
Gearing	62%	63%	0.35%	0.34%
FFO Interest Cover (including accretions)	4.13x	3.94x	0.00x	0.00x
FFO Interest Cover (cash interest)	4.71x	4.50x	(0.03x)	(0.02x)
Adjusted Interest Cover Ratio (AICR) or PMICR	1.75x	1.72x	(0.01x)	(0.01x)
Nominal PMICR	2.40x	2.36x	(0.06x)	(0.06x)
FFO/Net Debt	12.5%	11.7%	(0.07%)	(0.06%)
RCF/Net Debt	10.6%	9.8%	(0.06%)	(0.05%)
Moody's implied rating	Baa1	Baa2		

Table 49: RORE stress test (+ 2 percentage points) sensitivity to inflation assumption used

## RORE stress test (+2 percentage points)

	Credit metrics at model inflation assumption		Variance to metrics at SSMD inflation assumption	
	Northeast	Yorkshire	Northeast	Yorkshire
Gearing	64%	65%	0.21%	(0.89%)
FFO Interest Cover (including accretions)	3.42x	3.27x	0.01x	0.07x
FFO Interest Cover (cash interest)	3.91x	3.74x	(0.01x)	0.05x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.01x	1.00x	(0.00x)	0.01x
Nominal PMICR	1.73x	1.72x	(0.05x)	(0.02x)
FFO/Net Debt	9.6%	8.9%	(0.02%)	0.19%
RCF/Net Debt	7.7%	7.1%	(0.02%)	0.17%
Moody's implied rating	Ba1	Ba1		

Table 50: RORE stress test (+ 2 percentage points) sensitivity to inflation assumption used

## Inflation linked debt stress test (+5% percentage points index linked leverage)

	Credit metrics at model inflation assumption		Variance to metrics at SSMD inflation assumption	
	Northeast	Yorkshire	Northeast	Yorkshire
Gearing	63%	64%	0.27%	(0.28%)
FFO Interest Cover (including accretions)	3.76x	3.61x	0.01x	0.04x
FFO Interest Cover (cash interest)	4.42x	4.24x	(0.02x)	0.02x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.41x	1.39x	(0.01x)	0.01x
Nominal PMICR	2.06x	2.04x	(0.05x)	(0.04x)
FFO/Net Debt	11.0%	10.3%	(0.03%)	0.08%
RCF/Net Debt	9.1%	8.4%	(0.03%)	0.07%
Moody's implied rating	Baa3	Ba1		

Table 51: Inflation debt stress test (+ 5 percentage points index linked leverage) sensitivity to inflation assumption used

## Inflation linked debt stress test (-5% percentage points index linked leverage)

	Credit metrics at model inflation assumption		Variance to metrics at SSMD inflation assumption	
	Northeast	Yorkshire	Northeast	Yorkshire
Gearing	63%	64%	0.29%	(0.26%)
FFO Interest Cover (including accretions)	3.77x	3.61x	0.00x	0.03x
FFO Interest Cover (cash interest)	4.19x	4.01x	(0.02x)	0.01x
Adjusted Interest Cover Ratio (AICR) or PMICR	1.33x	1.32x	(0.01x)	0.01x
Nominal PMICR	2.06x	2.04x	(0.06x)	(0.04x)
FFO/Net Debt	11.0%	10.3%	(0.05%)	0.07%
RCF/Net Debt	9.1%	8.4%	(0.04%)	0.06%
Moody's implied rating	Baa3	Ba1		

Table 52: Inflation debt stress test (+ 5 percentage points index linked leverage) sensitivity to inflation assumption used

**Visit:**

[ed2plan.northernpowergrid.com](http://ed2plan.northernpowergrid.com)

**Follow us on Twitter:**

[@powergridnews](https://twitter.com/powergridnews)

**Follow us on Facebook:**

[@northernpowergrid](https://www.facebook.com/northernpowergrid)

**Email us at:**

[yourpowergrid@northernpowergrid.com](mailto:yourpowergrid@northernpowergrid.com)