national gas transmission

RIIO-GT3
2026 – 2031

Draft Determination

National Gas Transmission document response

Our response to Ofgem's assessment of our RIIO-GT3 (2026-2031) business plan

August 2025 v1
Official – For public release

Introduction

At National Gas, we operate and maintain the UK's gas transmission system, ensuring energy flows safely, reliably, and efficiently to millions of homes, businesses, and industries. We play a central role in the UK's energy security and are committed to enabling the transition to a net zero future.

As part of the RIIO-GT3 price control process, which begins in April 2026, we submitted our Business Plan to our regulator, Ofgem, in December 2024. This plan sets out how we will deliver long-term value for consumers, meet our regulatory obligations, and invest in a resilient, future-ready gas network.

On 1 July 2025, Ofgem published its Draft Determination, outlining its initial assessment and view on our proposals, and those of other regulated networks. Following an eight-week consultation period, we submitted our full response on 26 August 2025. This document forms part of the suite of materials that make up our full response.

We welcome the fact that Ofgem has clearly signalled this as a consultation in which it is open to making changes based on stakeholder views and the consideration of evidence. This is both positive and important, as we believe a significant number of the current proposals are unacceptable and require numerous remedies to be addressed in the Final Determination. Our response is evidence-based, includes new data where relevant, and proposes practical remedies that better serve the interests of consumers and the country.

We will continue to engage constructively with Ofgem in the weeks and months ahead to ensure our evidence is fully understood and that the necessary changes are secured.

Read our full Executive summary here>

Structure of our Draft Determination response

There are multiple parts to our response in which we provide the evidence to justify and support changes needed:

- Cover letter
- Executive summary
- Overview document response
- **National Gas Transmission document response**
- Finance annex response
- Impact assessment response
- Redaction log
- NetDAR Report (resubmission)
- Risk assessment (resubmission with update)
- National Gas Transmission Draft Determination response file list
- Appendices and supporting material

Please note: **Cyber files are excluded from the above**

Any tables, diagrams or images will be labelled numerically related specifically to and within the question response, rather than sequentially throughout the entire document.

Responses to questions GTQ1 to GTQ58

GTQ1. Do you agree with the proposed licence obligation for National Gas to collaborate with NESO and to seek stakeholder feedback in the area of gas strategic planning?

1. We recognise the importance of the quality of our collaboration with NESO and of incorporating stakeholder views and feedback into our strategic planning processes. However, we do not agree with the detailed proposed licence obligation as written.

2. The proposal touches on some distinct themes and we address each of these separately.

Collaboration

3. We have played an active role in supporting the establishment of a competent, Independent System Operator and Planner (ISOP). We also continue to proactively collaborate with NESO through regular, structured engagement at working and management level, to share information and drive consistency of approach. We have frequent adhoc conversations to address specific questions or areas of clarification, particularly as a number of the new processes are being run for the first time.

4. We believe it is in everyone's interests for this to continue and that the current mechanism of regular bilateral and trilateral discussions between us, NESO and Ofgem provide the appropriate level of assurance, without an administrative overhead of formal reporting.

Sharing information

5. We have existing obligations under 9.12 Part E to provide our network model to NESO as well as 'any other information or support related to the operation of the Network Model that [NESO] may reasonably request'.

6. Our primary input to NESO's strategic planning process is the Strategic Planning Options Proposal (SPOP), the requirements for which are defined in 9.10 Part B. We believe it would be appropriate to review these requirements in collaboration with NESO and Ofgem, now that the first SPOP has been submitted.

7. Our Long-Term Development Statement (LTDS) publication references the outcome of the strategic planning process (being any options progressed through the Gas Options Advice (GOA) document and approved by the authority), and as such is not an information source for NESO.

8. We believe that the existing obligations to share information are sufficient. We will continue to share relevant information over and above the strict remit of the existing obligations where this is available or can be delivered within existing resources. However, we do not believe it is appropriate to accept an additional open-ended obligation in this area.

Incorporating stakeholder feedback

9. Rather than introducing a new report to Ofgem every two years, we believe a more efficient and effective approach would be preferable. The proposed report would largely duplicate information that is already provided and embedded within existing processes. Additionally, creating a new report would require appropriate governance arrangements involving all relevant parties. Instead, we suggest incorporating stakeholder requirements into the current licence obligations related to the SPOP and the LTDS. This approach would align with the equivalent obligations already present in the ISOP Licence.

10. As the LTDS is published to the industry, we would suggest similar wording to the that for Gas Network Capability Needs Report (GNCNR), which could be added to 9.10.5, i.e.:

The licensee must also include in its Long Term Development Statement where possible:

…

(c) any engagement with interested parties in the development of the Long Term Development Statement; and

(d) any views or information provided by interested parties and an explanation of how these were taken into account in the development of the Long Term Development Statement.

As the SPOP is only submitted to NESO and Ofgem, we would suggest the following addition to 9.10.12:

The licensee's Strategic Planning Options Proposal prepared in accordance with paragraph 9.10.10 must include:

…

(f) a summary of how the licensee has engaged with the ISOP on the information produced in the Strategic Planning Options Proposal and any views or representations from this engagement.

GTQ2. Do you have any views on the proposed design of this incentive?

11. We welcome the continued inclusion of the Greenhouse Gas Emissions (Compressors) (GHG-C) ODI-F in RIIO-GT3. The decision to increase the overall annual cap and collar to £2.0m is a welcome recognition of the importance of reducing our venting emissions alongside our maintenance, safety and compliance activities and the growing complexity of managing a flexible network meeting our customers' requirements.

12. We agree with the overall structure of the incentive and recognise the need for a challenging allowance target. Given the challenging backdrop and uncertainty, we support the inclusion of a deadband (although we need to understand the target and improvement factor prior to providing a position with regards to the deadband). However, we do not support the proposed target or a 100 tonne per annum improvement factor.

13. We understand the methodology behind the revised target of 2,224 tonnes, based on average emissions over the first three years of RIIO-T2. However, we believe this backward-looking approach does not fully reflect the operational realities of a more dynamic energy system with increasing need for supply and demand flexibility, highlighted in NESO future energy scenarios (FES) 25 and FES, which may drive higher compressor usage.

14. Our proposed GHG-C target allowance was developed in consultation with Ofgem and stakeholders and is based on an assessment of a number of factors, including:

- compliance with safety, cyber, and environmental legislation;
- maintenance obligations (which define our base-level emissions);
- adherence to the Medium Combustion Plant Directive (MCPD);
- the embedding of current emissions reduction activities;
- the future operational profile of the NTS; and
- historical performance data.

Base-level emissions

15. A large proportion of our emissions arise from essential, safety-related mandated activities and maintenance venting, with this proportion increasing as the tonnes emitted reduces. These emissions represent a baseline that cannot be eliminated without compromising statutory compliance or good asset health management. As a rule of thumb, we typically say 60% to 80% of emissions are asset health and compliance and 20% to 40%

running the network. Please note that this will be site and year specific and jobs reasons will be combined into one job.

16. Where possible, we align our activities to avoid additional emissions. For example, we will plan emissions safety tests on operation units (pressurised) or align policy maintenance to further reduce pressure tests.

17. Following the submission of our RIIO-GT3 Business Plan we have reviewed our base level emissions and realigned these requirements to the expected RIIO-GT3 operational compressors. Whilst this shows a reduction in the number of overall operational compressors, it demonstrates an increase in average venting per unit based on the latest breakeven calculations on the expected RIIO GT-3 fleet. There has also been an increase to Emission Permit Testing where this requirement with the environmental agencies has changed from a test based on hours run to the requirements to test every unit every year.

18. Table 1 below shows our revised base level emissions minus our management activities (~300 tonnes) 'detailed as toolbox' options in the Business Plan as 1,773 tonnes. This level of venting is as a result of safety, environmental compliance, maintenance, and assurance testing. Under the proposed target of 2,224 tonnes, this would leave 21% of the allowance available for operational decision making in running the National Transmission System (NTS).

Test requirement	Number of compressor units	Average vented tonnes	Frequency of test requirement	Total emissions (tonnes)	Total emissions minus our improvement
28-day test run	61	2.3	12	1707	1407 (300)
SIL test	61	2.3	1	142	142
Emissions permit test	61	2.3	1	142	142
Winter assurance test	35	2.3	1	82	82
Total				2,073	1,773

Table 1

19. It's important to have the correct venting allowance, based on these base level legislative and maintenance requirements to operate the NTS.

20. Under the current structure, starting at 2,224 tonnes with a 100-tonne year-on-year reduction, our base level emissions requirements are not adequately supported. This will make it increasingly difficult to balance compliance with the operational flexibility required by the system.

21. Using our rule of thumb, based on the midpoint of the range we assume 70% of venting emissions are linked to asset health and compliance related activities. The remaining 30% (corresponding mid-point) would be for running the network. Using this breakdown, the target allowance would be approximately 2,532 tonnes.

22. As discussed, and outlined in our response to supplementary question NGT009, our proposed target is based on the RIIO-T2 target less our identified improvements. This approach captures both the impact of our management actions and the operational and compliance requirements. This also includes the unique conditions in 2021/22, when covid-19 lockdown variations across England, Wales, and Scotland led to reduced compressor usage. Additionally, it reflects the success of our 2021/22 summer compressor engine inhibition and washing trial. This enables the temporary isolation of non-critical compressor units during low-demand periods, contributing to further reductions in summer 2022 and beyond and included in the 300-tonne reduction we outline.

23. Based on the difference between our Business Plan and Ofgem's Draft Determination we propose using a 7-year average between 2018/19 to 2024/25, (including the most recent performance year) to set the target allowance

at 2,334 tonnes. Using this longer-term range allows the coldest and most recent winters and reduction in compressor hours in RIIO-T2 to be considered, whilst recognising the challenges described above. We believe the proposed approach strikes a reasonable balance. It continues to incentivise us to find innovative solutions to reduce emissions, while still enabling us to meet our obligations and provide customers with the flexibility to meet their needs.

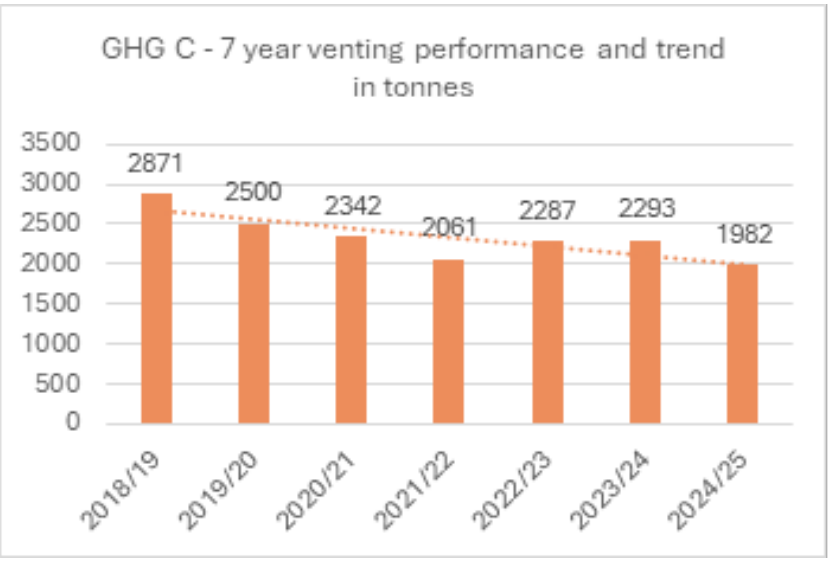


Chart 1

24. We recognise Ofgem's desire for continual improvement and fully support the overarching goal to consider our operational impacts on the environment and continued emissions reduction. We believe that the current 100 tonne year-on-year target reduction is not feasible within the operational and technological constraints. Currently, there is no technology that can be applied to deliver this benefit year on year.

25. We note that Ofgem has used a different timeframe to calculate the 100 tonnes year-on-year reduction and the target level. Ofgem outlined via the Draft Determination question (DDQ) process that the improvement factor was calculated by using a linear view of our emission reductions over the RIIO price control periods, whereas the Draft Determination proposed target allowance was set using a 3-year average. We also note a flattening of the performance improvement curve toward the more recent years, which is also shown by the shrinking delta between our venting emissions and the base level venting outlined earlier.

26. Including 2024/25 data, which was unavailable when we submitted our RIIO-GT3 Business Plan, suggests that a more appropriate improvement factor would be approximately a 20-tonne annual reduction. Chart 2 on the next page illustrates the variability if we used 2021/22 to 2023/24 data, and shows a 77 tonne a year increase in the target. We recognise that this timeline doesn't align with the example to set the target based on 7 years, but the target has already accounted for a large proportion of this improved performance. As such, we believe that a 20 tonne per annum improvement factor is appropriate.

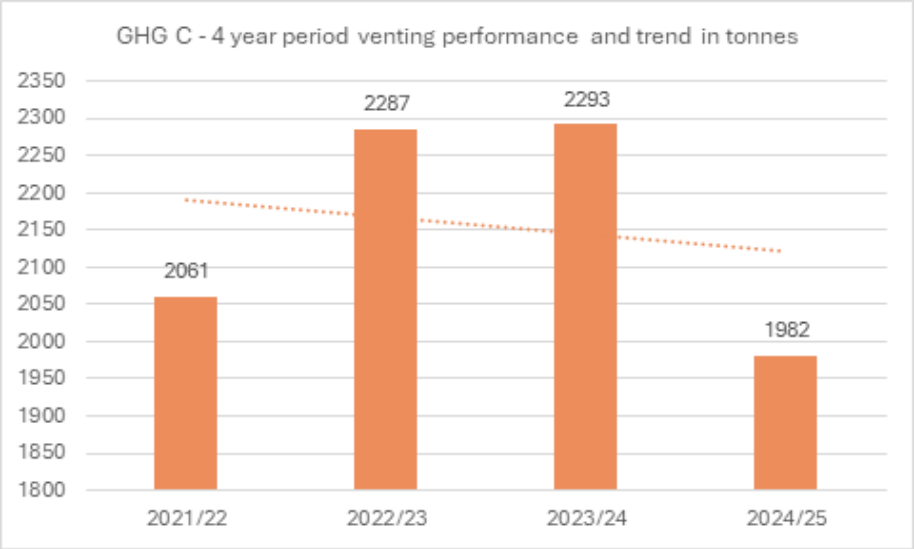


Chart 2

27. We note that Ofgem has stated, in paragraphs 3.17 and 3.18 of the Draft Determination National Gas Transmission document, that improvements that result from technological improvements are included in the target, but funded decarbonisation projects are excluded from the target calculation. However, the target appears to be aligned with assumed technological improvements. We currently select the Best Available Technology (BAT) in accordance with the Industrial Emissions Directive (IED) when operating our compressors to run the NTS per site.

28. It is important to note that our RIIO-GT3 compressor upgrades programme focusses on ensuring compliance with the MCPD and does not directly reduce venting emissions from compressor operation or maintenance. Instead, it targets combustion-related pollutants such as NO_x and SO_2; not methane venting. These upgrades would not deliver a direct reduction in vented emissions across the regulatory period and should not be assumed to contribute to the GHG-C target in that way.

29. Based on the evidence in this response, we propose using the 7-year average to set the target allowance as 2,334 tonnes, with a potential 100 tonne deadband depending on target (applied both above and below the target). Given the limited scope for further reductions beyond those already embedded, we propose a reduction factor of 20 tonnes per annum across the RIIO-GT3 period.

30. We also wish to clarify that, contrary to the reference in paragraph 3.17 of the Draft Determination, we are not subject to the increasingly stringent European standards on compressor venting. This may limit the applicability of certain assumptions used in setting the allowance target.

31. However, we are directly impacted by broader EU energy policy developments. On 6 April 2025, the EU announced a comprehensive plan to eliminate reliance on Russian energy by 2027, including a phased reduction in imports of nuclear fuel, oil, and natural gas. This shift is expected to reshape LNG supply dynamics. In particular, we anticipate increased LNG deliveries to Milford Haven, with corresponding rises in transit flows across the UK to continental Europe. This would likely result in higher compressor utilisation, which should be factored into the GHG-C target setting process.

GTQ3. Is the yearly reduction in the target tonnes of carbon preferable to a target which remains constant throughout the price control?

32. We carefully considered the option of a year-on-year decreasing carbon target for RIIO-GT3. however, this approach was discounted for two primary reasons:

33. - The RIIO-GT3 period includes an increased programme of maintenance and compressor overhaul work. These activities may limit our ability to consistently deploy emissions reduction initiatives detailed as our toolbox options in the business plan, such as unit inhibition during summer periods which have already contributed to a ~300-tonne reduction in venting and are factored into our BP proposed total target of 2,600 tonnes. A declining annual target would not adequately reflect these operational realities and could risk penalising necessary and safety-critical work.

34. - While we initially anticipated that the NZASP trials under Project CH4RGE (targeted for completion by October 2027) could deliver up to a 4% reduction in GHG emissions from year three of RIIO-GT3, this estimate included contributions from both Zero Loss Seals (ZLS) and Captured Gas Recompression (CGR). However, as outlined in our response to NGT047, unforeseen cost increases have led to a scaling back of the trial to a single CGR unit. This significantly reduces the expected emissions benefit. Furthermore, during the construction and commissioning phases, we anticipate a temporary increase in venting, further complicating the feasibility of a declining target.

35. Given these uncertainties particularly around flow patterns, demand variability, and the timing and effectiveness of innovation trials we concluded that a fixed target provides a more robust and transparent framework for performance management during RIIO-GT3.

36. We note Ofgem's proposal to apply a 100-tonne per year reduction alongside a revised target of 2,224 tonnes. We have detailed our position on these elements in GTQ2.

37. In summary, while did consider a profiled year-on-year target, the uncertainty posed by flow patterns and demand, increased testing activities and uncertainty of trial success of Project CH4RGE led us to propose a fixed target-setting approach in our proposal for RIIO-GT3. However, based on Ofgem's Draft Determination proposal we have reflected a potential target and improvement approach in our response to GTQ2.

GTQ4. Do you have any views on the proposed design of this incentive?

38. We welcome the principle of including a new Greenhouse Gas Emissions (Pipelines) ODI-F in RIIO-GT3. This is because it recognises the importance of incentivising reductions in methane emissions across the network.

39. Without the operational experience and supporting operational data it is difficult for us to have any specific views regarding any scheme parameters. As such we would welcome further discussions with Ofgem during the first year of RIIO-GT3 to discuss the performance of the recompression units, whether a scheme is appropriate based on the data and, if appropriate, the parameters of such a scheme.

40. We would also note that reviewing the data/operational experience, designing a scheme (if appropriate), discussing/consulting with industry/Ofgem and implementing in the first year of RIIO-GT3 may not be achievable. Our preference would be to have a full year's data before starting this process.

41. Since Draft Determination, we have gained additional clarity on the audit requirement, where Ofgem has confirmed that this element of the incentive can be incorporated into our existing independent third-party audit process. Specifically, it will form part of our annual ISAE 3410 limited assurance of our full Scope 1 and 2 business carbon footprint, starting from the second year of RIIO-GT3.

GTQ5. Do you think the limited life of this incentive is appropriate?

42. We support the intent of the Greenhouse Gas Emissions (Pipelines) ODI-F, but request further clarity/development to ensure the scheme is fair and achievable. This particularly related to the operational realities of our yet-to-be tested recompression sets as detailed in GTQ4.

43. We agree that a time-limited incentive could be appropriate, especially for trialling new technologies.

GTQ6. Would you support a penalty only incentive in succeeding price controls?

44. We do not consider it appropriate to comment on potential outcomes for future price controls during a specific RIIO-GT3 consultation. We need to retain the flexibility to respond in changing circumstances and an evolving environment, rather than being bound by commitments that may no longer be appropriate.

45. We would also not support a penalty-only incentive for this scheme; at a principal level we believe any financial incentive should be symmetrical and balance risk and reward and that to be an 'incentive' it can't be downside only. We have responded to the question around 'risk symmetry' in FQ17 where we have gone into more detail.

46. The incentive is specifically designed to go beyond our baseline funding with the use of all available capabilities of the recompression sets and encourage additional recompression or initiatives to avoidance of venting. An incentive element was not part of the original funding request, and as such, should not be subject to a penalty-only mechanism. Introducing penalties without the opportunity for reward would undermine the intent of the incentive and could discourage innovation and proactive emissions reduction.

GTQ7. Do you have any views on the proposed design of this incentive?

47. We welcome the inclusion of the Greenhouse Gas Emissions (Fugitive) ODI-R incentive in the RIIO-GT3 framework. Since Draft Determination, we have raised several points regarding its design and implementation, which Ofgem has since clarified. These include:

48. **Target design**: The 10% year-on-year reduction applies to the performance target itself, not the deadband, which is an important distinction for how the incentive will be managed and assessed.

49. **Audit and assurance**: We have confirmed that this incentive can be incorporated into our existing independent third-party audit process. Specifically, it will form part of our annual ISAE 3410 limited assurance of our full scope 1 and 2 business carbon footprint, starting from the second year of RIIO-GT3.

50. We appreciate Ofgem's continued engagement and clarity on these points and look forward to working collaboratively to ensure the effective implementation of this incentive.

GTQ8. Do you consider it appropriate that the incentive is reputational rather than financial?

51. Yes, we consider it appropriate for this incentive to be reputational, rather than financial, at this stage.

52. This approach encourages transparency and supports the early-stage development and implementation of new Leakage and Detection Reduction technologies. It also provides space for innovation and learning without the immediate pressure of financial penalties or rewards, which is suitable given the evolving nature of these solutions.

GTQ9. Do you have views on potentially introducing this incentive as a financial incentive in RIIO-GT4 should National Gas show consistently good performance in RIIO-3?

53. We support potentially transitioning this incentive to a financial mechanism in RIIO-GT4. Based on the RIIO-GT3 data a scheme can be designed and calibrated accordingly. Any scheme could appropriately recognise the successful deployment of technologies and operational practices developed during the current price control and create a stronger incentive to build on those achievements.

GTQ10. Do you agree with the proposed NTS Shrinkage package, including the design of the NTS Shrinkage procurement ODI-F and the proposal for a new licence obligation on National Gas to have a proportionate and appropriate NTS Shrinkage Procurement Strategy in place?

54. We support the principle of a financial incentive, but do not agree with the proposed incentive design of the NTS Shrinkage Procurement ODI-F. The ODI-F does not appear to incentivise the right behaviours.

55. It is our understanding that the ODI-F is based on published end-of-day price assessments (as suggested in footnote 11 on page 25 and paragraph 3.50 on page 26 and clarified via DDQ's). It is our view that this approach incentivises behaviours that are not likely to be in the best interest of consumers or market efficiency.

56. As outlined in footnote 12, Ofgem uses a variety of data sources to inform the price cap methodology. We consider it important that any ODI-F mechanism also reflects a broader representative set of market data, rather than relying solely on narrow pricing benchmarks. This would help ensure that the incentive remains aligned with consumer benefit and market stability.

57. Specifically, we agree that within the retail supply market some parties may have contracts indexed to specific contracts. However, it is our understanding that having a specific index is less prevalent in the current market than seen historically, with industrial players favouring contracts that allow flexibility, allowing parties to build their portfolio as they progress towards delivery.

58. Our initial view is that under the proposed ODI-F we would be incentivised to trade close to 16:30. This is when price assessments are typically made to minimise risk, rather than actively participating in the market across the day and transacting at the times we consider to be the most economically or operationally efficient. This would lead to reduced flexibility in our procurement of shrinkage gas. The proposed design does not encourage deferral or strategic timing of trades when this could benefit consumers. It may also encourage rigid adherence to a specific time (16:30), which contradicts the complexity acknowledged elsewhere in the consultation (eg, paragraph 3.57).

59. Except as outlined below, with regards to shrinkage, we are a gas Shipper like all other gas shippers (including energy suppliers) within the industry. Shippers are responsible for buying and selling gas under the gas Shipper licence under the Gas Act 1986. Due to our Gas Transmission Licence conditions, we are not permitted to engage in the buying and selling of gas in the same manner as other Shippers in the gas market. We can buy shrinkage in line with our forecast which is set in accordance with a published methodology, and we can sell but only where the forecast volume changes over time. As such, this regulatory constraint means that our activity is not directly comparable to other Shippers, as our specific role limits our ability to manage price risk and optimise procurement strategies. Other Shippers within the gas industry can hedge against market volatility and secure the best price. Although we recognise that some Shippers utilise the 16.30 Heren price, they can buy and sell leading up to that point in the day, whereas we cannot.

60. We consider that a reference price, linked to the volume weighted average price on the day of transaction, would drive better outcomes for consumers. It would encourage us to focus across the whole market trading period rather than at a specific point in time. We have explored different providers that produce a volume weighted average price and, typically, providers only produce this information for a limited range of products. On this basis we would propose using the product specific volume weighted average price from Heren for trades between 10.00 and 17.30, recognising that there will be a cost to subscribe to this service which we currently don't subscribe to. These are:

    - within day
    - day ahead
    - weekend
    - month ahead (m-1 only)

61. As there aren't any providers that produce a volume weighted average price for seasons, quarters and month ahead (M-2), we propose to calculate the volume weighted average price for days where we trade for that product, using the Joule trade we receive. This is already used for reporting to Ofgem. There are typically 100 trades made on days when we trade on seasons and quarters.

62. We believe that this proposal meets the requirements of being a market-driven price and reduces complexity, whilst incentivising the right behaviour in our specific role that is in the best interests of consumers.

63. It is unclear whether all relevant products (particularly within-day products) are included in the price assessments. This could result in an incomplete or inaccurate reflection of trading performance.

64. The proposal for a new licence obligation implies an audit of our trading activity, but it is unclear on what basis this would be assessed. We would welcome clarity to help us understand this further before providing our final position.

65. We would also welcome further engagement to refine the ODI-F design, to ensure it supports efficient, risk-managed procurement that delivers best value for consumers, without reverting to outdated trading behaviours or introducing unnecessary complexity and cost.

GTQ11. Do you agree with the proposed scope of the NTS Shrinkage Review?

66. We support any industry-wide initiatives aimed at reducing Unaccounted for Gas (UAG) and Compressor Venting Shrinkage (CVS) volumes on the National Transmission System (NTS), particularly those managed by us.

GTQ12. What are your views on the scope or design of the mechanism, as well as on the proposed allowances in this section?

67. We welcome Ofgem's provision of a baseline allowance for redundant assets. Addressing our redundant asset base during RIIO-GT3 is the right outcome for consumers and this is strongly supported by stakeholders.

68. We agree that a separate price control deliverable (PCD) for these outputs is appropriate, in line with the RIIO-T2 approach. We also agree with the PCD type (evaluative), the reporting requirements and delivery dates associated with this PCD. However, we are keen to engage with Ofgem on whether redundant assets should continue to be a standalone PCD for future price control periods.

69. Our response to the proposed allowances for investments contained within this PCD has been answered within our response to GTQ54, where we provide our response to the engineering and cost assessment of our submitted plan. In particular, we do not agree with the removal of allowance for the following redundant asset investments:

70. **Interventions Si-168 'Pipethrough of block valve site' and Si-200 'Pipethrough of single valve on a site (Uncongested)':** The piping through of valves which are redundant to operational requirements reduces potential environmental impacts through deteriorated valves that could leak. Decommissioning these assets now ensures that consumers who have had the benefit of a safe and reliable National Transmission System pay for its rationalisation. This is in line with the wider 'polluter pay' principles utilised in many other industries. This is covered in more detail in our evidence template response for pipethroughs included with our response to GTQ54.

71. **Si-238 'Decommission Filter Wash Bay Building at** [redacted] The rationalisation of a redundant building to avoid incurring maintenance costs for a building which is surplus to requirements is covered in more detail in our response to GTQ54.

72. We agree with Ofgem's position of awarding funding associated with the cost of disconnecting and decommissioning [redacted] sites where downstream customers are connected. However, we cannot provide specific

locations for the delivery of these volumes. Our volumes have been forecast based on the volume of these requests in RIIO-T2 combined with other commercial intelligence.

73. Our current Network Exit Agreement/Network Entry Agreements contain clauses which allow us to recover the cost of decommissioning our assets at Network Entry and Exit points from the specific customer. However, our legacy contracts do not include this definition.

74. Once the connected parties with legacy contracts notify us that they will cease operations, we negotiate on the accountabilities for disconnection costs. We help guide our customers through this using the Acceptance to Offer (A2O) process. The A2O process makes it clear that disconnection works are paid for by the customer as well as being responsible for decommissioning their assets. The customer is asked to pay the costs to decommission our operational assets, but this cannot be mandated.

75. We meet with our direct connection customers once per year for annual performance meetings. These meetings give us and our customers the opportunity to discuss service-related issues and future plans. We use these to gather any commercial intelligence relating to the future operations of our customers including forewarning of any maintenance, operational or contractual changes. However, this still leaves a level of uncertainty on the volume of disconnections that may materialise. This is why our forecast volumes are based on the volume of these requests experienced in RIIO-T2, the type of industries these customers related to and assessment of the market intelligence we have gathered from our customer engagements.

76. [redacted]

77. Therefore, the requested allowances seek to mitigate the risks if [redacted] of these customers request a cessation of their connection during the RIIO-GT3 period. This is not an area where we are seeking to outperform; our objective is to manage unforeseen disconnections within the necessary timescales.

GTQ13. Do you agree with the proposed Compressor Emissions PCD?

78. We support the continued inclusion of the Compressor Emissions Price Control Deliverable (PCD). We also agree with the proposed Evaluative PCD type and confirm that the deliverable should encompass the ongoing projects specified in the relevant licence condition. These projects should continue to receive funding until they are completed.

79. We support that the allowances awarded should be baseline allowances. However, Ofgem states that the allowances for these works will be directed prior to the start of RIIO-GT3. Given the planned December 2025 submissions for Wormington and St Fergus MCPD, and the complexity of these projects, we recognise, based on experience, that the funding decision process is likely to continue into RIIO-GT3 price control. Therefore, we believe that the decision timeframe and the baseline cost allowance deadline should be extended with the ability to update the PCD and associated allowances by direction, to reflect the final decisions.

80. We also reference Ofgem to our response to GTQ49 regarding the proposal to remove the opex escalator. Should Ofgem enact their proposal to remove the opex escalator, the full incremental costs for the Compressor Emissions investment should be directed for RIIO-GT3 values.

GTQ14. Do you think the Network Decarbonisation and Emissions Compliance Re-opener and PCD is suitable for works which would have previously been funded through the Compressors Emissions Re-opener?

81. We welcome Ofgem's views on inclusion of works previously funded via the Network Decarbonisation and Emission Compliance Re-opener and PCD through the Compressor Emissions Re-opener.

82. We agree that the RIIO-GT3 Network Decarbonisation and Emissions Compliance Re-opener and associated PCD, is appropriate for this purpose.

83. To ensure that outstanding Medium Combustion Plant Directive (MCPD)-related projects meet compliance obligations, we recommend adjusting to allow more frequent submission windows and a reduction or removal of the materiality threshold. Further details and justification are provided in our response to GTQ29.

GTQ15. Do you agree with the introduction of the proposed UIOLI mechanism for biomethane, including with the proposed scope and capex cost caps?

84. We welcome Ofgem's proposal to introduce a mechanism supporting biomethane connections to the National Transmission System (NTS) via the £20 million use it or lose it (UIOLI) allowance. We support the principle of socialising connection costs to facilitate green gas injection into the gas transmission network, thereby contributing to the UK's net zero objectives.

85. While we agree that a funding mechanism is essential for enabling biomethane developers to connect to the NTS, we recommend the inclusion of a further re-opener mechanism to address current market and policy uncertainties. These uncertainties will need further consideration to ensure the funding framework is sufficiently robust and adaptable. Therefore, propose that the UIOLI allowance be complemented by a re-opener mechanism, which would allow for greater clarity and responsiveness to the following issues:

86. **Limited data on NTS connection costs:** Our understanding of connection cost variability is still developing, with early initial insights from the two existing biomethane connections to the NTS. As additional projects progress, we expect to gain deeper insights into cost drivers. This will enable a more accurate assessment of whether the proposed £1.2 million cap under the UIOLI mechanism is appropriate. Recent connection offers have ranged between £1.5 to £2 million. We are actively engaging with developers to gather further data and refine early assumptions with more robust evidence.

87. **Market size and funding sufficiency:** The current market for biomethane transmission connections is still emerging, and there is limited clarity around future policy direction and connection cost variability. These factors make it difficult to assess whether the proposed £20 million UIOLI allowance is appropriately sized to meet future demand. A re-opener mechanism would provide the flexibility to revisit the funding cap as market conditions evolve and more data becomes available, ensuring the mechanism remains fit for purpose.

88. **Clarity of Green Gas Support Scheme (GGSS) tariff coverage:** Currently, there is no market-wide consensus on whether connection costs are sufficiently included within the GGSS tariffs. Ofgem's Draft Determination suggests that GGSS tariffs are intended to compensate for connection costs. However, even if some coverage exists, it may not be sufficient for NTS connections, which typically incur higher costs than GDN connections due to additional technical requirements. This raises the question of whether UIOLI funding should be available to GGSS-supported projects where GGSS does not fully cover connection costs.

89. **Policy uncertainty:** The GGSS is scheduled to close to new applications on 31 March 2028. Although the scheme has been extended, uncertainty remains regarding future support for biomethane production. The UK Government is developing a policy framework to support the sector's transition to a self-sustaining market post-GGSS, but details are yet to be finalised.

90. It is essential that developers and operators have clarity on the scope, and duration of future support mechanisms, to assess project viability and make informed investment decisions.

91. To address these issues, we believe that complementing the UIOLI mechanism with a re-opener is appropriate within the RIIO-GT3 framework. This approach would allow Ofgem to monitor the evolving policy landscape and defer decisions until greater clarity is available, thereby ensuring the mechanism remains fit for purpose.

Our proposed uncertainty mechanism re-opener

Scope	Number of re-opener windows	Date	Ability for Authority to trigger the re-opener:	Materiality threshold	Applied to
• To allow for an improved evidence base on actual costs associated with biomethane connections to the NTS; • Assess the appropriateness and sufficiency of the proposed £20 million UIOLI funding cap in light of evolving market conditions; • Clarify the extent to which connection costs are covered under the GGSS; and • Ensure a clear pathway for biomethane support beyond the closure of the GGSS in 2028	1	Jul-28	Yes	None	National Gas

Chart 1

GTQ16. Do you agree with our proposed design of the NARM PCD?

92. We welcome Ofgem's provision of a baseline allowance for asset health investment via the NARM PCD. We also agree with the reporting requirements, price control deliverable (PCD) delivery dates and the interaction with the asset health re-opener.

93. In our response to questions OVQ4 and OVQ5, we provide direct responses on the application of the NARM mechanism.

94. Our response to the proposed allowances for investments contained within this (PCD) has been answered within our response to GTQ54, where we provide our response to the engineering and cost assessment of our submitted plan.

95. We are happy to work with Ofgem ahead of Final Determinations to ensure that the Baseline Network Risk Outputs (BNRO) are reflective of the approved asset intervention volumes.

GTQ17. Do you agree with our proposed design of the Asset Health Non-Lead Assets PCD mechanism?

96. We support Ofgem's approach to the Asset Health Non-Lead Assets price control deliverable (PCD), which is broadly in line with our submission for this PCD.

97. We also agree with the PCD reporting requirements, PCD delivery dates, and the interaction with the asset health uncertainty mechanism.

98. Our response to the proposed allowances for investments contained within this PCD has been answered within our response to GTQ54, where we provide our response to the engineering assessment and the cost assessment of our submitted plan.

GTQ18. Do you have any views with regard to the type, scope and allowances for the proposed UIOLI mechanism?

99. Our response to this question addresses the specific elements of output type, scope and allowances of the compressor breakdown use it or lose it mechanism (UIOLI). This budget is intended to support reactive interventions where faults arise that do not warrant a full overhaul, or where unplanned failures occur outside the scope of scheduled maintenance activities.

100. Please note, this response covers Draft Determination questions as well as questions raised in our engagement with Ofgem on 4 August 2025.

101. Our RIIO-GT3 Business Plan outlined the compressor breakdown budget as a specific provision for addressing emergent issues associated with highly complex compressor assets. Such failures pose a direct risk to compressor availability and system reliability. The scope of this intervention is therefore focused on enabling timely and proportionate repairs that maintain asset availability to support operational resilience. The table on the next page shows a summary of this response with further detail below.

<table>
<tr><td>RIIO-GT3 Business Plan submission</td><td>Three baseline interventions:
<table>
<tr><th>InvID</th><th>Intervention</th><th>Total (2023/24)</th></tr>
<tr><td>C-118</td><td>Compressor Breakdown Budget</td><td>[redacted]</td></tr>
<tr><td>C-192</td><td>Electric Drives - HV Stator Motor Rewind</td><td>[redacted]</td></tr>
<tr><td>C-278</td><td>[redacted] Compressor Refurbishment</td><td>[redacted]</td></tr>
<tr><td colspan="2">Total</td><td>[redacted]</td></tr>
</table></td></tr>
<tr><td>Relevant documentation</td><td>• NGT_EJP15_Compressor Fleet – Zones 4 and 5 (South Wales and South West) RIIO-GT3
• NGT_EJP04_Rotating Machinery_RIIO-GT3
• Supplementary Question NGT080 – Rotating Machinery EJP004
• DDCostGT3_06_NL_Cost Assessment Overview (25 June 2025)
• Consultation - RIIO-3 Draft Determinations – National Gas Transmission Annex</td></tr>
<tr><td>Output type</td><td>Agree</td></tr>
<tr><td>Scope</td><td>Disagree</td></tr>
<tr><td>Allowance</td><td>Disagree</td></tr>
<tr><td>Proposed solution</td><td>• Revert C-278 and C-192 to Baseline funding
• Compressor Breakdown UIOLI allowance in line with C-118 request [redacted]
• Amend scope to reflect above
• Reporting aligned to RRP</td></tr>
</table>

Chart 1

Output type: Agree

102. We agree with Ofgem's consultation position UIOLI mechanism is an appropriate output type for the intervention. We believe that paragraph 3.119 of the Draft Determination National Gas Transmission document is an accurate reflection of what we proposed in our RIIO-GT3 Business Plan submission. This follows effective use of the RIIO-T2 allowance for compressor breakdown, which enabled timely rectification of compressor machinery trains and ancillary assets to restore availability.

Scope: Disagree

103. We do not agree with the scope detailed in 3.120 of the Draft Determination National Gas Transmission document which states the compressor breakdown UIOLI mechanism should include the interventions C-278 [redacted] compressor refurbishment or C-192 HV Motor Stator re-wind.

104. We propose the scope of the compressor breakdown budget mechanism covers funding for compressor maintenance work, including preparing for repair or refurbishment of compressor trains and ancillary assets, where such interventions must be undertaken without delay to mitigate operational risk. Interventions C-278 and C-192 form parts of investment packages to overhaul our compressors within RIIO-GT3 and are not currently impacting unit availability. Accordingly, these interventions should be reclassified as baseline-funded, outside the scope of the compressor breakdown budget. Therefore, we propose they revert to being baseline-funded interventions, outside of the compressor breakdown budget for Final Determination. Please see section

3 'Intervention C-192 Electric Drives - HV Stator Motor Rewind' at the end of this response for further information regarding intervention C-192 and Evidence File GTQ54 Appendix – NGT004 Rotating Machinery – C-224, C-278, C-279 for the [redacted]

105. The compressor breakdown budget is distinctly different from other funding requests, such as the proposed baseline-funded capex works within our RIIO-GT3 Business Plan and operational expenditure, including non-operational capex. Compressor breakdown interventions typically involve a wide variety of work with an associated varying spread of investment value, as shown in the 'allowance' heading.

106. During RIIO-T2, non-operational capex are costs incurred that are associated for spares, tooling, equipment/machinery and minor property investment, to support delivery of maintenance and elements of capital delivery works across all operations. This approach is intended to continue in RIIO-GT3 and remain separate to the compressor breakdown budget. The compressor breakdown budget will be used to fund capex investments with demonstrable outputs directly to achieve compressor availability rather than consequential spending activity.

107. Due to the time-critical nature of interventions to restore network capability, utilisation of the asset health uncertainty mechanism would be unfeasible. Further, the materiality of spend within compressor breakdown budget would not generally meet the proposed threshold alone. Please see our response to GTQ32 and GTQ33 regarding the Asset Health UM Re-opener.

108. A summary of the different investment categories pertinent to this question is shown below.

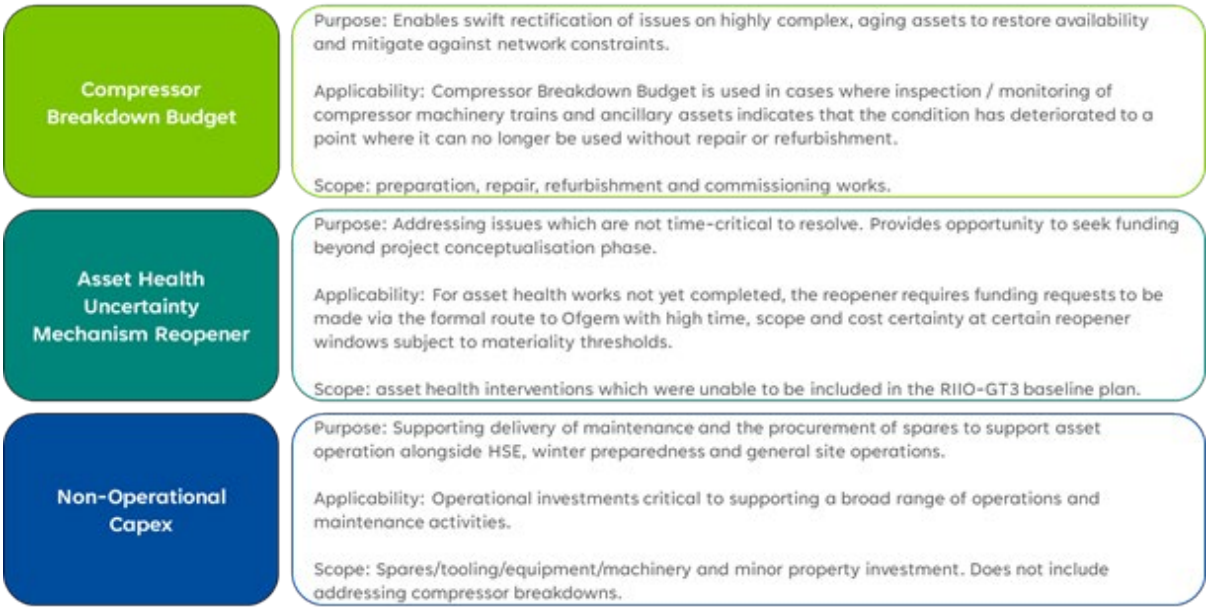


Diagram 1

109. Compressor breakdown investments are managed through our usual investment management system, the Network Development Process (NDP). The process is robustly governed to ensure that all proposed investments are reviewed prior to the funding being sanctioned. To track projects from inception to completion, each project undergoes the following process:

110. Authorised personnel can access the Area Forms Application to submit a request for funding to remediate specific issues. Requests must be estimated, time-bound and 'tagged' to defects from the defect management system (Maximo) before being considered by approvers who hold appropriate delegation of authority, such as Senior Area Managers.

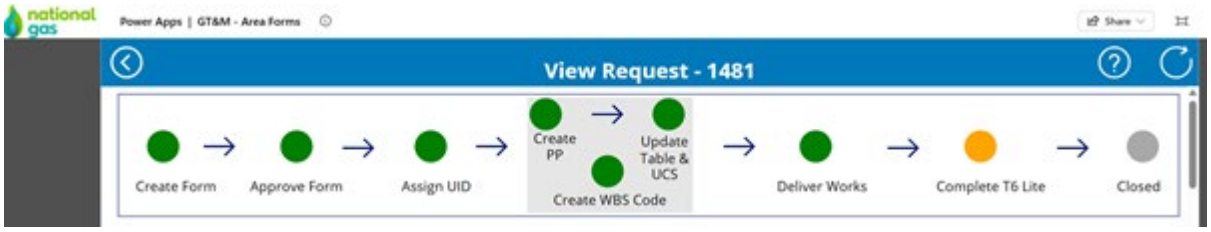


Diagram 2

111. An example of approval is shown below:

Diagram 3

112. The responsible Investment Engineer allocates the project to the compressor breakdown budget Unique Identifier (UID) before our Portfolio Planning Team assesses the investment for deliverability purposes. Once this assessment is complete, the intervention is assigned a unique Project Allocation Code (PAC) number and a Work Breakdown Structure (WBS) code for SAP as shown below:

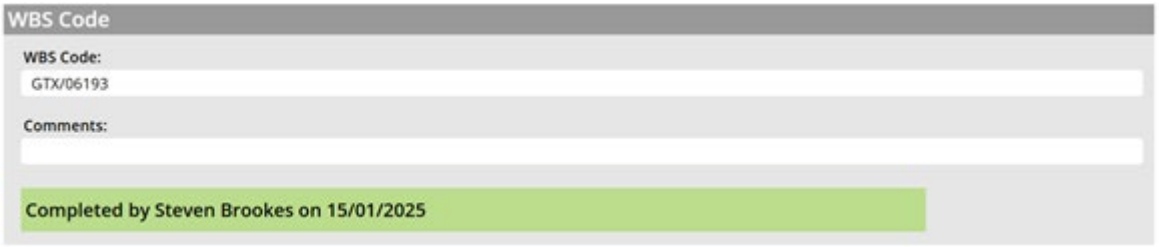


Diagram 4

113. These steps ensure correct allocation of the breakdown budget and provides segregation between it and other budgets, including non-operational capex.

114. The funding for the project is released as the work is sanctioned. On completion of works, project closure reconciles the original request against the outcome including time, cost and quality to ensure accurate financial accounting and reporting. This Plan, Do, Check, Act governance activity is part of our commitment to continuous improvement and quality management.

Allowance: Disagree

115. The allowances requested for C-118 compressor breakdown budget in our RIIO-GT3 Business Plan totalled [redacted] Throughout the Draft Determination consultation documents, we note variances in the Draft Determination allowance. Specifically, within the Draft Determination National Gas Transmission document, the proposed allowances totalled [redacted], meanwhile in file DDCostGT3_NL_AH_09_Cost Analysis File (25 June 2025), a manual adjustment to the cost was applied to reduce proposed allowances to [redacted]. Therefore, we were unclear on Ofgem's proposal on total allowance.

116. Through engagement on the proposed allowances as part the Draft Determination consultation, we sought clarification. Ofgem confirmed that the cap proposed for this mechanism should have been [redacted] as it included three interventions (C-118, C-192 and C-278), however this would be refined through broader discussion about the compressor breakdown. A summary of our requested allowances for these three separate interventions is shown on the next page

InvID	Intervention	Total (2023/24)
C-118	Compressor Breakdown Budget	[redacted]
C-192	Electric Drives - HV Stator Motor Rewind	
C-278	[redacted] Compressor Refurbishment	
Total		

Chart 2

117. Our request for Final Determination is a cap for the Compressor Breakdown Budget or [redacted], with the other two interventions moving outside of the UIOLI mechanism.

118. A bilateral meeting was held on 4 August 2025 as part of the ongoing engagement, in which we explained how the RIIO-T2 allowance of [redacted] (FY2018/2019), equivalent to [redacted] in 2023/24 price base, has been essential for maintaining compressor unit availability. Due to the inherently unpredictable nature of breakdowns, costs have varied significantly [redacted]

119. Due to the unpredictable nature of compressor breakdowns, our RIIO-T2 forecast was based on historical spend; a methodology accepted by Ofgem. To ensure consistency and appropriateness we have applied the same approach in our RIIO-GT3 Business Plan to forecast reactive capital requirements.

120. Given the increasing complexity of compressor machinery trains and their reliance on specialist support, UIOLI allowance with an appropriate cap is necessary. This enables timely, flexible intervention across the fleet, ensuring continued reliability and resilience of the network.

121. During RIIO-T2, we have had first-hand experience of costly Field Service Engineering (FSE) and Original Equipment Manufacturer (OEM) support fees. The costs were compounded by logistical challenges associated with the transportation of our assets. Our supply chain partners are located globally and experience fluctuations in costs and lead times, requiring us be able to rapidly respond to address issues in a timely, cost-effective way.

122. The National Transmission System (NTS) is constantly evolving, bringing the introduction of modern, more complex compressor machinery trains. As a result, we frequently rely on specialist support from the marketplace to provide a range of mechanical, instrumentation and electrical services for assets, which have sophisticated monitoring and control systems that necessitate external vendor involvement.

123. We rely on onsite diagnostics from OEMs or licenced third parties with access to the necessary modules and tools. We expect this to continue to increase the number of offsite repairs due to the specialist nature and limited suppliers.

124. This is particularly the case with our newer compressor machinery trains which are best available technology (BAT) and lead units on compressor stations. Therefore, we anticipate this trend to continue in line with the forecasted running hours. Furthermore, warranty periods will continue to expire, thereby necessitating a means to fund repair work.

125. Without sufficient funding, we will be unable to carry out repairs, leading to the risk of not being able to ensure suitable availability, reliability and maintainability of compressor machinery trains. This would cause network issues and inability to meet customer demand. Being able to expediently return our BAT units to service is of utmost importance for resilience and to minimise emissions.

126. In parallel, our legacy compressor units continue to present obsolescence challenges, where component failures often necessitate replacement of parts rather than refurbishments. This further adds to the costs of breakdowns, especially where modifications involve minor design work.

127. We expect a sustained run rate of Found on Inspection (FOI) items arising from Borescope Inspections which vary in scope to remediate including additional assessments right through to replacement of components such as turbine blades. Spend against delivered compressor breakdown UID A22.10.2.2 in years one to four of RIIO-T2 is [redacted] (FY2018/19) as shown below which was presented within Regulatory Reporting Pack (RRP) 2024-25. A summary of the investments that we have utilised the compressor breakdown budget for in RIIO-T2 has been included in GTQ18.1 RIIO-T2 Compressor Breakdown Projects.

UID	Description	Unit	2022	2023	2024	2025	2026
A22.10.2.2	Compressor Train Breakdown Budget (inc St Fergus)	£m 18/19	[redacted]	[redacted]	[redacted]	[redacted]	

Chart 3

128. Based on the current run rate and forecast, we anticipate 100% utilisation of the RIIO-T2 allowance. We therefore propose the RIIO-GT3 compressor breakdown UIOLI allowance be set in line with this at [redacted] (23/24).

RIIO-T2 Compressor breakdown projects

129. Chart 4, below, shows the full list of completed projects which have been closed out. It demonstrates the wide range of scope and materiality of compressor breakdown works.

PP Ref	WBS	Compressor station	Area form name	Scope	Spend
PP1205036	GTX/0587 0	[redacted] Station	[redacted] PT Breakdown	Remove Unit D PT and transport to [redacted]. Siemens to supply replacement, installed by NGT with alignment support from [redacted] Commissioning of the unit will be carried out on completion with NGT operations team and [redacted]	[redacted]
PP1203239	GTX/0502 8	[redacted] Station	[redacted] bushes and Service Bulletins	[redacted] was found to have defective [redacted] and scheduled to be changed, however following an unforeseen oil leak found within this engine, the recommendation by V[redacted] was to remove, strip, de-stack and clean. Owing to 20wk lead time on the glass bushes, scope of project is Service exchange [redacted], and replace with [redacted] This will include Service Bulletin revision to introduce a new forward oil dam insert without tabs to prevent recurrence plus Service Bulletin for Sump Flexible tube coupling improvement. [redacted] to be reconfigured by [redacted] with an upgraded TMF (Turbine Mid Frame). Consumable items purchased for the VSV bushes will be placed in store for the next engine overhaul. [redacted] to be commissioned [redacted] and Emissions tested ready for use.	
PP1203996	GTX/0545 8	[redacted] Station	[redacted] Bearing Investigation	The jacking oil system on [redacted] has been under performing at significantly lower operating pressures than normal. The unit is currently unavailable due to these issues and failure to rectify will mean the unit will not be available for GNCC, compromising the capability to deliver for our customers. Failure to remedy the issue and running the unit will result in damaged bearings, shaft and potentially the compressor. This scope of works is to carry out investigation works on [redacted] thrust bearing and jacking oil system. To facilitate this, the work will	

				the erection of a scaffold, lifting beam, the removal of pipework and bearing housing. The investigation will identify failures and route for remedial action. Following this, action will be taken to repair and bring the unit back into service	
PP1203240	GTX/0505	[redacted]	[redacted] Mass Flow Control Valve Temp. Power Gas Supply	There are [redacted] mass flow control valves installed on [redacted] These take the power gas supply from the Actuating gas ring main that is due to be decommissioned in 2023. This project will look to replace this power gas supply utilising existing connections off the high pressure pipework and install new TD/13 compliant pressure control installations to maintain the power gas supply to the mass flow control valves. The operation and control of the mass flow control valves will remain unchanged. In addition to this work, any non-ideal vents off the mass flow control valve equipment will also be changed to ideal vents.	[redacted]
PP1203268	GTX/0504	[redacted]	[redacted] Fuel Gas Modification	It has been identified that [redacted] is required to operate beyond th date that the [redacted] Actuating gas will be made redundant. The valve actuators associated with Unit 2A are not scheduled for replacement under the actuator replacement programme and henc a temporary power gas supply to the actuators will be required to ensure these valves can operate as normal until [redacted] is no longer required.	
PP1061374	GTX/0127	[redacted]	[redacted] Air Duct Version 2 Cost Differential	[redacted]	
PP1203393	GTX/0511	[redacted]	[redacted]	[redacted] Turbine removed and inspected - found to be in a failed condition that will require significant refurbishment costs and lead times that do not fit within operationally critical [redacted] re-life. Alternative approach agreed with Compressor and Asset teams to utilise the newly refurbished Wisbech Unit B PT and install into St Fergus Cab 2B. Outstanding scope for this works is the removal and inspection of the [redacted]. Followed by the installation int [redacted]	
PP1203718	GTX/0543	[redacted]	[redacted] repai	Repair of [redacted] due to compressor casing damage	
PP1066322	GTX/0369	[redacted]	[redacted]	The scope of works is for [redacted] to come to site, remove o any sheared or loose bolts holding the PT carrier ring to the exhaust and replace for new	
PP1064680	GTX/0268	[redacted]	[redacted]	Removal of old Govenor, supply new Govenor, FAT, Installation of equipment and commissioning.	
PP1056949	GTX/0127	[redacted]	[redacted]	[redacted] and commit for replacement of cracked discharge nozzle brackets and Phase 2 dress at [redacted]	

PP1064876	GTX/0355	[redacted] exhaust bellows change out	The exhaust bellows on this unit has severe cracking and is contributing to high CAB temperatures which causes the unit to trip Change out to align [redacted] change to avoid the need to lift heavy components over a newly installed Gas Turbine and access to OEM expertise at minimal extra cost as they will be on site for the engine change.
PP1053719	GTX/0127	[redacted] Combusto Replacement / Relife	Remove [redacted] and commit for replacement (Re-life) of full engine set of flame tubes
PP1204103	GTX/0552	[redacted] inspection due to water ingress	[redacted] Currently advised as unavailable - liquid found within HV motor hood requires investigation OEM advised not to ru until inspection / remedials completed. An L2 inspection which is overdue on running hours and time in service. unit has been borescoped with potential faults found with the motor including water within the motor. Works include Isolation of the HV system, the motor, mechanical removal works of pipework, isolations and draining of cooling system. Plus return to service time.
PP1064737	GTX/0358		[redacted] air/oil cooler which manages the temperatures on the compressor package lube oil system needs to be removed and replaced with a new cooler due to a severe blockage. To remove an replace the cooler, asbestos cladding will need to be removed and replaced, crane lifts will be required to facilitate the works and a tanker will be needed to remove oil from the system.
PP1064255	GTX/0127		This job is to replace the degraded speed sensor cables and the damaged temperature cables on [redacted] and also replace the seals in the PT. The seals on the power turbine casing have failed, causing oil to be pushed through the speed sensor cables and into the [redacted]. The oil is notably seeping into the LER. This has caused a PT trip in the past, to add further protection some knife edges will be added in the [redacted] to help protect the barriers. The temperature cables have also been damaged, but this is physical damage to the outer sheathing.
PP1203197	GTX/0492		[redacted] failed. Remove components from [redacted] clean and inspect them at [redacted] facility, then install at [redacted]
PP1061372	GTX/0127		[redacted] are in a partially failed/faulty state with no spares or repair capability due to equipment obsolescence. These are now approx. 36 years old. Thes racks will be replaced with modern, fully compliant SIL rated racks utilising existing wiring, IS barriers and field sensors.
PP1066424	GTX/0361		Replacement of [redacted] and fuel gas [redacted] Cut out of existing valves and fabrication of flange connection for new valves
PP1066122	GTX/0356		Overhaul of [redacted] cab ventilation fans across [redacted] Currently [redacted] have failed and are requiring overhaul immediately. Use of crane hire will be used to remove cab ventilation room roofs to allow lift removal of fan assembly's
PP1056950	GTX/0127		[redacted]
PP1064681	GTX/0269		[redacted] removed from [redacted] in September 2022 due to an oil leak. Damaged labyrinth seal found which will be replaced and the engine tested then returned to spares stock.

PP106642 5	GTX/0367 2	[redacted] High Vibration	[redacted] housing wear as Availability / Reliability of unit is currently affected. Without this work taking place the repair will not happen this summer and unit would not be available for Winter 23/24 running. Obtain and overhaul the tooling to facilitate overhau of the RT48
PP106363 3	GTX/0120 7	[redacted] transition duct replacement	Replacement of transition ducts for [redacted] ducts, engine change out kit for reinstallation of another engine, and a [redacted] commissioning engineer to assist with start-up of the replacement engine
PP106669 8	GTX/0400 4	[redacted] Valve Stem Seal Leak - Temporary Repair	Carry out the urgent temporary repair of [redacted] discharge valve stem seals that were found during commissioning of the unit following the impeller repair.
PP106340 2	GTX/0120 7	[redacted] Compressor Exhaust Expansion Bellows Replacement	The expansion bellows on both [redacted] Gas Turbine units have failed. This is to cover the cost of removal replacement and supply of new expansion pieces
PP106667 5	GTX/0390 3	[redacted] Oil Cooler refurbishment	Strip Oil cooler & clean tube plates & frame, remove & replace turbulators reassembly Oil cooler & pressure test Unit. Includes transportation to & from [redacted]
PP106425 8	GTX/0120 7	[redacted] clean and inspect	[redacted] Strip, clean and inspect
PP106426 0	GTX/0120 7	[redacted] uel Gas transmitter replacement	[redacted] Fuel Gas transmitter replacement
PP106136 9	GTX/0120 7	[redacted] Compressor Seal Pipe Support Analysis and Rectification Works	[redacted] Seal Pipe Support (DGS) bracing work and engineering validation to allow site to operate at full capacity
PP106425 9	GTX/0120 7	[redacted] Repair Work	Oil Leak Investigation & Repair and Replacement of damaged Exhaust Outer Heatshield
PP106685 4	GTX/0120 7	[redacted] gas detectors	Upgrade obsolete gas detectors for new like for like sensors
PP106137 8	GTX/0120 7	[redacted]	Project Name: [redacted]
PP120030 9	GTX/0475 5	[redacted] Starter Package Overhaul	[redacted] Starter Package
PP106681 9	GTX/0403 2	[redacted] replacement	Thermocouples on [redacted] visibly damaged as per [redacted] borescope inspection. Need replacing prewinter as failure looks to be imminent
PP106632 1	GTX/0361 8	[redacted] eal Oil System Fault	[redacted] been unavailable for the past 3 months due to a fault on the seal oil system. Scope of this work is to diagnose the cause of th fault and remediate any faults with the seal oil system. Work is bein completed in conjunction with a [redacted] commissioning Engineer
PP105695 1	GTX/0120 7	[redacted]	[redacted] weep hole debris investigation identified during regular engine borescope. Investigation to be undertaken at [redacted] workshop

PP1061370	GTX/0127	[redacted]	Troubleshooting of failed starts to [redacted] Overhaul of Fuel Gas [redacted]
PP1066823	GTX/0403	Temperature probe replacement	Replacement of [redacted] temperature probes. One unit has currently failed Due to condition of failed probe and lead time replace three to prevent unit unavailability
PP1066378	GTX/0368	[redacted] Resilience Work	[redacted] resilience work to support running of un[redacted] during summer long outage on [redacted] Work included: [redacted] Generator/System Overhaul, [redacted] Actuator Replacement, Air Ventilation [redacted] Replacement, Starter Motor Drive Overhaul, Cab Temperature [redacted] Modification
PP1203386	GTX/0512	[redacted] Systems Investigation	Following evidence of oil in the pipeline [redacted] breaches and we've tracked when these levels increase and breach the standard against which compressor stations were running). [redacted] to carry out investigative works on the wet oil seal systems on [redacted] due to potential oil loss going down the pipeline. [redacted] field service tech and NG operations will carry out a health check on the wet seal systems. Operations to provide electrical and mechanical isolations and technicians to assist with works including the supply and operation of specialist tooling and equipment
PP1074023	GTX/0458	Borescope Remedial works	Remedial works associated with borescope inspections. Investigatio works to the starter fairing assembly. Investigation and replacement of cracked burner cans.
PP1064282	GTX/0267	Fuel Gas trace heating and cladding	Replacement of failed trace heating and re-cladding of fuel gas pipework on [redacted]
PP1064257	GTX/0127	[redacted] Check & BAM Check	Due to Cracks on the Combustor Lining at [redacted] and a rumble noise coming from the [redacted] health check will re-map the four engines to ensure clean burning with no combustion instability or [redacted] are also to be checked for correct operation. Staff costs are for 10hr days for three techs for 4 days
PP1066429	GTX/0363	[redacted] gas generation system re-life	Replacement of Nitrogen seal gas generation membrane, oxygen purity cells and air filter replacements to bring seal gas system within spec. All parts are direct like for like replacement [redacted]
PP1065349	GTX/0359	[redacted] Ignition failure breakdown	Investigation of ignition failure issues and replacement of pilot valve to [redacted]
PP1203199	GTX/0495	[redacted] Gas Valve Replacement	Replace failed and obsolete gas valve in [redacted] system on both units [redacted]. Replacement will be a new offering from [redacted]
PP1066085	GTX/0355	Failed speed probe replacement	On [redacted] have had numerous speed probe failures, the faulty probes and all associated cabling into the [redacted] have been replaced
PP1066991	GTX/0437	[redacted] - trace heating and lagging replacement [redacted] -	Replace faulty trace heating tape, removal, and replacement of lagging
PP1067010	GTX/0435	[redacted]	To replace a faulty [redacted] sensor and fix an engine oil leak on [redacted]
PP1064261	GTX/0127	[redacted] Frame Overhaul	[redacted] frame away for overhaul to enable the removal of [redacted] rom its berth

PP1061377	GTX/0120 7	[redacted] exhaust stack surveys	[redacted] were condemned by the [redacted] due to the age of the exhaust stacks. We were sceptical and decided to get an independent opinion. [redacted] have carried out a detailed structural survey of both stacks, provide a detailed report and defec list, and confirmed that stacks are fit for further service. Despite there being no remedial work this is approved for the breakdown budget due to it returning an out of service asset back into service which is effectively a life extension.
PP1203192	GTX/0482 7	[redacted] starter overhaul	The gas starters at [redacted] do not disengage during cold weather and this causes them to trip on starter overspeed. We have engaged Alba power to strip and overhaul the starters where possibly the clutches are sticking and not releasing. We would also look at the option to raise the overspeed trip setting if this does not work. The quote covers the materials and resource for the strip. [redacted] are possible additional costs of investigating the trip point being raised pending the outcome.
PP1203191	GTX/0482 8	[redacted] motor and pump overhaul	Overhaul Spare [redacted] motor and pump and install in unit
PP1061371	GTX/0120 7	[redacted]	[redacted]
PP1062724	GTX/0120 7	[redacted] Emission BAM Testing	[redacted]
PP1065350	GTX/0355 7	[redacted] line failure	Hydraulic oil line failure SS: Cut out, replace with flanged pup piece welded stainless steel joint
PP1062790	GTX/0120 7	To replace worn [redacted]	To replace worn [redacted]
PP1063634	GTX/0120 7	[redacted]] Starter Fairing Oil Leak	Due to an oil leak coming from the start fairing identified from the most recent borescope inspection completed by [redacted], it is required to investigate and fix the oil leak to prevent losing oil down the Turbine
PP1203998	GTX/0546 0	[redacted] Failure	Over the weekend they were running the two stations [redacted] in parallel when swapping over units. During this the HM [redacted] has failed, meaning they are no longer able to see the unit status at [redacted] This is critical when the two stations are running in parallel
PP1066992	GTX/0430 2	[redacted] hydraulic oil line change	Source and fit hydraulic oil pipework. Pipework currently leaking causing [redacted] to regularly trip
PP1061379	GTX/0120 7	[redacted] Cooling Fan Overhaul	Cooling Fan critical to [redacted] has failed during operation. These require replacement to allow [redacted] to remove unwanted heat from the Oil System, [redacted] Motor and Variable Speed Drive. Note - Currently cannot afford to lose anymore cooling banks or unit will be made unavailable.
PP1061746	GTX/0120 7	[redacted] network Switch Replacement	Network switch which makes up part of the Ethernet network for the station Control System has been diagnosed as faulty. Currently has not caused any site operational issues, however it has reduced the redundancy within the network and if any more Network switches were to fail, it is possible to lose part or all of the station Control.

Chart 4

Intervention C-192 Electric Drives - HV Stator Motor Rewind

130. The scope of intervention C-192 HV Stator Motor Rewind includes replacing or refurbishing windings in the stator. This is the stationary part of our high-voltage (HV) electric motor installed at Felindre Compressor Station which is a 35MW 2x4.35kV Synchronous motor and exciter M-2101.

131. Stators contain coils of wire (windings) that, when energised with electricity, create a rotating magnetic field to drive the rotor. Over time, insulation on the windings degrades due to heat, electrical stress, contamination (dust, oil, moisture) and general mechanical wear. This leads to short circuits, reduced efficiency, or complete motor failure.

132. Typically, a rewind involves disassembling the motor and removing the stator to enable all windings to be inspected for damage or wear. Once stripped, the stator core is thoroughly cleaned before new coils being wound prior to re-insulating them and testing. Depending on the condition of the stator, an alternative to rewinding is to install a new stator into the existing motor. On completion of the works, the motor is then reassembled and tested before being reinstated in its berth at the compressor station where it is recommissioned ready for load. The image below shows a Motor Stator with damage (position X).

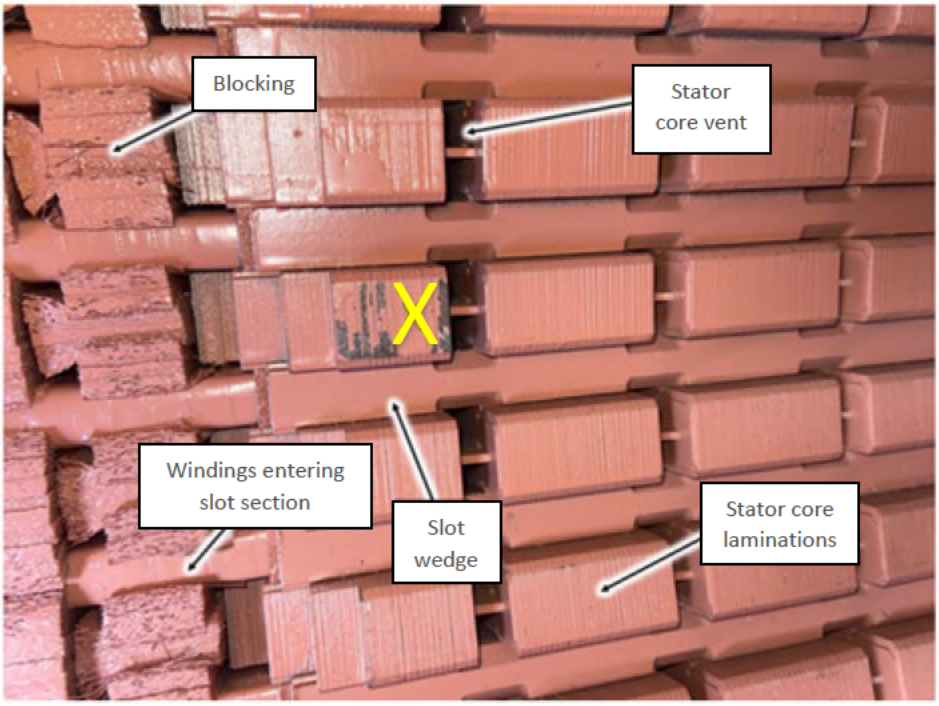


Image 1 Motor Stator with Damage (Position X)

133. Felindre Unit A was inspected in January 2020, during which the stator was tested by means of an Electromagnetic Core Imperfection Detector (ELCID) test.

134. During this test, a fault was detected on slot 41. We provided the ELCID test report alongside the action taken following the finding as part of our response to SQ NGT080 Q6. To address this, intervention is required which should be baseline funded as it is a known issue but is not directly impacting unit availability and requires to be conducted as part of a wider scope of overhaul works similar to other interventions within our RIIO-GT3 plan in line with efficient delivery. Therefore, it is proposed to revert to baseline rather than as part of the UIOLI allowance associated with unknown compressor breakdowns.

GTQ19. Do you have any views with regard to the type, scope and allowances for the proposed nitrogen sleeve PCD mechanism?

135. We agree with Ofgem's position with on the proposed nitrogen sleeve price control deliverable (PCD) mechanism in RIIO-GT3.

136. We agree with the PCD reporting requirements, PCD delivery dates, and the PCD type (mechanistic PCD).

137. We welcome Ofgem's position that, 'National Gas may need to intervene on other, additional nitrogen sleeves than the ones it has proposed in its Business Plan. In this case, a true up mechanism will be used to adjust the allowances proposed here.'

138. Our response to the proposed allowances for investments contained within this PCD has been answered within our response to GTQ54, where we provide our response to the engineering and cost assessment of our submitted plan.

GTQ20. Do you agree with our proposed design of the WIRP PCD mechanism and the proposed allowance?

139. We agree with Ofgem's proposed design of the West Import Resilience Project (WIRP) price control deliverable (PCD). We also agree that funding for Component 3 of the WIRP should be considered via the Asset Health Non-Lead Assets PCD, and that funding for Component 5 should remain in the Network Capability re-opener.

140. However, we do not agree with Ofgem's approach to funding for Components 1, 2 and 4 for the following reasons:

- Ofgem has proposed baseline funding for these components based on the June 2023 Funded Incremental Obligated Capacity (FIOC) re-opener costs. These are more than 24 months old and are no longer valid.
- It was not possible to revalidate costs for the full scope of Option 11 ahead of Draft Determination. This process is ongoing and continues as the project progresses further into the delivery process.

141. Since the 2023 FIOC submission, project detailed scope has evolved which results in new delivery timescales. This includes the management of risks and mitigations, concerning the repurposing of existing Western Gas Network Upgrade (previous customer driven project) consents.

142. To ensure high confidence in project costs, we are undertaking the work required to [redacted] with this complex process involving a wide range of external stakeholders. This will ensure that risks have been appropriately addressed and managed ahead of confirming final cost submissions.

143. We therefore propose that the cost submissions for Components 1, 2, 4, and 5 should be considered via two Network Capability Re-opener cost submissions.

Submission timing

144. There is currently one Network Capability Re-opener window proposed in the Draft Determination. We have detailed our response to this decision in GTQ35, where we suggest the window be moved to January 2028. We also propose the addition of a second window in January 2029 to allow full maturity of costs for components 1, 2 and 5. Table 1 below shows our proposed cost submission windows.

Components	Submission timeline
4 – Creating a store of spares for the electric powered Wormington Compressor Station Unit C	January 2028
1 – Construction of 900mm pipeline between Wormington and Honeybourne 2 – Churchover Compressor Tee and Churchover Multijunction 5 – Pressure uprating of the existing pipeline – Feeder 28	January 2029

Chart 1

145. A phased approach will enable us to submit costs at a point key risk have been mitigated, ensuring greater confidence.

146. For the avoidance of doubt, proposing to submit costs through a re-opener uncertainty mechanism does not alter our focus to deliver this works in the RIIO-GT3 period.

GTQ21. Do you agree with our proposed design of the Bacton Terminal Site Redevelopment PCD mechanism?

147. We support Ofgem's position on retaining the Bacton Terminal Site Redevelopment Price Control Deliverable (PCD). We also welcome Ofgem's statement that a decision on our re-opener submission is being considered, with the expectation to reach a Final Determination prior to the start of RIIO-GT3. As noted by Ofgem, the re-opener will set the agreed asset health interventions and efficient costs for delivery.

148. As part of our bilateral engagements on the October 2024 application, we understand the re-opener only intends to award funding for RIIO-T2, RIIO-GT3 outputs and project deliverables. There are several work packages within the October 2024 application phased between RIIO-GT3 and RIIO-GT4, including 12 phases of complex valve delivery dependent on wider terminal outages.

149. Therefore, we expect the phased RIIO-GT4 work costs to be set as part of our RIIO-GT4 Business Plan, noting that the scope and needs case for these works would have been agreed before the start of the RIIO-GT3 price control period.

150. We also reference Ofgem to our response to GTQ49 regarding the proposal to remove the opex escalator. Should Ofgem enact their proposal to remove the opex escalator, the full incremental costs for the Bacton Terminal Site Redevelopment investment should be directed for RIIO-GT3 values.

GTQ22. Do you agree with our proposed design of the Capacity Constraint Management incentive?

151. We welcome the inclusion of a Capacity Constraint Management (CCM) incentive in RIIO-GT3 which recognises the importance of efficient capacity management in delivering consumer value by maximising the use of available assets and minimising commercial impacts. However, we do not agree with some of the parameters proposed within the CCM Draft Determination, and have set out our rationale for this below:

- We recognise that minimal constraint costs associated to commercial actions have been incurred in RIIO-GT2, but the scheme is designed to reflect the potential risks based of an oversell regime i.e. we cannot always physically accommodate flows associated to the capacity levels we are obligated to make available each day.

152. We carry out many activities to prevent a constraint materialising and negate the need for commercial tools to be deployed, which could result in costs for customers and ourselves via the CCM scheme. We provided some real examples of operational challenges that had been managed 'behind the scenes' as part of RIIO-GT3 consultation discussions with Ofgem and the wider industry. The recognised value of this transparency has resulted in the new transparency obligation proposed. (See our response to GTQ23).

153. The proposed reduction in the incentive scheme performance target appears inconsistent with both our Business Plan constraint risk analysis and the NESO future energy scenarios 24 (FES24) projections, which forecast an increase in constraint days. We have included some additional risk analysis later in this response. This suggests a growing operational challenge, not a diminishing one, further supported by the Gas Network Capability Report, produced by NESO ,and highlighted in paragraph 3.132 of the Draft Determination.

154. The reduced scheme value increases the risk exposure related to non-obligated capacity sales versus the reward (the Draft Determination proposals for RIIO-GT3 do not change the non-obligated sharing factors) and as such may impact our view of releasing non-obligated capacity. As part of both our Business Plan and Ofgem's SSMD's engagement, our customers told us that non-obligated capacity release was a high priority for them and the scheme should drive us to maximise this. We have tested this via some interactions since Ofgem published the Draft Determination and this remains the case. We remain of the view that applying both sharing factors

substantially dilutes the reward associated with non-obligated release, which does not reflect the importance of this to customers, supported by their feedback.

155. The Draft Determination 3.150 states that a tighter target reflects 'higher standards' going forward. However, constraint management is largely a product of operational and regime design (as detailed above), not a behavioural issue. Unlike performance improvements in controllable areas, constraints are often a function of system configuration, demand patterns, asset availability and market changes etc. Therefore, we do not feel that justification for a tighter target based on 'higher standards' is appropriate in this context.

156. We have asked a question as part of the Draft Determination process to try to better understand how the target had been calculated. Ofgem has explained their principle points relating to the target reduction but in the absence of any detailed data or analysis it is difficult for us to comment further on this. From our perspective, the proposed target appears to apply an arbitrary reduction to the constraint incentive value, based on proposed Milford Haven (MH) investment and RIIO-T2 performance. Importantly, MH investment is not expected to deliver increased National Transmission System (NTS) capability until 2029, meaning the constraint risk remains (and arguably increases due to physical work required to support the investment) coupled with increased liquified natural gas (LNG) capacity at South Hook for the majority of RIIO-GT3.

157. In addition, and linked to the above, we do not believe that the proposed target is achievable, given that in none of our risk scenarios that we have analysed does the target cover the costs associated to the inclusion of the lost commodity cost (associated with Locational Sell actions).

158. FES24 and Draft Determination were published after we submitted our Business Plan, during which time further analysis was carried out on the Western Import Resilience Project (WIRP), post PARCA withdrawal. As such, we have run additional risk analysis to ascertain any changes to the risk outlook and have discussed this work with Ofgem. We have summarised the outcome of the work/risk analysis we have undertaken as well as including our Business Plan submission (consistent with those discussions) below:

Scenario 1 – Original RIIO-GT3 Business Plan submission (the basis of our proposed target of £10.5m per annum).

159. The following are some (not an exhaustive list) of the key assumptions:

- Outcomes were based on FES23 data, Falling Short scenario
- Constraint Days occur where supply or demand expected to exceed physical entry or exit capability
- Locational Sell Cost of gas (Lost Gas) reflects commodity value associated with Locational Sell volumes
- Resolution Method is the proportionate (%) use of commercial actions assumed (Locational Actions vs Buy Backs)
- The analysis excluded any maintenance risk or any assumptions relating to the outcomes of CP2030

Location	South West Entry			South East Entry			Southern Exit			Annual cost
Constraint Resolution Method	75/25			50/50			50/50			
	Events	Cost	Lost gas	Events	Cost	Lost gas	Events	Cost	Lost gas	
26/27	6	3.1	3.3	3	3.8	1.1	0	0.3	0.1	11.8
27/28	3	1.8	1.6	3	4.2	1.5	0	0.1	0.0	9.2
28/29	4	1.9	2.0	4	5.0	2.0	0	0.0	0.0	10.9
29/30	4	1.7	2.1	5	4.8	2.2	0	0.0	0.0	10.8
30/31	4	1.5	2.0	4	4.2	2.0	0	0.0	0.0	9.7
RIIO-GT3 Total	**20.2**	**10.0**	**11.1**	**19.2**	**22.0**	**8.8**	**0.5**	**0.4**	**0.2**	**52.5**

Chart 1

The total of £52.5m total annual cost equates to a £10.5m per annum target which was our Business Plan proposal. The 'lost gas' element is ~£4m per annum of the overall annual target.

Scenario 2 - Original RIIO-GT3 Business Plan submission, taking account of the proposed WIRP investments

160. The key assumptions are the same as those detailed above, the only difference being we have included the proposed WIRP, which would increase MH capability, currently the earliest delivery being during the first quarter of 2029 (programme details to be agreed). We have used FES23 as the basis for this analysis.

Location	South West Entry			South East Entry			Southern Exit			Annual cost
Constraint Resolution Method	75/25			50/50			50/50			
	Events	Cost	Lost gas	Events	Cost	Lost gas	Events	Cost	Lost gas	
26/27	6	3.1	3.3	3	3.8	1.1	0	0.3	0.1	11.7
27/28	3	1.8	1.6	3	4.2	1.5	0	0.1	0.0	9.2
28/29	3	1.4	1.6	4	5.0	2.0	0	0.0	0.0	10.0
29/30	0	0.0	0.0	5	4.8	2.2	0	0.0	0.0	7.0
30/31	0	0.0	0.0	4	4.2	2.0	0	0.0	0.0	6.2
RIIO-GT3 Total	12	6.3	6.5	19	22.0	8.8	0.5	0.4	0.2	44.2

Chart 2

The total of £44.2m total annual cost would equate to a £8.8m per annum target. The 'lost gas' element would be ~£3.1m per annum of the overall annual target.

Scenario 3 – Original RIIO-GT3 Business Plan submission, taking account of proposed WIRP investments and FES24

161. The key assumptions are the same as those detailed for scenarios 1 and 2. The only difference being that we have used FES23 as the basis for the South West analysis and FES24 for the South East Entry and Southern Exit risk analysis. We have based the South West analysis on FES23, as FES24 assumes significantly lower MH flows. We do not believe that this correlates with the South Hook terminal investment which increases their flow capability from 2026 (prior to WIRP delivery).

Location	South West Entry			South East Entry			Southern Exit			Annual cost
Constraint Resolution Method	75/25			50/50			50/50			
	Events	Cost	Lost gas	Events	Cost	Lost gas	Events	Cost	Lost gas	
26/27	6	3.1	3.3	7	10.2	3.2	0	0	0	19.8
27/28	3	1.8	1.6	10	14.1	4.6	0	0	0	22.1
28/29	3	1.4	1.6	13	15.4	5.9	0	0	0	24.3
29/30	0	0.0	0.0	15	14.9	6.8	0	0	0	21.7
30/31	0	0.0	0.0	13	11.7	5.9	0	0	0	17.6
RIIO-GT3 Total	12	6.3	6.5	58	66.2	26.4	0.0	0.0	0.0	105.4

Chart 3

The total of £105.4m total annual cost would equate to a £21.1m per annum target. The 'lost gas' element would be ~£6.6m per annum of the overall annual target.

162. In summary, the additional analysis provides a range of potential outcomes between £8.8m and £21.1m per annum. Our RIIO-GT3 Business Plan proposal of a £10.5m per annum target is a credible scenario and is at the lower end of the range of outcomes, rather than the proposed Draft Determination target of £2.5m, which is outside of this range. We note that the caps and collars between Draft Determination and the Business Plan differ. Once we have greater clarity on the other scheme parameters we can review our position regarding the caps and collars. We are happy to work through and discuss this with Ofgem in the period between this response and Final Determination.

GTQ23. Do you agree that a licence requirement around reporting on constraint management actions is necessary?

163. We support the principle of greater transparency on constraint management. We believe greater transparency will provide Ofgem and the industry with a better appreciation of the work we do to prevent constraints manifesting and impacting our customers.

164. The clarification provided via the Draft Determination question (DDQ) process sets out:

- that we would continue to discuss constraint management actions with the industry when commercial actions are taken; and
- that we would discuss / agree with industry what other constraint management-related information would be useful to them.

165. We believe that the clarifications are appropriate and a sensible way forward but are not sure that a Licence requirement is needed or would best support our ability to adapt to future changes in a timely manner.

GTQ24. Do you agree with our proposed design of the Demand Forecasting ODI-F?

166. We welcome the continued inclusion of the Demand Forecasting ODI-F (D-1) and ODI-R (D-2 to D-5) in RIIO-GT3. We are also pleased to see the adoption of a wind generation adjuster to the scheme which recognises the increasing volatility we are seeing from renewables both now and in the future specifically through the 2026-2031 period. Accurate demand forecasting is essential for efficient system operation and effective functioning of the market and as such we support the principle of incentivising this activity.

167. However, we do not agree with the overall structure and parameters of the proposed incentive as set out in the Draft Determination. We would be interested to understand which information Ofgem believe is available to us, that we are not currently using, to enable such a step change in performance given the increasing complexity.

168. In our view, the proposed design does not sufficiently reflect the increasing complexity of the forecasting environment, nor does it adequately consider the evidence and rationale set out in our RIIO-GT Business Plan.

169. Our Business Plan and consultation responses highlighted the growing challenges in demand forecasting, even in the context of declining overall demand. The transition to Clean Power 2030 (CP30) introduces significant uncertainty, particularly due to the increasing penetration of intermittent renewables such as wind and solar. These dynamics are making demand and supply patterns more volatile and less predictable. We believe the incentive design should reflect this evolving context.

170. The three key areas where we disagree with the proposed design with analysis, are:

1. base target of 8 mcm/day
2. 15% continuous improvement factor
3. weighted factor

Base target of 8 mcm/day

171. Ofgem outlined in a DDQ response that the proposed base target of 8 mcm/day reflects historical performance, however looking at both 3 and 5 year averages the D-1 target of 8mcm/d hasn't been achieved. We also don't think that it recognises the expected challenges from structural changes in the energy system, particularly the increasing volatility driven by decarbonisation.

172. A three-year average is a short timeframe for setting a 5-year benchmark, the four-year average D-1 performance is an error of ~8.3mcm/day. The RIIO-GT2 period included several anomalous years, including the COVID-19 pandemic and the energy crisis, which significantly distorted demand patterns. The approach

proposed in Draft Determination also fails to capture the evolving complexity on both the supply and generation sides of the system, the section below details further analysis in these key areas.

Volatility across a longer time frame

173. The chart below shows a clear upward trend in volatility, 2024/25 was the second most volatile year in terms of day-to-day demand changes over the past 15 years.

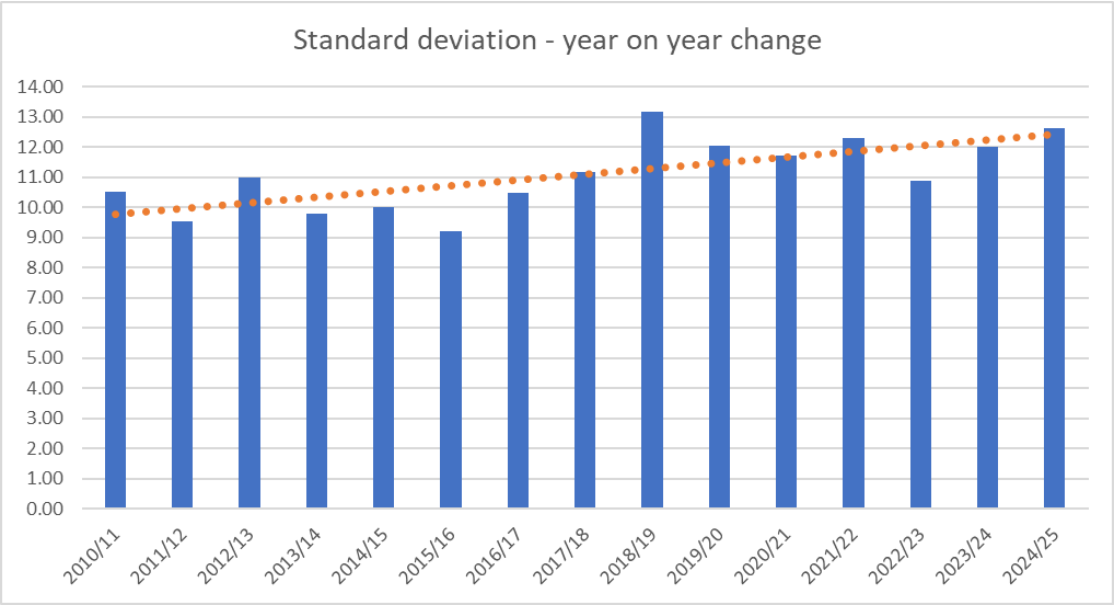


Chart 1

174. The next chart shows a seasonal perspective, where 2024/25 demonstrates a contrast between seasons which equates to a 2 ½ times seasonal difference, as outlined below:

- The summer demand standard deviation was the second lowest on record at just 6.61 mcm/day.
- Winter demand standard deviation was the highest ever recorded at 15.51 mcm/day, more than 2 mcm/day above the rolling five-year average and when converting that to a % of average daily demand it represents ~6%, the highest proportion ever observed.

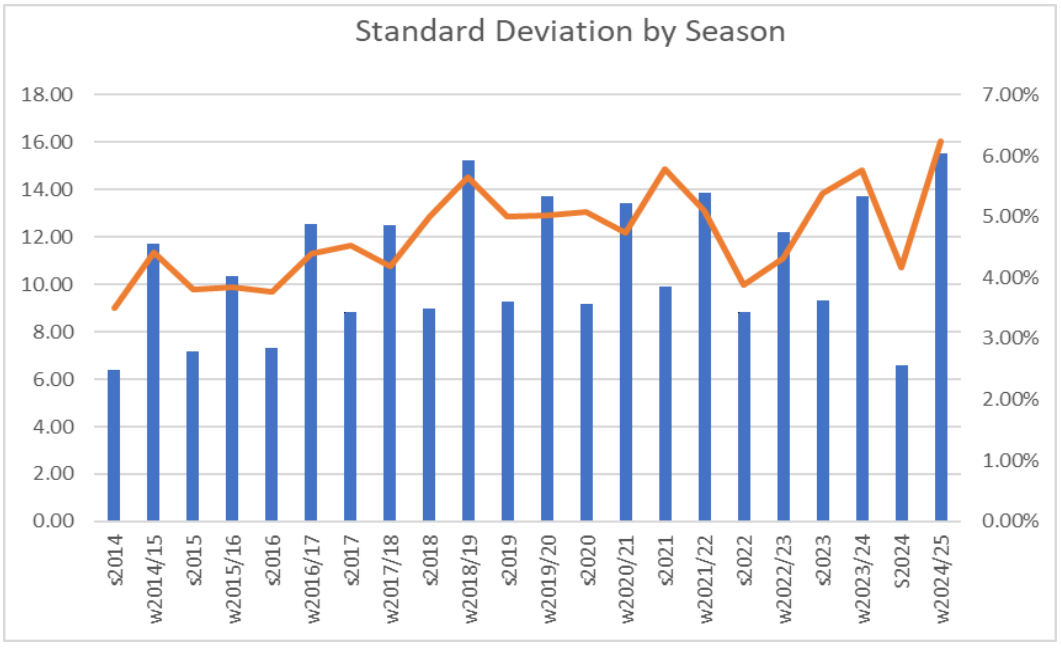


Chart 2

Declining gas demand and peak levels

175. Over the next five years, the UK's total gas demand is forecast to decrease. It has decreased by 14.83% over the last four years, whilst annual peak actual gas demand has increased from 363.1mcm to 392.68mcm over the same period. This increase in peak demand is primarily due to the Dunkelflaute effect, which is a period of low wind and limited sunshine, impacting renewable energy generation. During this period, gas demand increases as it ramps up significantly to meet electricity generation, with gas being ever more important with the closure of all coal generation in Great Britain (GB) during RIIO-T2.

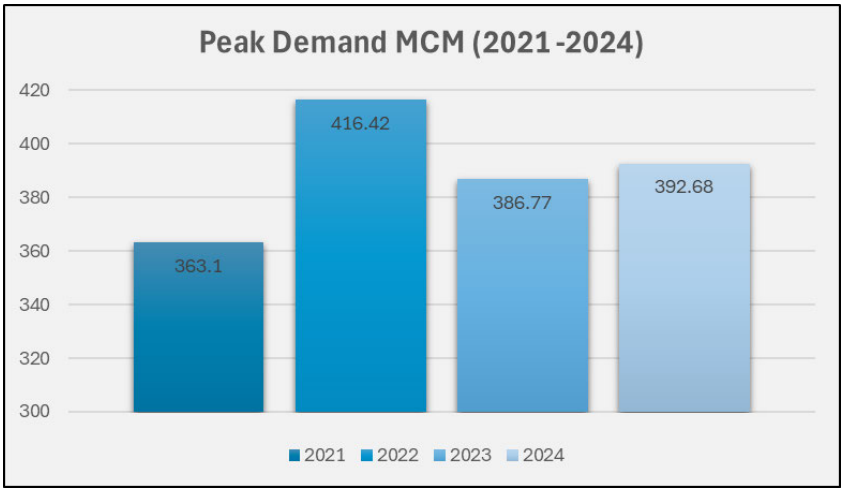


Chart 3

Peak demand over the last 4 years averaged at 389.74mcm highlighting no significant decrease despite wind (transmission connected) and solar capacity increasing by ~150% and ~30% respectively.

*Data includes EU exports.

176. NESO anticipate stable peak demand conditions until 2030 but as overall gas demand has decreased by 14.83% over the last four years, peak gas generation demand has still increased 8.15%. Therefore, the possibility remains that peak gas demand could continue to increase by a further ~8% over a similar period. This would be due to increased renewable generation to meet electricity demand will require gas back up causing larger ramp-ups to meet electricity demand in crucial periods, specifically winter.

177. The average peak demand for the last four years has been 390mcm, and if the trend was to continue for the next four years (increase by ~8%) it would then be ~420mcm. Although there will be less overall gas demand on the National Transmission System (NTS) each year, when renewables aren't sufficient, gas will provide backup generation and therefore remain a prominent source of power generation. These huge shifts in demand, by being a backup source of GB's generation, makes demand forecasting more difficult and volatile as it's reliant on weather data and operational behaviour.

Solar and wind generation analysis

178. Our analysis indicates a clear upward trend in volatility across solar, wind, and gas supply. Wind generation remains volatile throughout the year, while solar volatility is particularly pronounced during the summer months. This is largely driven by rapid capacity growth and the impact of weather variability increasing as a result of the capacity growth.

179. On the supply side, unpredictability is also rising. We are seeing more frequent unplanned outages and maintenance events, especially during summer which further complicate forecasting accuracy.

180. We have assessed the accuracy of day-ahead forecasts for both wind and solar generation, alongside patterns of volatility and key supply side disruptions, such as Norwegian gas flow variability and maintenance schedules.

181. From 2019 to May 2025, the volatility of solar generation increased ~6 fold in parallel with the rapid expansion of installed capacity. This trend is shown in the chart on the next page, highlighting the growing challenge of forecasting in an increasingly weather dependent energy system. However, this figure is based on partial-year data for 2025/26, and full-year volatility may differ once data from the summer months, and the remainder of the year becomes available.

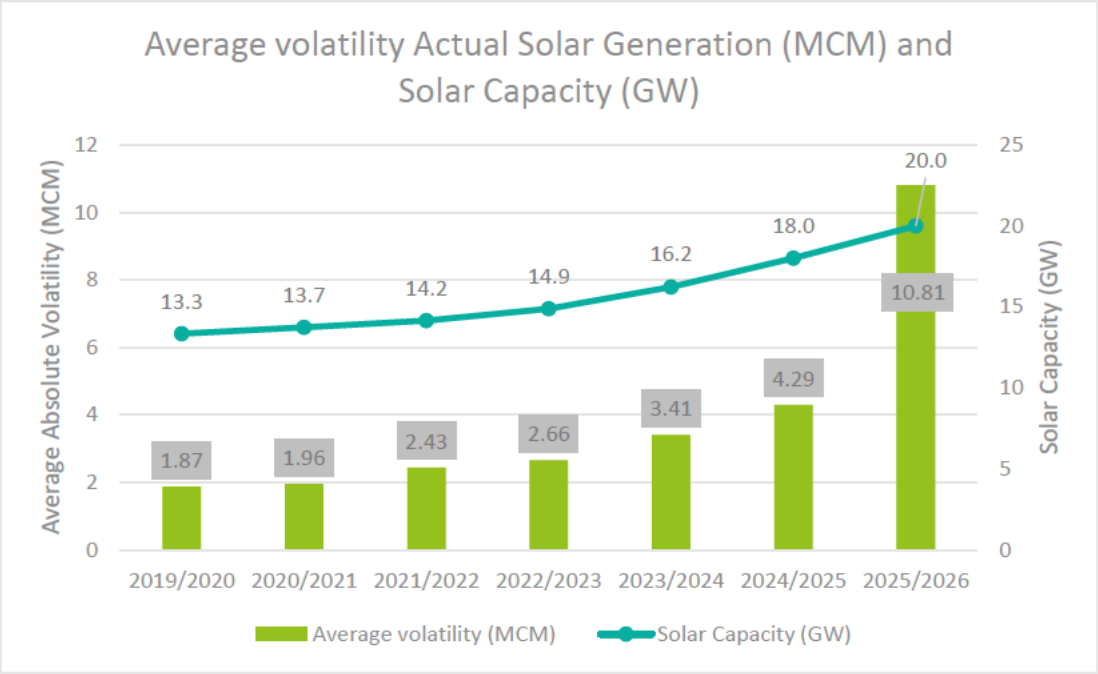


Chart 4 - *Average volatility of actual solar generation and solar capacity as of May 2025

182. On average, solar generation exhibits a volatility of 3.47 MCM/day during summer, compared to 2.42 MCM/day during winter. Overall, solar generation volatility has been increasing year on year, driven by the growth in solar capacity, from 13.3 GW in 2019 to 20 GW in 2025, as well as the undeniable impacts of climate change and more frequent heatwaves/hotter weather.

183. Such volatility introduces greater uncertainty into day-ahead gas demand forecasts, as solar generation increasingly displaces gas-fired generation during daylight hours. Accurately capturing this variability is essential to maintaining forecast reliability and ensuring system flexibility in a more solar-dominant grid.

184. A key challenge in improving gas demand forecasting is the lack of a reliable day ahead solar generation forecast. Current intraday forecasts on NESO Insights are not suitable for day ahead use. The day ahead solar forecast is published at 16:45, after the 13:00 gas forecast submission deadline and does not cover the full gas day.

185. This gap in forecasting capability is particularly challenging given that solar capacity is projected to triple by 2030, as recently announced[1], this wasn't factored into our Business Plan submission last year. Without a trustworthy and timely source for solar generation forecasts, the accuracy of gas demand forecasting will become increasingly difficult to maintain.

[1] UK Solar Roadmap 2025

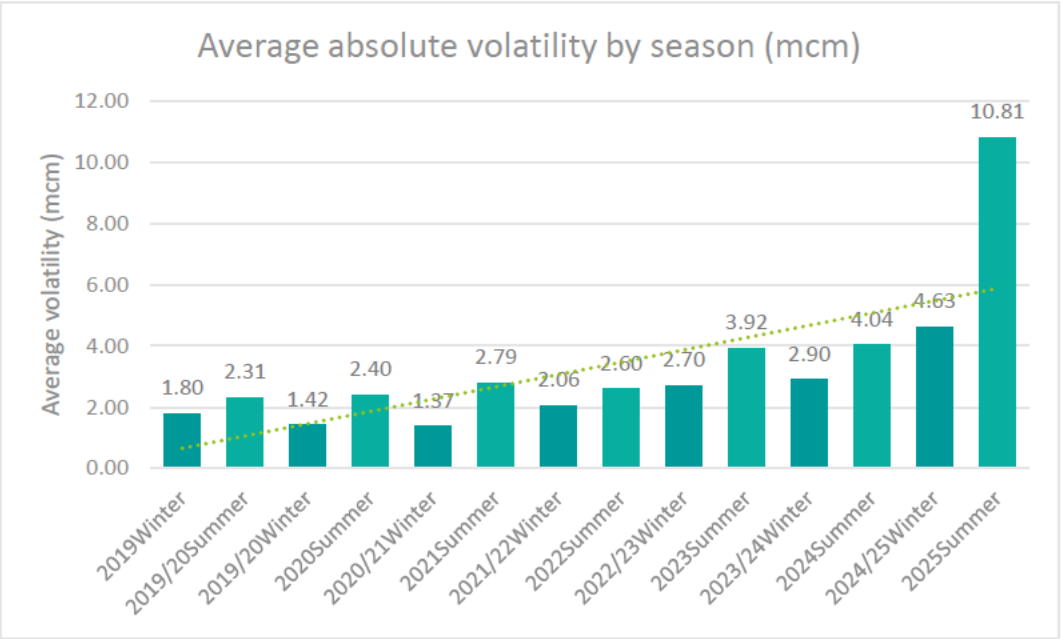


Chart 5- Data as of May 2025

186. To further understand how these changes affect forecasting in the future with evolving renewable sources, we have conducted scenario-based projections using the FES 2025 pathways, estimating wind and solar generation volatility and day-ahead forecast errors through to 2030. These projections highlight that forecasting challenges are not only increasing but are also becoming more evenly distributed across the year.

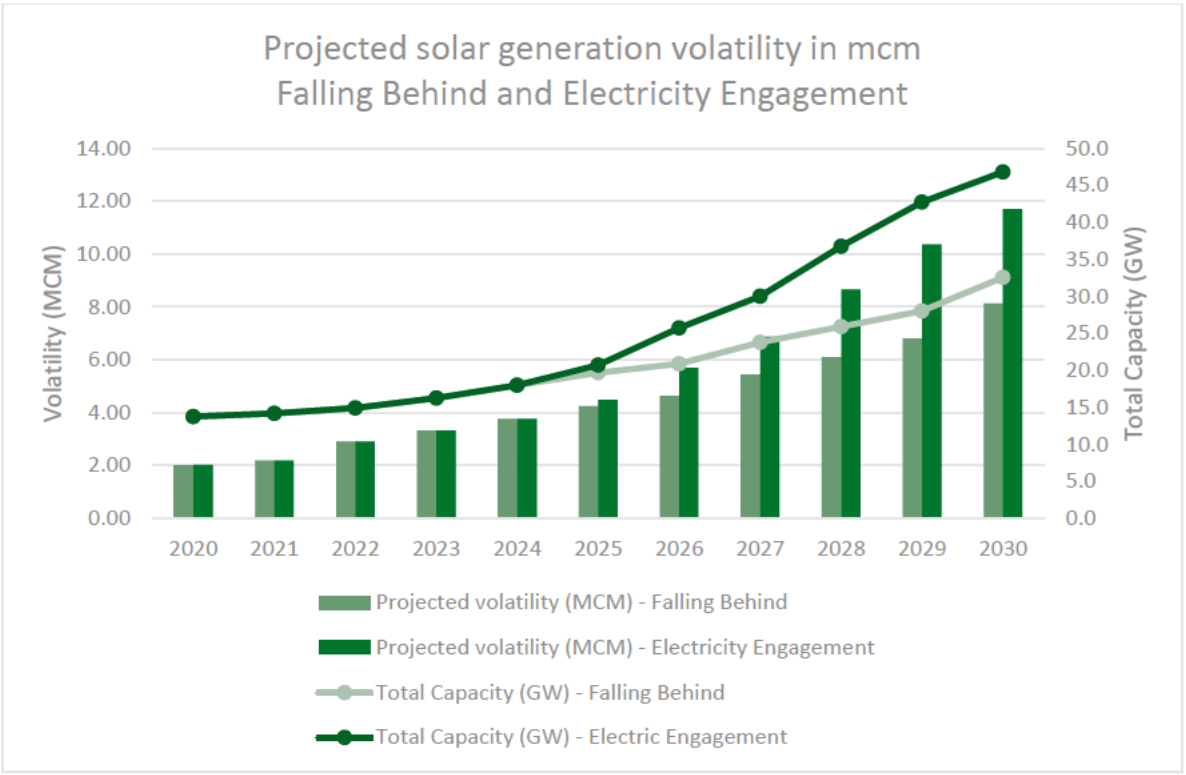


Chart 6- *Projected data reflects calendar year outcomes based on FES 2025 pathways

187. We projected solar generation volatility under two FES 2025 pathways (Falling Behind and Electricity Engagement), with total solar capacity ranging from 33 GW to 47 GW. In these pathways, average volatility could reach 8.3 to 11.7 MCM/day, significantly influencing gas demand patterns during summer months. This level of variability presents a growing challenge for maintaining forecast accuracy as solar continues to expand.

188. A similar approach was applied to assess potential wind generation volatility and day ahead wind forecast errors.

189. Our scenario analysis shows that by 2030, the average wind volatility could reach 20.78mcm to 30.38mcm per day. Day-ahead forecast errors for wind could exceed the proposed target due to rising wind capacity by up to 180% to 260%, as it could result in the range of 9.73mcm to 12.74mcm per day in 2030, surpassing the total error allowance for gas demand forecasts.

190. If Ofgem used the same logic setting for demand forecasting average error as they applied to the Greenhouse Gas Compressor emissions incentive the DF error across the RIIO-T2 period, the benchmark would be approximately 8.3 mcm/day.

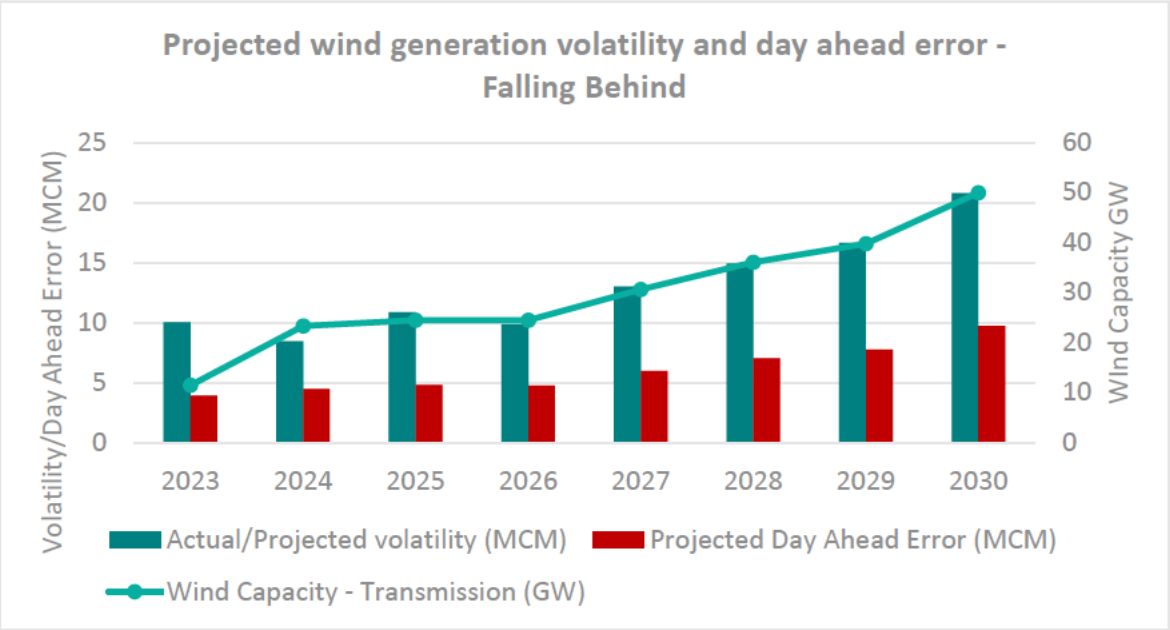


Chart 7

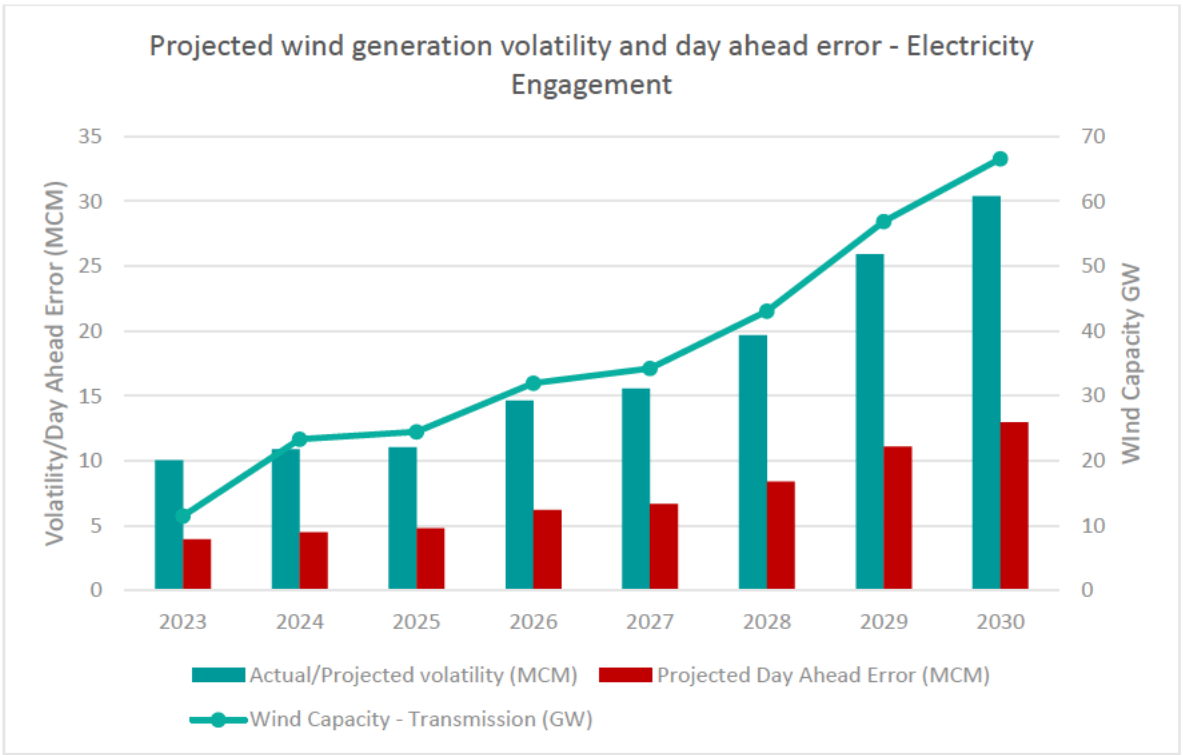


Chart 8-*Projected data reflects calendar year outcomes based on FES 2025 pathways

191. We have further evidence at the back of this response detailing Case studies of demand forecasting across smaller time periods.

15% continuous improvement factor

192. Forecast uncertainty in wind generation remains a notable challenge, and with wind capacity increasing and solar generation projected to triple, the system is expected to face increasing operational volatility. In this context, applying a tighter target and arguably applying the same target already accounts for a degree of continuous improvement before any improvement factor is applied.

193. The inclusion of a 15% continuous improvement factor assumes that forecasting accuracy can improve linearly over time. This assumption does not reflect the reality of the evolving energy system and landscape.

194. We believe the incentive design should recognise the diminishing returns of forecasting improvements and the growing influence of external uncertainties beyond our control. As such, we do not believe the improvement factor should be included in the incentive scheme parameters.

Supply flow and unplanned maintenance analysis

195. In addition to weather-driven variability outlined above, summer periods are affected by unplanned outages and maintenance events, adding further complexity to gas demand forecasting. This is particularly evident in the volatility of Easington Langeled flows, a key import route from Gassco, Norway.

196. Our analysis of Gassco flow data from 2021 to 2025 shows frequent and sharp fluctuations, with day-on-day change ranging from -62 mcm to +34 mcm, as shown in the chart below. Unplanned changes further compound the challenge of accurate demand forecasting and support the need for a more flexible and realistic incentive framework recognising the growth being seen in this area.

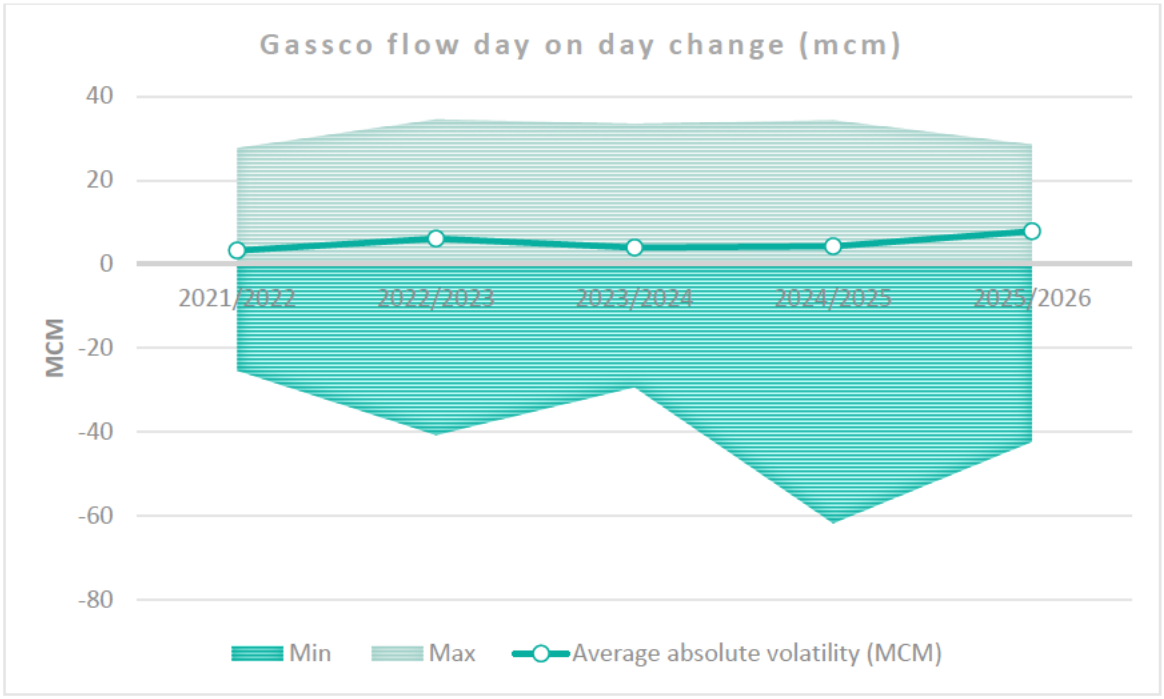


Chart 9- Data as of June 2025

197. Between 1 April and 30 July 2025, there was an average of one unplanned outage every two days, with a weighted average supply change of 17.45 mcm/day and a maximum single-day reduction of 72.65 mcm. These disruptions present a significant challenge to maintaining accurate gas demand forecasts particularly during summer, a period traditionally considered lower risk.

198. Norwegian gas flows are inherently more volatile in summer due to a combination of planned and unplanned maintenance. Since 2023, this seasonal volatility has shown a clear upward trend, as evidenced by increased fluctuations in Easington Langeled flows.

199. These findings reinforce the fact that forecasting challenges are no longer confined to winter months. Unplanned supply disruptions and variable demand from weather-dependent generation are causing unexpected changes in gas demand throughout the year. This raises important questions about the continued relevance of seasonal weighting in the current incentive structure, and whether it adequately reflects the evolving nature of system risk and forecasting complexity.

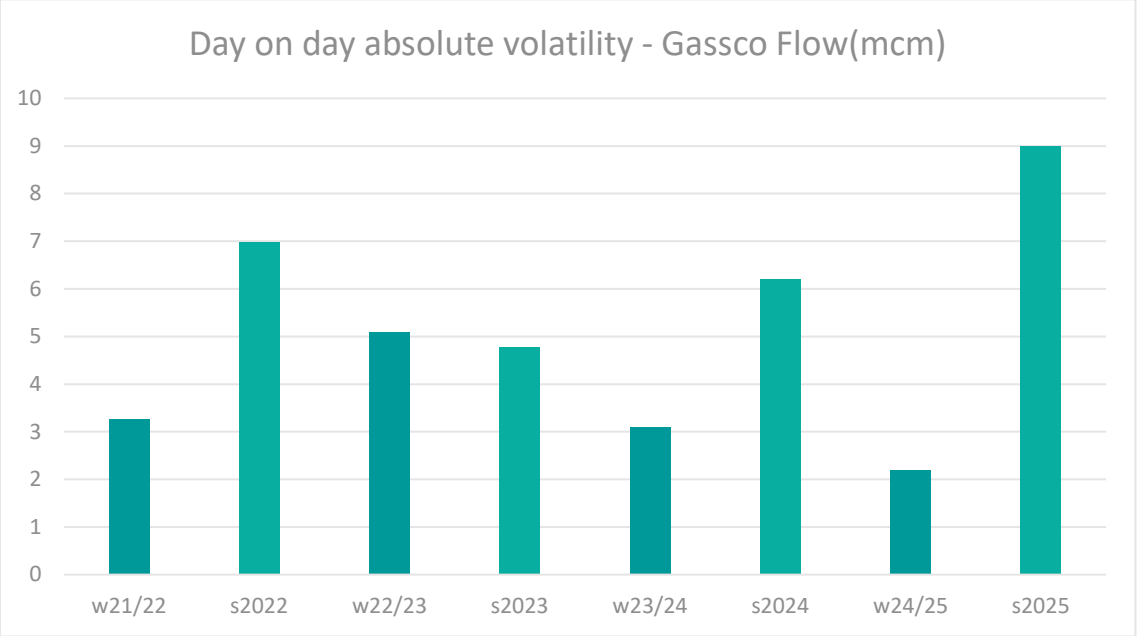


Chart 10

Weighted factor

200. The RIIO-T2 weighting mechanism within the incentive structure creates a reverse asymmetric risk-reward dynamic. Larger forecast errors are more likely during winter due to heightened weather uncertainty and can result in significant financial penalties, while accurate forecasts yield only modest rewards. As a result, risk aversion is created, aiming for the 'midpoint' when forecasting amid uncertainty and volatility.

201. Chart 11 shows the UK gas demand over 300mcm for the financial year 2024, alongside corresponding forecasting performance. A linear regression line shows a clear upward slope, indicating that as demand increases, so does the difficulty in forecasting accurately. Out of the 34 high demand days analysed, 17 (50%) were classified as 'poor performance days', where D-1 forecast errors exceeded 8.35mcm.

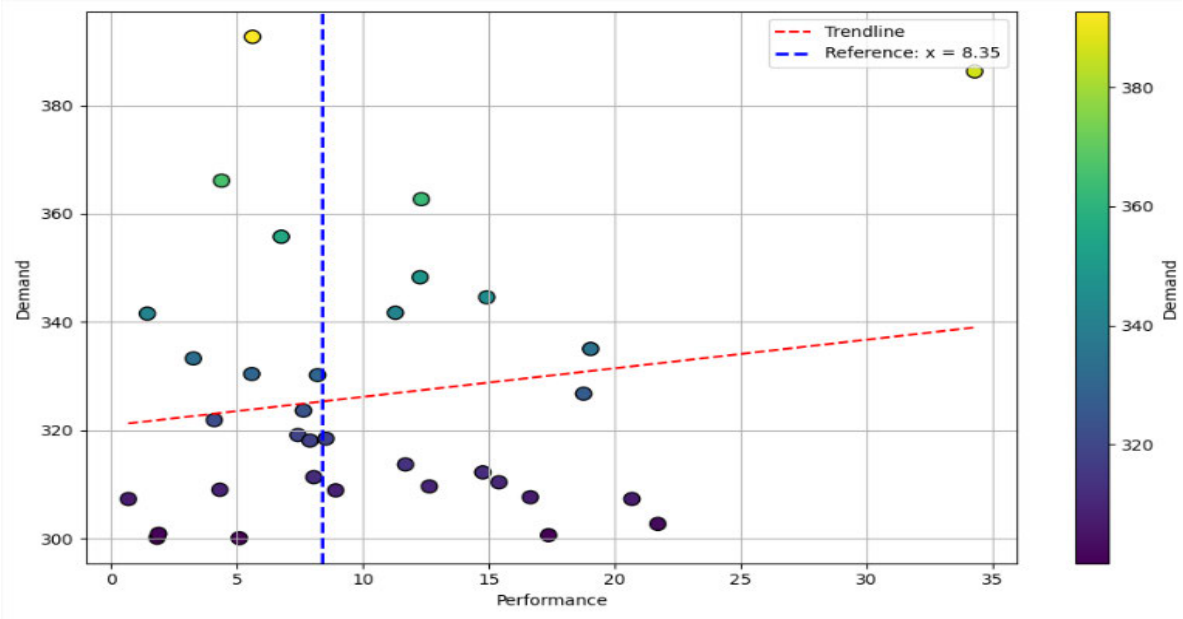


Chart 11

202. These instances are evaluated in terms of associated incentive outturn, with the peak daily revenue from the scheme being ~£12k for a 0 error, but with an uncapped daily downside potential, in this year, the max daily loss seen on the D-1 scheme was ~£58k

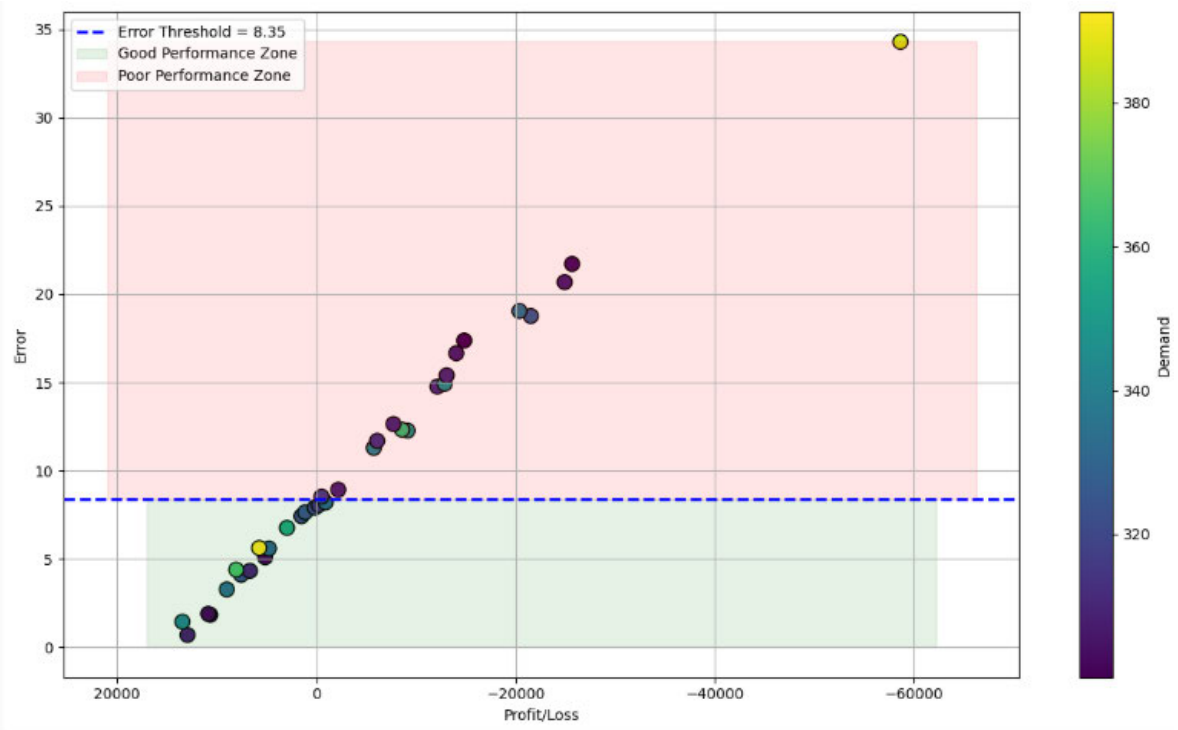


Chart 12

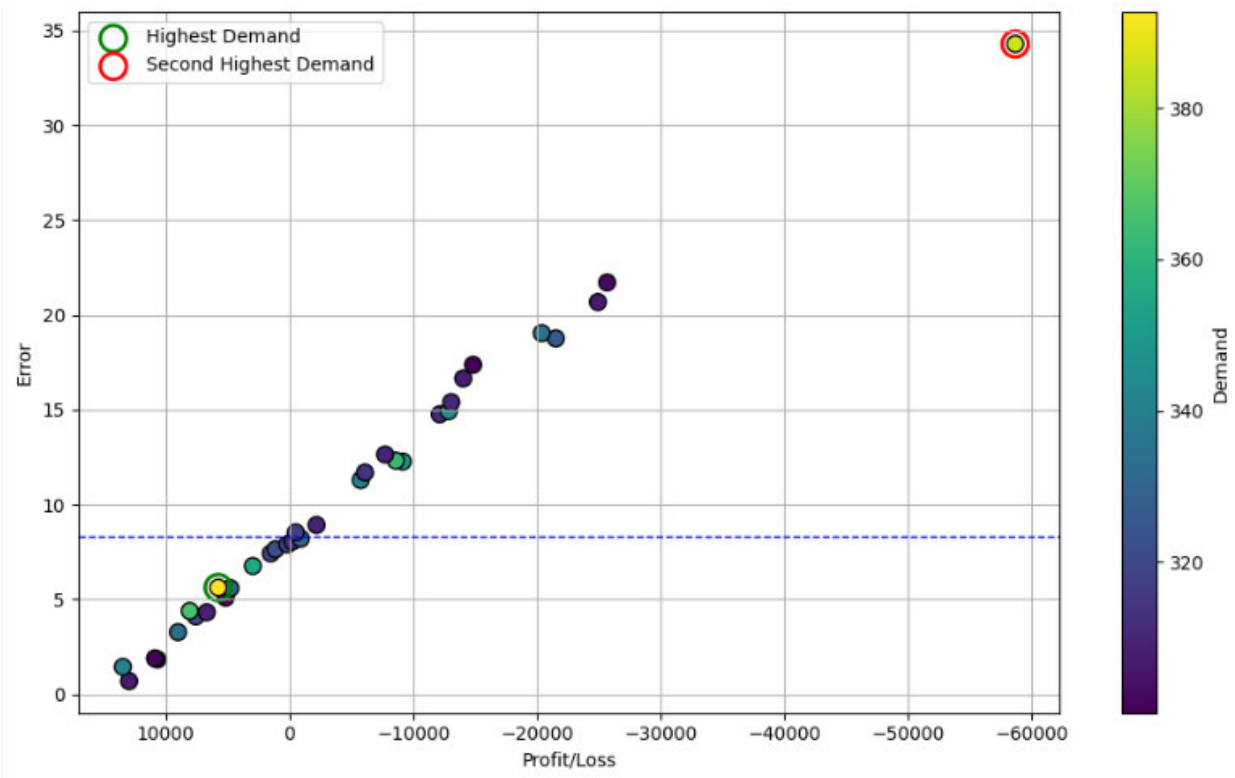


Chart 13

203. The highest demand day (392.68 mcm) had a D-1 forecast error of 5.62 mcm and resulted in a gain of £5,737.98.

204. In contrast, the second highest demand day (386.29 mcm) had a D-1 forecast error of 34.62 mcm, leading to a loss of £58,644.11.

205. Even with a perfect forecast on the highest demand day, the maximum gain would have been around £12,000 highlighting the disproportionate downside risk relative to the capped upside.

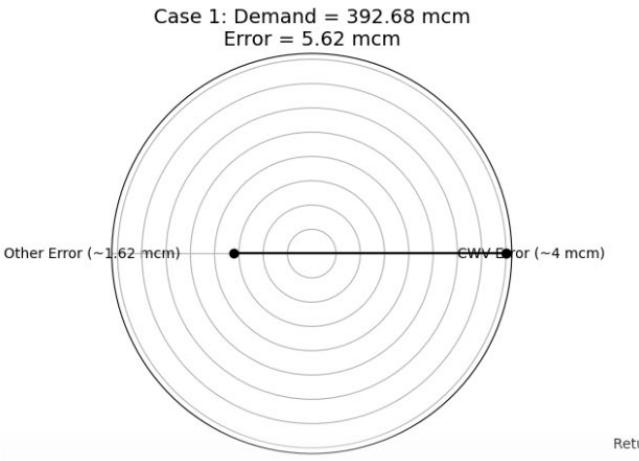


Chart 14

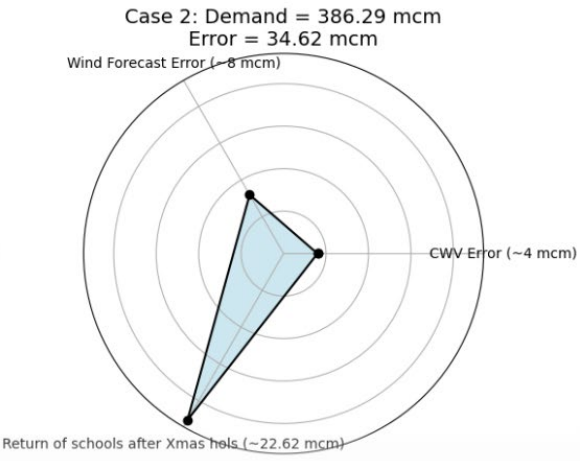


Chart 15

206. Case 1: A change of 0.2082 in Composite Weather Values (CWV) which is ~4mcm was the main reason of forecast error.

207. Case 2: A change of 0.212 in CWV which is ~4mcm more on LDZ and 44.03GWh less wind from D-1 forecasts equating to ~8mcm more on power station demand. However, this specific day (08/01/25) was the return of some schools/offices following Christmas holidays (some schools returned the previous day, but we were

unsure on specifics around how many, leading to uncertainty on how many would return the next day) creating volatile conditions to forecast. Therefore, the baseline demand per CWV increased by ~22mcm.

208. Both days signify that even when we forecast accurately (within the target of 8.35mcm) to achieve a 0mcm error which would mean that we would cap out on those days within the DF scheme we would need both the daily weighting the weather forecast of both CWV and wind to be 100% accurate. It is worth noting that if we achieve an error of 4.5mcm, we will cap out within the current scheme and that even given the small CWV error only (i.e. wind/other elements are forecast with 100% accuracy) in the examples the small CWV error equates to 4mcm. The below graph depicts the accuracy of CWV, and wind D-1 forecast during 300mcm+ days.

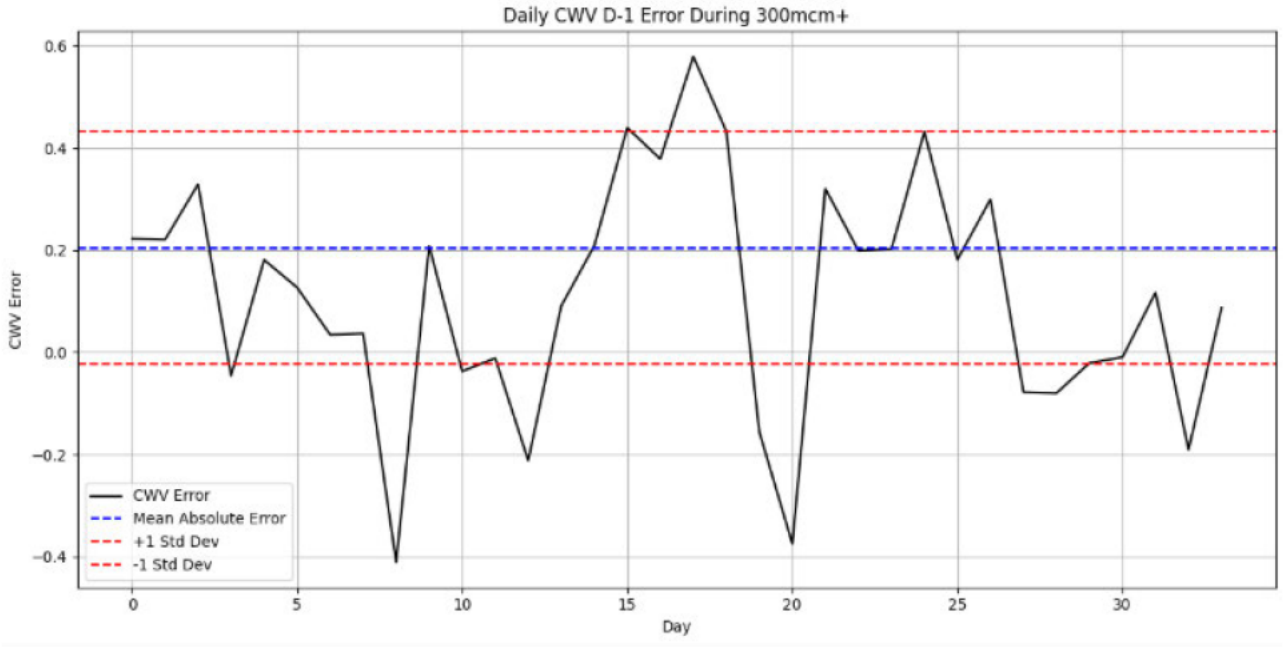


Chart 16

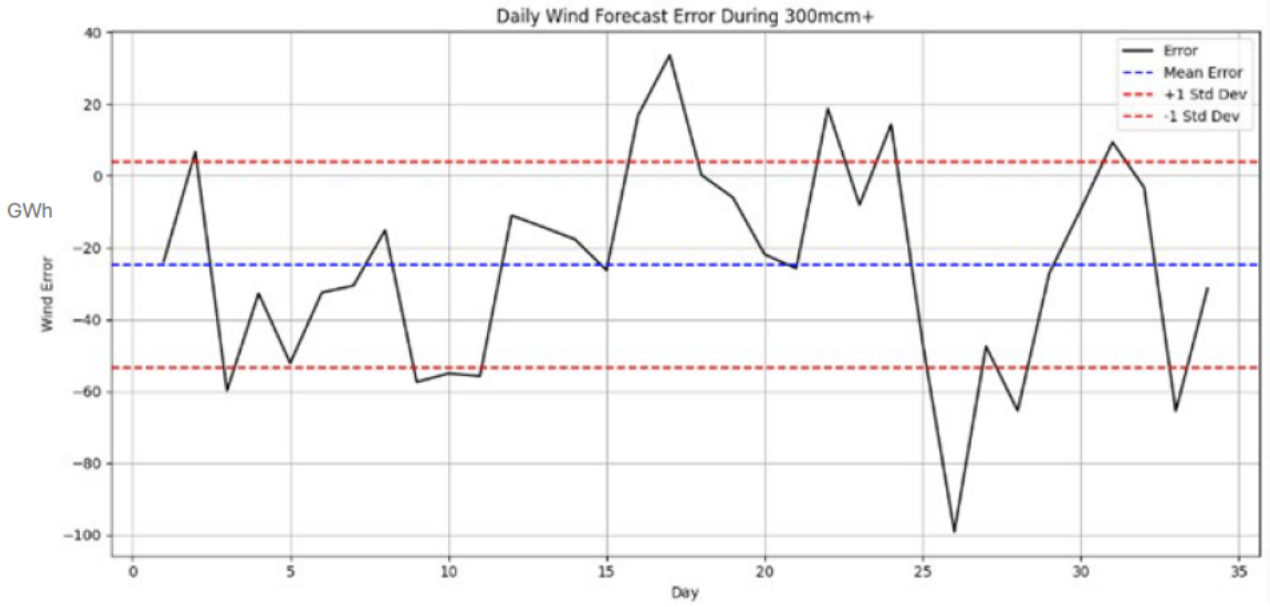


Chart 17 - Wind MAE 30.62

209. In summary, we recommend the following changes to the proposed D-1 Demand Forecasting ODI-F design:

210. **Adjustment of base target forecast error**

We continue to believe that an increase to the base target forecast error to 8.83 mcm/day for D-1 is appropriate (in line with our Business Plan submission). This is 14.48 mcm/day for D-2 to D-5. This adjustment reflects the increasing complexity of the forecasting environment, driven by rapid growth in solar capacity, increased wind capacity/generation and the corresponding rise in generation volatility impacting gas demand. We believe that these changes ensure the incentive remains fair and achievable under evolving system conditions.

211. **Removal of the 15% continuous improvement factor**

The assumption of linear, year-on-year improvements in forecasting accuracy does not align with the realities of a weather dependent energy system transitioning to renewable energy. Rising volatility and an increased volume of unplanned outages makes marginal improvements increasingly difficult to achieve. We believe therefore continuous improvement is embedded within a static target and that this factor should consequently be removed from the incentive design.

212. **Removal of the weighting factor**

The current weighting mechanism places a disproportionate emphasis on winter performance. However, our analysis shows that summer months are now equally volatile, with sharp fluctuations in renewable output due to intermittent sunshine and cloud cover and input data forecast error, as well as increased maintenance related supply disruptions. Forecasting challenges are now year-round, and we believe that the incentive structure should reflect this by treating all periods with equal importance.

213. These changes would ensure the incentive framework is better aligned with the operational realities of RIIO-GT3.

Supporting information

214. To further highlight the current complexity in gas demand forecasting, we have included a snapshot of the recent three weeks from summer 2025. This period captures the combined effects of renewable generation volatility, supply swings, and the absence of reliable day-ahead solar forecasts. These real-time observations reinforce the analytical findings presented earlier and highlight the operational challenges forecasters face daily.

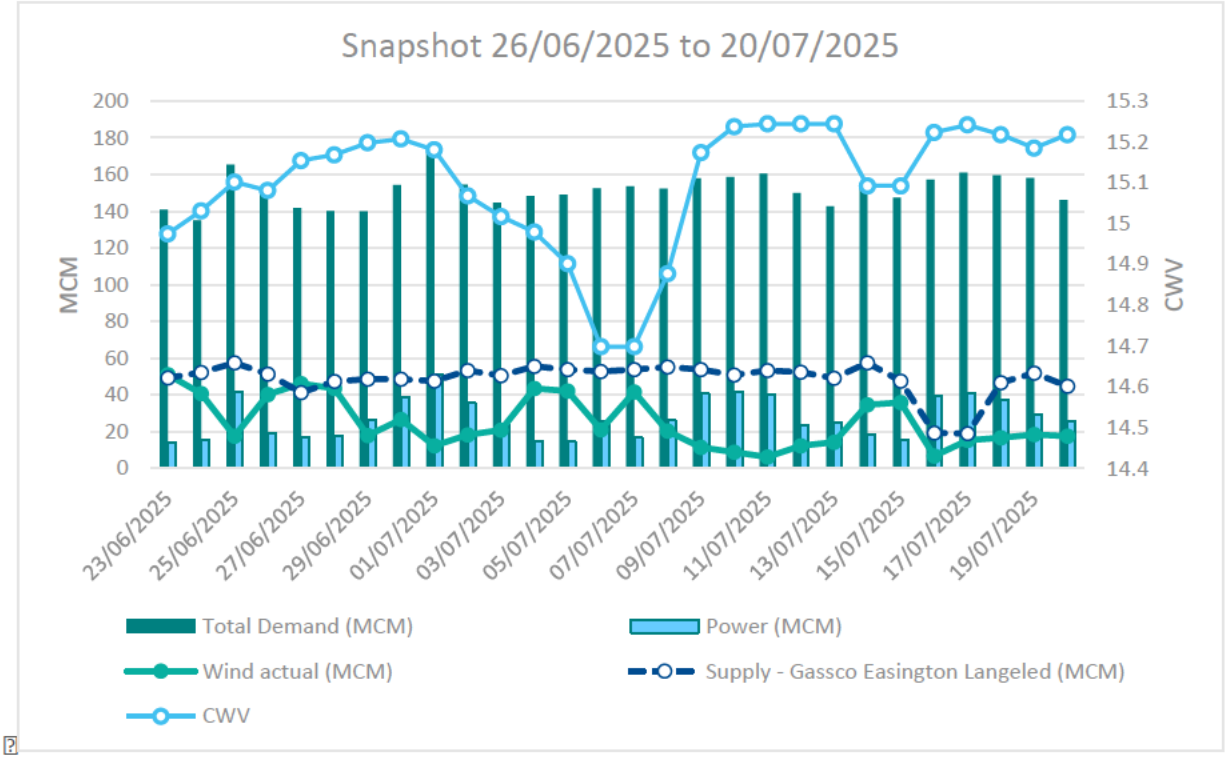


Chart 18

215. From the snapshot, we highlight two specific cases to show how weather impacts on gas demand forecast. The first case compares two days with nearly identical CWV, a difference of just 0.02, yet resulting in a 14mcm difference in total gas demand.

Chart 19

216. Despite similar weather conditions, the two days experienced a 100 GWh difference in wind generation (equivalent to approximately 23mcm), which led to notable variations in power demand, ultimately driving a substantial difference in total gas demand.

217. The second case compares two days with closely matched CWV, a difference of just 0.007 CWV, and similar wind generation (a difference of only 5.31 GWh, equivalent to approximately 1 mcm). Despite these similarities,

the total gas demand differed by 14.4 MCM, primarily driven by an 11 mcm difference in power demand and a 3mcm difference in LDZ demand.

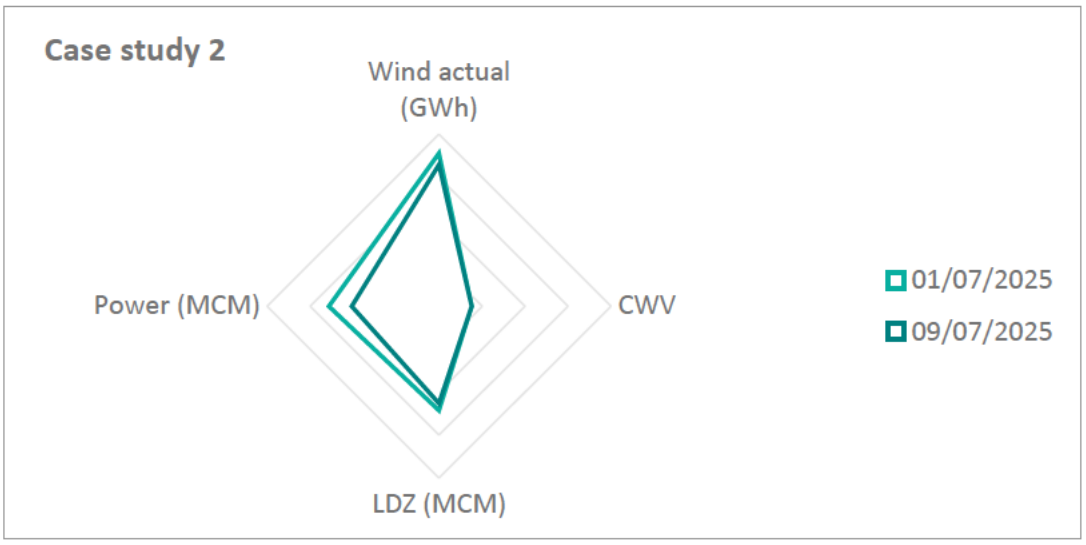


Chart 20

218. This case highlights a key limitation of the solar generation forecasts and current CWV methodology: it does not adequately capture heatwave effects or cooling-related demand, which are becoming more prominent during summer months.

219. Whilst cloudy and cold weather spells in winter become ever more difficult to forecast amid the huge potential of solar, wind generation and capacity 'better performance' cannot be attained without an improvement in weather reports which underpin demand.

CWV analysis

220. In trying to further understand our gas demand forecast, we conducted analysis on day-ahead CWV forecasting errors and their potential impact on demand forecast accuracy.

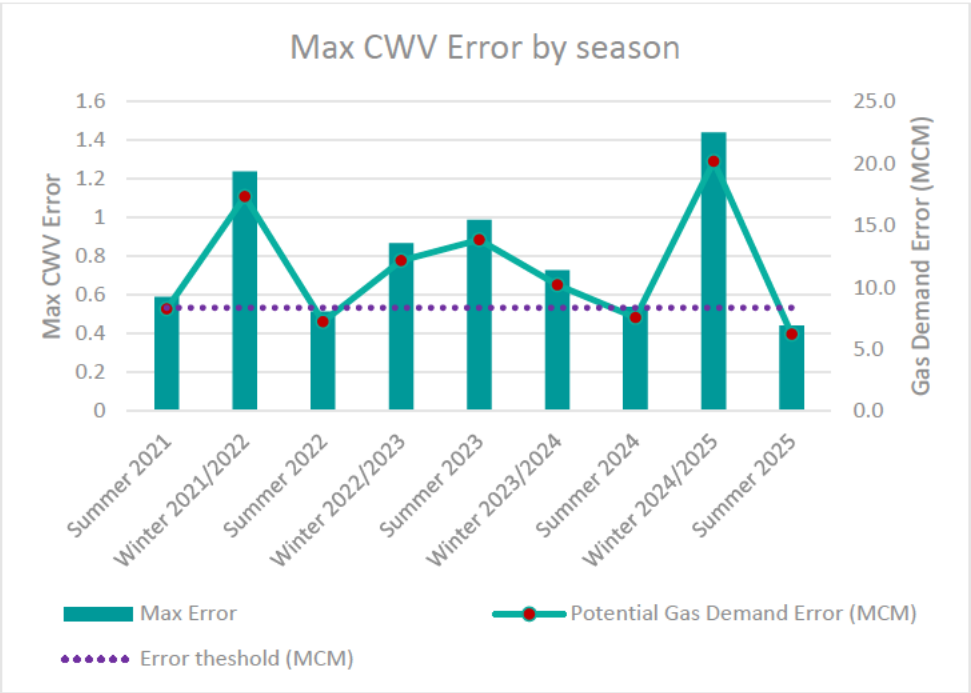


Chart 21

221. The results show that gas demand forecasts are highly sensitive to CWV accuracy, as shown by the strong alignment between CWV errors and potential demand errors across seasons. When CWV less accurate, especially in the winter, demand errors could exceed 20mcm, far above the current threshold at 8.35mcm. This demonstrates that even small inaccuracy in CWV can lead to significant impacts on demand forecast.

222. Since CWV is an external input, applying seasonal weighting amplifies the impact of these errors. This results in a skewed assessment of forecast performance, disproportionately penalising winter periods. Given this, we recommend removing the weighting and revisiting the target to better reflect the structural limitations of the input data and ensure a more balanced and realistic evaluation framework.

GTQ25. Do you agree with our proposed design of the Residual Balancing ODI-F for RIIO-GT3

223. We welcome the continued inclusion of the Residual Balancing ODI-F in RIIO-GT3. We agree with the proposed design on the basis that it aligns with our understanding.

224. Since receiving the Draft Determination, we have engaged with Ofgem to clarify the proposed design of the Residual Balancing ODI-F. Ofgem's proposal increased the Residual Balancing ODI-F annual cap and collar from current levels but did not increase the daily cap and collar for both the linepack and price components of the scheme in the same way.

225. This meant that the proposed increased to the annual cap could not be achieved and that the increased collar was less likely to be reached. Ofgem has since clarified that this is not intentional and have confirmed that the daily caps and collars have also increased by the same proportion as the annual cap and collar. We welcome this confirmation and as such our agreement to the proposed design of the Residual Balancing ODI-F for RIIO-GT3 is on the following basis:

- That the annual cap and collar of the Residual Balancing ODI-F is increased to £2.4m and £4.2m respectively.
- That the daily cap and collar for the price component of the scheme is £1.75k and £35k respectively.
- That the daily cap and collar for the linepack component of the scheme is £4.7k and £35K respectively.
- That the shoulder month aspects of the scheme remain the same, with an incentive performance deadband, meaning that no incentive reward or penalty is attributable where the Linepack Performance Measure is between 2.8 and 5.6 mcm/d within the defined shoulder months.

226. On this basis, we believe the proposed scheme is reflective of the increased market impact of residual balancing.

GTQ26. Do you agree with our proposed design of the Maintenance incentive for RIIO-GT3?

227. We welcome the continued inclusion of the Maintenance ODI-F in RIIO-GT3. The decision to increase the scale of the scheme is a positive step and reflects recognition of the increased volume and complexity of maintenance activities expected during the RIIO-GT3 period. We also appreciate that the Draft Determination refers to the stakeholder feedback regarding the growing challenge of aligning maintenance with customer outages.

228. We broadly agree with the proposed design of the incentive and understand that Ofgem has used historic performance to inform the scheme. However, given the anticipated 20% increase in maintenance, the proposed scheme provide additional challenges that we will need to manage to meet our customers' requirements.

229. We recognise that the scheme is also dependent upon the outcome of Modification Proposal 0907 Extension to the current Maintenance Period. Therefore, we will need to consider the impact of the outcome of the Modification Proposal on the incentive scheme.

230. We will continue to work with Ofgem and welcome further engagement, to ensure the incentive remains fit for purpose and continues to support efficient and customer aligned maintenance planning.

GTQ27. Do you have any views on the proposed design of this incentive?

231. Overall, we broadly agree with the structure of the Customer Satisfaction (CSAT) incentive. However, the score targets set for RIIO-GT3 are too ambitious and therefore unachievable. We would suggest reducing the score targets to be in line with the Gas Distribution Network (GDN) proposal of using the average performance over RIIO-T2 as a target.

Our views on target scores

232. Item 3.195 – 'The penalty and reward zones in Figure 4 show the areas where National Gas would earn/lose money, with anything greater than ±0.5 from the target score subject to the cap/floor amount.'

233. As a business we aim to maximise customer satisfaction, however we have noted the increased uncertainty, challenges, and changes in the energy market, in particular as organisations shift to support Clean Power 2030 (CP30) and the energy transition. Accordingly, we face increasing expectations to support customers with longer-term and uncertain services and projects. Naturally, this brings challenges and uncertainty in maintaining our CSAT performance, as the scope of work and services we provide have expanded. They have evolved drastically from RIIO-T2, supporting nascent areas such as enabling hydrogen blending, and growing biomethane connections on the National Transmission System (NTS) as described in our business plan.

234. Therefore, pressure from Ofgem to increase CSAT scores significantly may be inappropriate as our scope of work has evolved dramatically from RIIO-T2 and customer service expectations have continued to rise.

235. Target scores set by Ofgem include an additional stretching factor of +0.2 to our weighted average scores per survey area in the first three years of RIIO-T2. This methodology, combined with the deadband means that the threshold to receive a reward is +0.4 above our average performance in RIIO-T2 while the penalty threshold begins at our average performance over RIIO-T2.

236. This is much higher than the increase from RIIO-T1 to RIIO-T2 target score of 0.9. It results in a significant increase in the start of the reward score, relative to our RIIO-T2 target of 7.8

- 0.9 for long-term customer activities
- 1.4 for day-to-day customer activities
- 1.3 for market facilitation
- for other activities and events

237. The interaction of the additional stretching factor and deadbands makes receiving a reward unachievable for most areas and makes this incentive mainly penalty-driven rather than trying to encourage and rewarding improvements in performance.

238. Furthermore, if incorporating our year four performance within RIIO-T2 we would be penalised for scores of 9 and below in market facilitation which is confusing from a survey respondent point of view. (A score of 8 and above should be considered as good).

239. This confusion is already prevalent given the degree of subjectivity in scoring, with some customers providing qualitative feedback that does not always align with numerical scores (e.g., a score of 7 with only positive qualitative feedback).

240. Our performance is considered strong by the market and using the average score per survey area over RIIO-T2 as our target would provide us with a reward of £0 should we maintain our already high performance. We would argue that this is already stretching given we must have a higher score than this in order to achieve a reward and would be penalised for a score below this.

241. In previous discussions, Ofgem spoke about not banking past performance improvements, but this methodology doesn't bank any improvements as maintaining a strong performance results in no penalty or reward, while underperforming would result in penalty, and any overperformance would require great effort given the already high average scores.

242. In addition, it can be seen that over RIIO-GT2 our average score has plateaued given the increasing demands from customers and the incremental difficulty of further improving high scores (8.6 average score from FY22-24, with a one-off increase in FY25 to 8.9). In order for us to further improve this performance and achieve scores beyond the average RIIO-GT2 performance would require additional effort which should be rewarded.

243. Finally, the methodology used in Draft Determination to calculate the Gas Distribution Networks' (GDN) score targets for their satisfaction survey incentives are based on their average performance over the regulatory period. For a fair and equitable incentive, we would expect National Gas to be presented with the same methodology. There is no reason for these to be different.

244. We would therefore ask Ofgem to remove the additional +0.2 uplift as it takes away from the value of this incentive for achieving high performance. The uplift in target score is not based on any statistical means and is inconsistent, inappropriate, and unachievable, penalising scores of less than 8.9-9.0 in some cases.

245. We propose using the following score targets based on the average performance over the first three years of RIIO-T2. This would increase the targets we suggested in our business plan by 0.1 to 0.3 across survey areas, as below:

- Long-term customer activities: 8.40 (vs 8.2 in our business plan)
- Day to day customer activities: 8.80 (vs 8.5 in our business plan)
- Market facilitation: 8.70 (vs 8.6 in our business plan)
- Other activities and events: 8.50 (vs 8.4 in our business plan)

Our views on survey volumes and minimum volumes

246. Item 3.197 – 'As a minimum, we propose a threshold of 30 responses required per Survey Area. If this minimum response threshold is not met, then the Survey Area will be removed from the incentive total and no reward or penalty will be applied regardless of the score. This mechanism aims to increase the response rate for the overall incentive compared to the current RIIO-GT2 format.'

247. In RIIO-T2 we sought to maximise our number of CSAT survey responses by improving our response rates while maintaining high-quality and detailed feedback.

248. As agreed with our Independent Stakeholder Group (ISG), we want to survey significant interactions in order to minimise survey fatigue and continue receiving meaningful feedback given we only have c.200 customers and direct connects. This means that we do not take a blanket approach to surveys nor increase the volume of survey submissions at the cost of actionable feedback. To test the value of surveying less significant interactions, we launched a pilot in financial year 2025 but achieved very low response rates. Scores received were typically high but without any of the important qualitative feedback.

249. We believe that the response volumes received in RIIO-T2 are at an optimal level to gather meaningful and actionable feedback. We still aim to increase volumes where possible and have taken steps such as:

- embedding CSAT volume targets into our internal monthly customer and stakeholder hub;
- simplifying and reducing the survey length where possible to increase response rates; and
- improving response loops to customers following feedback to highlight the value of comments received.

250. We acknowledge Ofgem's concerns about receiving insufficient responses for the average score of each CSAT survey area to be statistically robust. However, we note that we are not in direct control of the response rate and the number of interactions that we have with our customers and direct connects a year, particularly within the three main survey areas (long-term customer activities, market facilitation, and day-to-day customer activities).

251. A minimum of 30 responses for each survey area is much higher than we have achieved historically, and will likely be hard to reach for all survey areas each year and could risk reducing the quality of feedback obtained.

252. The best quality and actionable feedback is gathered from our non-transactional and lengthier interactions. Due to the nature of our transmission business, we naturally have fewer of these interactions than other gas distribution networks who have a much larger customer base. We have a much smaller customer base of around 200 customers and direct connects and won't have a significant interaction with all of them during a financial year.

253. We agree that there should be a minimum response volume for each survey area, but this could vary by area to reflect the number of significant customer interactions per year and be closer linked to our average historical values. For example, our market facilitation teams have fewer significant interactions than day-to-day account management due to the nature of their work as less customer-facing. We will continue engaging with Ofgem to set an appropriate minimum response target for each survey area.

254. We agree that if minimum response volumes are not met for survey areas, then no reward or penalty should be attributed given the sample may not be statistically significant but accepting that we are not in direct control of response rates.

255. We have historically had a very high response rate compared to industry benchmarks from our surveys over RIIO-T2, achieving a 49% response rate in financial year 2025. This limits our ability to further increase our responses, even if we provide customers with new methods of surveying (eg, SMS or customer hub integration).

Our views on deadbands

256. Item 3.194 – 'We propose using average performance data from the first three years of RIIOGT2 CSAT survey results and to introduce a deadband of +/-0.2 points above/below from the target to allow for annual performance variations as shown in Figure 4'.

257. We support the addition of deadbands to each survey area to ensure that reward and penalties are not due to statistical variation from minor score changes. However, this is only appropriate if the historical average is used as the target as described above.

258. By having a deadband and increasing the target score by 0.2, there is a risk of making the reward score unachievable, (only scores of 10 are needed in some survey areas to achieve a reward if using year to date average performance over RIIO-T2), given the minimum reward score would be +0.4 above average historical performance. In contrast, the penalty zone would begin when achieving a score anywhere below historical performance. This asymmetry does not induce a fair incentive on performance and would make this incentive mostly penalty driven.

259. It also means that already-high scores are not rewarded. For example, using the average performance over RIIO-T2 would result in a target score of 9.0 for market facilitation, but using Ofgem's methodology would mean that only scores of 9.4 and above would achieve a reward and any score below 9 would result in a penalty. As a survey respondent, this would be highly confusing as a score of 8 is considered very good, based on accompanying qualitative feedback, and a score of 9 should be to reward our performance during the interaction.

Our views on scoping out new methods of surveying customers

260. Item 3.198 – 'We asked National Gas to explore whether its customer satisfaction surveys can be delivered through different communication means (eg SMS, website feedback forms etc). We expect National Gas to consider this further with its third-party provider and include in its response to our Draft Determination.'

261. We accept this suggestion and will be looking to update our survey with best practices over the course of the next year to potentially further improve our already high response rates by industry standards (49% in financial year 2025). This could provide customers with greater choice of channels through which to provide their feedback (eg,, SMS, customer hub integration). However, we will continue to focus on gathering feedback from significant interactions with customers as per our license condition to prevent survey fatigue while giving customers the option of providing us with comprehensive feedback on their interactions with us.

Our views on the definition of 'significant interactions'

262. Item 3.196 – 'Only customers who have had a significant, non-transactional interaction with National Gas will be surveyed. National Gas worked with its ISG to propose what constitutes a Significant Interaction, which should warrant inclusion under each of the above survey areas and propose a statistically robust minimum sample size for each survey area'

263. We note the minor change in definition of a 'significant Interaction' in the Draft Determination. We would propose using the license condition language and agreed definition in the final determinations in order to ensure clarity and consistency. The license draft proposal: 'Means a direct interaction with a customer via telephone, virtual or face-to-face meetings, or email threads i.e. it is not simply transactional. These interactions will usually include solving a query, the provision of information or documents, or a much lengthier ongoing interaction with the customer'.

GTQ28. Do you agree with the proposed expanded scope of the Authority-triggered Gas Strategic Planning Re-opener?

264. We support Ofgem's proposed scope of the Authority-triggered Gas Strategic Planning Re-opener, as outlined in the Draft Determination. We agree with the expansion to include investments required to specifically support the delivery of the Clean Power 2030 plan and to mitigate the risks associated with single points of failure (SPOF) on the National Transmission System (NTS). This broader scope is essential to ensure that we can respond effectively to the evolving needs of Great Britain's energy system and continue to safeguard security of supply.

265. We agree with Ofgem's decision not to apply the default materiality threshold to this re-opener. The key drivers for this re-opener are likely to be governmental and therefore compliance is required. Licensees should not be prevented from applying for funding via this re-opener by the presence of a default materiality.

266. We have already highlighted the potential need for commercial and/or physical mitigations to allow for the flexibility required to support the ambition of Clean Power 2030, with regard to gas fired power stations. We are actively assessing the scope and nature of these requirements. Additionally, we have flagged the potential need for wider investment in other areas, such as the [redacted] of the network. We did this as part of our Strategic Planning Options Proposal (SPOP) document submitted to NESO and Ofgem in response to NESO's Gas Network Capability Needs Report (GNCNR). This highlights the need for continued consideration of NTS investments via the Strategic Planning Re-opener, linked to network performance to meet customer/stakeholder requirements, capability and reliability.

267. However, we request that Ofgem reconsider the timing of the re-opener window. There is currently uncertainty surrounding the ongoing NESO and government workstreams/activities. Combining this uncertainty with the critical nature of the assets involved, we believe it is important to allow for greater flexibility so that we can respond promptly and effectively to new direction from these authorities.

268. We propose changing the re-opener window to take a similar approach as that for the Funded Incremental Obligated Capacity (FIOC) Re-opener. Specifically, we suggest the number and date of re-opener windows is defined as: 'When key decisions, frameworks or recommendations are published by NESO or government impacting our network capability/asset needs'. This would avoid the limitations of the currently proposed fixed annual window and better support timely and effective responses.

269. If an annual window approach is retained, then we support the inclusion of the Authority trigger but propose an adjustment to the timing of the licensee window.

270. Through the Draft Determination consultation, we have developed an integrated proposal for the timing of all proposed uncertainty mechanisms (UMs) within RIIO-GT3. We have done this by considering the uncertainties that existing for investments that these mechanisms could be used for, the resource and development timeframes required for these submissions and the submission assessment process. We propose that the collective uncertainty mechanism submissions should be staggered through the year to manage this workload. We propose that the collective UM submissions should be staggered through the year to manage this workload. This approach has been discussed with Ofgem's engineering and policy teams through bilateral engagements since Draft Determination.

271. As a result, we propose that a licensee window for the Gas Strategic Planning UM should occur in October if an annual window approach is utilised.

Note on SPOF

272. We welcome the commitment to develop a robust assessment framework to manage SPOF. However, to ensure the framework captures the full scope of resilience risk across the network, we would like to clarify that there are currently [redacted] Critical National Infrastructure (CNI) designated pipelines determined by DESNZ, not the [redacted] stated in the Draft Determination. While [redacted] pipelines were initially identified in the January 2024 Asset Health UM submission, based on the risk mitigation and pipeline routing study, this has since been revised, and DESNZ has now categorised [redacted] pipelines as CNI.

GTQ29. Do you have any views on the proposed Network Decarbonisation and Emissions Compliance Re-opener and PCD funding mechanism?

273. We welcome the inclusion of the Network Decarbonisation Re-opener as proposed in the Draft Determination. We agree with most of the proposed scope but provide further reasoning below for consideration of a different funding mechanism for site lighting.

274. We support the proposal to apply a price control deliverable (PCD) funding mechanism to this re-opener. This would be determined upon the content of our re-opener submission. At the submission stage there should be improved clarity on scopes, volumes, cost, and delivery timelines and PCDs should give a clear goal of delivered RIIO-GT3 outputs. We support the reporting requirements to be communicated via regulatory reporting packs (RRPs).

275. We do not believe that a single re-opener window in 2028 or application of the default materiality threshold will support us in maximising our carbon reductions across the network. More detail on the reasoning for this is provided below.

276. We agree that the delivery date for this re-opener will be variable based on the project. However, we do not believe completion should be expected in RIIO-GT3 for all projects. Some of the projects included in this re-opener are significant investments likely to span multiple price controls, such as installing a new Variable Speed Drive (VSD).

Re-opener scope

277. We agree with the scope of this re-opener covering investments aimed at reducing carbon emissions across the National Transmission System (NTS), including the rollout of innovative technologies, such as mobile flaring equipment and CH4RGE (Methane Reduction Gas Equipment) developments of combined gas recompression and zero loss seals. These interventions are key contributors to achieving decarbonisation goals and delivering consumer value through reduced unaccounted-for gas.

278. We support the inclusion of Emissions Compliance investments under this re-opener. This will allow us to include investments from Medium Combustion Plant Directives (MCPD) that remain outstanding. For example, for implementation of mitigation measures for the new [redacted] following its commissioning if unforeseeable issues (eg, pipework vibration) result in the noise level exceeding the legal limit. It will also enable us to respond to any new emissions legislation that impacts our assets. We also propose moving interventions related to [redacted] which we previously recommended to be included in the Network Capability re-opener, into this re-opener. The reason for this is detailed in our Avon DLE response accompanying our response to GTQ54.

279. We also support the inclusion of hydrogen readiness investments, such as hydrogen analysers, prompted by legislative developments by the Health and Safety Executive (HSE). This is a pragmatic and forward-looking addition that aligns with the anticipated evolution of the gas system.

280. We understand Ofgem's drive for more energy-friendly solutions for lighting, and we agree with this principle. We do not support the proposal to move site lighting upgrades into this re-opener. Aligned with our response to GTQ54, site lighting is a high-volume intervention with significant delivery requirements in RIIO-GT3. Delaying it to a 2028 re-opener would shrink the delivery window and risk missing key efficiencies. Bundling lighting upgrades with planned outages avoids costly repeat visits while deferral would lead to double mobilisation, ultimately creating more costs for consumers. Therefore, we are keen to discuss a funding mechanism to enable Ofgem to meet its objectives of separate funding of these interventions, while ensuring that the funding can be provided in a timely manner to enable National Gas to intervene efficiently.

Re-opener timing

281. Ofgem has proposed a single window in January 2028 with the ability for the Authority to trigger in line with our recommendations. We agree with the option for Authority trigger as it allows Ofgem to add proposals to future windows based on the outcomes of innovation trials.

282. However, to re-iterate our position within our RIIO-GT3 Business Plan, given the uncertainty and potential delays in innovation trial outcomes, we believe a more flexible approach to re-opener windows is necessary to maximise our decarbonisation efforts. Annual re-opener windows would better allow us to respond to trial results as they become available and to support emerging technologies that may not align with the proposed single window.

283. Through the Draft Determination consultation, we have developed an integrated proposal for the timing of all proposed uncertainty mechanisms (UMs) within RIIO-GT3. As a result, we agree with the proposed January window for this re-opener, but propose different months for others. This means that we propose licensee windows for the Network Decarbonisation UM in January 2027, January 2028, and January 2029.

Materiality threshold

284. We do not support Ofgem's application of the default materiality threshold (set as the proposed adjustment to allowed revenue, when multiplied by the totex incentive mechanism (TIM) rate, exceeding 0.5% of annual average ex ante base revenue) to this re-opener. Our reasons are as follows:

- This re-opener is driven by government policy related to meeting the UK's net zero target by 2050. The company is expected to act in support of national objectives including decarbonisation. Applying the default materiality threshold in this case could prevent timely action on policy priorities, limiting the environmental benefit that could be realised in this regulatory period.
- Innovative projects or trials often involve greater uncertainty and lower initial cost but they can deliver significant long-term benefits for consumers. Applying the default materiality threshold may:
  - prevent pursuit of innovation where it cannot be funded via another defined mechanism;
  - undermine the regulatory commitment to innovation and whole system thinking.
- This re-opener may also be needed to address noise mitigation on compressor units post-commissioning. The Environment Agency expects us to be compliant with noise limits set by the local authority planning department. If needed, this intervention would be time sensitive. Therefore, the presence of a materiality threshold could prevent us from completing mandatory work.

285. The disadvantage of retaining the default materiality threshold is that we would likely need to bundle investments together for a single submission, resulting in missed opportunity for emissions reduction as outlined above.

286. Therefore, we propose that no materiality threshold is applied for this re-opener. Similarly to the Gas Strategic Planning Re-opener, the drivers for this re-opener are likely to be governmental and thus compliance is required, and so licensees should not be unable to apply for funding via this re-opener due the presence of a default materiality.

GTQ30. Do you agree with retaining the Pipelines Diversion Re-opener?

287. We agree with Ofgem's proposed scope and the retention of the Pipeline Diversion Re-opener. Our thoughts on the materiality threshold are included in response to GTQ31.

288. We recognise the importance of maintaining a mechanism that allows us to recover costs associated with pipeline diversions resulting from force majeure events, quarry and loss development claims, significant environmental disturbances, and third-party encroachments. These events are inherently unpredictable and outside of our control. As such, we welcome a mechanism that enables us to respond to them without delay.

289. As noted in our response to GTQ40, we support Ofgem's proposal to include Quarry and Loss-related costs within the scope of this re-opener. We are confident that the proposed approach offers sufficient flexibility to manage these costs effectively, should they arise.

290. However, we request Ofgem to reconsider the timing of the re-opener window. As Ofgem has noted, these costs could arise at any time. Due to this unpredictability and the potential for these events to have a critical impact upon our ability to transport gas, a more flexible approach would better support timely and effective responses.

291. Therefore, we propose changing the re-opener window to take a similar approach to that used for the Funded Incremental Obligated Capacity (FIOC) Re-opener. Specifically, we suggest the number and date of re-opener windows is defined as: 'When external factors such as force majeure, major infrastructure developments (e.g. roads, railways, housing), planning authority requirements, or third-party land use changes give rise to material impacts on pipeline routing or result in compensation claims related to land access or asset presence.' This would avoid the limitations of a fixed annual window and allow for submissions as and when material impacts arise. It will also align with the urgency and importance of maintaining resilience and reliability in the UK's gas transmission system.

292. If an annual window approach is retained, then we support the inclusion of the Authority trigger but propose an adjustment to the timing of the licensee window.

293. Through the Draft Determination consultation, we have developed an integrated proposal for the timing of all proposed uncertainty mechanisms (UMs) within RIIO-GT3. We have done this by considering the uncertainties that existing for investments that these mechanisms could be used for, the resource and development timeframes required for these submissions and the submission assessment process. We propose that the collective uncertainty mechanism submissions should be staggered through the year to manage this workload. We propose that the collective UM submissions should be staggered through the year to manage this workload. This approach has been discussed with Ofgem's engineering and policy teams through bilateral engagements since Draft Determination.

294. As a result, we propose that a licensee window for the Pipeline Diversion Re-opener shall occur in October, if an annual window approach is utilised, though we do not believe this would be in the best interest of consumers.

GTQ31. Do you have any thoughts on the materiality threshold proposed?

295. We support Ofgem's application of the default materiality threshold to this re-opener.

296. We note that use of the materiality threshold in this instance will help avoid excessive re-opener applications by ensuring only material issues are brought forward, reducing administrative burden on Ofgem and licensees.

297. We also welcome Ofgem's position, 'that where costs fall below the materiality threshold, we consider these can be addressed at RIIO-3 closeout or in the next price control review'.

GTQ32. Do you have any views on the proposed Asset Health re-opener?

298. We agree with the proposal for an Asset Health uncertainty mechanism (UM). This will ensure that vital work to maintain the health of the network can be completed whilst protecting both consumers and National Gas from large variation in actual cost. However, we believe the current proposed scope to be too limited to manage known and unknown risks.

299. Ofgem's proposed Asset Health re-opener enables us to optimise our asset management investment decisions as we progress through the RIIO-GT3 price control period. It will allow us to manage the variety of risks our assets are subjected to, whilst enabling us to develop investment programmes to suitable levels of scope, volume and cost certainty. We are pleased to see this recognised through this mechanism.

300. In our response to GTQ54, we discuss the specific investments proposed to move from baseline to this re-opener, where we respond to the engineering and cost assessment of our business plan.

301. In our RIIO-GT3 Business Plan, we identified and named a range of investments within the scope of a potential future UM because the scope, option or cost confidence of the intervention had not been sufficiently developed to include the investment as baseline funding. However, this list of investments was not exhaustive and was limited to those uncertainties that we were already aware of. Our network is subject to an ever-changing spectrum of investment drivers including:

- legislation and regulatory requirements, including interventions from the Health and Safety Executive (HSE)
- emerging threats to the safe and efficient operation of our assets
- the impact our assets have on our operatives, third parties and members of the public

302. Therefore, the proposed scope of the mechanism as defined in paragraph 4.30 of the Draft Determination National Gas Transmission document, covers only specific investments. This is too restrictive given the range of uncertainties that our network is subject to. The themes we propose within the scope of this re-opener are

control systems and impacted ancillary assets, pipelines, valves and site assets, where the need for investment had not materialised at the time of our submission.

303. Additionally, we note that in response to DDQNGT56 Ofgem suggested that IT&T (Information Technology and Telecoms) investments not covered by the Data and Digitalisation reopener could fall under the Asset Health reopener. This further highlights the necessity of a broader scope to this reopener rather than a specific list of investment items as set out in Ofgem's Draft Determination.

304. We provide our proposal for the scope of the mechanism, and associated justification below.

Ofgem's drafting of re-opener scope (as per 'summary of consultation position table' paragraph 70 of Draft Determination NGT document)	**National Gas Transmission drafting of re-opener scope**
Asset health related investment that is uncertain at this time both in terms of a need and cost, specifically: works not covered by NARM which were previously covered by this re-opener (eg above ground Plant & Equipment and CAB Infrastructure assets), [redacted] Aftercooler replacement, Welded/Buried NRV overhauls, Cyber Control System Roll-over, Cyber Station and Cyber Unit Control System replacement, tree and scrub clearance to maintain access to buried pipelines and gas monitoring and control equipment.	Asset health related investments that were uncertain at the time of business plan submission in relation to needs case, scope, volume or cost. Specifically, this shall cover investments associated with: • control systems and impacted ancillary assets • pipelines interventions associated with ac interference • new valves intervention programmes triggered by new needs case • new site assets intervention programmes triggered by new needs case

Table 1

305. **Pipelines**: We propose that additional AC interference remediation and mitigation activities also be included within the scope of this mechanism. The expansion of high-voltage electricity infrastructure, as part of the Great Grid Upgrade, is expected to significantly increase the risk of AC interference on our buried pipeline assets. While we continue to monitor and manage these risks through baseline funded investments, the scale and pace of change may result in material, unforeseen costs outside of our control.

306. Given the scale of electricity infrastructure development and the critical nature of our pipeline assets, it is essential that AC interference mitigation is brought within scope of this re-opener. This would provide the necessary flexibility to respond to these emerging risks, ensure we can continue to operate the network safely and without endangering security of supply thereby upholding our statutory obligations. This aligns with our letter, dated 16 July 2025.

307. **Site assets and valves:** Our network assets are subject to a range of inspections from regulatory bodies including the HSE. Following engagement with the HSE through RIIO-T2, we have acted to ensure compliance with safety integrity legislation and to limit the potential for an over pressurisation. Funding for these investments was progressed through the RIIO-T2 Asset Health UM in agreement with Ofgem. Expanding the scope of the proposed RIIO-GT3 Asset Health UM is crucial so that we can make timely asset management decisions to satisfy any regulatory requirements. We are currently having conversations regarding HSE expectations and requirements of our block valves and critical isolation valves for network operations. The result of these discussions may trigger future interventions to ensure block valves can isolate in the event of an emergency. A UM scope including valves and site assets will provide mitigation for these interventions.

GTQ33. Do you have any views on the proposed re-opener application windows?

308. We are pleased to see that Ofgem's consultation position includes the provision of multiple windows to be set for this mechanism. However, we do not believe that the two proposed windows in January 2027 and January

2028 provide enough flexibility to progress the range of uncertain investments given the varying timeframes for investment development.

309. We propose increasing the number of windows to April of each year. However, as part of this proposal, we suggest that as licensee, we only have the ability to trigger submission three times within the period. This will be undertaken in engagement with Ofgem prior to submission.

Submission frequency

310. As outlined in our response to consultation question GTQ32, we propose a wide-ranging scope for this mechanism. It is likely to include a range of projects that need to progress at pace, as well as projects that need further time to ensure scope, volume and cost are sufficiently developed before submission, based upon our data-driven approach.

311. Examples of investments which are likely to use this mechanism, which require significantly different submission timeframes, include the following:

312. [redacted] Funding is required to address the significant concerns we have on the asset health condition of this asset, coupled with the need to meet regulatory compliance with the Health and Safety Executive (HSE). When we submitted our RIIO-GT3 Business Plan, we did not have sufficient scope or cost confidence. However, designs and costs have since progressed and therefore earlier submission in RIIO-GT3 is needed to ensure asset availability and meet regulatory requirements.

313. **AC Interference:** The requirement to accelerate any additional investment to mitigate the accelerated corrosion driven from proximity to High Voltage AC transmission lines may only become apparent following the progression of the Great Grid Upgrade later in the RIIO-GT3 period.

314. **Control System Replacement:** This complex programme includes projects at various stages such as:

- projects which are progressing through the latter stages of project delivery which require funding to reach completion; and
- projects at the pre-Front End Engineering Design (pre-FEED) stage, which require further time to progress FEED, detailed design and programme clarity to ensure sufficient detail is developed to support a funding request submission.

315. These bespoke and complex projects are managed through our pre-FEED and FEED activities. Multiple submission windows are preferable because of the impact of the scope on ancillary assets and the need to undertake complex planning so that station and unit outages can be achieved. This ensures that funding for these projects can be submitted promptly after development has occurred. It is also critical to complete these projects by 2033. Therefore, it is important to ensure projects are not unduly delayed by uncertainty mechanism (UM) submission windows or the assessment process.

Submission timing

316. Through the Draft Determination consultation, we have developed an integrated proposal for the timing of all proposed uncertainty mechanisms (UMs) within RIIO-GT3. We have done this by considering the uncertainties that existing for investments that these mechanisms could be used for, the resource and development timeframes required for these submissions and the submission assessment process. We propose that the collective uncertainty mechanism submissions should be staggered through the year to manage this workload. We propose that the collective UM submissions should be staggered through the year to manage this workload. This approach has been discussed with Ofgem's engineering and policy teams through bilateral engagements since Draft Determination.

317. In summary, we support the proposal for licensee triggered and Authority-triggered windows. Given the variety of investment drivers for asset health interventions and the evolving nature of these drivers, we welcome the ability for the Authority to trigger this mechanism in addition to our proposals for licensee-triggered submissions.

GTQ34. Do you agree with the proposed re-opener for National Gas' head office and GNCC relocation?

318. We support Ofgem's proposed re-opener for the head office and GNCC relocation and aligning our internal planning with the regulatory timelines to support a 2029 exit.

319. We appreciate Ofgem's recent clarification [DDQ30], confirming that the proposed re-opener window of August 2026 in Draft Determination can be changed to April 2026. This confirmation provides confidence that our planning assumptions, based on a six-month review period leading to a Ofgem determination of our re-opener application by October 2026, remain valid and achievable, ensuring alignment with our 2029 property exit strategy.

320. It has become apparent that we also require some flexibility to manage the potential relocation of our Emergency Control Room (ECR), should we be unable to extend our lease, which expires in 2031. To manage this potential requirement, we propose a new additional re-opener window in January 2028.

321. We do not support Ofgem's application of the default materiality threshold (set as the proposed adjustment to allowed revenue, when multiplied by the totex incentive mechanism (TIM) rate, exceeding 0.5% of annual average ex ante base revenue) to this re-opener. The reason that we do not support Ofgem's view is because this investment ensures our control room design meets the highest standards for security barriers. It protects our Network and Information Systems (NIS) in-scope systems, enabling us to meet advancements in security and cyber legislation. The investment also aligns where Ofgem has not proposed a materiality threshold for the Cyber Resilience re-opener.

322. We are grateful for Ofgem's guidance and will continue to engage closely to ensure our plans remain consistent with regulatory expectations.

GTQ35. Do you agree with Ofgem's proposal to introduce a new Network Capability Re-opener in RIIO-GT3 as set out above?

323. Our position can be summarised as follows:

- We agree with the proposed scope of the Network Capability Re-opener, subject to a few proposed modifications, which are outlined in this response.
- We also agree with the application of the default materiality threshold.

324. We do not agree that a single re-opener window in January 2027 allows us sufficient time to respond to changing network capability requirements.

325. We propose that the Network Capability Re-opener shall have two licensee windows that shall occur in January 2028 and January 2029 and that the reopener could be Authority-triggered, which will include WIRP components 1, 2, 4 and 5 as outlined in GTQ20.

326. **We generally support Ofgem's proposal for the Network Capability Re-opener but propose to modify its scope to exclude [redacted] interventions and include further components of the West Import Resilience Project (WIRP)**

327. We support the inclusion of the Network Capability Re-opener as proposed in the Draft Determination. This re-opener would fund network capability related investment in compressors such as improving the performance envelope of existing compressor units, upgrading site configurations and decommissioning redundant

compressor units. These interventions are essential to maintaining network resilience and ensuring the NTS can respond to changing flow patterns and customer needs.

328. However, as mentioned in our response to GTQ29, we propose moving interventions related to Retrofit SGT-A20 (Avon) DLE, previously included in the Network Capability re-opener, into the Network Decarbonisation and Compressor Emissions Re-opener. The reason for this is detailed in our Avon DLE response accompanying our response to GTQ54.

329. We also propose that further components of the West Import Resilience Project (WIRP) are included in the Network Capability Re-opener. Out detailed proposals for the WIRP are captured in our response to GTQ20. In summary, we propose that components 1, 2 and 4 be incorporated within the scope of the Network Capability Re-opener, in addition to the already-included component 5.

330. We support Ofgem's application of the default materiality threshold

331. The use of the materiality threshold (set as the proposed adjustment to allowed revenue, when multiplied by the totex incentive mechanism (TIM) rate, exceeding 0.5% of annual average ex ante base revenue) in this instance will help avoid excessive re-opener applications. It will ensure only material issues are brought forward, reducing administrative burden on Ofgem and licensees. We welcome Ofgem's position set out in the Draft Determination Overview document, 'that where costs fall below the materiality threshold, we consider these can be addressed at RIIO-3 closeout or in the next price control review'.

332. A single re-opener window in January 2027 does not allow sufficient time to respond to changing network capability requirements

333. We do not agree with Ofgem's proposal, nor with the restriction that the re-opener cannot be Authority-triggered. We propose an improved approach to submission timing

334. Ofgem's proposal does not provide sufficient flexibility to reasonably respond to emerging information and evolving system needs. The investments that are proposed for the re-opener, such as site reconfigurations, currently have high uncertainty in a combination of scope, volume and cost. We also do not have visibility of what new investments might be triggered by a change in supply and demand patterns, which could materialise too late to be included by the proposed window. Preparing a single, robust submission to cover all the current uncertainties by January 2027 will be challenging and is unlikely to allow sufficient time and flexibility.

335. A later submission window would allow us to incorporate updated Future Energy Scenarios (FES), engage original equipment manufacturers (OEMs) or other third parties, complete further internal analysis, scoping and cost refinement. These steps are essential to ensuring that any proposed investments deliver optimal consumer value and align with future network requirements.

336. For WIRP-related investments under the Network Capability Re-opener, we propose an additional submission window to enable us to make UM re-opener costs submissions after associated risks have been appropriately addressed and managed. This will ensure greater confidence in the data provided and alignment with project delivery timelines.

337. As mentioned in our responses to other questions, we have developed an integrated proposal for the timing of all proposed UMs within RIIO-GT3; we have assessed the best month for submissions of each UM. Based on this proposal, we agree with the proposed submission month of January for this re-opener, although we will be proposing different months for other UM submissions.

338. As a result, we propose that the Network Capability Re-opener has two licensee windows, in January 2028 and January 2029, which will include WIRP components 1, 2, 4 and 5 as outlined in GTQ20.

GTQ36. Do you agree with the need for the proposed Bacton Enhanced Filtration Uncertainty Mechanism (UM)?

339. We welcome Ofgem's proposal for this UM in RIIO-GT3. We agree with the rationale for the UM, based on the discussions surrounding dust and filters in 2023 via the RIIO-T2 UM submission. We also welcome Ofgem's invitation to continue to work towards finalising the design of this re-opener ahead of Final Determination.

340. [redacted]

341. We will continue to work with relevant parties to ensure that a robust data set is gathered.

342. We support Ofgem's application of the default materiality threshold (set as the proposed adjustment to allowed revenue, when multiplied by the TIM rate, exceeding 0.5% of annual average ex ante base revenue) to this re-opener.

GTQ37. Do have any views on our proposal to retain the Funded Incremental Obligated Capacity (FIOC) re-opener as it currently exists for RIIO-GT3?

343. We support Ofgem's decision to retain the FIOC re-opener as originally outlined in Ofgem's SSMD. We recognise the importance to deliver Incremental Baseline Licence Obligated Entry or Exit Capacity following customer requests for additional capacity. We also understand that we may not be able to accurately forecast the investment required to deliver this in advance.

344. We are content with the scope and design being retained from RIIO-T2, with the window for the re-opener to be triggered following a PARCA request.

345. We also support the omission of a materiality threshold in this instance.

GTQ38: Do you agree with Ofgem's proposal to fund the proposed IT enhancements through Data and Digitalisation Re-opener?

346. As part of the Draft Determination, Ofgem has categorised investments into IT and telecoms (IT&T) and data and digitalisation.

347. We support Ofgem's proposal to include the Field Force, CRMS, and Gemini-related activities within the scope of the Data and Digitalisation Re-opener. We appreciate Ofgem's recognition of the importance of this work and welcome its inclusion as requested.

348. We are assuming any data and digitalisation-related investment lines that are rejected during Draft and Final Determinations, will not be precluded from being presented through the re-opener process with revised business plan justification, (for example,- IT 024 – Augment field Force Safety in DD).

349. We are content with the proposed Data and Digitalisation Re-opener window in July 2028 and support the inclusion of an Authority Trigger, which provides flexibility to respond to evolving needs. NGT is supportive of Ofgem's application of the default materiality threshold (set as the proposed adjustment to allowed revenue, when multiplied by the TIM rate, exceeding 0.5% of annual average ex ante base revenue) to this re-opener.

350. We note that use of the materiality threshold in this instance will help avoid excessive re-opener applications, reducing administrative burden on Ofgem and licensees. Further, we anticipate it will ensure only material issues with clear consumer value are brought forward. Further, we welcome Ofgem's position, 'that where costs fall below the materiality threshold, we consider these can be addressed at RIIO-3 closeout or in the next price control review.'

351. Regarding a re-opener for IT&T investments, the DDQNGT56 response from Ofgem states, 'The digitalisation re-opener does not include projects in the IT&T scope, which have been included in the scope of other re-openers, i.e. Asset Health.' There has been no specific mention of IT&T under other re-opener sections in the Draft Determination document. We would welcome further discussion with Ofgem to understand the way IT&T re-openers will work.

GTQ39. Do you agree with our proposed list of National Gas specific pass-through costs as presented in this section?

352. We agree that where costs are substantially outside of a network's control, the pass-through mechanism should be used to recover those costs. Whilst we broadly agree with the pass-through costs presented in paragraphs 4.59-4.62 of the Draft Determination National Gas Transmission document, we have some comments and concerns.

353. Ofgem proposes the removal of the Hynet Front-End Engineering Design (FEED) Study costs from the pass-through mechanism. Whilst Cadent will have completed the Hynet design study in RIIO-T2, we understand there is a portion of unspent funding to be returned to consumers (as informed to us by Ofgem's Senior Policy Lead, via email on 27/05/2025). We will be required to facilitate the return of funding. Since we have already set allowed revenue for the final year of RIIO-T2 (2025/26), the earliest opportunity we have to return the funding is in the first year of RIIO-GT3 (2026/27). We will therefore require the Hynet pass-through term to be retained for at least the first regulatory year of RIIO-GT3, assuming the funding return is finalised before allowed revenue for 2026/27 is set. For clarification, we are unable to return the Hynet funding in our RIIO-T2 price control financial model (PCFM) with the correction flowing through the ADJ term, since we will be penalised by a time-value-of-money adjustment. We strongly feel we should be kept in a neutral financial position when facilitating the collection and return of funding for other networks.

354. We note that National Transmission System (NTS) Shrinkage costs, operating margins, and residual balancing system operator costs have been categorised as pass-through. Whilst the costs are passed through to consumers, these terms currently form part of the System Operator Other Revenue Allowances (rather that the SO pass-through term) in RIIO-T2. They should be categorised similarly in RIIO-GT3, as has currently been indicated in the licence drafting working groups.

355. The Adjustment to the Net Zero Pre-construction Work and Small Projects Re-opener is listed as a pass-through term. However, the wording 'Adjustment to the' is unclear. In RIIO-T2 and, as we understand in RIIO-GT3, this term is not used to 'adjust' net zero funding allocated via other mechanisms. It is a standalone funding mechanism in itself. We propose '*Adjustment to the*' should be removed from this pass-through term.

356. Included in the list of pass-through terms in paragraph 4.59 of the Draft Determination National Gas Transmission document is 'NTS Transportation Owner Activity'. We presume this refers to the licence fees we will be allocated, which is the equivalent of the 'NTS Transportation Owner Licenced Activity' in RIIO-T2. We propose the name for this term should match that used in RIIO-T2, or else include the words 'licence' or 'licence fees' to make it apparent this is what the term relates to.

357. We agree with paragraph 4.62 of the Draft Determination National Gas Transmission document which confirms that the costs we are expected to cover for the NESO's gas system planning activities should be categorised as a pass-through cost.

358. The list of pass-through items in paragraph 4.59 of the Draft Determination National Gas Transmission document are noted as 'National Gas specific'. For completeness, we note that Pension Scheme Established Deficit Funding and Prescribed Rates should also be funded through the pass-through mechanism, as noted in table 4, chapter 4.

359. For completeness, the table below lists all the costs we expect to recover directly through a pass-through type mechanism and the funding term we expect these costs to come under (e.g. pass-through, other revenue).

Cost	Funding term
NTS Transportation Owner Licenced Activity	TO pass-through
Prescribed Rates	TO pass-through
Pension Scheme Established Deficit repair	TO pass-through
Secretary of State in respect of Policing Costs	TO pass-through
PARCA Termination Value	TO pass-through
Gas conveyed to Independent Systems	TO pass-through
Hy-Net (to facilitate funding return)	TO pass-through
Net Zero Pre-construction Work and Small Net Zero Projects Re-opener	TO pass-through
Network Innovation Allowance	TO Other Revenue Allowances
Carry-over Network Innovation Allowance	TO Other Revenue Allowances
The Strategic Innovation Fund	TO Other Revenue Allowances
CDSP Posts	SO pass-through
Pension Scheme Established Deficit	SO pass-through
Gas network planning activities (NESO)	SO pass-through
Shrinkage and compressor elec costs	SO Other Revenue Allowances
Residual balancing costs	SO Other Revenue Allowances
Operating Margin costs	SO Other Revenue Allowances
SO incentives and Constraint Management revenue	SO Other Revenue Allowances

Chart 1

GTQ40. Do you agree with our proposal for other Uncertainty Mechanisms as outlined above?

360. We acknowledge the proposed treatment of the uncertainty mechanisms (UMs) and provide comments on each below. While we generally accept Ofgem's proposals for other UMs, we do not support Ofgem's decision to reject volume drivers for Si-154 (install bypass pipework). We set out our view below, in further detail.

Quarry and loss re-opener

361. We agree with Ofgem's proposal to widen the scope of the Pipeline Diversions Re-opener to include Quarry and Loss-related costs. Based on our current understanding, the existing licence framework, combined with the broadened scope of the Diversions Re-opener, provides sufficient flexibility to recover costs should they arise in this area. While we originally proposed a standalone Quarry and Loss UM to ensure coverage of potential legacy obligations, we are satisfied that the revised approach should allow us to manage any future costs related to landowner claims, land use changes, or other historic liabilities, should they materialise during RIIO-GT3. We will continue to monitor the situation and engage with Ofgem if any material costs emerge that fall outside the scope of the current licence or re-opener arrangements.

Single Points of Failure (SPOF) re-opener

362. We accept the inclusion of the SPOF-related investment within the Gas Strategic Planning Re-opener, recognising that these investments are driven by government and NESO requirements. As noted in our response to GTQ28, we also support the expanded scope of this re-opener and recommend greater flexibility in its timing. Allowing submissions following key government or NESO decisions, rather than waiting for the fixed January window, would help avoid delays in delivering critical investments.

Asset health volume drivers

363. **Pipeline cathodic protection:** We accept the proposal to treat pipeline cathodic protection interventions as baseline expenditure and support the removal of the volume driver for this activity.

364. **Compressor re-wheels:** We are pleased Ofgem has approved our volume driver re-wheels in addition to those requested through baseline funding. As outlined in our submission, we believe re-wheeling these units makes the best use of our existing assets which in turn maximises value to the consumer. We also welcome the ability to address further through compressor re-wheels through the RIIO-GT3 Network Capability Uncertainty Mechanism. This allows us to improve availability of units, improve performance to suit network requirements and reduce overall emissions of the fleet.

Valve bypass

365. These interventions ensure valves and block valves can be maintained so that they can perform their primary function of isolating assets for maintenance or in the event of an emergency. A summary of our responses to Ofgem's decision on these volume drivers is shown below for each intervention. Further detail is provided in our install and modify bypass response accompanying our response to GTQ54.

366. **Si-154 Install bypass pipework**: We do not support Ofgem's decision to reject volume drivers for Si-154. The scope of this intervention is to install a bypass around critical valves that do not have a bypass. Currently, this means we are unable to prove critical valves can isolate when required. This puts us in violation of various legislation, as documented in paragraphs 7.1.1 – 7.1.3 of NGT_EJP022_Valves: Valves_RIIO-GT3, and failing to meet Health and Safety Executive (HSE) expectations that we can perform full functional checks on our critical valves. As highlighted in those paragraphs, failure to invest in defective valves will result in the performance of those valves continuing to deteriorate. This can impair the network's ability to transmit gas efficiently, leading to higher operational costs which could ultimately have higher cost impact to consumers. Therefore, we ask Ofgem to reconsider its rejection of these volume drivers.

367. **Si-153 Modify bypass pipework:** We accept Ofgem's decision to reject both the baseline and volume driver elements of our initial request under Si-153. However, where these valves have existing defects, we propose addressing them under intervention Si-257 'Block valve replacement' by increasing the volume of that intervention.

368. Si-153 and Si-257 share the same engineering scope, differing only in their drivers. Si-153 was driven by concerns over undersized bypasses relative to current network flows, while Si-257 is driven by valve defects.

369. Following detailed surveys and desktop engineering assessments, we have reviewed the valves proposed under Si-153 across the 10-year programme. We have removed those where no defects were found or where maintenance facilitation (eg, stopples) would make the intervention prohibitively expensive and unable to demonstrate consumer value.

370. For valves where defects have been confirmed, we propose to address these in RIIO-GT3 under Si-257. Given the identical scope of works, this reallocation ensures alignment with the appropriate driver and funding mechanism.

GTQ41. Do you agree with our proposed approach to Non-load Capex volume assessment based on engineering review? How can the use of expert assessment be further improved?

371. Our response to GTQ41 focuses specifically on Ofgem's approach for the non-load capex volumes. Our response on the specific outcomes from the conducted approach and associated proposed level of investment in RIIO-GT3 can be found in our response to GTQ54.

372. Overall, we do not support Ofgem's assessment approach, specifically:

- Ofgem's assessment focussed on a bottom-up engineering assessment, necessitating the evidence of known defects to agree funding. We believe there are severe limitations of this approach, which is inconsistent with the key principles of asset management. Asset management is not solely about reactively addressing known defects, which is unlikely to be the most effective, due to the fact it can be more expensive to intervene when a defect or problem is visible, potentially under time pressure, than if the problem is anticipated. It is also about proactively managing asset condition, performance, and risk across the lifecycle. This includes anticipating future degradation, aligning interventions with operational needs, and ensuring long-term reliability, safety, cost -efficiency and value for consumers. Our Asset Management Plan (NGT_A01_Asset Management Plan (AMP)_RIIO_GT3) submitted alongside our EJPs, explained that this plan had been developed against our priority to reduce network risk at the end of RIIO-GT3 to levels seen at the beginning of RIIO-T2. It set out a holistic approach combining targeted risk-reducing interventions and condition-based asset strategies, informed by engineering assessments, lifecycle cost analysis, and stakeholder priorities. We consider that Ofgem assessment, in not taking this blended approach, was severely constrained in its application.

373. We have serious concerns about Ofgem's consultation process on the approach to volume assessment, as follows:

- We consider that Ofgem's RIIO-3 Business Plan Guidance, Annex 1: Investment Decision Pack (IDP) Guidance ('Business Plan Guidance') had key structural deficiencies. This is evident from the significant amount of additional evidence we have provided through the Supplemental Questions (SQ) process and this Draft Determination consultation response.

374. Ofgem has provided insufficient reasoning and rationale in respect of its proposals to reduce funding. We have had to gather this reasoning through bilaterial engagement and the Draft Determination question process. This has shortened the time we had to develop our responses to Ofgem's position through this Draft Determination Consultation.

375. We consider that Ofgem's approach is inconsistent with the 'Resilience Standard' established at the Network Resilience Summit in May 2023, which was agreed by Ofgem, the department for energy security and net zero (DESNZ) and National Energy System Operator (NESO) at the DESNZ Energy Security Steering Committee on the 25 January 2024. This inconsistency unreasonably increases network risk.

376. Although we are pleased to see that funding for requested surveys in RIIO-GT3 has been awarded in the Draft Determination for future price controls, we are concerned about the lack of agreed approach to fund spend of this nature. We believe further consultation is needed.

377. Considering these concerns, we have also proposed a suggested way forward ahead of the Final Determination. We invite Ofgem to review the approach to non-load capex volume assessment, based on these points, and consider the additional evidence supplied by us in response to consultation question GTQ54. We have elaborated on these points further below.

378. **Ofgem's assessment focussed on a bottom-up engineering assessment and lacked integration with strategic asset management principles and whole-life cost optimisation.**

379. We do not support the volume assessment approach taken and are concerned that the reductions applied have a material impact on network risk, with many essential intervention volumes being set to zero.

380. Ofgem acknowledged in 5.13 of their National Gas Transmission Draft Determination, that our submission for non-load related capex costs, was supported by detailed evidence and information on the needs case, proposed volumes, unit costs and timings of each intervention on each asset on our network.

381. Ofgem's approach to assessing non-load capex volumes, as outlined in the Draft Determination and subsequent engagement activities, appears to have been driven primarily by a bottom-up engineering assessment. This requires evidence of known defects and detailed survey information, which would normally undertaken later in our investment Network Development Process (NDP) to justify funding. While this approach may validate immediate investment need, it reflects a narrow interpretation of asset condition and overlooks the broader principles of strategic asset management.

382. Our RIIO-GT3 capex plan was developed through a blended asset management approach, as detailed in our submitted Asset Management Plan (NGT_A01_Asset Management Plan (AMP)_RIIO_GT3). This approach combines the following:

- **Bottom-up engineering assessments**, identifying specific asset needs and evaluating intervention options.
- **Top-down risk-based portfolio analysis**, using the Network Asset Risk Metric (NARMs), within our decision support tool (Copperleaf) to prioritise investments based on risk reduction and whole-life value. These NARMs-driven investments use an agreed, data-driven methodology to make economically sound investments that deliver long-term benefits to consumers. By adhering to the NARMs methodology, we are aligning directly with the principles and feedback established in the RIIO-T2 Final Determination.

383. This methodology is aligned with ISO55001 and guidance from the Institute of Asset Management (IAM) and was designed to reduce network risk at the end of RIIO-GT3 to levels seen at the beginning of RIIO-T2. It ensures investment decisions are not only technically justified but strategically optimised.

384. By not adopting this holistic approach, Ofgem's assessment was constrained in scope, potentially overlooking critical interventions that deliver long-term resilience and consumer benefit. We urge Ofgem to reconsider its position and recognise the value of integrated asset management in the Final Determination.

385. **We consider that Ofgem's RIIO-3 Business Plan Guidance, Annex 1: Investment Decision Pack (IDP) Guidance ('Business Plan Guidance') had key structural deficiencies. This is evident from the significant amount of additional evidence we have provided through the SQ process and this Draft Determination consultation response.**

386. Ofgem's IDP required that engineering justification papers (EJPs) follow a fixed template, restricted to 40 pages, with subsequent clarification received around the inclusion of appendices in addition to the page count.

387. For certain asset classes we took the approach of splitting our EJPs into multiple documents, given the complex nature of assets or the bundling of multidisciplinary assets. In addition, Ofgem advised that only executive summaries of third-party reports were required, which we provided in full compliance. Despite this attempt at a constructive work around to the arbitrary evidence restrictions, this nonetheless constrained our ability to provide the evidence that appears to have been necessary to support funding decisions.

388. Ofgem's engineering assessment has resulted in requests for further justification for a significant proportion of interventions through the SQ process and via engagements before and during the Draft Determination consultation. This suggests inconsistencies between the information and format required to comply with the BPG and the level of information Ofgem required to undertake the assessment.

389. **Ofgem has provided insufficient reasoning and rationale in respect of its proposals to reduce funding. We have had to gather this reasoning through bilaterial engagement and the Draft Determination question process. This has shortened the time we had to develop our responses to Ofgem's position.**

390. We submitted a range of EJPs, Cost Benefit Analysis (CBA) and Excel EJPs, along with associated appendices, to provide detailed justification of our proposed RIIO-GT3 intervention plans.

391. However, despite the detailed information provided, which Ofgem acknowledged, the Draft Determination did not provide full rationale for the volume reductions proposed. This lack of transparency has made it difficult to understand why many volumes have adjusted and/or removed.

392. In many cases, Ofgem only referred to 'Eng recom removal' as a reason for removal of a particular intervention, but without any explanation for this recommendation. During a bilateral engagement session on the 10 July 2025, and through subsequent Draft Determination Questions (DDQs), we asked for clarification which Ofgem failed to provide. We were advised that Ofgem would revert back later with this additional justification. This has constrained the time that we have had to provide this additional justification; that Ofgem has deemed necessary to support the justification for investment.

393. Improving the information around specific rationale for funding removal would provide network companies a clear benchmark that is required to be met for the evidence of needs case, volume derivation and unit cost.

394. As one example, Ofgem proposed significant reductions to the funding requested for Gas Quality, Metering & Telemetry interventions and commented that 'further information is required from NGT' as the rationale for this reduction. We do not believe we were given reasonable opportunity to provide further information through the Business Plan submission process; we only received and responded to one limited SQ during the SQ period, in April 2025. The minimal number of questions from Ofgem and the fact that the category of Gas Quality, Metering & Telemetry interventions was funded in RIIO-T2, led us to believe that the need to fund these interventions was non-contentious.

395. Although we received and responded to a further SQ on this theme in August 2025, to seek further clarification on this part of our investment plan, we believe this assessment should have been completed as part of the original review. This would have ensured a full assessment had been completed across our submitted non-load capex Business Plan before Draft Determination are published.

396. Ofgem's failure to sufficiently engage with us on these topics and in a timely manner, has led to an unreasonable removal of various interventions unsupported by evidence.

397. **Ofgem's approach is inconsistent with the Resilience Standard established at the Network Resilience Summit.**

398. In addition, we consider that Ofgem's approach to volume assessment is inconsistent with the previously established Resilience Standard. The Network Resilience Summit held in May 2023, attended by Ofgem, DESNZ, National Gas and NESO, and subsequent engagement, aimed to agree a standard for gas transmission network infrastructure resilience. One of the five pillars of the Resilience Standard that emerged from this summit, is to stabilise risk at levels seen at the beginning of RIIO-T2. Our RIIO-GT3 Business Plan was designed to meet this standard by 2032, ensuring that network risk at the end of RIIO-GT3 remains on track to meet this date.

399. The proposed volume allowances set out in Ofgem's Draft Determination appears inconsistent with this standard as it would increase network risk by £4.4m, a 100% rise compared to our plan, as shown in the chart below. Allowing risk to continue to rise above the levels at the start of RIIO-T2, will significantly reduce our ability to deliver by 2032 and violates the intent of the Resilience Standard and undermines:

- availability
- reliability
- health, safety, environment
- cost-efficiency.

400. Further narrative on this outcome and our proposed plan is provided within our response to question NGT54.

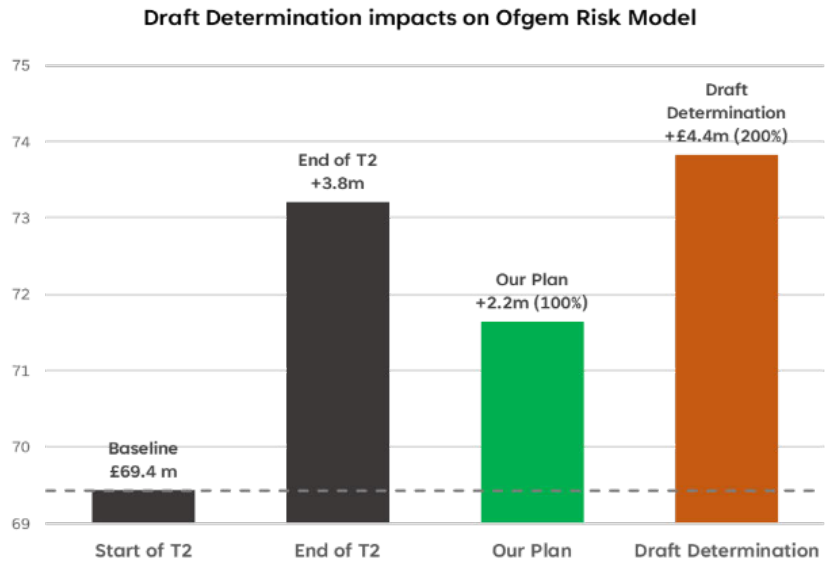


Chart 1 - Comparison of network risk positions

401. **Although we are pleased to see that funding for requested surveys in RIIO-GT3 has been awarded in the Draft Determination for future price controls, we are concerned about the lack of agreed approach to fund spend of this nature. We believe further consultation is needed.**

402. For several EJPs, downward volume adjustments have been noted by Ofgem as being due to incomplete asset health surveys. We have the following concerns about this approach:

- This suggests a change in regulatory approach, as the cost of surveys has previously been captured within the intervention cost and would not usually be funded in advance of the price control period. For example, we requested funding for surveys as part of our RIIO-T2 asset health re-opener submission but this was not supported.
- Taking this action without secured funding is not appropriate within the current regulatory framework. In preparation for RIIO-GT3, we have conducted surveys without secured funding in order to underpin our intervention needs case and volume proposal where we felt it was required. However, it is not appropriate for all asset types to complete surveys significantly in advance of the intervention due to changes in asset condition over time.

403. Whilst we are pleased to see that funding for requested surveys in RIIO-GT3 has been awarded in Draft Determination for future price controls, timely and transparent allowances must be awarded for us to complete the required works across all of the plan. If, as it appears, the completion of surveys is now deemed necessary to

provide the justification required to approve regulatory funding, we consider it necessary to discuss what approach will be used to fund spend of this nature in future price controls that have not yet been awarded.

404. In light of this, we welcome opportunities to engage with Ofgem on opportunities ahead of future regulatory submissions on further survey funding for asset interventions which require this evidence, such as through UMs. We are also keen to agree an approach with Ofgem for asset types where advance surveys are not in consumer's interest.

Suggested way forward

405. We suggest that Ofgem reconsiders its proposals on volume assessment, particularly in light of Ofgem's statutory requirements to ensure that regulatory activities are transparent, accountable proportionate and consistent.

406. We have outlined our concerns relating to the consultation process itself, and addressed specific points on the assessment of non-load capex volumes. In the interest of assisting Ofgem, we would welcome further engagement with Ofgem. This would focus on the additional justification provided for our proposed investment within our response to consultation question GTQ54 and to discuss the approach undertaken to ensure our submission of these non-load capex volumes blended targeted risk-reducing interventions and condition-based asset strategies, informed by engineering assessments. This should enable Ofgem to ensure it has all relevant considerations in reaching its decision in the Final Determination.

GTQ42. As part of our unit cost assessment, we have removed risk and contingency allowances greater than 10% (in line with RIIO-T2) and removed risk and contingency allowances attributed to third parties. Do you agree with this approach?

Introduction and summary of our position

407. We fundamentally disagree with Ofgem's approach to remove risk and contingency allowances greater than 10% and risk and contingency allowances attributed to third parties, from its unit cost assessment.

408. We asked a specific question as part of Draft Determination (Ofgem DDQ response NGT32) to clarify Ofgem's proposal. The actual approach is not as described in the Draft Determination, but rather to:

- arbitrarily halve all proposed non contractor risk and contingency and then cap any residual risks above 10% to a 10% maximum value;
- remove from the estimated contract cost all likely risk and contingency that is commonly included in contractor tender prices.

409. Utilising Ofgem's view of asset health workload volumes proposed at Draft Determination, the proposed risk and contingency approach would result in a cost reduction of £52.4m or 7.4%. Maintaining the Draft Determination reductions would lead to underfunding and therefore would lead to non-delivery of essential asset health works. We detail below why the blanket approach to halving risk is an error and does not work given the vast array and differing works, where many work scopes are different to our RIIO-T2 portfolio.

410. Given Ofgem has not shared its rationale or evidence for the 10% cap, we have supplemented our response with an independent expert review of risk and contingency across similar utilities and in accordance with government guidance to ratify we are following best practice, which they confirm. This was in addition to the independent assessment by consultancy firm Arcadis of our estimating process that we undertook to ensure our estimating process was capable of producing reliable cost estimates as part of building our RIIO-GT3 Business Plan.

411. It can be seen in the Ofgem requested additional estimation evidence (sent with our Supplementary Question response NGT054 and NGT079 as part of Ofgem's business plan review), that our approach assesses each estimate individually to allocate a risk percentage and categorises each of the estimates into a Low, Medium

and High risk rating, accounting for project criticality, complexity and cost uncertainty. This demonstrates that we have a robust process, supported by industry best practice and that a blanket approach to halve risk is an error when there is no analysis to support the proposals. As context, the total amount of risk and contingency across all our proposed baseline allowances for asset health works equates to 9.6%. This evidence demonstrates our methodology results in a proportionate level of risk across our portfolio and is within Ofgem's proposed 10% cap.

412. In terms of risk and contingency attributable to third parties it is important to understand that this is not a variable cost for National Gas. Our estimation process develops our view of the costs that will be submitted to us as part of a tender submission for the scope of works. Where appropriate, risk and contingency costs are routinely priced into contractor cost tenders to reflect prevailing market conditions and ensure commercial viability. Disallowing such provisions introduces a misalignment between regulatory expectations and actual market behaviour and are not in accordance with industry best practice across all utility companies. Therefore, we do not agree that these costs should be removed from the cost estimates.

413. It should be noted that all the proposed costs submitted for these works are subject to Ofgem's existing price control deliverable (PCD) methodology, which allows for an ex-post review and for Ofgem to adjust costs for outputs that have not been delivered, other than through genuine efficiency and innovation. This provides additional protection for consumers over and above the rigor we have applied to our cost estimation process including our risk and contingency assessments.

414. Based on the evidence submitted in our RIIO-GT3 Business Plan and in response to Draft Determination, we propose that the remedy to Ofgem's proposal is to accept the additional evidence presented in our response for all risks below 15% and reinstate the risk and contingency allowances which are based on established industry guidance.

415. For individual estimate risks exceeding 15%, we would welcome further discussions to ensure Ofgem is comfortable with the values proposed in our original business plan using the methodology outlined. If Ofgem considers that the existing ex-post PCD mechanisms do not provide sufficient protection from increase in charges, we propose exploring whether these specific asset interventions should be subject to a re-opener uncertainty mechanism. This would allow costs to be trued up to actuals, including risk allowances which are likely to evolve with the passage of time as risk conditions become clearer and better understood.

Summary of our RIIO-GT3 Business Plan proposals

416. To provide context to Ofgem's challenge we have summarised our asset health plan risk and contingency allowances and the average risk using our robust risk methodology.

	Risk rating	Base line volumes	Base line risk average %	Base line total risk value for ratings	Risk % against total risk value
National Gas Transmission project risk	Low	134	5.3%	£11,766,714	18.8%
	Medium	65	12.9%	£34,758,682	55.7%
	High	18	16.6%	£15,918,962	25.5%
	TOTAL	217	9.6%	£62,444,358	100%

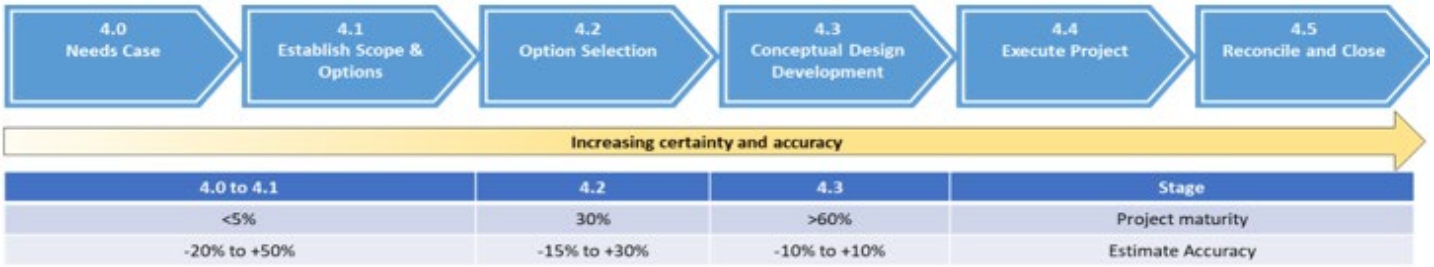
Table 1 - NGT RIIO-GT3 - Project Risk Rating for baseline funded allowances

417. The table shows a portfolio summary of our project risk for all costs produced via first principal estimates. It groups projects by risk rating (low / medium / high) and shows, for each group, how many projects, the average risk % applied, the monetary value of risk, the share of total risk. Analysis of the current risk distribution reveals a significant concentration of high risk within a limited number of projects. Specifically, while only 8% of the total portfolio is classified as high risk, these projects collectively account for approximately 25.5% of the overall risk value.

418. Whilst we fundamentally disagree with Ofgem's capping of risk at 10% and have not received any evidence to substantiate this position. The table shows that the level of risk that will form part of our baseline allowances is on average 9.6% and would be lower if higher risk volumes are deemed more appropriate for allowance through a re-opener.

Our process for estimating risk is robust and follows industry best practice

419. The below diagram shows the phases of the delivery of a project lifecycle and its relationship with cost estimation and risk. Early-stage projects require a broader bandwidth of uncertainty within the cost estimates as the level of detail is immature at this stage. As the project moves through the stages the details become more defined and a 'narrowing' of the bandwidth costs occur. Our cost estimation and risk process, as well as industry standards, recognise this approach as the diagram below shows.



4.0 to 4.1	4.2	4.3	Stage
<5%	30%	>60%	Project maturity
-20% to +50%	-15% to +30%	-10% to +10%	Estimate Accuracy

Diagram 1

Phase	Scoping / Conceptual Design	Feasibility/ Preliminary Engineering	Definition FEED or Basic Engineering	Engineering, Procurement & Construction	Startup & Operations
	FEL-1	FEL-2	FEL-3		
Client Goals	• Develop concepts • Evaluate alternatives • Quantify risks	• Select best identified project approaches • Quantify economics • Project definition	• Finalize Scope & Execution Plan • Capital appropriation • Contracting	• Maintain budget and schedule • Achieve mechanical completion and handover	• Operation to achieve design performance
Deliverables	• Preliminary design basis • Block Flow Diagrams • Equipment list • Plot plan	• Design basis • PFDs • Material balance • Process data sheets • Preliminary equipment layout	• Update FEL-2 deliverables • P&IDs • Equipment specifications • 3D model	• Engineering • Procurement • Construction, or • Construction Management • Commissioning	• Training/startup assistance • Performance test
Cost Estimate	Class 5 Order-of Magnitude +50% / - 30%	Class 4 Preliminary +30% / -20%	Class 3 Budget +20% / -15%	Class 2 Control +15% / -10%	Class 1 Definitive +10% / - 5%
Feasibility study	Scoping	Feasibility	Bankable		
Test work	Bench-scale testing	Pilot plant testing	Optimization / variability testing		

Diagram 2 - Front End Loading (FEL) Stages

Estimating process

420. The estimates prepared for the submission underwent a structured approval process to ensure consistency, incorporate peer review of the estimating methodology, and validate the approach from a subject matter expert (SME) perspective.

421. Due to the nature and maturity of the Asset Management Plan (AMP) the Standard Operating Procedure (SOP) was used as a guidance document and the process was streamlined, but ensuring that governance was maintained throughout the estimation submission process.

422. The high level approach to estimation steps used were as follows:

1. Scope released to Estimation Team.
2. Estimator discussed scope with theme lead and SME.
3. Estimation started (including review points to check-in with Theme Lead/SME).
4. Estimation completed.
5. Estimate reviewed by Estimation Manager/peer for estimation methodology and robustness/confidence.
6. Estimation reviewed with Theme Lead and SME for scope checking, delivery methodology checking, risk allowance and assumptions/exclusions/inclusions walk through.
7. If satisfactory estimation approved/signed off (if not approved - revise estimate and back to step 5).

423. Our process for cost estimation follows a step-by-step approach, as shown below. This also aligns with the Infrastructure and Projects Authority (IPA) cost estimation process.

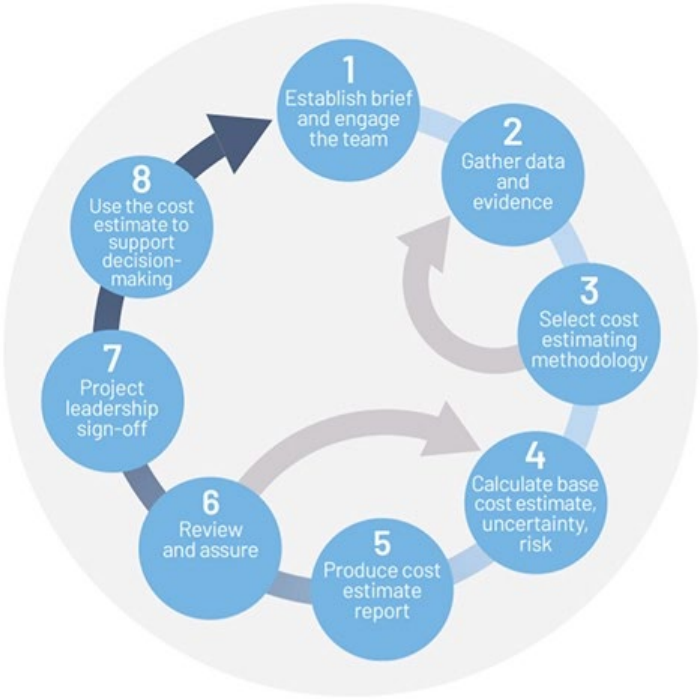


Diagram 3 -IPA Cost Estimation Process

424. To enable the delivery of the quantity of estimates for the AMP, and therefore enabling the plan to give a high level of confidence and assurance for the cost element of the submission the estimates were produced using Excel spreadsheets, this approach also allowed other departments within National Gas to assist in producing estimates at the time, each potentially applying their own formatting conventions.

425. It is important to emphasise, however, that despite these differences in presentation, all the estimates were prepared using a consistent and standardised methodology. This includes alignment in data, cost breakdown structure, and overall estimating approach, ensuring the integrity and comparability of the outputs across all submissions.

How we robustly quantify risks

426. The IPA (IPA_Cost_Estimating_Guidance.pdf - included with the Additional Material to our submission and with a summary in Appendix 1 of GTQ42 Appendices 1-3.docx), recommends using scenario-based modelling as it provides rigorous and reliable cost estimates even under limited data contexts. It makes it particularly appropriate for complex projects at early stages. As it builds on explicit assumptions it also serves option comparison analysis.

427. Our estimated risk allowances for each investment ID were calculated based on the following process. The project criticality, complexity and cost assessment described below is a best practice matrix that we used to determine the percentage allocation required for risks to feed to the estimate on schemes in our Investment Process (ND500 stage 4.0 - needs case, project brief and strategic outline case) or early-stage projects based on an assessment of the following criteria:

- Criticality of the project based on the number of dependencies, internal and external stakeholders and delivery of time-critical business benefits
- Complexity of the project as determined by the Project Complexity Assessment
- Cost of the project (baseline cost with no contingency)

428. The project is assessed against the criteria set out in the table below at the start of ND500 Stage 4.0. The individual scores for criticality, technical complexity and cost shown are added together to give an overall score in the range 3 to 12. The response to the project rating as shown in Figure 4 gives an indication to the risk allocation required.

CRITICALITY, COMPLEXITY AND COST SCORING		
Criticality Rating	**Score**	**Description**
High	4	High criticality to programme, many critical dependencies, many important external interfaces and constraints. Critical external and internal milestone dates. Significant stakeholder involvement / scrutiny.
Medium	2	Medium criticality to programme, some critical dependencies, some important external interfaces and constraints. Some important external and internal milestone dates. Some stakeholder involvement / scrutiny.
Low	1	Low criticality to programme, no critical dependencies, few external interfaces and few constraints. Flexibility over milestone dates. Little or no stakeholder involvement / scrutiny.
Complexity Rating	**Score**	**Description**
High	4	High technical complexity at leading edge of industry practice. Significant uncertainty / instability around requirements, scope, assumptions and resource availability. Significant safety, environmental or security implications.
Medium	2	Some technical complexity, but within industry common practice. Some uncertainty / instability around requirements, scope, assumptions and resource availability. Some safety, environmental or security implications.
Low	1	No significant technical complexity. Requirements, scope, assumptions and resource availability are well defined and stable. Few / no safety, environmental or security implications.
Cost Rating	**Score**	**Description**
High	4	>£10M baseline cost
Medium	2	>£2.5M - £10M baseline cost
Low	1	£0 - £2.5M baseline cost

Table 2 - Project Risk Scoring

Total Score	Overall Rating	Risk allocation Required
8 - 12	High	Percentage allocation for risk required 15% - 20%+
5 - 7	Medium	Percentage allocation for risk required 10% - 15%
3 – 4	Low	Percentage allocation for risk required 5% - 10%

Table 3 - Project Risk Rating

How the estimator applies the project criticality, complexity and cost (ccc) scoring matrix

- **Step 1: Gather project information**

429. The estimator begins by collecting key data that will inform the scoring process. This includes:

- Project dependencies: Are there many moving parts or linked activities?
- Stakeholder involvement: Are internal or external parties heavily invested?
- Technical scope: Is the project routine or pushing boundaries?
- Baseline cost: What is the estimated cost before adding contingency?
  While the estimator focuses on cost, understanding the full context helps ensure the risk uplift is appropriate.

- **Step 2: Score Each Category**

430. The project is scored in three areas:

1. Criticality – Assessed by the Project Manager or Asset Manager
2. Complexity – Assessed by the Project Manager or Asset Manager
3. Cost – Assessed by the Estimator

For cost, the estimator assigns a score based on the baseline value:

- Score 1 (low): £0–£2.5M
- Score 2 (medium): £2.5M–£10M
- Score 4 (high): >£10M

- **Step 3: Calculate the total score**

431. Add the scores from all three categories:

- Total Score = criticality + complexity + cost
- This gives a score between 3 and 12.

- **Step 4: Determine risk uplift**

432. Based on the total score from table 2, the estimator then uses table 3 to apply a percentage uplift to the estimate to account for risk.
This uplift ensures the estimate reflects the project's complexity, criticality, and financial exposure.

- **Step 5: Document and review**

433. The estimator records the rationale for the cost score and collaborates with the project team to confirm the other scores. Once agreed, the uplift is applied, and the estimate is finalised for Stage 4.0 of our investment process (ND500).

434. The scoring system uses 1 (low), 2 (medium), and 4 (high) to reflect non-linear risk impact:

1 = Minimal risk or impact

2 = Moderate risk or complexity

4 = Significant risk or complexity

435. This structure ensures that high-risk projects are given greater emphasis, helping the estimator to apply a more accurate and justified contingency uplift.

436. To further test the robustness of our estimation process, we engaged with Arcadis in 2024 to undertaken an in-depth examination of National Gas Transmission's unit cost estimating process, encompassing the review of unit cost definitions, input source data, estimating methodologies, and associated governance procedures. The review, which focused specifically on Asset Health related cost estimates, assessed two new cost estimation processes developed by us during the current RIIO-T2 period. The Arcadis summary findings can be found in Appendix 2 of GTQ42 Appendices 1-3.docx and a full report is available within the supplementary zip folder 'Arcadis_Report_zip'

437. In addition to the first external independent report by Arcadis and given the challenge by Ofgem, we have had a second independent review of our process by risk consultants HKA to demonstrate the risk levels are appropriate for the types of projects we are managing. A summary of the HKA findings can be found in Appendix 3 of GTQ42 Appendices 1-3.docx and a full report is available within the supplementary zip folder 'HKA Research Report - 2025_08_15v1.1.zip'.

Inconsistencies in Ofgem's approach: Evidence under RIIO framework of acceptance of our estimating methodology and risk and contingency exceeding cap of 10%

RIIO-T2 re-opener uncertainty mechanism (UM) submitted risk % ranges

438. The following examples show the application of our existing risk process (described above) through our RIIO-T2 UM projects, which has remained consistent for our regulatory submission in RIIO-T2 and for our RIIO-GT3 Business Plan. Ofgem has reached a decision on these re-openers in the table below based on our risk methodology.

Re-opener	Financial year (FY)	Submitted Total cost (£m)	Submitted risk (£m)	Submitted risk %	Front end loading (FEL) category
St Fergus I	FY23	50.0	1.0	1.9% works mostly finished at point of application	2
Actuators		23.1	0.5	2.1%	2
Aftercoolers		7.6	0.0	0.0%	2
Avon Operability		5.0	0.5	9.0%	2
Unit Decommissioning		2.8	0.0	0.0%	2
Cathodic Protection		11.6	0.0	0.3%	2
St Fergus II	FY24	92.2	11.5	12.4%	2
Corrosion PAC3419		12.2	0.8	6.9%	2
CM4 Defects and Painting		29.1	2.8	9.7%	2
HV Transformers		8.0	1.4	17.2%	2
Critical Valves		10.5	1.8	18.3%	2
Plant 2 Aftercoolers		12.9	1.5	11.5%	2
LV Switchboards & MCCs		9.0	1.6	17.9%	2
HV Switchgear		5.8	0.6	9.7%	2
Distribution Boards		1.8	0.6	33.7%	2
Asbestos Removal		2.7	0.3	12.8%	2

Table 4

439. Risk allowances across our RIIO-T2 UMs were developed from first principles, ensuring consistency with both our internal estimating methodology and the approach adopted for RIIO-GT3. This foundation enables a transparent and robust assessment of risk exposure, tailored to the specific characteristics and maturity of each project and is consistent with the estimating process described earlier in this question response.

Final Determination outcomes of RIIO-T2 re-opener UMs with risk above 10%

440. The following are examples where Ofgem has determined allowances with individual risk percentages above 10% as part of a portfolio of work through RIIO-T2 uncertainty mechanisms. Therefore, we disagree with the assertion that Ofgem applies a 10% cap to all risks.

St Fergus II	Agreed risk % allocated	Above 10% Ofgem cap	Notes
Critical Valves	18.3%	Y	This was agreed at an allowance of £10.5m which included the 18.3% risk allowance.
Asbestos	26%	Y	This was agreed at an allowance of £1.3m* ECC which included the 26.1% risk allowance. *Final Determination agreed figure.

Table 5

For our Physical Security Capex investments (Draft Determination National Gas Transmission document, paragraph 5.127)

441. Within our submitted costs for Physical Security that had been benchmarked as part of the RIIO-T2 process, Ofgem has allowed our cost proposals in full. As an example, looking at the top 8 projects for Physical Security, the following Project Management, Overhead and Risk allocations have been included on average. All these costs estimates had been developed in accordance with the estimate and IPA risk approach described in this response. This indicates that the proposed adjustments made to the estimates associated with asset health is inconsistent with the approach taken elsewhere, and lacks justification.

RIIO-GT3 Physical Security cost submission percentage (%) for each element		
Project Management	Overheads	Risk
8.9%	4%	7%

Table 6

442. These examples collectively demonstrate that risk cannot be applied uniformly across projects. Instead, it must be calibrated to reflect the unique sensitivities, delivery challenges, and maturity of each scope, ensuring that regulatory allowances are both justified and aligned with market realities.

Assessment of Ofgem's halving of risk costs calculated through our process and applying a 10% cap

443. We have described in full above how our risk estimation process follows industry best practice and leads to a robust estimation of risk and contingency costs. We have also supplemented this with external expert review. Ofgem has not provided any evidence to substantiate their approach and therefore unjustified. Ofgem has not raised any concerns with our estimation process to date, and has not provided any evidence to its halving of our risks costs.

444. The 50% reduction is made as a blanket cut across all of our risk costs, and is therefore clearly not linked to any assessment of the actual risk costs required for specific projects. Ofgem provides no justification for the level of the reduction, which appears to be arbitrary.

445. Ofgem's approach is also inconsistent with the current approach adopted by Ofgem when reviewing our RIIO-T2 re-opener uncertainty mechanisms as described above.

446. In terms of Ofgem capping risk at 10%, our independent review concludes that the blanket 10% cap is not supported by empirical evidence or industry best practice standards and risks materially underfunding necessary National Gas Transmission investments. Infrastructure guidance (HM Treasury Green Book, Infrastructure and Projects Authority (IPA), AACE International) all emphasize tailoring contingency to project specific risk and maturity, often implying contingency well above 10% for complex or early-stage projects. No other UK regulator imposes a universal project-level cap; instead, they use evidence-based allowances and portfolio risk funds or re-openers to manage uncertainty.

447. In light of the points above, Ofgem's halving of our risk costs and applying a 10% cap appears to be an arbitrary adjustment not linked to any identified inefficiency in our plans, and therefore wrong in principle. The resulting allowances are not aligned with best practice estimation and will leave us with an expected shortfall relative to our costs.

Risk and contingency attributable to third parties

448. In terms of risk and contingency attributable to third parties it is important to understand that this is not a variable cost for National Gas. Our estimation process develops our view of the costs that will be submitted to

us as part of a tender submission for the scope of works. Where appropriate, risk and contingency costs are routinely priced into contractor cost tenders to reflect prevailing market conditions and ensure commercial viability. Disallowing such provisions introduces a misalignment between regulatory expectations and actual market behaviour and are in accordance with industry best practice across all utility companies. Therefore, we do not agree that these costs should be removed from the cost estimates.

449. This approach is consistent with established best practice, as outlined in the IPA Project Routemap: Risk Management Module: Risk Management Module (page 8), which states:

'Risk allocation should be based on the party best able to manage the risk. Where risk is transferred without the capability to manage it, this can lead to increased costs, disputes, and delivery failure.'

450. Our estimating process, therefore, mimics the addition of risk and contingency where appropriate for the type of works and contractors

GTQ43. As part of our unit cost assessment, we have removed percentage uplifts to unit costs attributed to project management and company overheads on the basis they are funded through other allowances. Do you agree with this approach?

451. We do not agree with Ofgem's removal of uplifts for project management and overheads costs.

452. Firstly, these costs have been incorporated within our unit cost submissions, in line with the clear direction set out in Ofgem's Regulatory Instructions and Guidance (RIGs), which explicitly supports their inclusion.

453. Secondly, these costs have not been included elsewhere in our RIIO-GT3 Business Plan submission and therefore have not been funded through other allowances, contrary to Ofgem's reasoning. Our methodology for estimating these costs ensures that they are included in our plan only once, and their level and efficiency is robustly justified.

454. Since Draft Determination, we have received comments that we had not demonstrated a clear distinction from the work attributed to allowances elsewhere in the price control (letter 15 August 2025, Re: National Gas RIIO-3 Draft Determination).

455. In response, we have provided additional detail on these points below to show these costs are not recorded in other parts of our Business Plan, and are not incorporated into the contractor cost estimates that we have developed from first principles.

456. We have also noted an error in the data included in Supplementary Question (SQ) NGT079 where some of the risk, project management and overhead figures were incorrectly stated. These have been corrected within our response to this question and can be accessed in the attached file Impact Analysis - Risk OH - DDR rev2.xlsx.

Our approach to capturing project management and overheads in unit costs is aligned with Ofgem's RIGs

457. Under the RIIO-T2 RIGs and RIIO-GT3 business plan data templates (BPDT) RIGs, it is specified that Indirect company costs and project management should be included in the overall cost of capex projects. In RIIO-T2 RIGs, that is stated under Table 6.1 Capex Summary and reported for all capex spend.

458. Also, in line with RIGs, Closely Associated Indirect (CAI) and Business Support Costs (BSC) have been submitted gross and net of capitalisation in Tables 5.1 TO Indirects, 5.2 SO Indirects and 5.8 Business Support Costs within the BPDT, with only net costs being assessed and included in totex.

459. This approach has been shared with Ofgem, without concern raised, within RIIO-T2 regulatory reporting pack (RRP) submissions, where we have made the following statements clarifying specifically the treatment of Project Management and Overheads:

112. It is our interpretation of the RIGS that Project Managers who may spend much of their time working on and charging their time to a specific asset would be considered as a 'Direct Cost'. For example, they could be on site for periods of time, which could be interpreted as 'physical contact with system asset'.

113. We have interpreted our overheads allocation as being Indirect Costs. This is a fixed % of Business Support/Closely Associated Indirect costs that get capitalised. Cost Capture at an Investment level in SAP S4 using the new WBS Structure mapped to Direct/Indirect categories supports the reporting of Direct/Indirect costs in RIIO-T2.

460. As a result, we have a consistent and transparent methodology for costs that has been used in our business plan submission. The following provides specific details of the methodology and provides examples from our submission.

Our approach to estimating these costs ensures that they do not duplicate other allowances, and are efficient

461. Our unit cost development follows the Association for the Advancement of Cost Engineering (AACE) International's Total Cost Management Framework and the UK Infrastructure and Projects Authority's (IPA's) Cost Estimating Guidance, using a structured approach to project costs.

462. These frameworks support a disciplined process for forecasting project costs by integrating best practices in cost estimating. The AACE TCM Framework ensures that all aspects of cost are systematically considered. Similarly, the UK IPA guidance promotes consistency and transparency in estimating methods. The build-up is developed in two parts as set out below;

Part 1: Mains work contractor (MWC) costs

463. The following table sets out the four categories of costs that have been included in our contractor cost build up.

1. Contractor Direct Costs
2. Contractor Indirect Costs
3. Contractor Risk
4. Contractor Fee

Table 1

464. A further break down of what is included in each of the categories is set out below.

1. Contractor direct costs

- Labour (trades, operators, supervision)
- Plant and equipment
- Materials and consumables
- Sub-contractors
- Site preliminaries (temporary works, welfare, logistics)
- Site management staff (contractor direct project management) **
- Insurance, bonds, warranties

2. Contractor indirect costs

- Contractor indirect project management (where applicable)**
- Contractor overheads (where applicable)**
- Contractor design (if design & build)

** Main works contractor (MWC) project management and overhead costs therefore sit as part of tendered price of jobs, whether direct or indirect, and are distinct from any National Gas Transmission side project costs.

3. Contractor risk (contractor owned)

- The costs for contractor risk is routinely priced into contractor's bids.

4. Contractor fee

- % margin charged by the MWC for their services.

Part 2: National Gas Transmission project costs

465. These costs are discrete from Main Works Contractor (MWC) costs, and are the costs employed by NGT, the following table sets out the three categories of costs that have been included in our NGT Cost build up.

5. NGT Direct Costs
6. NGT Indirect Costs
7. NGT Risk

Table 2

5. National Gas Transmission direct costs

466. Direct project management costs are built as direct costs on the unit cost build up. Project Managers, for example, who may spend much of their time working on and charging their time to a specific asset would be considered as a 'direct cost' and are booked to projects via direct time-bookings.

6. National Gas Transmission indirect costs

467. Where Indirect Project Management and Overheads are capitalised in addition to the direct time bookings, an overhead allocation approach is used. The overhead allocation model takes all the gross costs for all construction departments and additional expected charges from shared function (eg, Procurement and Technical Assurance/Finance). The next stage of the model considers what proportion of the department costs will be directly charged via timesheets and removes that from the calculation. This then leaves the amount of costs that need to be allocated via the overhead rate. This approach ensures that costs are captured only once.

468. Rates are reviewed twice a year to reflect changes in gross costs or changes to portfolio workbooks and tested for over/under recovery. Any rate changes are communicated to project Directors & Senior Project Managers and used by the project teams to adjust project forecasts with the revised rate.

7. National Gas Transmission risk

469. Risks provision is held by National Gas Transmission.

470. An example of a cost estimate breakdown is included in the attached NGTQ43 Appendix, showing how the full project cost is constructed from the two parts. The explicit cost associated with project management costs and overheads has also been highlighted.

Segregation of duties within project costs

471. Project Management (PM) has two distinct parties: the client and the contractor, and that is why both appear in an estimate. This is referenced in the above explanation and also in NGTQ43 Appendix.

472. They are both needed due to the following:

- **Different responsibilities:** The client manages the overall investment and governance; the contractor manages delivery of their scope.

- **Checks and balances:** The client must verify progress, safety, cost, and schedule independently of what the contractor reports.
- **Risk allocation**: Each party manages its own risks, requiring management resource.
- **Contractual separation:** Client PM costs don't flow through to the contractor's price (and vice versa); they're distinct budget lines in the estimate.

473. The client's PM costs ensure the project is delivered in line with business, regulatory, and investment objectives, while the contractor's PM costs ensure their work is executed safely, on time, and to specification. Both are necessary, but they cover very different functions, and, having this segregation of duties ensures that a project can be delivered efficiently and economically.

For completeness - NGT opex costs (sitting outside of project costs)

474. Opex costs have been built up in a granular manner, on a department-by-department basis. Each department assesses its split of capex vs opex work and assumes a consistent approach with RIIO-T2 in terms of capitalisation policy. Opex is therefore presented as net CAI and Business Support post capitalisation.

475. Therefore, our approach ensures that overhead and project management costs are captured only once, and there is no double-counting between costs on projects (built within unit costs) and our opex indirect costs.

476. We have always recognised that the indirect RIGs categories use definitions that applied to both capex and opex categories. Therefore, in line with RIGs and International Financial Reporting Standard (IFRS) guidance, we distinguish between capex and opex based on definitions of capital expenditure.

Conclusion

477. Through this response we have explained and evidenced that project management and overhead costs are not funded by other allowances and have only been applied for once:

- The capex elements of the costs have been applied for within the project Table 6.1
- The net post-capitalisation costs of CAI and BSC have been applied for as part of net opex in Tables 5.1, 5.2 and 5.8.

478. There is a division of responsibility between the contractor project management and National Gas Transmission side project management, with no double count between the two. This ensures that projects can be delivered economically and efficiently.

479. Because these disallowances are in error, we therefore request that the values are reinstated in full.

GTQ44. Do you agree with our approach overall for unit cost assessment? Do you have any views on how our unit cost benchmarking methodology can be improved?

480. We do not agree with Ofgem's approach to unit cost assessment. Ofgem's use of the median of historical unit costs, rather than the mean, will lead to the underfunding of critical interventions required to maintain the network over the RIIO-GT3 period. This is because of the following:

- Analysis of our historical unit costs shows that most categories of work have a 'long tail' of high values, driven by work mix (smaller volumes of high-cost work) and cases where extenuating circumstances have driven high costs.
- The median ignores these features of the data, meaning that it systematically underestimates overall costs across our whole work mix, and does not fund risk and contingency costs.

- The median is also unreliable in very small samples (nearly two thirds of our datasets contain less than 30 data points) and in cases with repeated data points (for example multiple interventions undertaken on a section of pipeline, resulting in the same unit cost), both characteristics of this data.
- Ofgem's rationale for using the median is that it is less distorted by outliers. However, the data we used to derive the unit costs submitted in NGTs business plan have already been scrutinised and cleaned, with erroneous values and extreme observations with low likelihood of reoccurrence having been removed.
- We have verified this by using several statistical techniques to identify and address outliers. These techniques show that the mean is not materially impacted by outliers, while the median is significantly over-correcting.
- We also expect to see increasing cost pressures as we progress into RIIO-GT3. Some of these cost increases have already come to fruition and are illustrated across a number of interventions in our recently approved Plant & Equipment UM submission. This further exacerbates the underfunding resulting from Ofgem's proposed approach.

481. The mean of our historical unit costs, adjusted to remove distortionary outlier, is therefore the most reflective of forward looking costs, and ensures that we will be properly funded to deliver critical asset health work. We therefore request that Ofgem use average mean of historical costs, when setting allowances for such work.

482. We expand on the points above in the remainder of this response.

483. We also disagree with Ofgem's application of a blanket 13% cost reduction to interventions classed as 'other'. This 13% cost reduction is derived from the cost reduction applied to the rest of the portfolio of interventions, meaning it reflects Ofgem's methodological choices including:

- the removal of overhead and Project Management costs realised from Operational Capex delivery;
- the removal or halving then capping of risk and contingency costs included in costs derived from First Principles estimates; and
- the inappropriate use of the 'median' described above.

484. As stated within our response in GTQ42, GTQ43 and this document, GTQ44, we do not agree with Ofgem's approach to cost assessment in these areas.

485. Finally, we consider that Ofgem's benchmarking approach is overly backwards looking:

- The use of static historical benchmarks may not reflect future delivery conditions. In particular it fails to account for inflationary pressures, supply chain volatility, and evolving regulatory requirements.
- Ofgem's approach should align with HM Treasury's Green Book principles, which advocate for evidence-based, forward-looking cost estimation.
- International best practice (eg, from the World Bank and OECD) supports the use of dynamic benchmarking frameworks that incorporate real-time market data and project-specific attributes.

Our cost methodology

486. As stated in our responses to both supplementary questions NGT054_re_EJP22 to 25 Unit Cost Derivations and NGT079_re_Unit Cost Derivation (follow-up to NGT054), the approach used for estimating cost using historical outturn and forecast data for in progress interventions is as follows.

487. Where RIIO-GT3 interventions can be mapped to interventions and activities in RIIO-T2, outturn cost data from completed works and the Estimated Cost to Complete (ECC), from works-in-progress in years 2021/22 to 2023/24 is used to develop unit cost forecasts.

488. Any anomalies identified are investigated with input from key internal stakeholders and subject matter experts across Asset Management, Construction, and Operations. Erroneous data points, such as those unique to a particular site and unlikely to be encountered again are discounted from the data set.

489. The scope and complexities of RIIO-T2 and RIIO-GT3 interventions are compared and normalised, by considering the costs associated with factors such as volume/size, engineering difficulties, location, access, complexities, and asset condition. The scope normalisation between historical and future works is undertaken, and costs adjusted by the difference in scope normalisation.

490. There are small number unit cost calculations that include interventions that could not be directly mapped from RIIO-T2 to RIIO-GT3 as scope varied slightly. For example, the addition of an extra element of analysis and reporting required in the scope for RIIO-GT3 on each CIPs survey or the additional cost required to replace dry gas seals at St Fergus accommodating the need for a pair of COBA seals on a Barrel compressor.

491. A table of each of the cost data points in 2023/24 price base considered using this approach listed by InvID code was provided in the attached folder 'NGT079_re_Unit Cost Derivation (follow-up to NGT054).zip'.

492. When utilising historical data/ECC figures for unit costing, in order to most accurately estimate the cost required to deliver each intervention, our approach was to adopt the standard mean or weighted mean of the suitable and representative data points available.

493. Ofgem argues that the median approach would help to mitigate the impact of any apparent outliers. However, this does not consider that National Gas Transmission has already assessed and removed erroneous and anomalous data points.

494. We believe that a blanket median approach overcorrects for outliers by discounting any of the more extreme but relevant costs that are likely to reoccur in the future. This results in significant underfunding across the majority of the repeatable Asset health interventions required to maintain the network.

External examination of the cost assessment for historic and forecasted derived unit costs

495. To provide an external examination of the cost assessment of historic and forecasted data points set in the Draft Determination document, we have engaged an external consultancy, Frontier Economics, to provide an independent review and response.

496. Frontier Economics' analysis has been conducted on a dataset of historical unit costs provided by NGT, this is the same dataset that was provided to Ofgem following a request in the Supplementary question NGT079 ahead of the Draft Determination, and which Ofgem has used in setting Asset Health allowances at the Draft Determination.

497. Frontier Economics' analysis, did not include the datasets that were used to inform the small number of bespoke unit costs mentioned in the earlier section about our cost methodology (see paragraph 486). These unit costs include the cost associated with additional scope or materials over and above the historic/ECC costs and therefore are not reflective of the majority of the datasets. Frontier's assessment focused on the comparison of the use of median over mean to derive a unit cost.

Summary findings from Frontier Economics

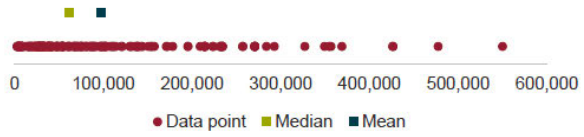
498. Frontier Economics finds that there is clear evidence of positive 'skew' in the data, or a long tail of high values. Many of these are not 'outliers' (extreme observations with low likelihood of occurring) – but expected variation based on the widespread and skewed nature of the data reflecting the high volumes of low-cost work, and lower volumes of high-cost work observed across intervention types.

499. In skewed samples the median can provide a better sense of a 'typical' observation (i.e. one that is likely to occur more frequently), but it ignores the distribution of the data around the median. In this dataset, the

median does not capture the fact that values to the right of the median tend to be more extreme than values to the left (as illustrated on slide 12 in the pack 'Frontier Economics - NGT Asset Health - Unit cost assessment -15.08.25.zip'and in the screenshot below).

The example below illustrates why the median does not capture the skew in the data

- As highlighted on previous slides, there is a high presence of skewness in the data: 84% of the asset health categories have a positive skew.
- This is an important characteristic of the data, which is ignored by the median.
- Ofgem argues in the Draft Determinations that the median is less impacted by outliers. However, as shown in the example below, very large or small values are not necessarily 'outliers', but can be a natural occurrence in a skewed distribution.



- Cost category **Si-070 (A/G Pipework - CM/4 Defect Resolution)** has 204 data points (with 133 unique values).
- The median ignores that the values in the top half of the dataset have a much wider distribution than the values in the bottom half.
- It is clear from the distribution of the data that most of these values are not outliers, but part of a 'long tail'. They provide important information on the distribution of NGT's costs.
- The mean, on the other hand, captures all of the cost information in the dataset. Setting the unit cost allowance at this level will ensure that on average, NGT's expected costs will be covered.

Image 1

500. The long tails of high values in this data provides important information about:

- **Work mix:** There tend to be high volumes of low-cost work, and lower volumes of high-cost work. Using a median ignores critical information about the cost of more expensive interventions.
- **Risk and contingency**: Extenuating circumstances can drive very high costs in a small number of cases. Using the median ignores these cases, meaning costs will be underestimated and genuine risk and contingency costs will be unfunded.

501. **Setting unit cost allowances at the median observation is therefore likely to underfund NGT across its whole workload**. The mean is a more suitable approach to setting unit cost allowances, as it captures all relevant information and should therefore fund NGT's costs in aggregate across its whole workload.

502. The median is also very volatile as it is based on a single data point. This is particularly problematic in this data given small sample sizes, and repeated observations, which can drive arbitrary outcomes.

- Many of the cost categories have a small sample size.
- 26 have a sample size of less than 10, that is just under half the data sets.
- 36 have a sample size of less than 30. This is sometimes considered the minimum size needed for robust statistical analysis. Only 38% of the data sets contain over 30 data points

503. Repeated data points are common, due to cases where a total cost of work is divided by the number of units, giving an average unit cost that is repeated multiple times, several interventions on a section of pipe for example.

- 14 categories have three or fewer distinct points, just under a quarter of the data sets
- 26, or 45%, of categories have five or fewer distinct points

504. Critically, the 15 categories with the highest relative difference between mean and median either suffer from small sample size or few distinct points, meaning that where Ofgem has made large adjustments to NGT's allowances based on the use of the median, the results are not reliable.

Case studies of the impact of median

505. As previously stated, the data provided in our response to ***NGT079*** contained only data points that were deemed as valid and relevant to be used to cost each intervention following interrogation and review. Some examples of where we have interrogated specific data points have been provided below.

Si-157 - Compressor Distribution Individual Board replacement

506. For this intervention, we had 40 examples of these works being undertaken over 9 different sites. The unit costs ranged from £21.3k up to c£272.7k with the overall mean average being £43.8k before review.

507. As part of the analysis for this intervention, again, we liaised with the internal subject matter experts to understand the reason for the variation in costs within the full data set. It was confirmed that the higher unit cost in this instance (at our Churchover site) was in fact an outlier as it included a 1km length cable from the site within the scope. This was not considered to be representative of future works and was excluded as a one off that was unlikely to be repeated and as such, was removed as an outlier. All other data points were verified as valid representations of the future work mix and were included in the analysis. Following the removal of the Churchover data point, 39 data points remained with a mean unit cost of £37,940. The range of unit costs in the remaining data was much smaller at £21.3k - £75.3k.

- Following review there were 39 data points for this intervention
- The mean average of the first 19 data points is £ 24,837
- The median value is £ 31,996
- The mean average of the second 19 data points is significantly higher at £51,357

Si-206 - Hazardous Area lighting - replace luminaire and cable

508. For this intervention, we had over 200 examples of these works being undertaken over 4 different sites. The unit costs ranged from £1,022 up to £12,852 with the overall mean average being £3,837 – no data points were excluded in this example as all have been deemed to represent the future work mix planned for RIIO-GT3.

509. As part of the analysis for this intervention, we liaised with the business's subject matter experts to understand variances in observed costs. It was confirmed that the higher unit costs, tended to include significant civils or in some instances a complete system replacement. We had 27 examples of unit costs at the very top end of the range, so these were deemed not as outliers, but as valid representations of future works. We also had 32 examples of data points at the very bottom end of the range. Again, these were interrogated to ensure validity and following review were included in the overall average.

510. When organised as a median data set, the unit cost for this intervention would decrease to £1,944. However, when the data is reviewed, there are over 100 data points that exceed this figure.

- Following review there were 211 valid data points for this intervention
- The mean average of the first 105 data points is £1,385
- The median value is £1,944
- The mean average of the second 105 data points is significantly higher at £6,308

511. In summary, the median value of £1,944 represents a 49% reduction on the requested mean unit cost of £3,839. This equates to a total underfunding for the final determination volumes for RIIO-GT3 of £4.6m (23/24).

512. In stark contrast, the median value of £1,765 for a similar intervention, **Si-207 – Non- Hazardous Area lighting - replace luminaire and cable**, represents an 13% increase of the requested unit cost of £1,565 which was derived from the analysis of 64 valid data points.

513. It is also worth noting that in the case of both these interventions, the Unit of Measure (UoM) in RIIO-T2 was agreed as 'Per site', in the RIIO-GT3 submission this is 'Per asset' meaning, the unit costs have been derived from the cost per site divided by number of assets in scope at each site. This provides a valid data set that contains a large number of repeated costs of the same value, using the median to derive a unit cost on such a data set does not represent an accurate forecasted cost for future interventions across different sites, simply the outturn cost of one intervention on a single asset at a specific site.

P-027 – CIPS Remediation – CIPS Digs

514. Along similar lines, the data points used to derive a unit cost for individual CIPS digs are an articulation of a cost per pipeline divided by the number of digs. This approach ensures costs such as mobilisation and demobilisation are correctly apportioned across individual digs. These fixed costs are realised by pipeline section and are not influenced by the number of digs undertaken on that individual pipeline section.

515. By simply selecting the median value, this generates a single apportioned cost of one dig on one specific pipeline section, in this case a 600mm diameter pipe. This approach does not accurately reflect a forecasted cost for a dig across many different pipelines across our network all of which will have different factors that are likely to influence the out-turn cost. These could include but are not limited to, the soil conditions, the number of digs required per pipeline, the remediation required, the depth and diameter of the pipe, access and geography etc. By using the mean cost realised from a sample size covering a number of digs across a number of pipelines, the cost derived considers those normal nuances realised in RIIO-T2 that are expected to be present in RIIO-GT3. The use of the median results in an underfunding of the final determination volume by £11.8m (23/24).

P-001 – In Line Inspection

516. By using the median data point for In line inspections, you are selecting a single run from an extensive portfolio that represents different lengths of runs across different geographies that are likely to involve a cross section of eventualities that influence the cost per Km. This approach does not accurately reflect the future work mix expected to be seen in RIIO-GT3 for what is a cyclical intervention by nature**.**

517. Within the validated cost data set used to derive the unit cost for required for RIIO-GT3, there were examples of both straightforward/uncomplicated runs and more complex works. Higher than expected levels of naturally occurring radioactive material (NORM) were discovered during one run, the cost of which was influenced by the correct disposal of this material. Customer requirements around the Milford Haven site required a compressed timeline; so, the use of 24 hour working over one weekend was deployed to reduce customer disruption to minimum. The requirement for additional magnetic cleaning runs was also observed in the data set alongside the requirement for temporary pig traps and a vent stack to be fitted. Our expert engineering judgement considers all these examples as likely to reoccur and as such should be included as valid cost data points to be used to inform the future costing for this cyclical activity.

Si-071 – A/G Pipework – AGI Partial Site Coating

518. When deriving the unit cost for partial site coating, 208 valid cost data points were used which were then mapped against the various AGI asset types and sites in scope. These include Block valve sites, Multi-junctions, Compressor Stations, Pig trap sites and both Minimum and Full connection offtakes. The surface area of each

of the 21 sites within the data set was collated by site type and an average surface area calculated for each. This calculation generated an average metre squared rate of £578.18. A mean surface area was then calculated for each site type and the m2 rate applied to give a cost per partial site coating. The work mix was then further interrogated to enable a weighted unit cost for the mix of sites in scope for remediation in RIIO-GT3.

519. The median data point relates to the costs observed for the partial coating of a specific Block Valve site which at 41.19 square meters, does not accurately reflect the full suite of different site types and their associated surfaces areas in scope for the RIIO-GT3 period. Using this specific cost data point to derive the unit cost for the RIIO-GT3 final determination volumes underfunds the AGI site coating portfolio by £6.24m (23/24).

Si-150 – Sealant Port Adaption

520. The 29 valid data points used to derive the unit cost includes 8 occurrences of complex remediation across four sites, two of these relate to extensive corrosion following P20 inspection at Warburton and Gilwern. Although these costs are higher, they are valid data points that represent the typical work mix and therefore not discounted as erroneous and used to inform the unit cost for interventions planned for RIIO-GT3.

- Following review there were 29 data points for this intervention
- The mean average of the first 14 data points is £3,151
- The median value is £3,830
- The mean average of the second 14 data points is significantly higher at £35,898

521. The median figure represents the minor refurbishment of a 25mm above ground ball valve at our Longtown and Medway sites which does not take into account the likelihood of complex remediation being required as found on 28% of the valves in the data used from RIIO-T2. Using the median figure results in a funding shortfall of £697k (23/24) for the final determination volumes.

522. As detailed above, the mean was not adopted for the entirety of the historical/ECC Unit costs, with some interventions being subject to a more bespoke approach. Some examples of this are detailed below.

Si-144 – Actuator Replacement

523. For this intervention, we had a more mature understanding of the RIIO-GT3 work mix and were able to weight the average in line with this intelligence. For this analysis, we had 75 examples across 27 sites with an overall mean average cost of £56.2k.

524. This data set included a good variety of sizes with actuators from 200mm up to 1200mm and specified whether they were electric or non-electric. This information enabled us to perform a modelling calculation, assessing what sizes of actuators we would be targeting in RIIO-GT3 and what percentage would be electric/non-electric.

525. Based on historical data, electrical actuators tended to be more expensive but only made up around 12% of the data we had available from RIIO-T2. When we compared this against the projected volumes for RIIO-GT3, we anticipate an increase up to around 44% of actuators would be electric. We, therefore, weighted the data points to reflect this future work mix and provide a more accurate forecast for the intervention.

Type	QTY	Total Cost	Unit Cost	Current Qty		Weighted Qty		Weighted Total
Actuators	75	4,235,550.40	56,474.01					
Electric	12	1,015,508.67	84,625.72	12	16%	33	44%	2,792,684.48
Non-Electric	63	3,220,041,73	51,111.77	63	84%	42	56%	2,146,694.49
				Revised Total Based on 40% Electric				4,939,343.33
						Qty		75
						Weighted Unit Cost		**65,857.91**

Image 2

526. This analysis generated a weighted average unit cost of £65,857. In contrast, the median value for this data set would be £53,263. This value would represent the replacement of a non-electric 900mm actuator – from our data this only represents around 26% of the RIIO-T2 work mix. Using the median to derive unit cost results in a shortfall of £2.55m (23/24) of funding of the final determination volume of Actuator replacements.

527. This utilisation of a weighted mean methodology reflects a consistently applied approach from National Gas where we have a robust understanding of the future work mix. An example of this can be seen in the NGT_AH3_02 Plant and Equipment Engineering Justification Paper; which has recently been re-visited with the accompanying submission being fully approved on 06/06/25.

528. The approach of reviewing data points and determining their validity before generating average unit costs, along with modelling the data for weighted averages; is referenced frequently throughout this EJP – some examples are provided below.

- To provide granularity and transparency we collated historical cost data against a lower level to the UIDs, for example, for UID A22.12.1.1 AGI Pipework painting, was subdivided into equipment categories such as Pipe, AGIs, Block Valves, Multijunction and Offtakes. The outturn costs were collated and analysed for each category resulting in an average unit cost for each of the equipment categories. Where possible to subcategorise the UID future volumes for Years 4 and 5 the average unit cost for the UID subcategories are used, otherwise the weighted average is used for the total UID future volumes. Also, the UIDs weighted average excluding contingency are used to calculate the spend against the volumes in years 1 to 3.

Image 3

529. The below example demonstrates analysis where a single data point was excluded from the build-up to UID A22.12.1.4. In this instance, an insulation joint with a diameter of 1050mm as the costs did not align with other examples in that size bracket.

A22.12.1.4	Replacement of Failed IJs on AGIs	Replacement of welded inline isolation joints to ensure that electrical discontinuity can be maintained. NGT used historical out turn cost data for 15 interventions collated from works completed in years 1 to 3 of RIIO 2. For one anomaly the cost for Insulation joint diameter 1050m at £128k was excluded from the analysis. The UID was subdivided into varying sizes of Insulation Joints. The volumes for years 4 and 5 future works of RIIO 2 applied to each of the equipment type, but the weighted average unit cost is applied to historical works volumes.

Image 4

530. The below example demonstrates an analysis where no data points were excluded as all were deemed to be relevant.

A22.12.3.4	Pressure Reduction Streams - Major Overhauls	Historical outturn cost data was used for 12 interventions collated from works completed in years 1 to 3 of RIIO 2. The volumes for years 4 & 5 future works of RIIO 2 applied to each of the equipment type, but the weighted average unit cot applied to Historical works volumes.

Image 5

531. By analysing a forecast work profile with the approach detailed above and assessing activities in isolation, this enables NGT to generate a considered total cost for works under a InvID. This total cost can then be divided by the relevant volume to give an average unit cost against each.

532. Whilst this approach can generate an inflated or understated unit cost in isolation, utilising the mean ensures an overarching cost accuracy across projects.

Alternative statistical methods to remove outliers

533. Ofgem argues that the median is less likely to be distorted by outliers.

534. There is no single, agreed definition of an 'outlier'. This will depend on the dataset, the context, and there will always be some element of judgement in identifying outliers. However, an outlier is generally accepted to be a value that is highly unlikely to have occurred given the distribution of the data and is unlikely to be repeated again.

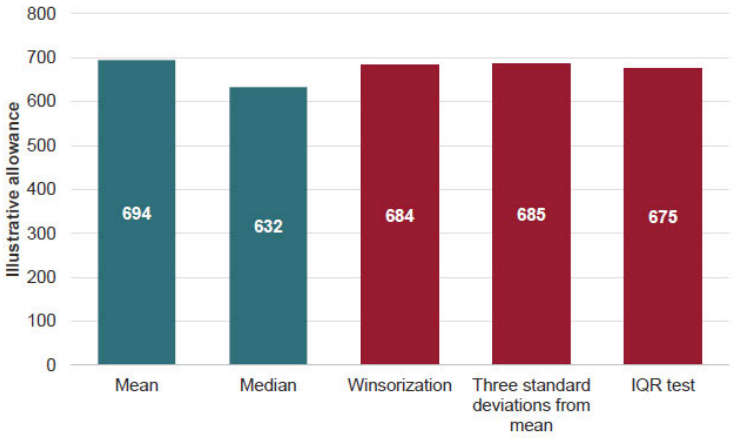
535. Rather than using the median, which discards a large amount of relevant information alongside any genuine 'outliers', Frontier has considered three different approaches below to identifying and removing the impact of outliers. None of these approaches is perfect, and each involves some judgement around where to draw relevant thresholds. However, these approaches are a more targeted way of addressing outliers than using the median.

90% winsorization	▪ Winsorization is a technique that replaces 'outliers' with less extreme values. ▪ We replace any data point below the 5th percentile with the 5th percentile, and above the 95th percentile with the 95th percentile. We then calculate the mean of all data points. ▪ This approach replaces, rather than removes, the most extreme values. This retains the structure of the dataset and keeps the sample size the same, whilst removing the impact of extreme values.
Values more than 3 standard deviations from the mean	▪ This approach identifies 'outliers' based on the spread of the data. When the dataset has a wider 'spread' (a larger standard deviation), a data point needs to be further away from the mean to be considered an outlier. ▪ Three standard deviations is a typical benchmark for outliers. When data is normally distributed, around 99.7% of the data falls within three standard deviations of the mean. ▪ We therefore drop values that are more than three standard deviations from the mean, and calculate the mean of the remaining data points.
Values more than 3 interquartile ranges (IQR) from the upper and lower quartiles	▪ This approach uses the interquartile range (the distance between the upper and lower quartiles of the data) to calibrate a threshold for outliers. Thresholds are set as follows: ▫ Lower threshold: lower quartile minus three times the interquartile range; ▫ Upper threshold: upper quartile, plus three times the interquartile range. ▪ Values beyond these thresholds are deemed outliers and dropped. We then calculate the mean of the remaining data points.

Image 6

536. Using the validated datasets provided to Ofgem in our response to ***NGT079***, and the Business Plan submission volumes, all methods result in allowances between £675m-£685m, slightly below the mean but significantly above the median.

All three approaches to identifying outliers give similar results to using the mean



- The chart compares total allowances based on unit costs calculated using (a) the mean, (b) the median, and (c) the three approaches described on the previous slide for addressing outliers.
- All methods result in allowances between £675m-£685m, slightly below the mean but significantly above the median.
- This suggests that the mean is not significantly distorted by the presence of outliers, while the median is significantly over-correcting for outliers, and is likely to lead to insufficient allowances.
- On the following slides, we provide examples showing how each of the outlier techniques works in practice.

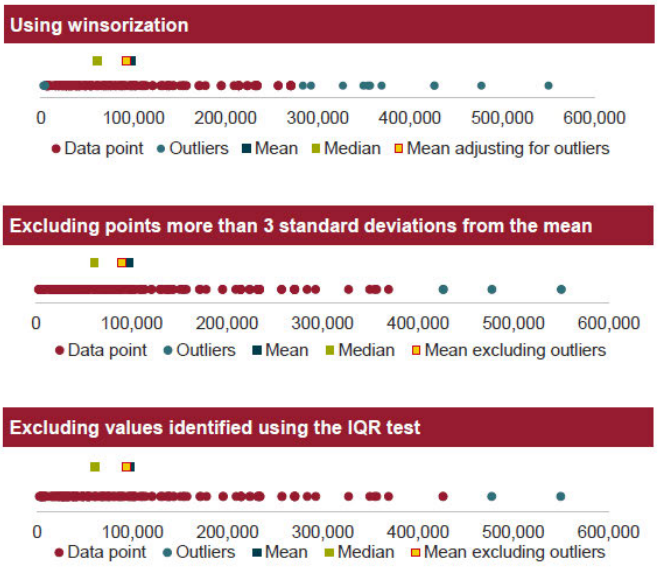
NB: the figures above do not match precisely the actuals submitted by NGT or Ofgem's DD allowances. This is because NGT used bespoke methods and adjustments to estimate unit costs for some categories, which result in a submission of £691m (differing from the £694m in the chart above). We understand that Ofgem's approach to dealing with these bespoke methods means that the actual DD allowance was £618m (differing from the £632m presented in the chart above). We have excluded the impact of bespoke calculation methods in our analysis, in order to isolate the impact of the use of median versus mean.

Image 7

537. This suggests that the mean is not significantly distorted by the presence of outliers, while the median is significantly over-correcting for outliers, and is likely to lead to insufficient allowance.

538. By way of a comparison of the three alternatives Frontier have completed the following examples, firstly using a data set containing skewed data and secondly, an example of a dataset containing a limited number of data points. Both of these are shown below and can be found in the accompanying report.

Applying the techniques: an example of skewed data



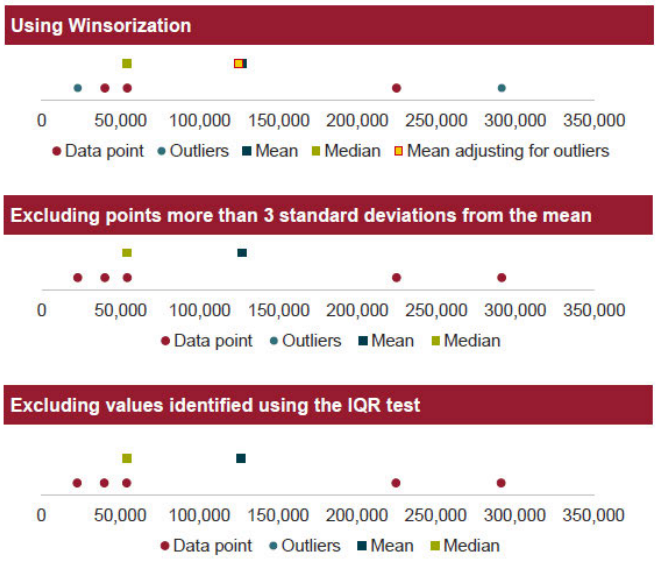
- The charts on the left plot the datapoints of cost category Si-070, as previously shown on slide 12.
- All techniques identify some outliers (shown in blue).
- However, many of the points in the long tail are not identified as outliers. This demonstrates the issue with the median as it fails to capture the information provided by the distribution of these values.
- The mean value adjusting/excluding outliers falls much closer to the mean than the median, as shown in the table below.

Measure	Value
Mean	£97,681
Median	£60,960
Mean using Winsorization	£92,295
Mean excluding points more than 3 s.d. from mean	£90,233
Mean excluding points identified using IQR test	£93,561

Image 8

539. This example, Si-070 – A/G Pipework CM4 Defect resolution, demonstrates that although several outliers have been identified from the 204 data points used, many of the data points in the long tail and ignored by the median, are included as valid and rightly captured in the unit cost calculation accordingly.

Applying the techniques: an example of small datasets



- We plot the datapoints of cost category Si-196 (as shown on slide 15).
- Neither the IQR test nor excluding points more than 3 standard deviations from the mean identify any outliers. This suggests that there is not enough evidence to ignore these data points.
- Winzorization identifies the highest and lowest points as outliers and replaces these with the next highest and lowest values.
  - This demonstrates one potential limitation of winsorisation: it symmetrically replaces data points, assuming that data points at both the top and bottom of the data are equally likely to be outliers.
  - The mean of the winsorised data is slightly lower than the mean of the entire dataset. However, it remains much higher than the median.

Measure	Value
Mean (equal to excluding outliers using 3 s.d. and IQR test)	£126,618
Median	£54,139
Mean using Winsorization	£124,641

Image 9

540. Where the valid data set is small, in the example used, Si-196 – Relifing of site ducting, where costs were derived using 5 data points, all three alternatives considers all of them suggesting there is not enough evidence to treat any as outliers and ignore them.

Application of a median 13% cost reduction across interventions classed as 'other'

541. Ofgem applies a blanket cost reduction of 13% across all unit costs classified as 'other', based on the median cost reduction applied to the rest of the portfolio of interventions. We disagree with this approach for a number of reasons.

542. Firstly, this 13% cost reduction is derived from Ofgem's methodological choices including:

- the removal of overhead and Project Management costs realised from Operational Capex delivery;
- the removal or halving then capping of risk and contingency costs included in costs derived from First Principles estimates; and
- the cost reductions that result in the inappropriate use of the 'median' on already validated and cleansed historical and forecasted outturn cost data sets used to derive unit costs.

543. We disagree with all of these approaches as outlined in GTQ42, GTQ43, GTQ44 and referenced in GTQ54.

544. Secondly, a number of InvID codes included in the business plan are to fund maintaining the necessary supply of strategic spares, costs that relate to the procurement of specific asset types only and as such do not contain costs associated with Risk and Contingency, Overhead or Project Management, nor are they derived from multiple data points.

545. And finally, the Emission Compliance portfolio Needs case and Option, that has previously been approved as part of the FOSR submission in RIIO-T2, will be fully costed through a series of cost re-openers to be submitted on an individual basis. As such there is no basis for applying a blanket 13% cost reduction in advance to these specific submissions.

GTQ45. Do you agree with our approach to IT&T assessment? Do you think we should make any amendments to the assessment framework or thresholds employed? Should any cost categories be included or excluded from the assessment?

546. While we welcome the approval of most of our IT and telecoms (IT&T) needs case, we do not agree with Ofgem's approach to assessing IT&T investment. In our view, the methodology has serious flaws, both in terms of the economic rationale underpinning the criteria and funding thresholds used, and in how it was applied in practice. We believe the result is an unreasonable and disproportionate reduction in cost allowances, with the proposed level of funding being insufficient to deliver many of the projects in our plan. This is despite Ofgem approving their needs case. If Ofgem proceed with this approach, this will significantly impair our ability to meet the needs of our customers and stakeholders and would not be in the interests of current and future consumers.

547. To illustrate, there were 43 projects in our plan where Ofgem accepted the needs case but allowed only 50% of the cost or less, resulting in £134m disallowance versus our plan. It is simply not feasible that these projects can be delivered to the same scope and specification, for only 50% of the spend or less.

548. In our response to this question, we set out:

- a summary of Ofgem's approach and the funding outcomes it has led to;
- flaws in the assessment methodology;
- process issues that have undermined the review of our IT&T investments; and
- how the methodology needs to be remedied ahead of final determinations.

Background to Ofgem's approach

549. Ofgem has assessed our IT&T submission based on a review of National Gas Transmission's IT investment proposals, carried out by Grant Thornton and Atkins Réalis. We have not yet received the full report and have only been provided with a summary, which does not allow us to fully understand the rationale behind the proposed reductions or to meaningfully engage with Ofgem's reasoning. We have raised this with Ofgem, including in a letter dated 23 July 2025.

550. We have repeatedly requested a direct discussion with Ofgem's consultants and raised this in every bilateral with Ofgem's IT team since November 2024. After arranged meetings being cancelled at short notice, Ofgem met with us on 22 August. This has impacted our response to this question, as clarity was provided after the time of writing. Despite this, we have set out our considerations below to the best of our ability based on the information we had received from Ofgem.

551. The box below summarises the assessment methodology used by Ofgem's consultants, based on our current understanding.

Step 0
Assessment of Data & Digitalisation projects

- Some Data & Digitalisation projects are re-categorised into IT&T
- For the remaining Data & Digitalisation projects, a qualitative assessment is carried out
- Projects which fail the assessment are given 0% allowances; those that pass proceed to the standard IT&T assessment (Steps 1–3)

Step 1
Project sample selected

- A sample of investments is selected for assessment for IT&T projects

Step 2
Needs case sift

- Needs case is assessed and given a RAG rating
- Any investment rated Red is excluded from further assessment and receives no funding
- If rating is Green or Amber, the project proceeds to step 3

Step 3
Economic case and cost assessment

- The remaining investments are given a RAG rating against criteria assessing 'Economic case' and 'Cost assessment':

Economic case criteria	Cost assessment criteria
Value for money	Scope
Optioneering	Delivery certainty** (Resource and project planning; Risk)
Risk*	Cost assurity** (Efficiency / cost effectiveness; Benchmarking; Cost estimation)

- The RAG ratings are converted into numerical scores, with Green = 3; Amber = 2; Red = 1
- A combined score is calculated by averaging the numerical scores across the five criteria, with each criterion weighted equally (at 20%)
- The resulting score is translated into a funding decision, with the percentage of submitted cost funded shown below:

Combined score threshold	Funding %
2.5	100%
2	75%
1.5	50%
1	25%

Contextual factors

- As part of the DDQ process, Ofgem also provided a breakdown of contextual factors considered for the 'Economic case' and 'Cost assessment'

Economic case contextual criteria	Cost assessment contextual criteria
Efficiency savings	Procurement
Consumer benefits	

*According to Ofgem "although the Risk criterion was given a RAG rating, this did not directly enter the calculation of the composite score or the determination of allowed funding, and was used as context to inform the consideration of value for money and optioneering ratings."
**According to Ofgem "the sub-categories, i.e. the two for delivery certainty, and three for cost assurity, are used to inform overall RAG scores for delivery certainty and cost assurity. Only the latter (RAG ratings for delivery certainty and cost assurity) formally feed into the composite score calculation."

Figure 1

552. Ofgem and its consultants reviewed a sample of 38 investments – worth a total of £305 million (submitted totex) – using this method.

553. The remaining 42 IT investments (worth £107 million) were not assessed. These were subject to the same cost reductions as the sampled investments within the same Investment Justification Papers (IJPs).

554. This approach has led to a 53% proposed reduction to our costs, further details are provided in the table below.

Allowance level	Number of investments	Requested (£m)	Proposed (£m)
0%	7	[redacted]	[redacted]
25%	2		
50%	41		
75%	30		
Total	**80**		

Source: *NonOpCapex_IT_Cost_Adjustment_Model_v1.5*

Note: *This excludes 5 uncertainty mechanisms and 4 projects with requested capex ≤ £0.5m, which have various allowances as described in the response to DDQNGT17.*

Table 1

555. Other than the seven investments given zero allowances (where Ofgem rejected the needs case), Ofgem has accepted the needs case for the remaining 73 investments and 4 projects under £0.5m but provided only about half of the funding needed to deliver this work. This is an unrealistic level of cost challenge that does not reflect a realistic assessment of cost efficiency.

556. This scale of disallowance means we will need to substantially reduce and de-scope the projects that were proposed in our plan – and in some cases, certain projects may not proceed at all. That in turn will lead to the following risks:

- Certain IT systems and assets will be at risk of failure, degraded performance or security vulnerability (details can be found in Section 4.1 of NGT_A1_IT_&_Telecoms_Strategy)
- There will be risks to compliance with our obligations - some examples are UNC legislation, Data Best Practices, Safety Case Obligations, Operational Balancing and Trading Arrangements
- Our ability to support business outcomes such as AMP delivery, System Operations (SO) network risk management, and whole system management will be detrimentally impacted;
  - Risk will rise for the NTS and our services to customers and market participants; and
  - Customers will miss out on expected benefits.

The risk to the performance and security of our IT systems and assets combined with the increased risk to the NTS would be detrimental to consumers - Methodology flaws

557. In this section we set out a number of methodological flaws in Ofgem's assessment of IT&T costs that are apparent based on the limited information that Ofgem has provided to date, and why this results in arbitrary and excessive funding cuts. We cover the following issues:

- The sampling approach means many projects receive funding cuts unrelated to the evidence provided.
- The method unfairly penalises standalone projects within the needs case assessment.
- The method relies on irrelevant criteria to assess cost efficiency.
- The conversion of RAG ratings to funding cuts is arbitrary; and
- There are overlaps between criteria, resulting in double-counting of perceived evidence gaps.

The sampling approach means many projects receive funding cuts unrelated to the evidence provided

558. Ofgem has only assessed around 70% of NGT's proposed IT spending, while the remaining 30% (worth approximately £107 million) is subject to a portfolio-average disallowance (based on the funding outcome of assessed projects within the same IJP).

559. NGT considers that this approach is clearly erroneous and unreasonable. It effectively treats all unassessed projects the same, regardless of their individual quality or justification. As a result, funding for some proposals that are well-evidenced and provide value for money has automatically been reduced without regard for the supporting evidence provided.

The method unfairly penalises standalone projects within the needs case assessment

560. Within the needs case assessment, the sub-criterion 'operational rationale' explicitly favours projects that create complementarities or synergies with other investments. While that may be relevant in some cases, this approach overlooks investments that are rightly standalone – particularly those aimed at addressing asset health or regulatory compliance. These should not be penalised for lacking interactions with other projects when they are justified on their own merits.

The method relies on irrelevant criteria to assess cost efficiency

561. As described above, for projects that have been included within the sample, these projects are first subject to a needs case assessment, which they pass or fail. For projects that pass, funding is then decided on the basis of a RAG rating against five criteria: value for money, optioneering, scope, delivery certainty and cost assurity.

562. Cost efficiency should be understood as achieving a desired outcome at an efficient level of cost. Of the five criteria used in the assessment, few if any appear to directly assess the level of efficiency of the costs we put forward in our plan, while other relevant criteria have been excluded. In fact, most of the criteria used appears to assess the quality of supporting evidence provided (which we address separately in response to GTQ58), with the resulting funding cuts representing a penalty for quality of evidence, rather than a reflection of the efficient cost of carrying out the proposed projects.

563. Looking at each criterion in turn:

- **'Value for money'** assesses whether the cost of an investment is justified by the expected benefit (i.e. a Benefit-Cost Ratio greater than 1). This criterion is not meaningful for the vast majority of our projects, which are driven by either asset health (e.g. critical assets coming to the end of their lives and needing replacement), or compliance, meaning that they are necessary investments and benefits are very difficult if impossible to quantify. Even for investments where benefits can be quantified, if an investment is found not to deliver value for money, it should either not be carried out, or should be replaced with an alternative that delivers better value for money. This criterion is therefore more appropriate to a 'needs case' assessment than within the 'economic test' assessment. Given that the needs case has already been approved by the time an investment reaches this stage, this criterion is not relevant.
- **'Optioneering'** assesses whether an investment has been rigorously compared to alternatives and selected as the most appropriate solution. An assessment of optioneering evidence can help identify whether an alternative solution might be more suitable, but it does not provide an indication of whether the costs of the proposed solution are efficient. Again, this criterion is irrelevant once the needs case has been approved.
- **'Risk'** is defined as the likelihood and impact of harms like safety breaches, cyber threats, or service failures. This criterion did not directly enter the calculation of the composite score or the determination of allowed funding. However, this is an important consideration when determining funding. If an investment is needed in order to avoid harms such as deterioration of critical assets or non-compliance, it becomes even more important to ensure that the investment receives sufficient funding. This criterion should

therefore be used to check whether funding cuts could threaten the delivery of critical projects and lead to harms.

- **'Scope'** assesses whether an investment covers the right activities. Concerns around scope should be addressed by exploring changes to the scope of an investment, not through cost reductions. The use of this criterion in making funding decisions conflates issues of cost efficiency with level of ambition of the proposed work. A more rational and constructive response to concerns about scope would be to revisit and refine the proposed programme of work (either by adjusting its scale or phasing) rather than reducing funding.
- **'Delivery certainty'** assesses whether an investment is likely to be delivered. A strong delivery plan or well-managed risks do not necessarily indicate that a project is delivering more for less; it simply means it is more likely to be delivered as planned. Likewise, a project may be low-risk and well-planned, yet still offer lower value relative to alternatives. It is not clear how reducing funding for projects that are considered to have low delivery certainty can address delivery concerns. To the contrary, reducing funding is likely to exacerbate deliverability issues.
- **'Cost assurity'** appears to be a measure of how much confidence Ofgem / its consultants have in the costs proposed. While this initially seems to be a relevant criterion, only one of the three underlying sub-criteria ('efficiency/cost effectiveness') appears to assess the efficiency of the costs proposed. The other sub-criteria ('benchmarking' and 'cost estimation') focus on the availability of supporting evidence. It is also unclear how the RAG ratings for 'efficiency/cost effectiveness' have been reached, with the majority of investments being assessed as Red, but no supporting rationale provided. We note that we were not able to provide underlying cost breakdowns to justify the build-up of our cost estimates due to limits on page numbers and a ban on embedded files for the Business Plan submission (we discuss this and other process issues in section 1.3 below). We are now providing bottom-up costings in our response to GTQ58.

564. In our view Ofgem need to revisit the criteria used to assess costs and make funding decisions. These decisions should be made on the basis of an expert view on the level of efficiency in the costs submitted. Cost disallowances should only be made where costs are found to be inefficient.

565. Criteria such as those relating to needs case (which has already been approved by the time investments reach this stage) or quality of evidence, should be discarded. This is particularly important for investments driven by asset health or compliance needs, where considerations such as 'value for money' and 'optioneering' are not relevant. We therefore make suggestions at section 4 below on how the assessment should be adapted to focus on the efficiency of proposed costs.

The conversion of RAG ratings to funding cuts is arbitrary and unreasonable

566. The approach to converting RAG ratings to numerical scores (red=1, amber=2, green=3), weighting these into a composite score and then mapping these to funding cuts is overly simplistic and results in spurious funding cuts.

567. First, RAG ratings are inherently subjective. While Red and Green ratings provide relatively clear signals – indicating either major shortcomings or full alignment with expectations – Amber ratings cover a wide middle ground[2] that can reflect anything from near-complete compliance to major gaps, making it hard to understand the specific strengths or weaknesses that led to the assessment.

568. This subjectivity and lack of clarity is particularly problematic given that these scores directly determine funding levels, yet there is not transparency around how close a project came to moving between ratings. Such shifts in judgment could result in significantly different funding outcomes.

[2] Across the [35] projects assessed against the 5 criteria, 214 RAG ratings were given – and [94] of these (c. [44%]) were Amber.

569. This is further compounded by the fact that NGT has not been provided with any detailed scorecard or justification behind each rating, limiting our ability to offer targeted and meaningful responses to concerns or provide appropriate complementary evidence to strengthen investment cases.

570. Second, it is not clear why the combined score thresholds for different funding levels have been set where they have. This appears to be an entirely arbitrary aspect of the method.

Combined score threshold	Funding %
2.5	100%
2	75%
1.5	50%
1	25%

Table 2

571. The chosen thresholds set a very high bar to receive full funding: full funding requires a minimum score of 2.5 (3 being the highest score), meaning investments need at least three Green ratings to qualify. As a result, the majority of investments are likely to face a cost challenge of at least 25% (and up to 75%). A change of the score thresholds, such as reducing the thresholds to 2, 1.5, 1 and 0.5, would help address the excessively high bar for receiving full funding.

572. **Third**, no rationale has been provided for the funding percentages of 25%, 50%, 75%, and 100%. These appear to have simply been set at equal intervals between zero and 100%, rather than grounded in any historical evidence or informed regulatory judgement or judgement by Ofgem's expert review consultants. In our view these funding levels are entirely inconsistent with credible levels of cost inefficiency that might be found in cost estimates of this nature.

573. This inconsistency becomes even more apparent when we compare the funding outcomes for NGT's IT plan with those applied for other sectors for RIIO-GT3 or during previous price controls:

- RIIO-ED2 Final Determination[3] shows a disallowance of 14% across all DNOs for operational IT&T costs, using a regression methodology rather than through expert review. Individual reductions ranged from -5% (NPgN) to -29% (SSEH), indicating a more moderate application of funding cuts. For non-operational costs specifically, the disallowance was 10%.
- RIIO-2 Final Determination[4] for NGGT applied a disallowance of 17.5% to IT&T capex across both the TO and SO functions.
- RIIO-ET2 Final Determination shows an average disallowance of approximately 8%: for non-operational IT&T across the three electricity transmission operators: 12% reduction for SHET[5], 7% for NGET[6], and approximately 11.5% for SPT[7].
- RIIO-ET3 Draft Determination[8] shows that the average disallowance for IT&T non-operational capex across the three transmission operators is 18%[9]. By contrast, NGT's IT&T investments are being disallowed at far higher rates, despite the fact that Ofgem has used the same assessment framework across ET and GT.[10]

574. Our planned spend was based on robust bottom-up costing principles and independently scrutinised and verified. The process we followed is not obviously different to any other operator as far as we can tell; nor is it

3 Ofgem, RIIO-ED2 Final Determinations Core Methodology Document, 30 November 2022, Table 34.
4 RIIO-2 Final Determinations - NGGT Annex, 3 February 2021, page 79.
5 Ofgem, RIIO-2 Final Determinations – SHET Annex, 3 February 2021, page 74.
6 RIIO-2 Final Determinations - NGET Annex, 3 February 2021, page 77.
7 RIIO-2 Final Determinations – SPT Annex, 3 February 2021, page 75.
8 Ofgem, RIIO-3 Draft Determinations – Electricity Transmission, 1 July 2025, Table 13.
9 NGET (-20%), SHET (-17%), and SPT (-8%).
10 Ofgem, RIIO-3 Draft Determinations – Electricity Transmission, 1 July 2025, paragraphs 5.55 – 5.61.

materially different to how our cost proposals have been built up previously. Despite this, no explanation has been provided for why Ofgem considers that the level of cost inefficiency in NGT's plan is at over 50% (and as high as 75% for some investments), compared to the levels above seen in previous price controls and other sectors. Therefore, we do not have sufficient information to understand the reasons or supporting evidence for Ofgem's position.

575. Based on our current understanding, we consider that the funding levels used by Ofgem are unevidenced and unrealistic. While we would still be concerned with cuts being arbitrary/unreasonable, one alternative could be to replace the funding cuts with levels that are aligned with historical evidence and/or evidence from the other energy sectors (e.g. 70%, 80%, 90%, 100%).

576. In conclusion, while the RAG rating methodology provides a seemingly structured approach to setting funding, when applied the underlying criteria, thresholds and funding levels are highly flawed and arbitrary. They result in disproportionate funding cuts that are not tied to any evidence or assessment of inefficiencies in our proposed spend.

There are overlaps between criteria, resulting in double-counting of perceived evidence gaps

577. Some of the assessment criteria, as currently defined, appear to overlap in what they're assessing.

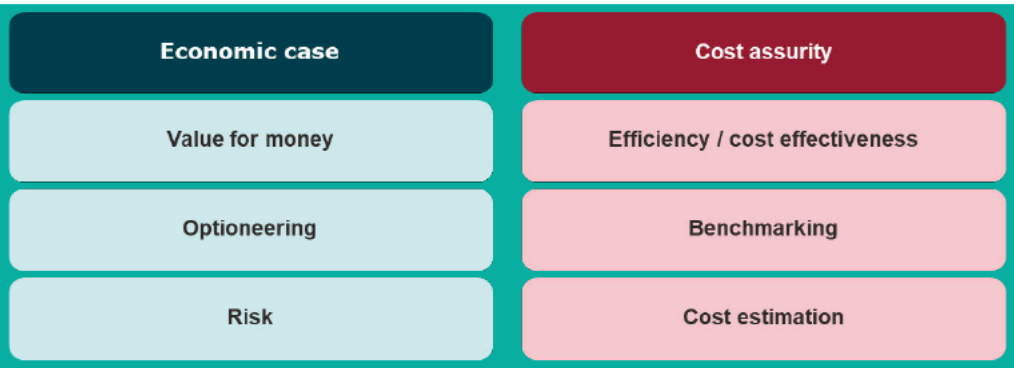


Figure 1 – Breakdown of criteria: Economic case and cost assurity. Source: *Ofgem_ITT_Report_GT(002)*

578. In particular, the 'Optioneering' and 'Value for Money' criteria seem closely interlinked. This is because a robust value for money assessment implicitly relies on the identification and evaluation of alternative solutions to justify the preferred option. In that sense, optioneering is not a separate lens, but rather a necessary input into establishing value for money.

579. Where evidence of alternatives is already embedded in the value for money case, the expectation to reproduce this analysis separately under the optioneering criterion can be construed as double-counting. As a result, a single issue (such as less developed treatment of alternatives) can be penalised twice, once under each criterion.

580. The practical consequence is that the same piece of evidence may be judged insufficient in two places, compounding the appearance of weak justification. Such 'double-counting' would be unreasonable and lead to an unfair outcome.

Process issues

581. Our IT&T plan followed Ofgem's business plan guidance, which included strict page limits and an embargo on embedded files such as spreadsheets, that constrained the level of detail that could be provided (particularly around cost assurance, where we commissioned independent expert review from [redacted] Although we offered to provide more detail, Ofgem did not accept this additional evidence. Nonetheless, Ofgem has

penalised National Gas Transmission when applying its assessment framework for not including this information.

582. Ofgem also claims in the DD that its approach has not changed since the last price control[11], but the current methodology clearly departs from what was used previously. For example, the funding thresholds of 25%, 50%, 75% and 100% were not used at RIIO-T2. In addition, there was no agreed CBA methodology for IT investments at RIIO-T2, but in the RIIO-GT3 DD, the 'value for money' criterion in Ofgem's methodology has clearly given weight to the provision of a CBA.

583. In the DD, Ofgem indicated that a detailed report from its consultants would be shared[12] as it was in RIIO-T2. We have only received a short summary document, which does not enable us to assess the identified strengths and weaknesses of the IT submission at the project / IJP level.

584. There are also process issues in relation to Ofgem's assessment of Data and Digitalisation projects. Ofgem has provided very limited explanation for how it has carried out its assessment of these projects. In response to a follow-up query (DDQNGT19), Ofgem said, 'In considering the submitted investments, we undertook a qualitative assessment that considered areas including the evidence of justification provided, how other options were considered, how it linked to improving DBP compliance, and where relevant how a given investment would enable connection to a future DSI.' Seven investments have been provided 0% funding on the basis of this qualitative assessment, but we have not been provided with any supporting justification.

585. Finally, we have identified inconsistencies in Ofgem's approach:

- In Ofgem's application of the methodology for investments valued at less than £0.5m and which have not undergone detailed assessment: according to the logic outlined in section 1.1, these projects should have received the same level of allowance as the sampled investments within the same IJPs. Yet, this principle has not been consistently applied in some cases (as highlighted in DDQNGT47).
- In Ofgem's re-categorisation of Data & Digitalisation projects: technology refresh projects such as Field force platform refresh, EDSS replacement, Safety & Risk system refresh have been included in Data & Digitalisation, while our large transformation project, Finance transformation, has been re-categorised under IT&T.

Suggested areas for improvement

586. As set out in the previous sections, based on the information Ofgem has provided to date, the methodology used in Ofgem's Draft Determination has led to arbitrary and opaque funding outcomes. The cumulative effect is a process that does not reflect the merit or value of the investments proposed, or the necessary costs for delivering those investments.

587. We recognise that there is limited time available to materially re-design the methodology. Therefore, we propose the following targeted improvements that can readily be implemented within the existing framework to address issues outlined above and support a more transparent and robust assessment of our proposed IT&T investments:

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11 Ofgem, RIIO-3 Draft Determinations, National Gas Transmission Annex, paragraph 5.50: *'Our assessment of National Gas' Capex IT&T submission has been based on the approach taken in RIIO-GT2, utilising the experience of experts to review the IT&T submissions. For RIIO-GT3 we have been advised by Atkins Realis and Grant Thornton consultancies in this area. The IT&T assessment has been conducted on a cross-sector basis which was also the case in RIIO-GT2'.*

12 Ofgem, RIIO-3 Draft Determinations, National Gas Transmission Annex, paragraph 5.54: *'Due to sensitivity around the details of each company's proposed IT&T investments, we have not published the Grant Thornton and AtkinsRéalis report. However, we will share the report, containing detailed information on the specific criteria used, how funding percentages would align with the RAG scoring and on the overall assessment framework, directly with the licensees.'*

- **Retain the two-part structure, but clarify their distinct roles.** We support maintaining a two-part assessment framework, consisting of:
  - A 'Needs Case' stage gate to assess whether the investment is justified. The criteria used should appropriately weight proposed investments depending on their drivers, particularly for projects driven by legal compliance and asset health policy.
  - A second stage that assesses the cost efficiency of the proposed investments. Given that the investments have been approved by the time they reach this stage, this assessment should focus on the efficiency of proposed costs, and should not place weight on criteria related to the needs case for investments, such as scoping and optioneering, or reflect 'penalties' for quality of supporting evidence. This is particularly important for investments driven by asset health or compliance needs, where considerations such as 'value for money' and 'optioneering' are not relevant. We also recommend clarifying and separating the intent of each criterion used to remove duplication and ensure each dimension uniquely contributes to the assessment.
- **Adjust the scoring methodology to reflect realistic funding adjustments.** We propose to update the funding scale to align with cost challenges applied historically and in other energy network sectors. This could for example allow for up to 30% funding reduction (as opposed to 75% currently), with intermediate bands redistributed accordingly (e.g. 70%, 80%, 90%, 100%).
- **Refine the Needs case criteria to avoid systematic bias.** As noted previously, the 'operational rationale' criterion unfairly disadvantages projects that are standalone in nature. These projects should not be penalised for lacking synergies with others when their core justification is independently sound. We therefore recommend adjusting the Needs Case criteria to ensure they give appropriate weight to legal compliance and standalone operational drivers.
- **For non-assessed projects, either allow requested costs in full or instruct National Gas Transmission clearly not to carry out the project**, with supporting rationale provided.

588. By making these targeted changes to the methodology, we believe that Ofgem can improve the consistency, fairness and credibility of its IT&T investment assessment, and that appropriate funding is provided for necessary projects. We would be happy to have further dialogue with Ofgem on this should that be of assistance.

BAU IT run the business (RTB)

589. We disagree with Ofgem's methodology applying the % from the non-operational capex assessment to RTB allowances. Whilst we can understand how this is applicable to the element specifically related to project opex, we cannot see how a direct link to RTB opex costs is appropriate. Given that any incremental opex associated with projects was included in the IJP submission any correlation between capex and RTB opex is likely to be in the opposite direction as failure to invest in capex projects would result in less efficient solutions and increased maintenance / support costs which ultimately drive up opex costs.

590. Further details can be found in GTQ51 response.

[redacted]

GTQ46. Do you agree with our approach to assessment for STEPM, Vehicles and Non-op Property? Do you think we should make any amendments to the assessment approach or assess these costs differently?

595. We disagree with Ofgem's blanket trend analysis approach to these categories as our submission identified several key areas where there were other drivers of spend or specific investments that are aimed at delivering incremental capability. Failure to provide adequate funding for these capabilities will result in them not being undertaken. We would therefore propose a more nuanced approach looking at a combination of separately assessed costs, cost drivers and trend analysis.

596. For more details on specific individual investments detailed in the following sections please refer to the attached files (GTQ46 Non Operational Capex Business Case Summary FINAL, GTQ46 TO Non-op Capex STEPM by sub cat, folder 'GTQ46 Property RAAC surveys and quotes').

Small tools, equipment, plant and machinery (STEPM)

597. In our submission we identified key needs for incremental investment over and above RIIO-T2 levels of spend.

- [redacted]

  [redacted]

- [redacted]**:** Investment to develop a solution to perform flow stopping through a single full bore hot tap without the need for additional fittings or hot tapped vent ports. This solution enables flow stopping during major projects, scheduled maintenance and alterations. Currently, we use stopple equipment which is labour intensive, time consuming and could potentially leave leak paths on the pipeline.

For further information: see Non-Operational Capex Business Case Summary.

598. The submission also includes business as usual (BAU) STEPM spend of £34m, with growth driven by asset capex:

- **£15.3m strategic spares** – Covers critical spares purchases for critical Assets across the National Transmission System. Strategic Spares allow us to ensure availability of critical parts to mitigate breakdowns and faults on the network, and risk associated with long lead times for bespoke parts and parts of older compressor engines. Total RIIO-GT2 spend is forecast to be £12.3m (we note the higher spend in FY25 shown in our most recent RRP submission, see reference below), and the increase in RIIO-GT3 is to ensure we have appropriate critical strategic spares in stores in preparation for breakdowns. Due to the nature of long-lead time purchases, RIIO-T2 trend analysis is not appropriate to set allowances for Strategic Spares.
- **£19.0m other STEPM -** (£3.8m per year in RIIO-GT3 average) - This covers tooling, plant and machinery and minor site investments which are more efficient to delivery locally. The increase in RIIO-GT3 is due to a higher volume of totex workload across operations (maintenance, project support, winter preparation, cyber, health/safety/environmental) and coverage to replace ageing equipment.

599. We have included in the attached file TO Non-op Capex STEPM by sub cat.xlsx a more detailed split of STEPM than was previously included in the original business plan data templates (BPDTs) as this may aid with analysis. All annual totals match the submitted BPDT values apart from 2025 which has been updated to match our latest regulatory reports pack (RRP) submission.

600. We propose that surveillance strategy and double block and bleed investments should be separately assessed, and age of network and asset capex plan should be considered as the independent variables for increasing BAU STEPM spend.

Non-operational property

601. RIIO-T2 spend has been focused on core property capex required to ensure our estate remains compliant with legislation, safe and achieves net zero targets. Three key factors are driving incremental spend in RIIO-GT3: 1) the requirements to invest in new training centres to deliver our training commitment, 2) facilities to ensure the efficient management and storage of spares and stock to improve network reliability and 3) additional capex resulting from site surveys and risks assessments.

602. We welcome Ofgem's support for our operational training opex submission but a core requirement for delivering on this is investment is the training facilities to deliver the training programmes. In our submission we have identified specific facilities required to support this commitment:

- [redacted] **Operations Training Centre:** The centre will provide technical training and assessment for our staff to maintain competencies, develop our trainees, and safeguard our capabilities and expertise. We currently have no training centre following exit from [redacted] after separation. The investment repurposes an existing building [redacted] including installation of our replica above ground installation (AGI) training site.
- [redacted] **Welding Centre of Excellence:** With skill shortages being experienced across the industry a centre of excellence safeguarding future welding capability will help mitigate a significant risk. Investment is also required to carry out a complete refurbishment of the fabrication shop including, new LED lighting, fume extraction, hydraulic power supply, gas storage and associated areas.
- [redacted] **Rotating Machinery Centre:** We will create a world class centre with expertise to ensure resilience and reliability of our compressor fleet through vastly improved inhouse capability requiring investment in essential tooling, equipment and facility fit out costs.
- [redacted] **Logistics Centre**: Alongside the Rotating Machinery Centre, the Logistics Centre will provide a key hub for strategic spares and stock. This is currently a significant gap in our logistics capability that must be addressed to maintain operational resilience.

  For further information: see Non-Operational Capex Business Case Summary.

- [redacted] **BAU property investment** - With respect to capex required to keep our estate compliant, safe and efficient all costs included are from work that has been risk scored and considered essential. Whilst the methodology for this is routine it can result in spend fluctuations based on specific issues and age / condition of properties in the estate. An example of where we see increased non-routine costs is in respect to Reinforce Autoclaved Aerated Concrete (RAAC) where surveys have identified 3 sites that require remedial action. One site has been rectified in RIIO-T2 which also resulted in other Capex working having to be delayed, work to rectify the remaining two sites will be carried out in RIIO-GT3. We have included surveys for these sites and initial estimate costs (Folder 'GTQ46 – Property RAAC surveys and quotes') which are already coming in significantly higher than total of [redacted] we included in our submission for these works.

603. We propose that Training Centres and Rotating Machinery/Logistics Centre property investments should be separately assessed as they represent a specific set of incremental investments tied to Business Plan commitments.

604. For the remaining costs we believe trend analysis is appropriate for establishing a range but qualitative factors of the specific investments are required to be considered to set appropriate allowances.

Vehicles

605. Historical trend analysis for vehicles fails to incorporate the key cost driver, which is the number of operational full time equivalents (FTEs) the fleet is required to support.

606. Trend analysis is also not appropriate for vehicles as in the financial year 2022/23 a smaller proportion of the fleet was replaced, compared to the financial years 2024 to 2026, due to timing of long lead time orders and vehicle modification.

607. Our submission ([redacted]) was aligned to our replacement cycle of years for our existing fleet (318 forecast by end of RIIO-T2), with an additional 74 vehicles to meet requirements for our growing workforce (detailed in NGTA13 Workforce and Supply Chain Resilience Strategy RIIO GT3).

608. Vehicle numbers and rationale were also detailed in the Vehicles and Transport BPDTs 11.3 and 11.4.

609. Not replacing or providing key personnel with vehicles puts maintenance and emergency response at a significant risk.

610. We propose that the cost assessment should be expanded to incorporate FTEs as the key driver for vehicles costs.

GTQ47. Do you agree with our proposed approach to cost assessment for Network Operating Costs?

Transmission operator (TO) network operating costs

611. Our submission for planned inspections and maintenance included £21.9m of gas quality metering and telemetry, maintenance and post-delivery support agreement costs that were previously included in cyber as part of RIIO-T2. As noted in our submission the RIIO-T2 equivalent spend was included in the cyber submission to align with regulatory reporting pack (RRP) submissions. Therefore, propose this element of the cost should be separately assessed outside of the trend analysis.

612. Whilst we have identified specific growth drivers in our plan, we are supportive of using forecast and historical data for faults with planned inspections and maintenance (excluding cyber transfers) as no obvious comparator exists. We would advocate combining these two categories as the costs are inter-related, although we recognise the impact is likely to be minimal from an analytical standpoint.

613. For operational property, we do not support the inclusion of RIIO-T1 data in the trend analysis. Unlike maintenance and faults where taking a longer view smooths out the impact of climate and weather variables these are not relevant to property. Costs submitted are lease and maintenance costs required to keep our sites operating safely and effectively. These are in line with current contractual costs to support our property estate, which in a sector experiencing strong inflationary pressures above consumer prices index including housing (CPIH), already reflects an ambitious plan to hold constant over RIIO-GT3.

System operator (SO) network operating costs

614. We recognise the difficulty in assessing SO network operating costs, as there are no equivalent comparator benchmarks available. Whilst trend analysis may not always recognise the complexity of factors influencing SO costs, the analysis reaches a very similar conclusion to the bottom-up analysis used to build up our submission. Therefore, the difference in approach is academic.

GTQ48: What are your views on the proposed approach to CAI? How do you think this could be improved?

615. Ofgem's assessment of Closely Associated Indirects (CAI), as far as we understand it, does not provide a reliable or fair estimate of efficient costs. It does not appear to reflect the main drivers of these costs, nor is it clear, more generally, how growth factors have been taken into account. We consider that alternative cost assessment methods, which better reflect cost drivers, should be used.

616. We have been unable to fully validate the Closely Associated Indirects (CAI) model, as it is not clear what assumptions have been made in the qualitative factors that influence the choice of variable. This comment applies generally to trend analysis models used across categories.

Clarification on costs included

617. From the Draft Determination and subsequent bilateral discussions, on 24 July 2025, we note some confusion in Ofgem's understanding of costs included in this category.

618. **Paragraph 5.22 of the Draft Determinations – National Gas Transmission document** in the Non-load Related Capex section stated 'Percentage uplifts attributed to company overheads or project management have been removed. These costs are funded through indirect cost allowances.' However, paragraph 5.73 in the Indirects section states 'Indirect costs refer to internal support and overhead costs necessary to operate a transmission business that cannot be directly attributed to a specific capital project or operational activity.'

619. We also note some confusion in the terminology used in Ofgem's own cost assessment presentation (see attached file GTQ48 RIIO-GT3 NLRE UC 20250723.pptx) shared with us. Ofgem described the removal as an 'efficiency challenge' which implies they would not be funded anywhere and are a de facto incremental Ongoing Efficiency challenge; a position which we would fundamentally disagree with.

620. We agree with paragraph 5.73 and have determined which costs can be attributed to capital projects in line with International Financial Reporting Standards (IFRS) Accounting Standards. All CAI and Business Support costs in our plan are shown both gross and net of capitalisation, with only the net amount being requested as allowances within opex categories. Therefore, Project Management and Overheads attributable to capex projects should continue to be included in project capex costs as per our detailed response to GTQ43.

Trend analysis

621. Whilst we assume Ofgem has included RIIO-GT3 data in the trend analysis to factor in some of the growth factors identified in our plan it is not clear on what basis these have been considered. A key consideration for CAI must be the level of operational activity that it is required to support for which the main driver would be Asset Capex, but we cannot determine from the evidence provided how that relationship has been evaluated.

622. Our analysis provided by Economic Insight (Review of Ofgem's RIIO-GT3 DD cost assessment approach – STC – 21-08-25.pdf highlights a lack of robust basis for methodological choices as an error in the cost assessment approach and identifies linear time trend models from Ofgem's trend analysis and ratio analysis used for ET cost assessment as potential alternative models that would better reflect the cost drivers.

623. We also note the potential unintended adverse behavioural consequences from models that appear set up to only award increases in part and thus treat overstated forecasts more favourably.

624. We expect Ofgem to review the alternative models proposed and provide clear evidence for the methodological choices made in model selection as part of Final Determination.

GTQ49. Do you agree with our proposal to remove the opex escalator?

625. Ofgem has proposed to remove the opex escalator mechanism from the RIIO-GT3 regulatory framework. Ofgem's rationale is that the costs, which would potentially fall under such a mechanism, are either included in re-opener project assessments or should be funded by ex ante allowances due to their low materiality. Ofgem has assumed in its assessment that the mechanism would apply to Closely Associated Indirect (CAI) costs only as is the case in RIIO-T2. We note that this is a change to the SSMD position where Ofgem favoured maintaining the opex escalator mechanism.

626. We agree that removal of the RIIO-GT3 opex escalator would reduce complexity of regulatory framework aligning with Ofgem's aim to simplify the RIIO price controls wherever possible. However, the RIIO-GT3 framework should ensure that re-opener projects submitted in both the RIIO-GT3 and RIIO-T2 price control periods continue to be fully funded.

627. Ofgem sets out in is RIIO-3 Draft Determinations Overview Document, its principles in setting totex allowances:

- Paragraph 3.8, "We aim to set baseline totex allowances that, in conjunction uncertainty mechanisms [sic], ensure the licensee has sufficient, but not excessive funding to deliver its outputs and other deliverables over the control period. To determine that the allowances are sufficient but not excessive, we make our best estimate of what a notional company of average efficiency (that has operated its network economically and efficiently in the past) would need to spend in the period to run its business and to deliver the relevant outputs."

- Paragraph 3.14, "…for RIIO-3 we have placed more focus on making these UMs as automatic and streamlined as possible, while also ensuring that the consumer interest is protected by only adjusting companies' funding for efficient costs."

628. We agree with Ofgem's principle that efficient costs incurred by a notional company should be funded to ensure networks remain financeable whilst investing in outputs which are in consumers' interests. We consider that this can be achieved in conjunction with removal of the RIIO-GT3 opex escalator in the following ways:

- Uncertainty mechanisms support funding all incremental costs covering capex, opex, direct and indirect cost categories.
  This should be a consistent policy across all uncertainty mechanisms. We also reference Ofgem in our response to FQ30 within our Draft Determination Finance Annex and note the inconsistencies in Ofgem's view that CAIs will form part of the project assessment for bespoke and potentially material projects (RIIO-3 Draft Determinations – National Gas Transmission paragraph 5.98) and the proposal to set re-opener (bucket two) capitalisation rates to 100% for NGT Transmission Operator.
- Extension of the opex escalator to cover RIIO-T2 funded projects which have allowances extending into the RIIO-GT3 period.
  The Bacton terminal redevelopment re-opener and Compressor emissions re-opener were submitted to Ofgem in October 2024 and April/June 2025 respectively. Two further Compressor emissions re-openers are due to be submitted by December 2025. These submissions were or will be made according to the National Gas Transmission plc Gas Transporter Licence in Respect of the NTS and associated documents in force at the date of submission and so exclude indirect costs which are funded through the RIIO-GT2 opex escalator (although full cost estimates including indirect costs were provided as part of the submission for transparency). The opex escalator should therefore be extended into RIIO-GT3 with scope limited to the Bacton terminal redevelopment and Compressor emissions re-openers.
- The RIIO-GT3 re-opener guidance should be consistent with this framework, establishing that both direct and indirect costs are assessed under RIIO-GT3 re-opener submissions.

GTQ50. Do you agree with our proposed approach to Business Support Costs (BSC)? How do you think this could be improved?

629. In assessing our business support costs, Ofgem has made a number of errors, specifically by over-relying on a regression model which, itself, over-relies on historical costs which do not fairly represent our current position. As a result, the proposed allowances significantly underfund our current and forecast, post-separation operating model. If not corrected, there is a significant risk of undoing the progress made since separation from National Grid to create a fully standalone, right-sized organisation focused on gas transmission, to the detriment of our customers.

630. Whilst we recognise Ofgem's rationale for using a regression model across gas transmission (GT) and electricity transmission (ET) companies, we have significant concerns with how this has been implemented and the reliance on a single model. The output of this model is average annual allowances before ongoing efficiency that are 5% below our current costs, based on the financial year 2025 actuals in the 2025 regulatory reporting pack (RRP25). This implies significant cost reductions even before factoring in the business growth these functions are required to support and our post-separation structure.

631. With regards to the regression model used, our allowances are heavily impacted by the inclusion of the 'GT dummy' variable. As this variable only differentiates between ET and GT sectors, with National Gas Transmission being the only GT company, it implicitly assumes that any modelled difference in our costs versus ET companies' are due to sectoral differences and not the relative efficiency of National Gas

Transmission versus ET companies. We also note that no justification was provided for why the specific model used was chosen over the other five models tested by Ofgem, or over a composite of models.

632. The result of using a dummy variable is that we will be essentially benchmarked against our own historical costs. Given that there is only one full year of post-separation data included (2024) this comparison may fail to identify the efficient cost structure for a stand-alone entity and be artificially lowered by low costs as we went through separation and built out the new organisation.

633. The regression model used focuses exclusively on transmission operator (TO) and assumes the adjustments calculated for TO can equally be applied to system operator (SO). Whilst we understand the rationale for only including TO in the regression for comparability with ET TOs this does mean we are not assessed in a truly holistic way. This methodology means that even if overall costs are the same, a greater forecast allocation to TO, relative to the historic data, would result in a reduction for both TO and SO, thus the model fails to consider National Gas Transmission holistically. Whilst we endeavour to achieve the most representative split, there is necessarily a degree of approximation in this, and it is subject to updates over time. For example, where costs do not have a single identified driver, they are allocated on a composite model of revenue, operating profit, full-time equivalents (FTEs) and net assets that will change each year. We have also reviewed and updated these allocations annually and, post separation from National Grid, this has resulted in a significant reallocation of spend from TO to SO. RIIO-GT3 costs have been allocated based on the latest allocations available at the time of submission. As such, Ofgem have assessed National Gas Transmission using a 70:30 ratio of TO:SO in the historic data versus 82:18 in the RIIO-GT3 submission.

634. For the historical model to be relied upon to apply to National Gas Transmission, costs should be restated to assume a constant ratio between historic and forecast costs. We also observed that Ofgem has only used a dual regression and trend approach to assess ET companies but has not applied this to GT companies (us). Given the limitations of the regression model identified above for GT, along with the FTE and Capex growth drivers identified in our RIIO-GT3 submission, this inconsistency in approach seems counter-intuitive and unjustified.

635. These findings are supported by our independent analysis provided by Economic Insight (Review of Ofgem's RIIO-GT3 DD cost assessment approach – STC – 21-08-25.pdf. We would expect Ofgem to remediate the deficiencies identified in the following ways:

- Incorporating forecast data. We propose this should be done using dual regression and trend analysis to be consistent with the ET sector.
- Adjusting for the allocation differences between TO and SO over time in the regression models.
- Using triangulation across multiple regression models to mitigate some of the inherent uncertainty in the modelling.

GTQ51. Do you agree with our proposed approach to separately assessed costs?

Health, safety and environment

636. We reviewed paragraph 5.93 of the Draft Determinations – National Gas Transmission, which denied funding for one-off projects due to insufficient detail, and we disagree with the decision to disallow these projects.

637. Investing in safety engineering is paramount to the continuation of delivering a safe and reliable gas network into RIIO-GT3 and beyond. The work detailed in the Safety Engineering EJP addresses a number of known and quantified areas of risk, which have been identified through on-site observation as work has been undertaken in RIIO-T2. The needs case is still valid and we reject a position of no investment in our process safety projects.

638. The current costed-up view of delivery of this work has been built up from first principles and is based on a pragmatic view of the expected current state of sites across the four projects and the costs of the possible solutions to be implemented.

639. However, we recognise that the maturity and detail of the costed-up position for these projects is not where Ofgem would like it to be to accept these investments for funding. Therefore, we propose a variation on the funding mechanism and request a re-opener under the uncertainty mechanism (UM) with no cap, to be submitted April 2027. This would be a submission for the end-to-end cost of these projects including development expenditure.

640. This would give us one year into the RIIO-GT3 period to allow for a Front End Engineering Design (FEED) study to be undertaken against the four projects outlined in the Safety Engineering EJP. The results of the FEED study would inform a costed-up view of the work required to remove these known process safety risks from the transmission network. The re-opener being scheduled for the start of the financial year 2028 will allow adequate time for FEED and then for the solutions identified to be delivered in the remaining RIIO-GT3 period.

641. To conclude, this work is fundamental to ensuring the ongoing process safety risks are minimised and the needs case is absolute. However, we understand that to position ourselves in a place of cost certainty, FEED work and funding through a UM re-opener in April 2027 would be pragmatic.

Operational training

642. We welcome Ofgem's support for our RIIO-GT3 operational training plan, however we note that to deliver the plan in full there are incremental non-operational capex requirements for new training facilities that have not been funded. These are covered in GTQ46.

IT and Telecoms (IT&T)

643. We note a correction required in the split of Investment Justification Paper (IJP) project opex and non-project 'run the business' (RTB) costs in the cost assessment workings for this category. Cost Assessment file '100625 Indirects Model Input to Totex Modelling_v8' identified this split of our submitted plan as £44.7m project opex and £200.1m RTB opex. The project element however included £20.65m for contractual service of the Xoserve Gemini platform in IJP_04 that are included in SO network operating costs. As the RTB costs were calculated as the difference between the total submitted and project costs the overall submitted value assessed for Closely Associated Indirects (CAI) and Business Support Costs (BSC) is correct, however the split should be £24.0m project opex and £220.8m RTB.

644. We disagree with Ofgem's methodology of applying the percentage from the non-operational capex assessment to RTB allowances. Whilst we can understand how this is applicable to the element specifically related to project opex, we cannot see how a direct link to RTB opex costs is appropriate. Given that any incremental opex associated with projects was included in the IJP submission, any correlation between capex and RTB opex is likely to be in the opposite direction, as failure to invest in capex projects would result in less efficient solutions and increased maintenance and/or support costs which ultimately drive up opex costs.

645. The reductions proposed would result in allowances (excluding transfers from cyber) at 50% of the level of current level of spend based on our financial year 2025 actuals, whilst needing to support a larger user base. For a cost area that has been externally benchmarked, as evidenced in our submission, and primarily composed of contractual costs where we have been through a competitive tendering process since separating from National Grid, this is a fundamentally untenable position. It would result in key services such as Critical National Infrastructure (CNI) services, core business applications, telephony and IT support being unfunded. We see no evidence of Ofgem taking our benchmarking study into account. Through the tendering process we have endeavoured to achieve the best value for consumers and in many cases, this has meant entering into significant multi-year contracts that we would be in breach of at the level of funding proposed. We have

included in the attached file 'GTQ51 T3 Contract Listing Aug25 – Final (18_08_25).xlsx' the latest view of our RTB costs on a contract-by-contract basis as evidence of the nature of costs included here. We note this is £0.3m per annum lower than our original submission, as it is based on the latest view of costs, which has evolved since submission as contractual negotiations have concluded.

646. For project opex we accept the principle of evaluating these with the overall project needs case, making the exception for Xoserve Gemini running costs referenced above which should continue to be included in the SO network operating costs cost assessment as they are contractual running costs that will not be significantly influenced by the Project spend in RIIO-GT3. For our detailed response to project investment proposals please refer to GTQ45 and GTQ58.

647. We propose Ofgem revisit their methodology an adapt a more tailored approach that factors in the nature of the costs being assessed, their drivers and NGT's status as an independent entity. This is supported by our analysis from Economic Insight Review of Ofgem's RIIO-GT3 DD cost assessment approach – STC – 21-08-25.pdf which proposes benchmarking analysis and trend analysis as alternative approaches that would be more appropriate for assessing these costs. This analysis proposes a range of £219m-£242m (including project opex) for the five years of the price control. Our latest contractual position of £219.5m plus project opex of up to the submitted value of £24.0m aligns with the upper end of this range.

Insurance

648. We disagree with solely using trend analysis for insurance costs as this fails to consider the drivers of insurance costs. In our RIIO-GT3 Business Plan submission we identified key factors driving an increase in our insurance costs, which are not sufficiently factored in by the trend analysis. Failing to include these could lead to insurance costs that are not aligned to the plan submitted and result in levels of insurance coverage that do not best mitigate risk.

649. In our submission, we identified £6.7m of cyber insurance costs that were excluded from the RIIO-T2 as these have been reported within as part of cyber costs. Based on the business plan data templates (BPDT) Regulatory Instructions and Guidance we concluded it was more appropriate for these to be included in insurance for RIIO-GT3. It is not clear whether the trend analysis model, which does allow for some increase over RIIO-T2, has factored this in or not.

650. The key drivers of insurance costs are macro market conditions for insurance and cover required. Our plan assumes stable market conditions consistent with the current market at the time of submission and aligned with our brokers view of costs. Therefore, additional growth is driven by the increased scope of our Business Plan, primarily in capex investment, as this directly drives additional construction risk insurance and indirectly drives additional FTEs increasing costs for policies such as motor liability and employee liability.

651. Whilst we recognise the lower allowances in Draft Determination may in some way be based on the lower capex allowances it is not clear from the trend analysis what the underlying rationale is. We propose Ofgem review the cost assessment model to determine how this can be developed to ensure this link is clear and can be flexed as capex costs move.

GTQ52. Do you agree with our proposed approaches to Quarry and Loss and Pensions?

Quarry and Loss

652. We agree with the proposal for baseline allowances. In paragraph 9 of Special Condition 3.17 within the Gas Transmission licence currently in place for RIIO-T2, true-up for efficiently incurred costs is permitted after the price control period as part of close out. This drafting is proposed to be retained in RIIO-GT3 (within the initial licence drafting consultation published on 30 July 2025). As noted in the Draft Determination paragraph 5.114 "historic costs have been extremely variable and forecast costs have a high degree of uncertainty'. Therefore,

we support continuing the current approach of true-up through close out for efficiently incurred costs as the most appropriate method managing this uncertainty.

Pensions

653. We disagree with the proposal to base pensions allowances purely on historical costs without any adjustments. It does not take account incremental bespoke costs included in our submission or incremental costs that are driven by external and legislative factors.

654. As noted in our submission, and as acknowledged by Ofgem in 5.118, the Scheme will face material increased costs over the period as a result of the Trustee being required to equalise Guaranteed Minimum Pension benefits for past and current scheme members. This is a material multi-year project that the Trustee is required to carry out following a court ruling. The cost of carrying this out for the Trustee of the National Gas Pension Scheme is likely to be materially higher than other similarly sized pension schemes. This is because, for historic reasons, the duty to resolve this issue for the vast majority of former members of the British Gas Corporation Pension Scheme, who are no longer members of any of its 'successor' schemes, falls to the Trustee of the National Gas Pension Scheme. This cost did not exist during RIIO-T2 and, as such, we added £2.5m to our submission for this funding over and above historical costs to reflect this additional work that will be needed in RIIO-GT3. [redacted] Please see the attached file 'GTQ52 NGTPS GMP costs.pdf.'

655. For these reasons we propose £2.5m guaranteed minimum pension (GMP) costs should be separately assessed and only the remaining £20m of costs should be assessed against historical spend.

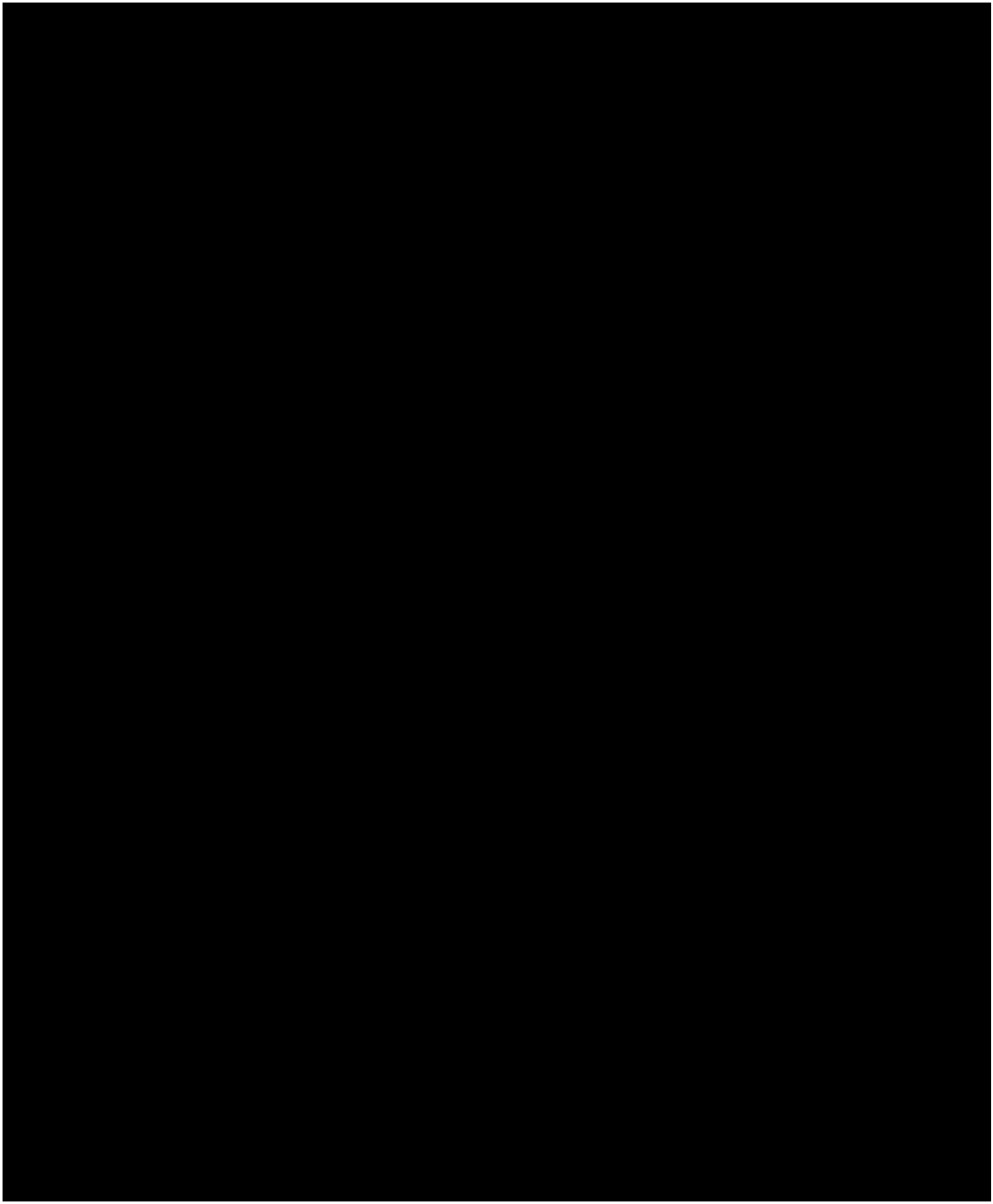
GTQ53. Do you agree with our assessment approach for Physical Security? If not, how should we assess these costs?

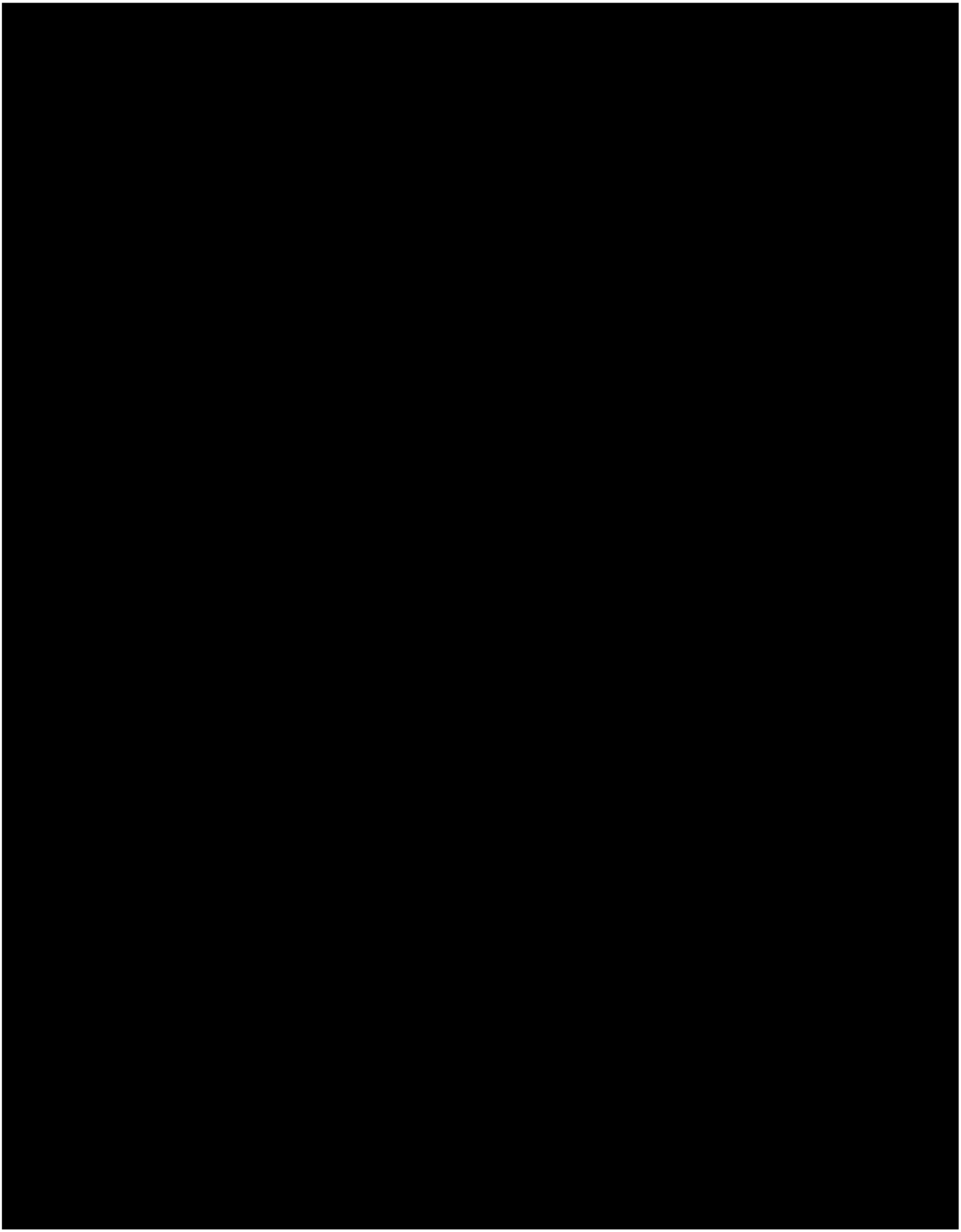
656. We do not agree with Ofgem's current assessment approach for Physical Security opex, which applies a 10.5% (£7.347m) reduction based on a trend model. This model does not take into account the significant growth in Critical National Infrastructure (CNI 3+) sites, [redacted]. This increase in CNI sites has driven up operational demands across key services lines, such as third-party penetration testing, operation of the Security Operations Centre (SOC) and personnel security.

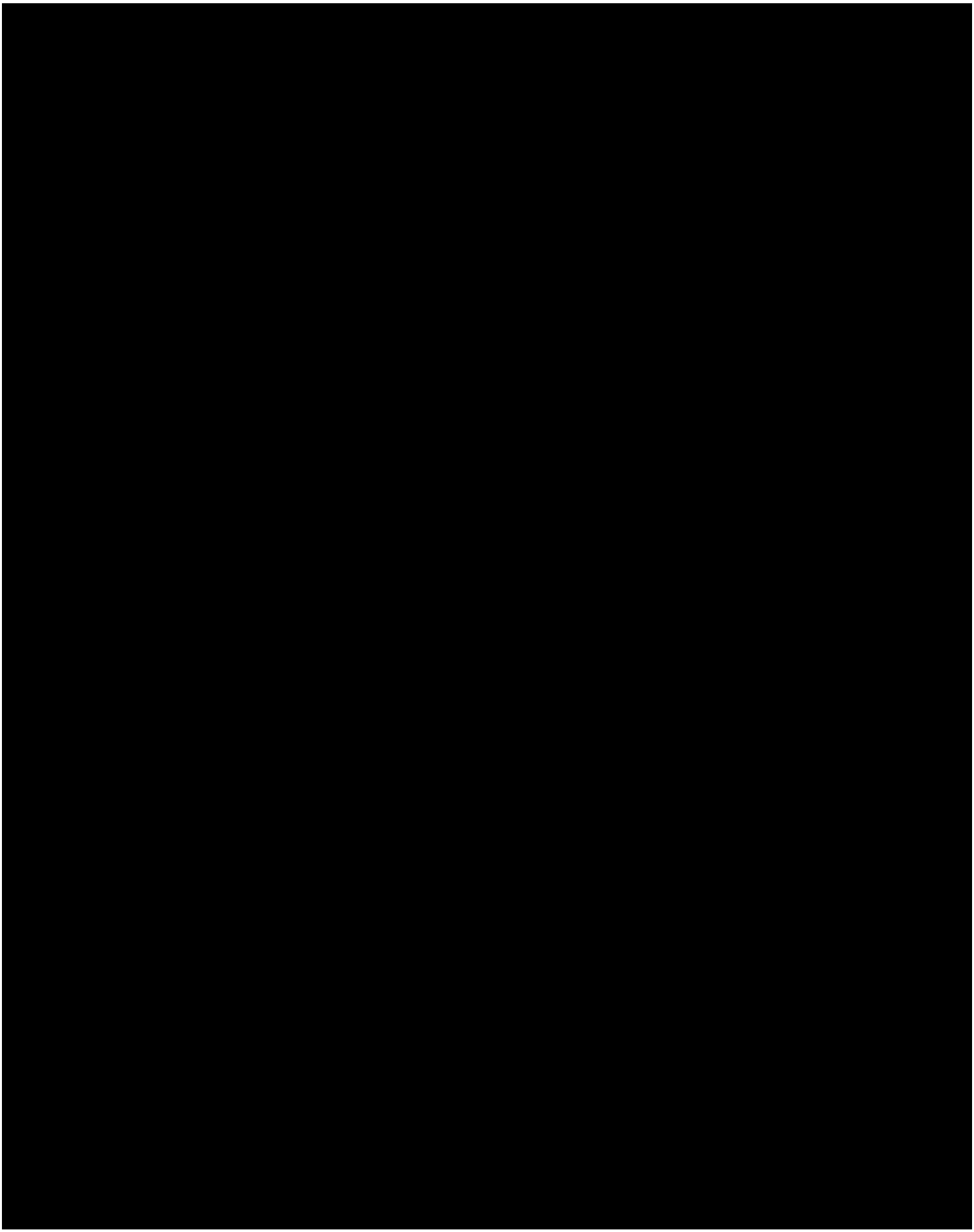
657. The trend model's top-down methodology lacks transparency and does not differentiate between fundamentally distinct cost drivers. It also overlooks the operational growth forecasted for RIIO-GT3.

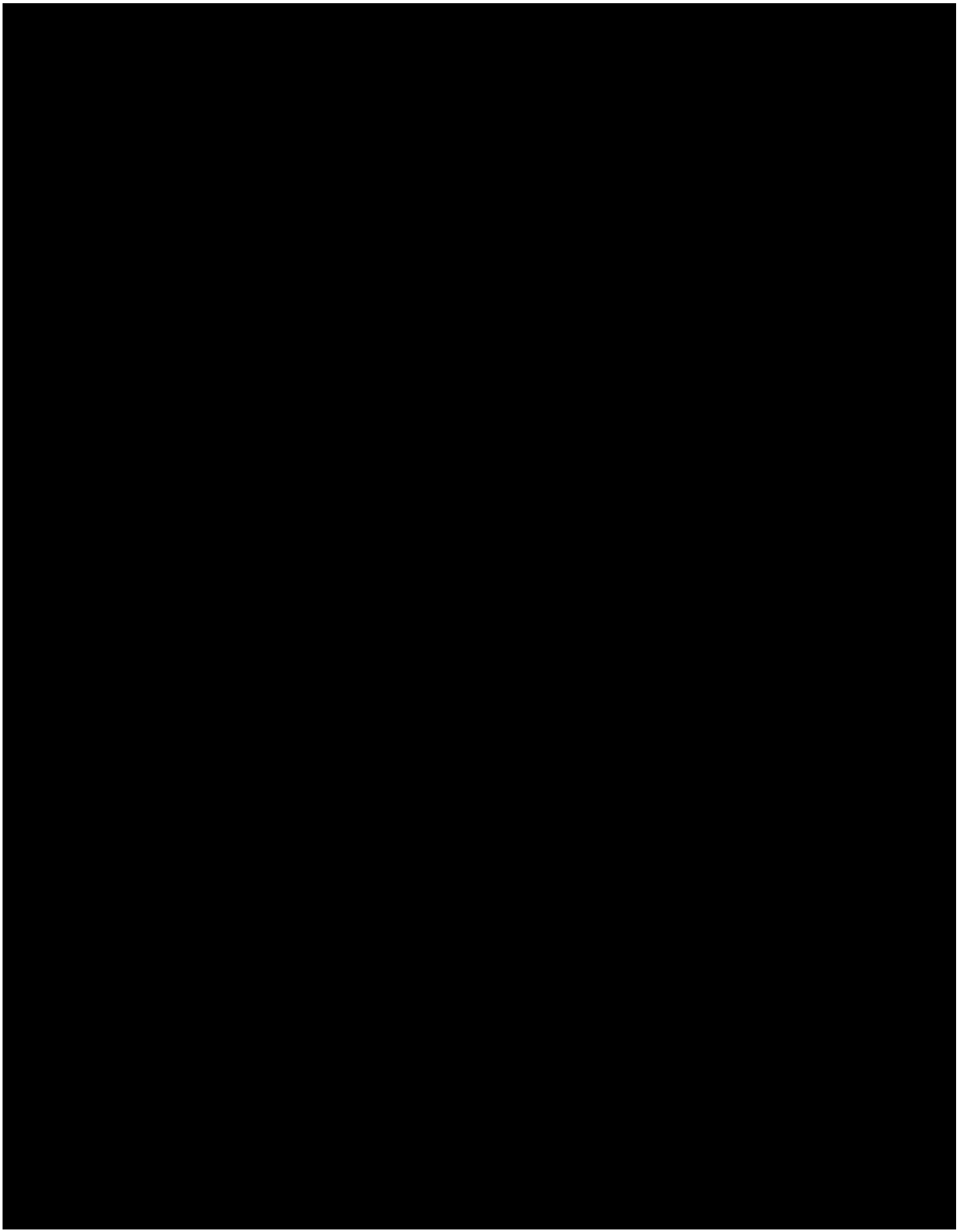
658. For further detail and supporting evidence, please refer to the full response in 'NGT_EJP33 &34_Physical Security COMBINED Asset & non-Asset EJP_RIIO-GT3 - DD Response.docx'.

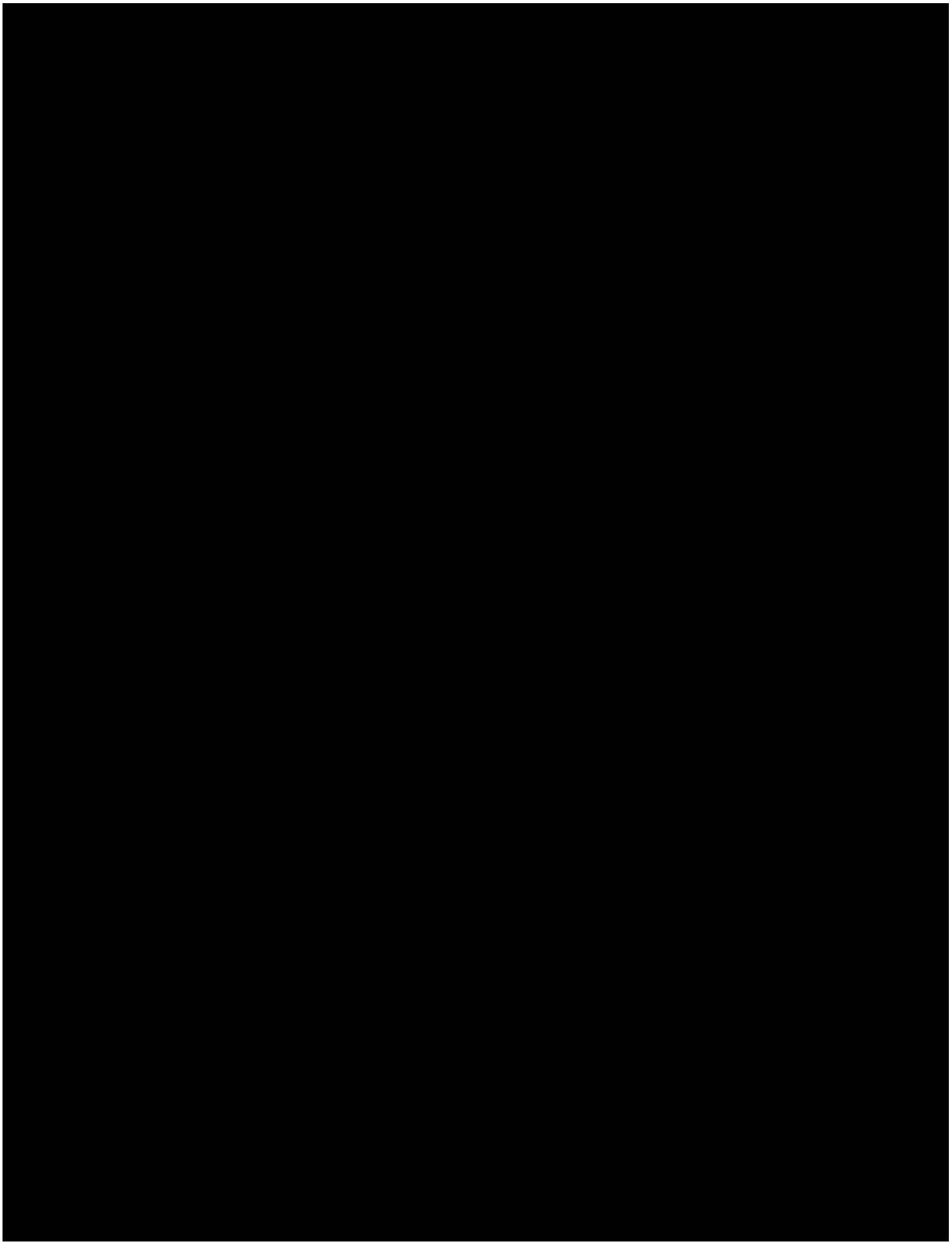
[redacted]

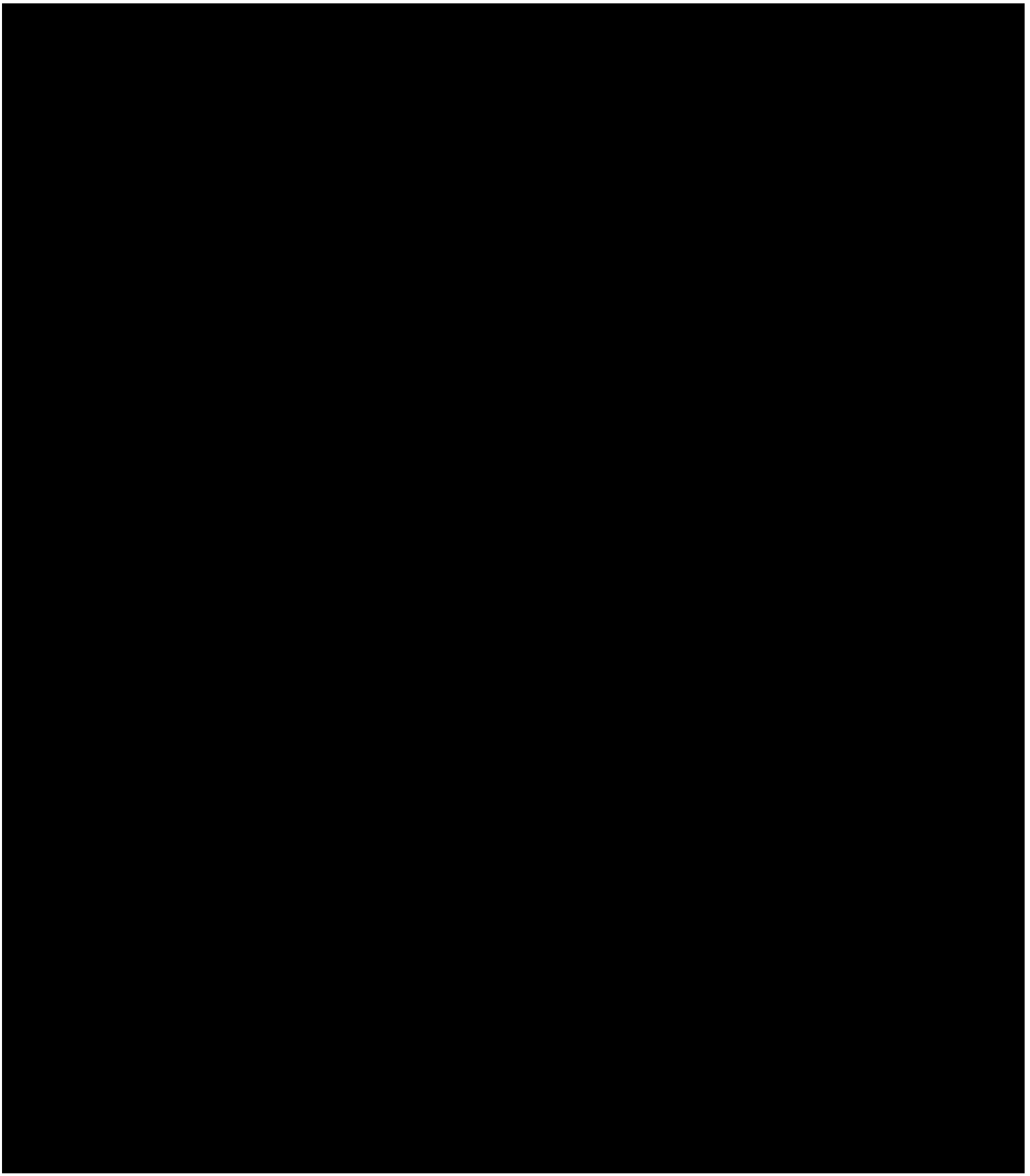


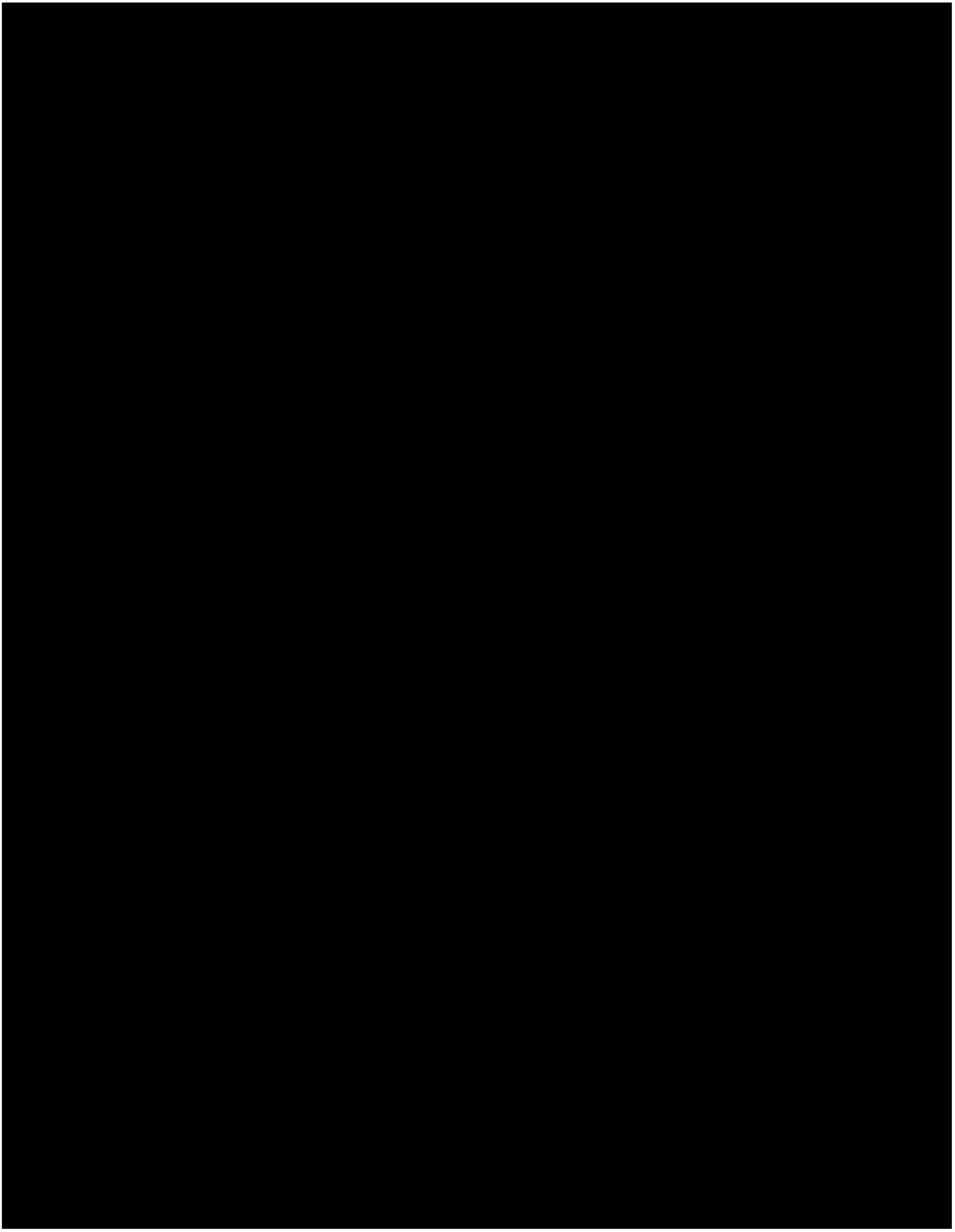


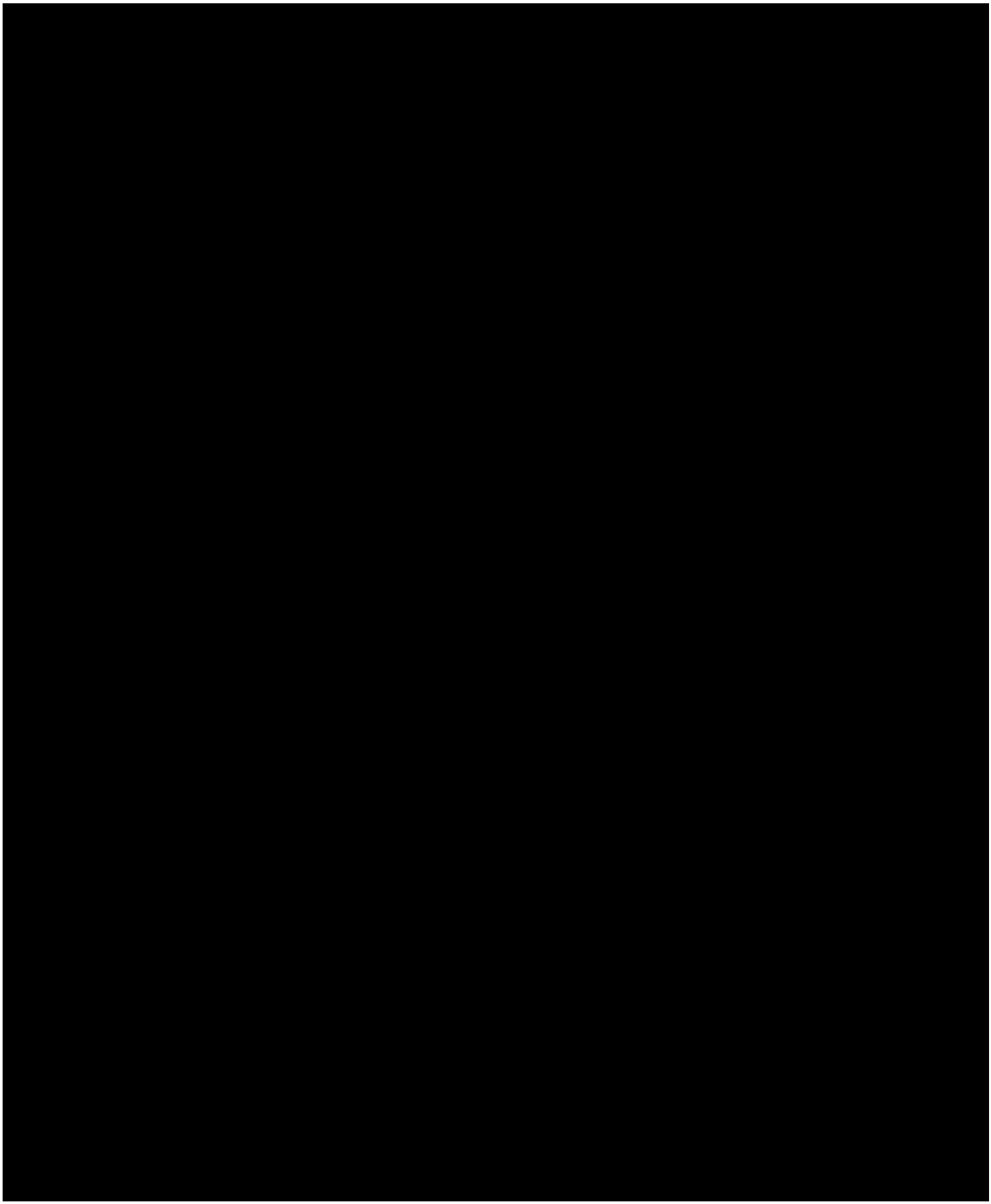


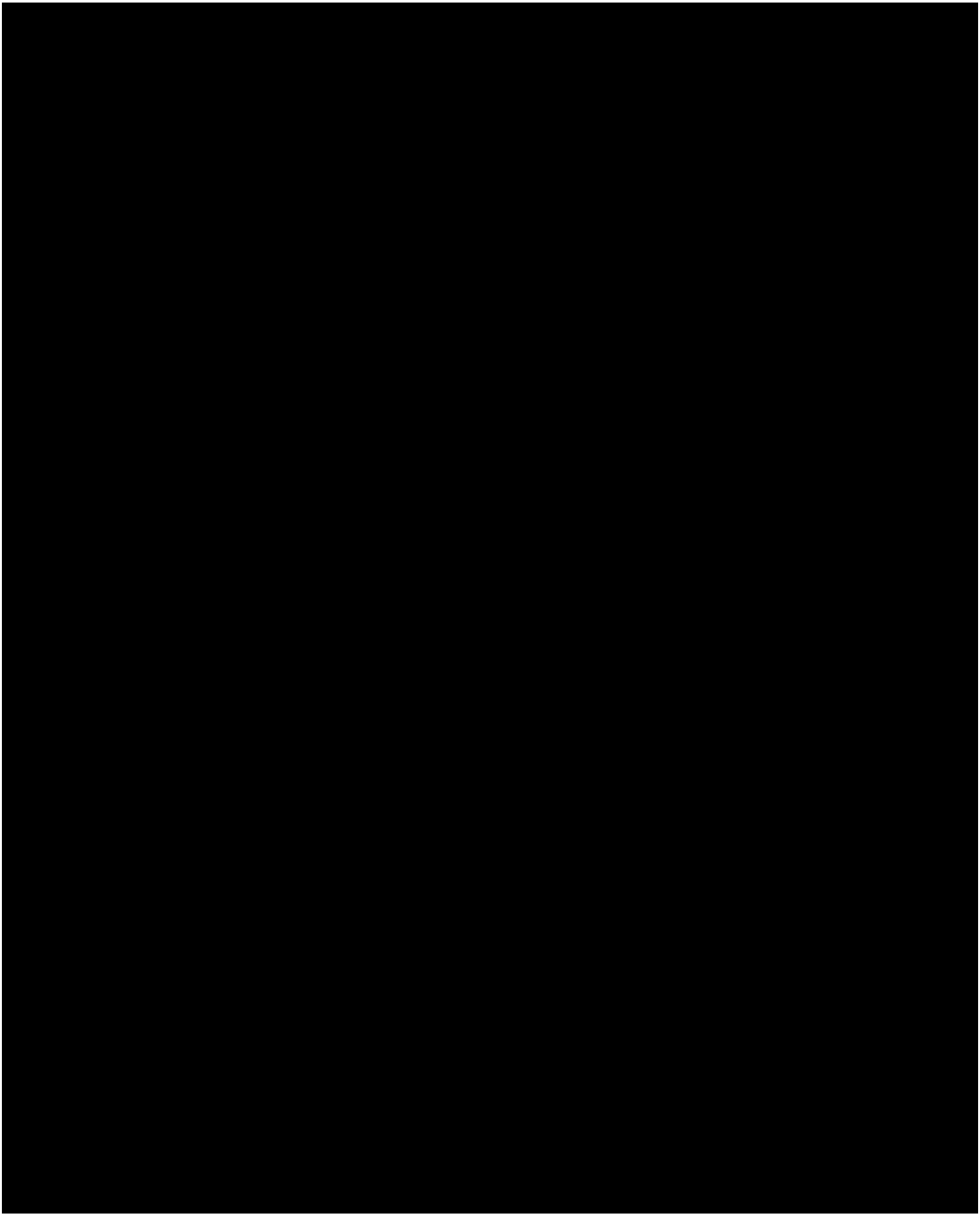


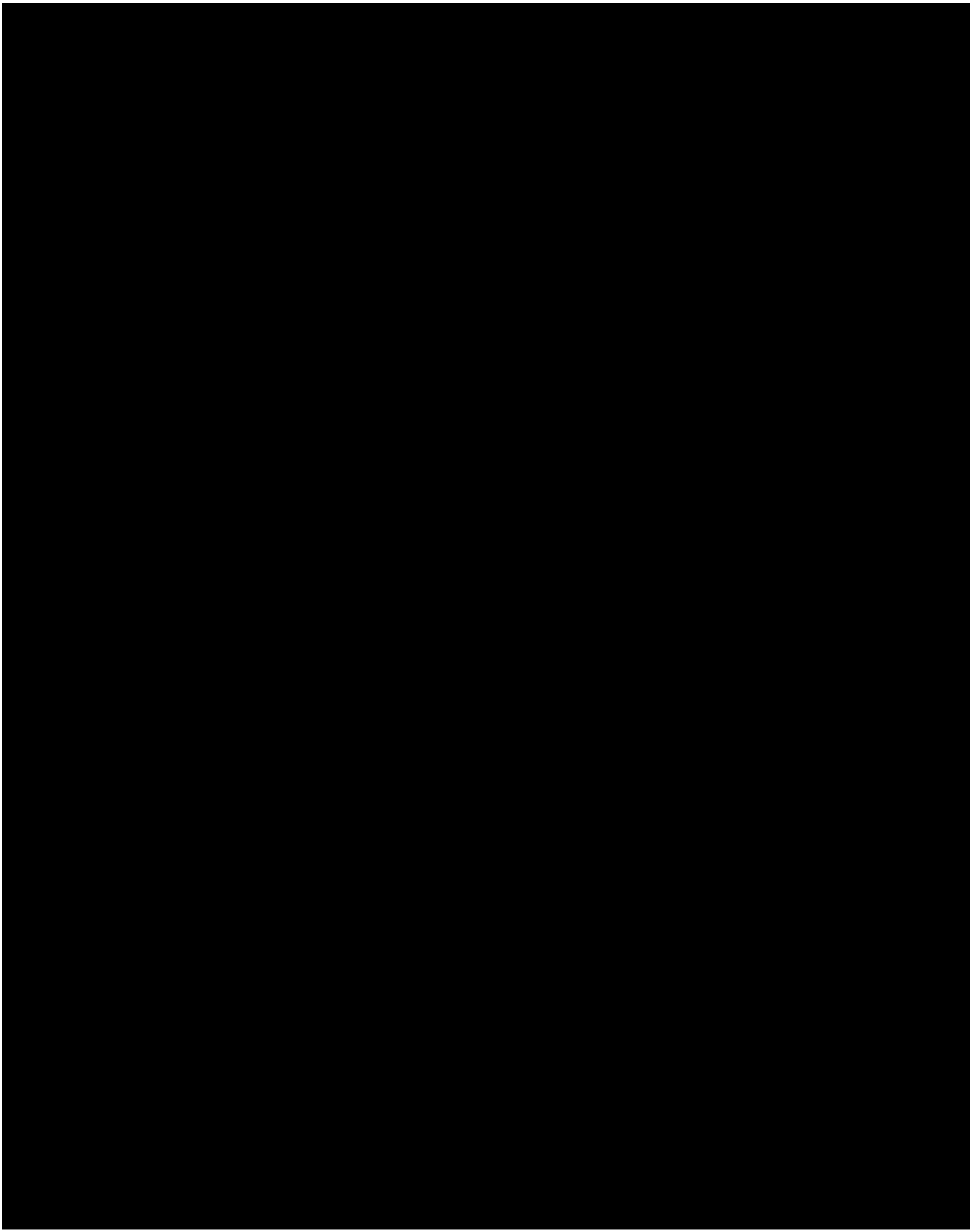


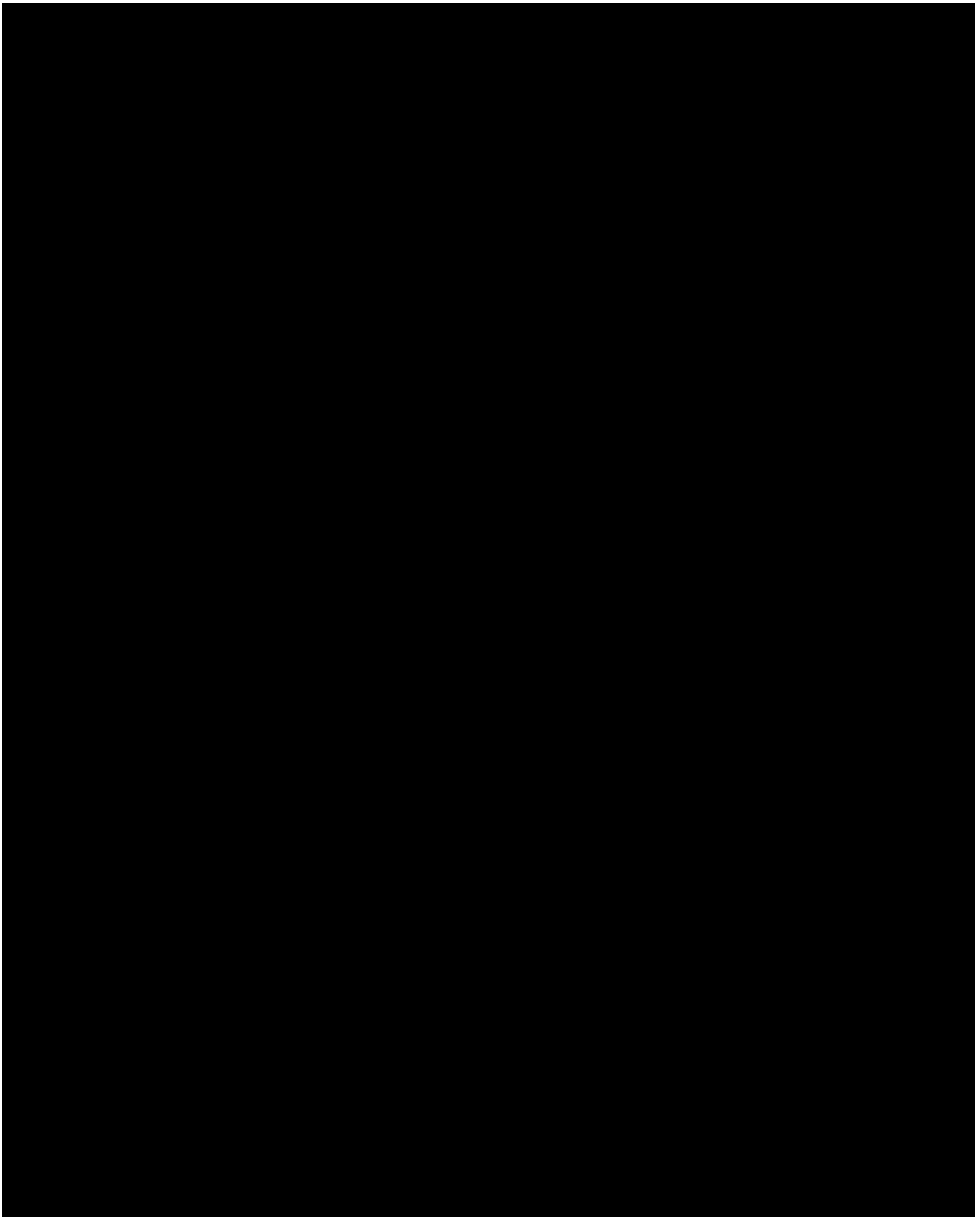


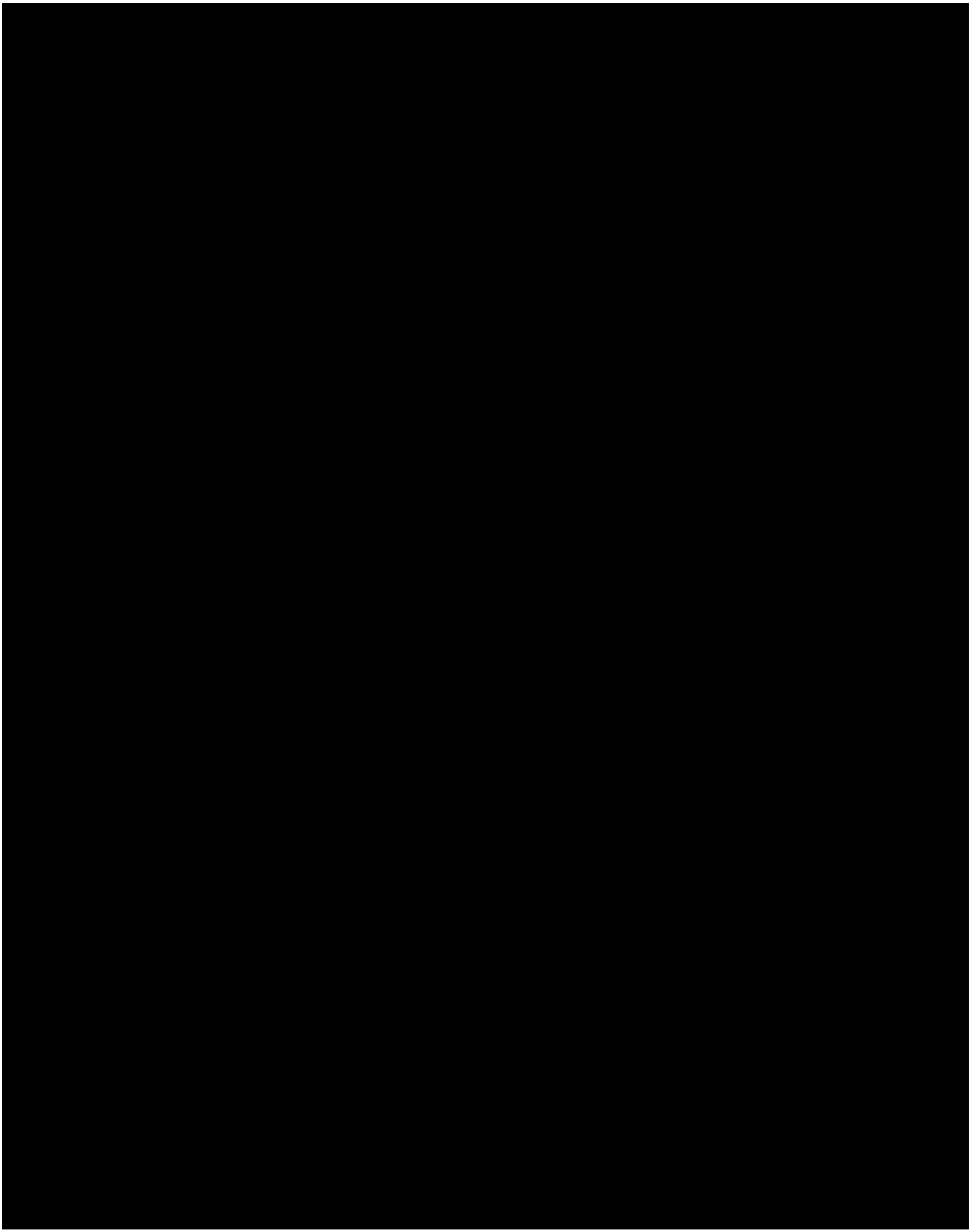


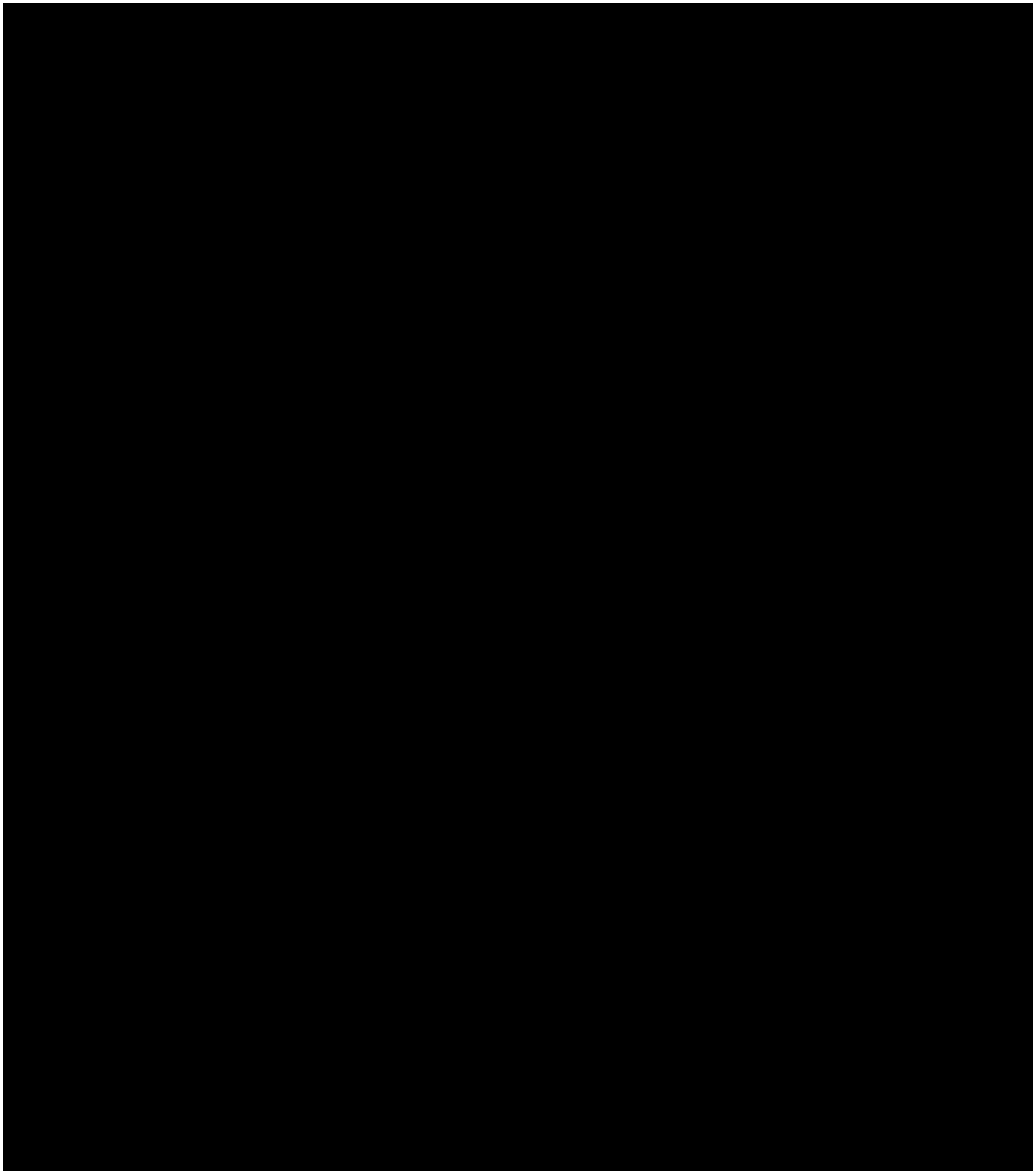


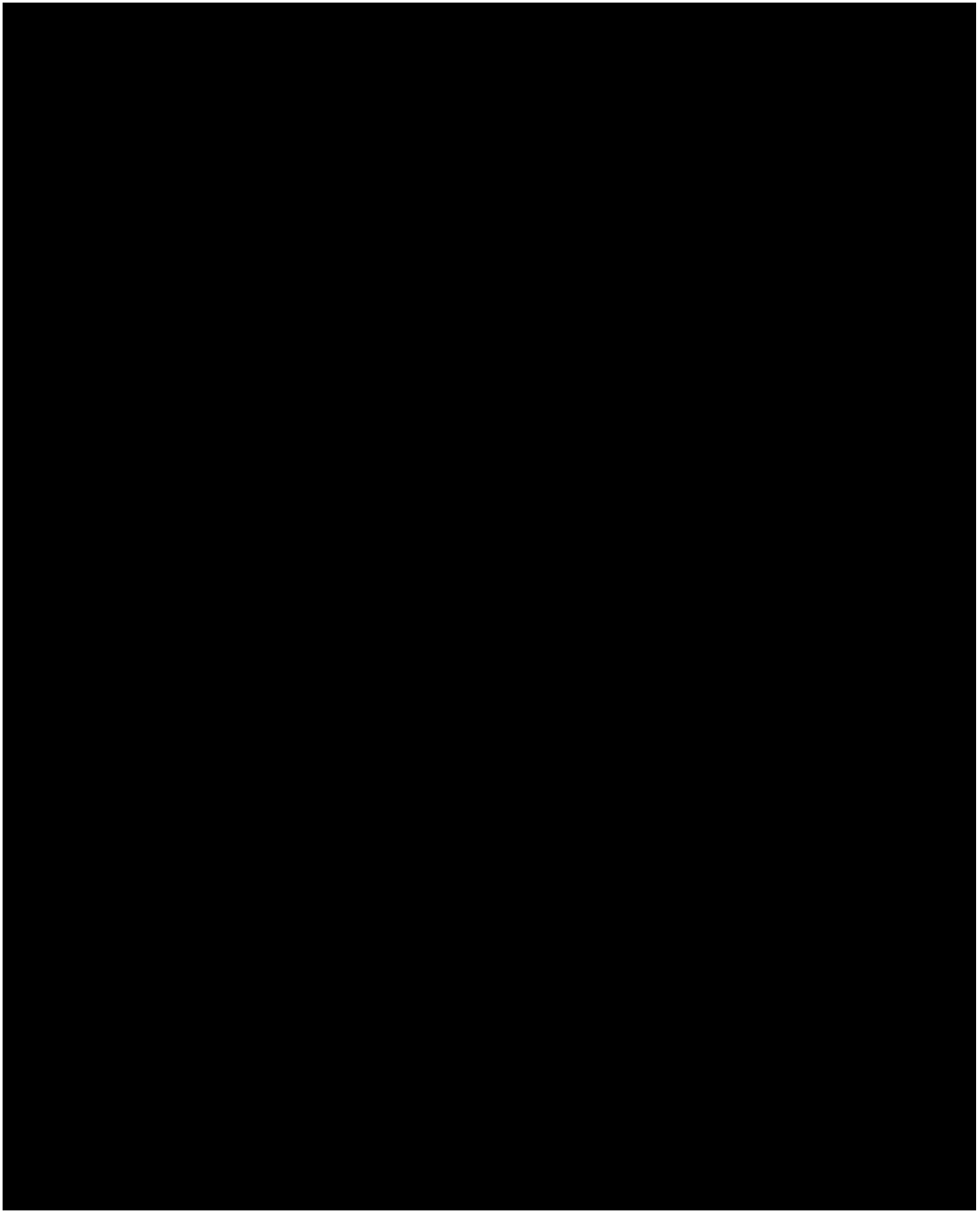


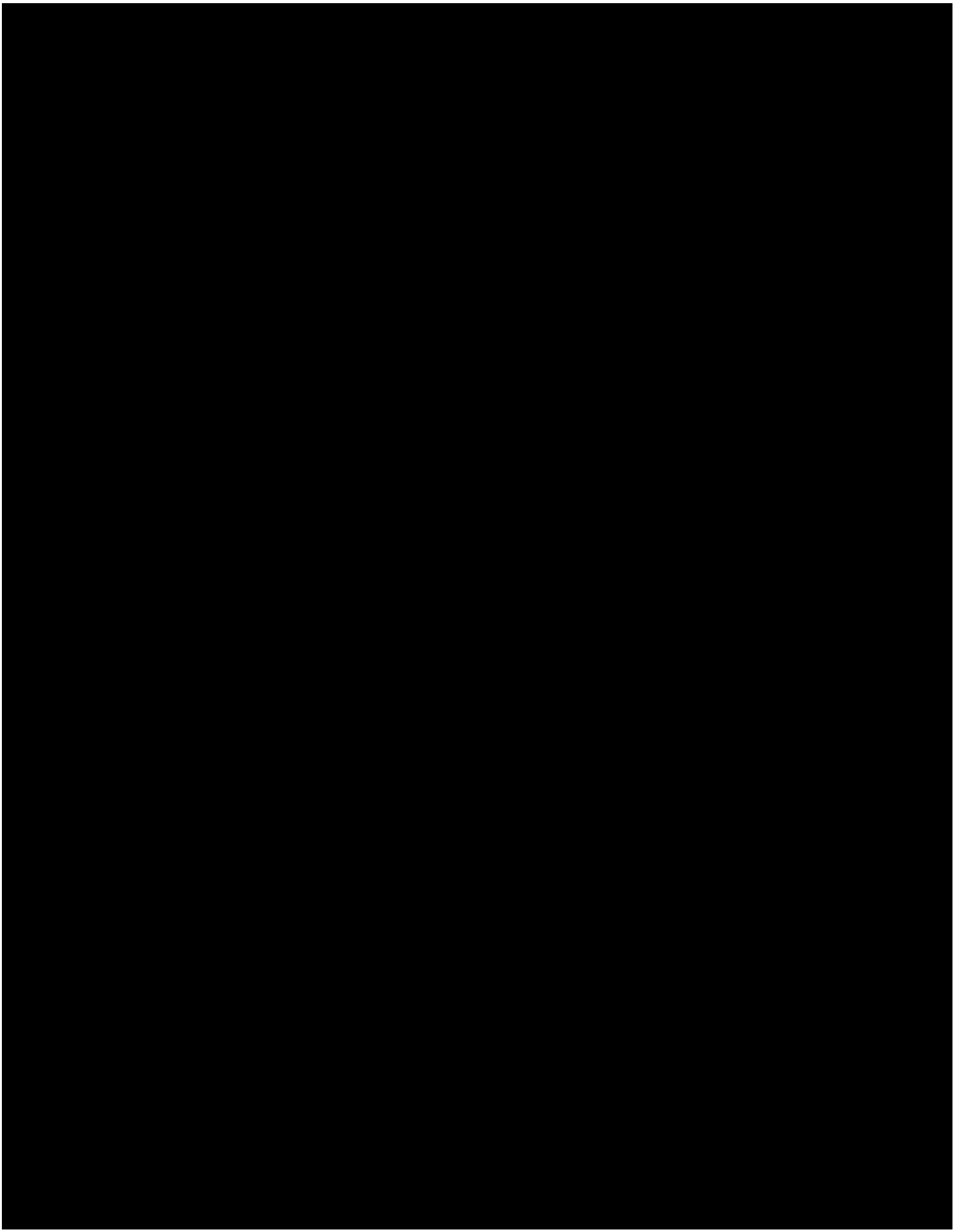


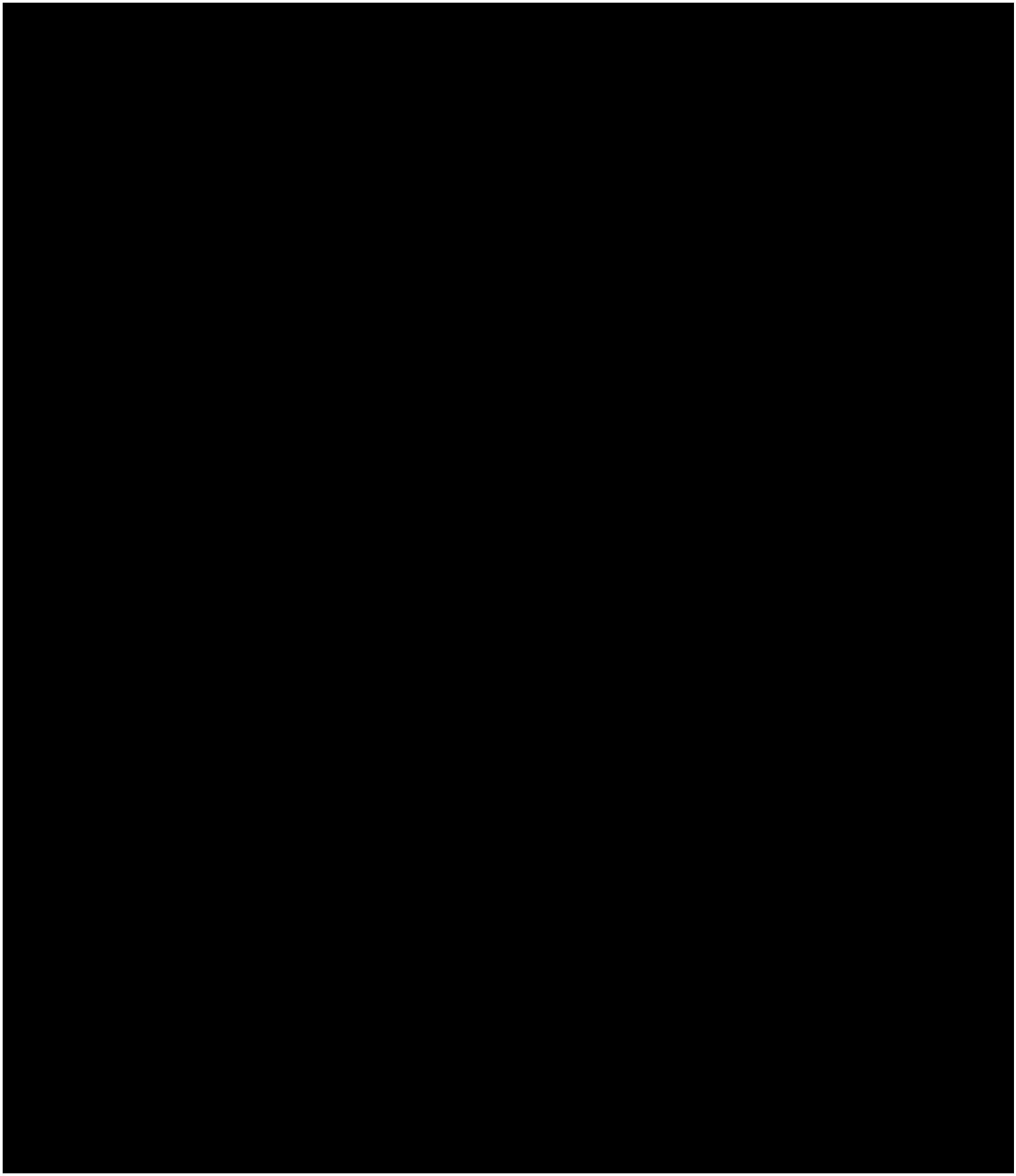


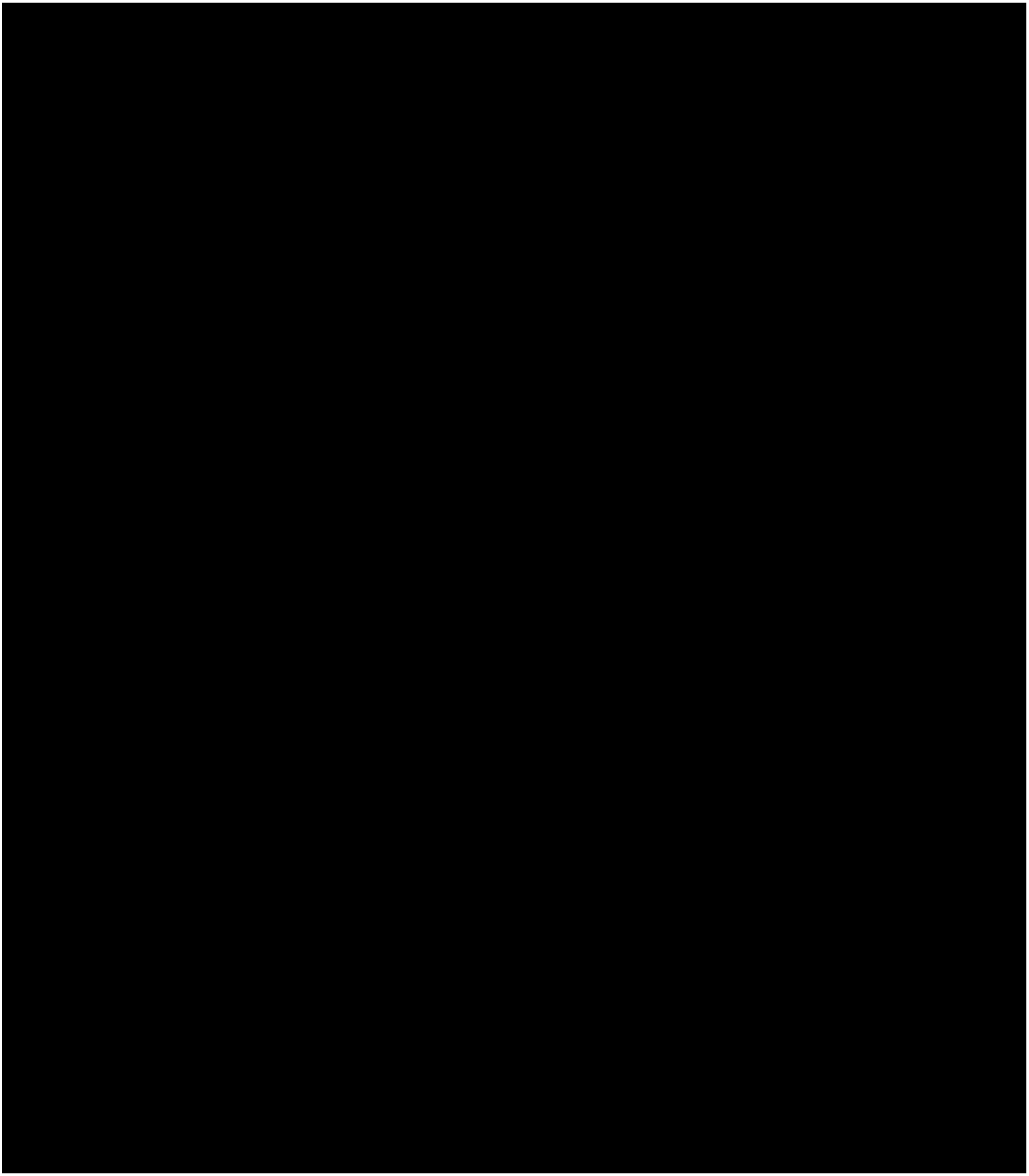


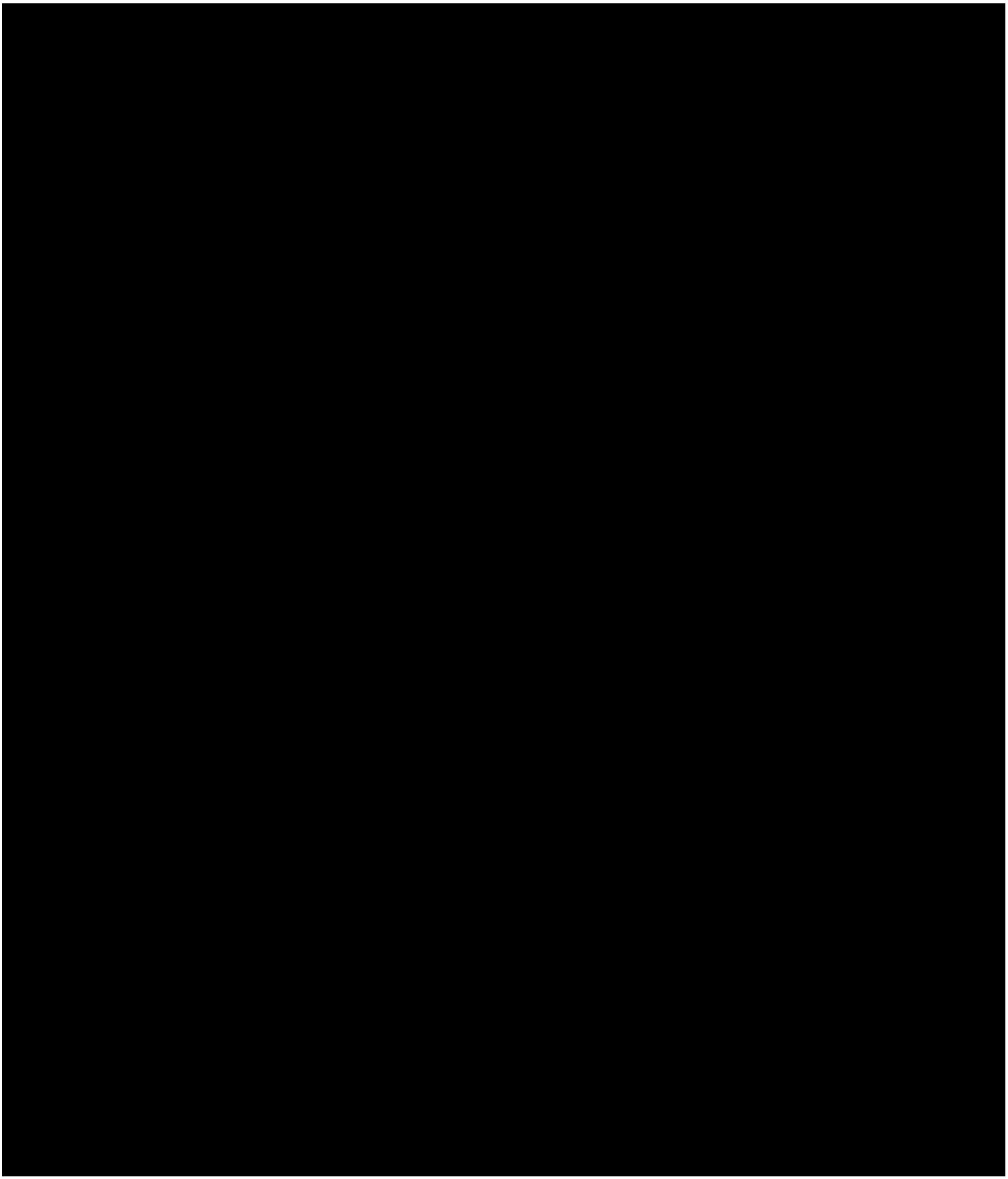


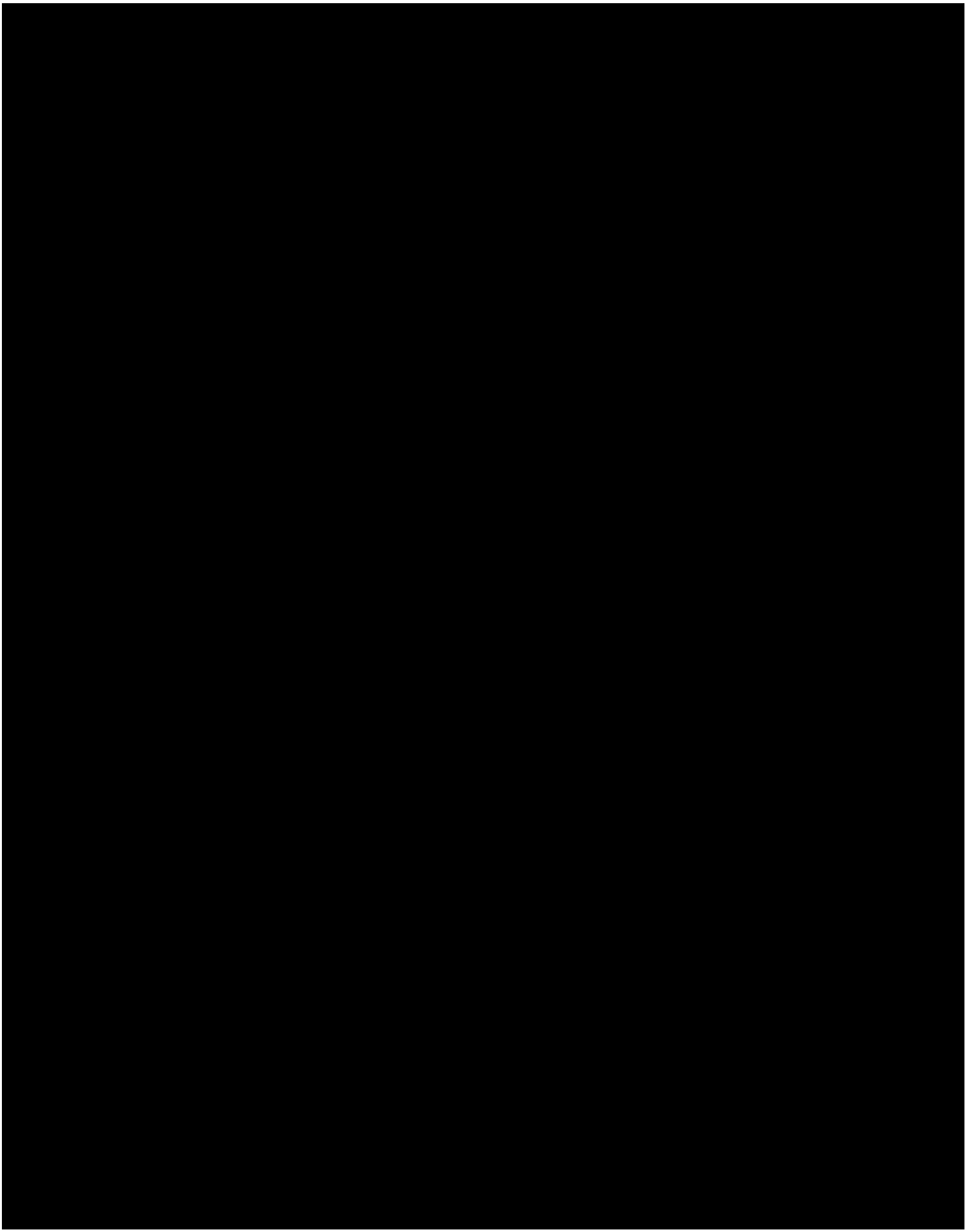


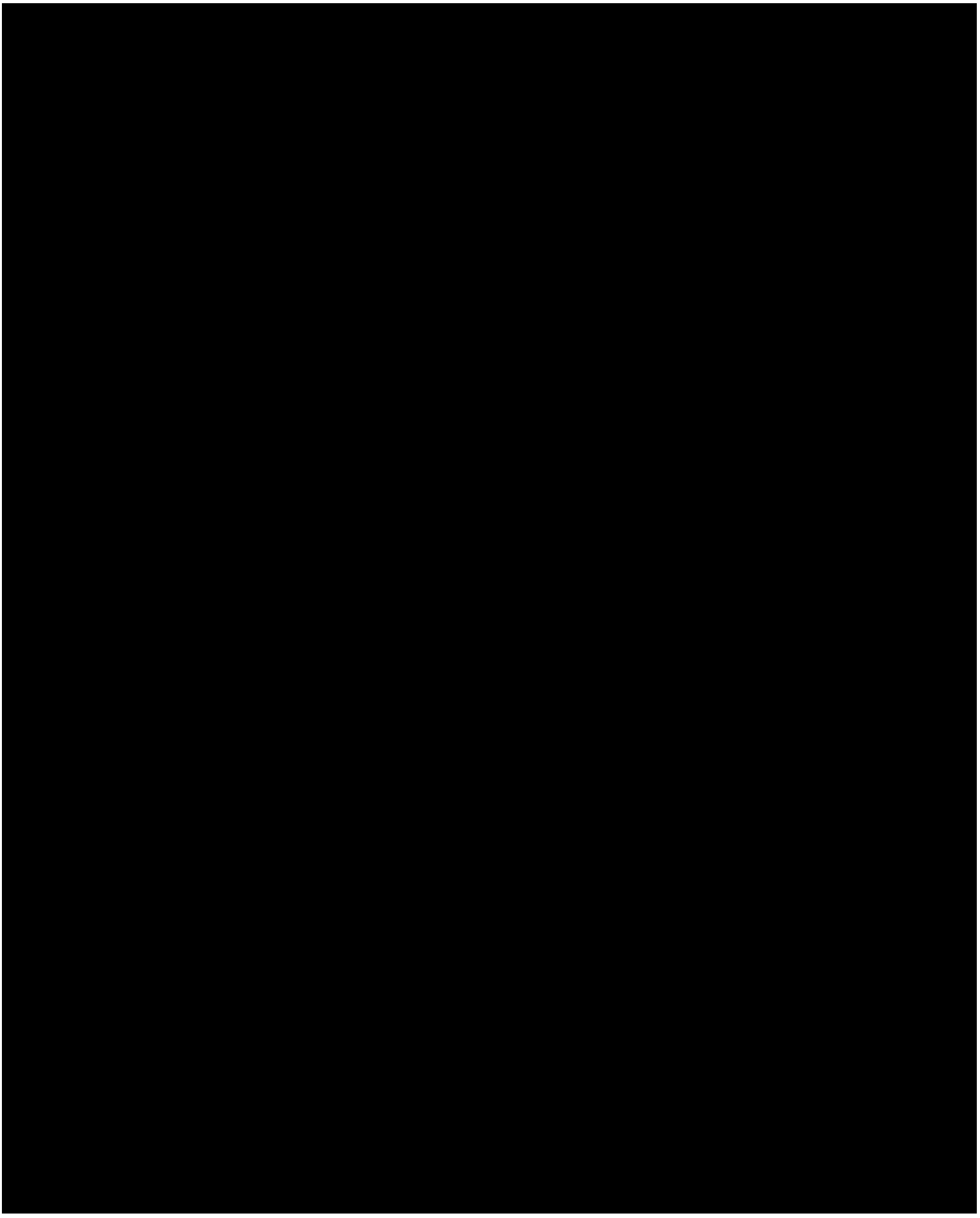












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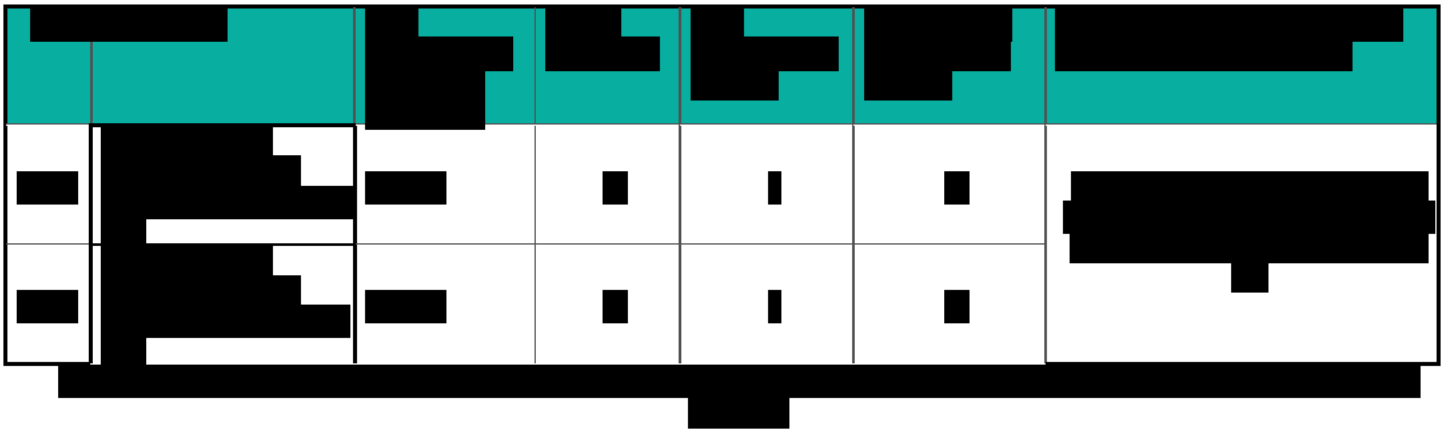

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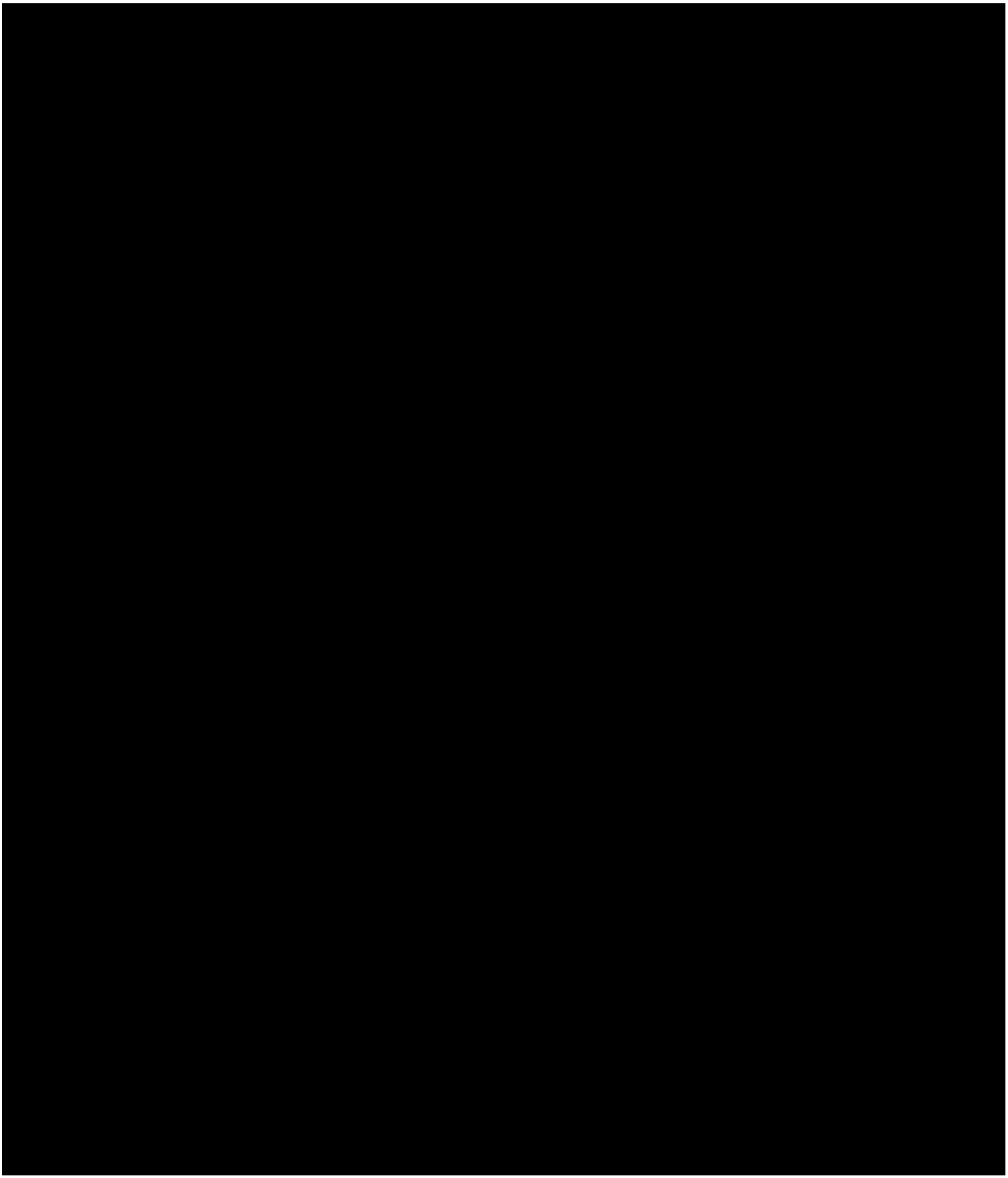

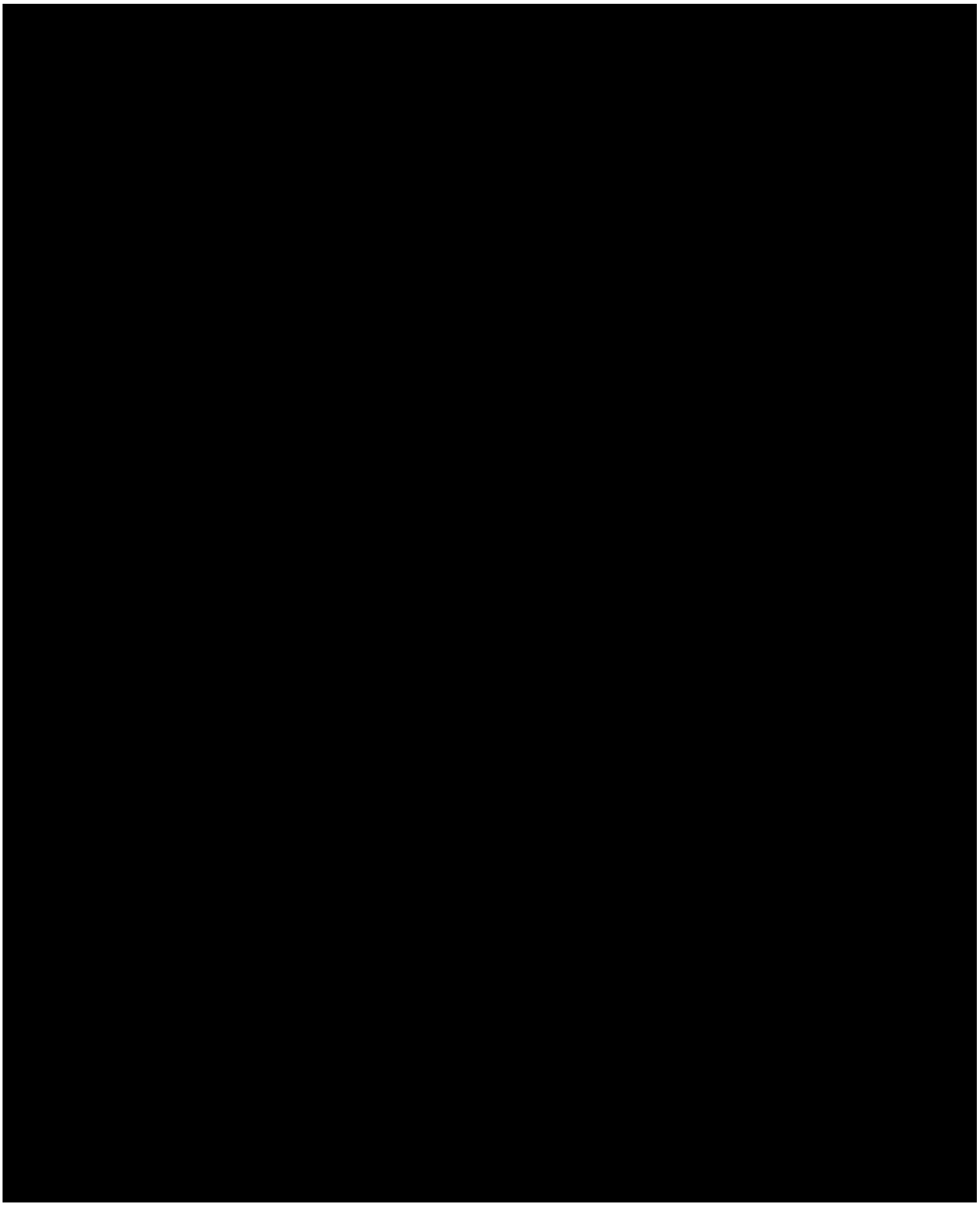

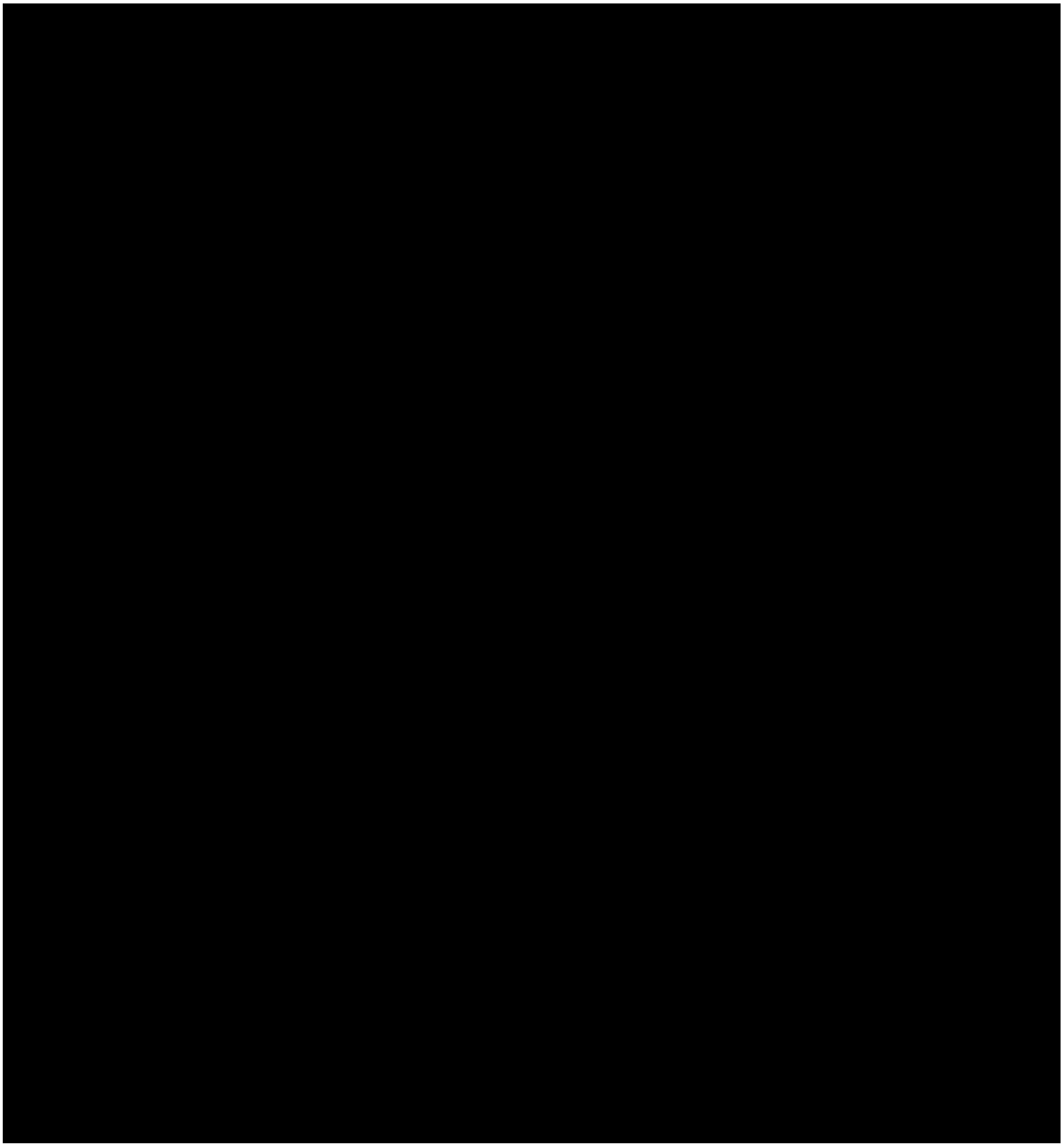

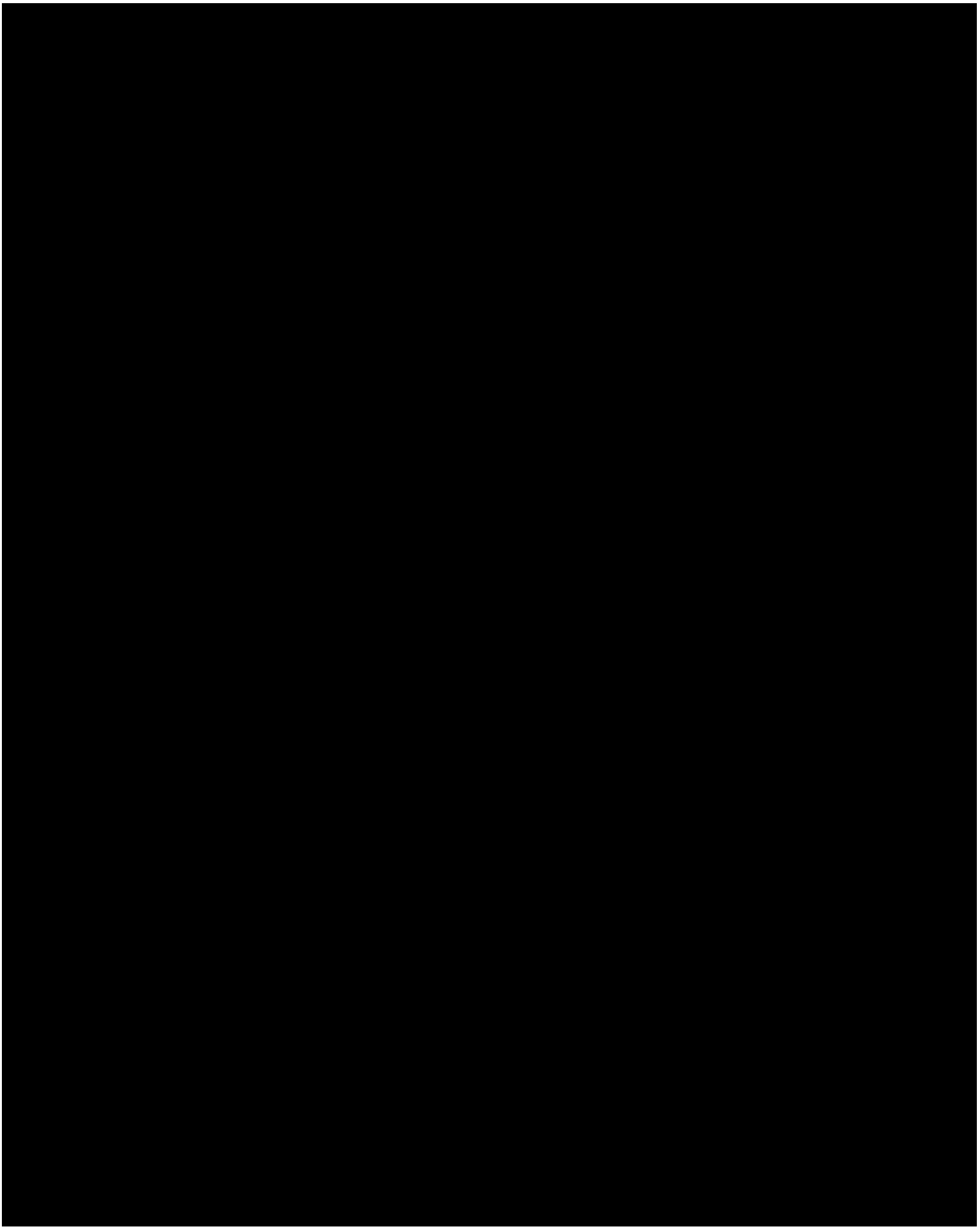

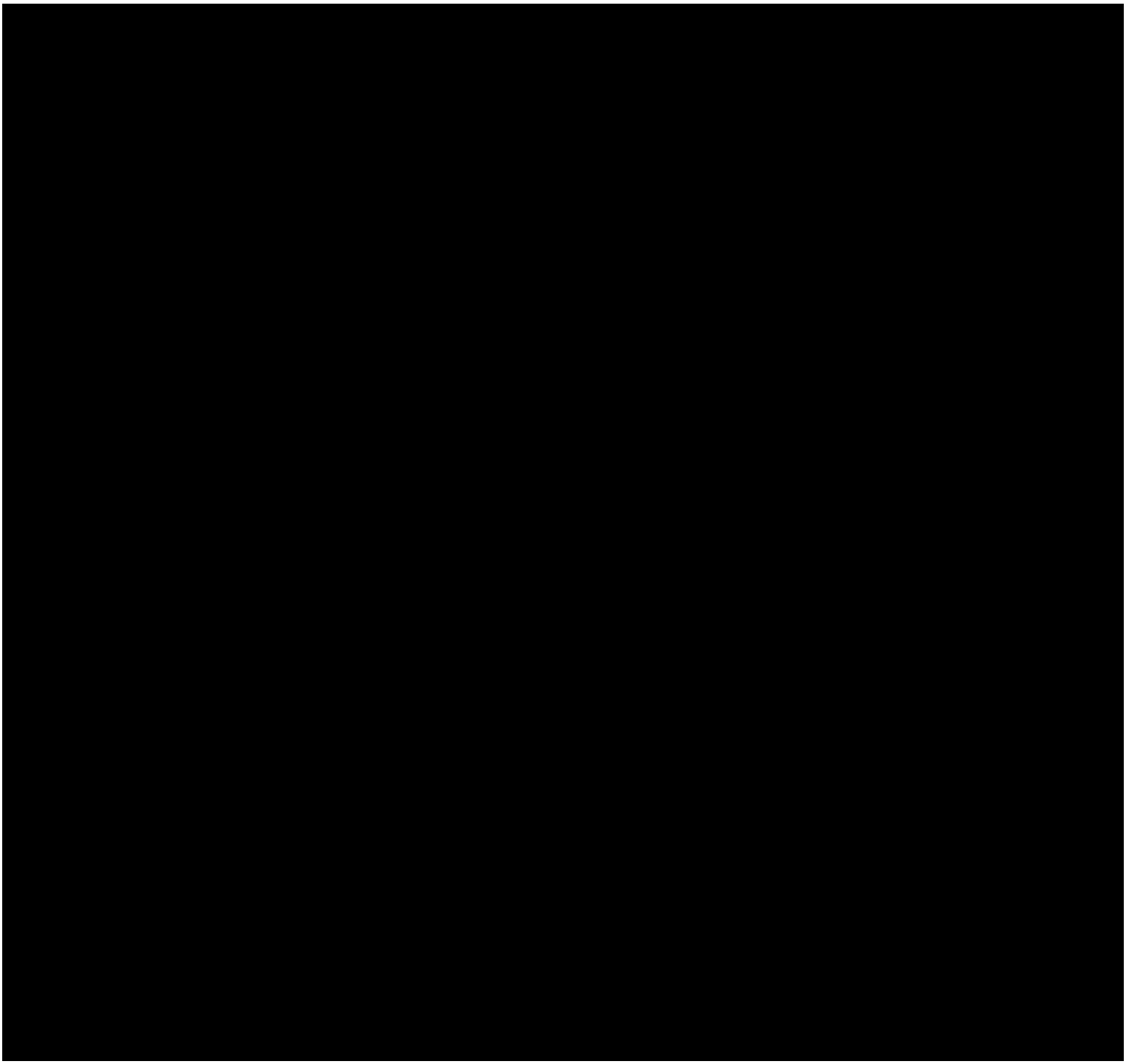

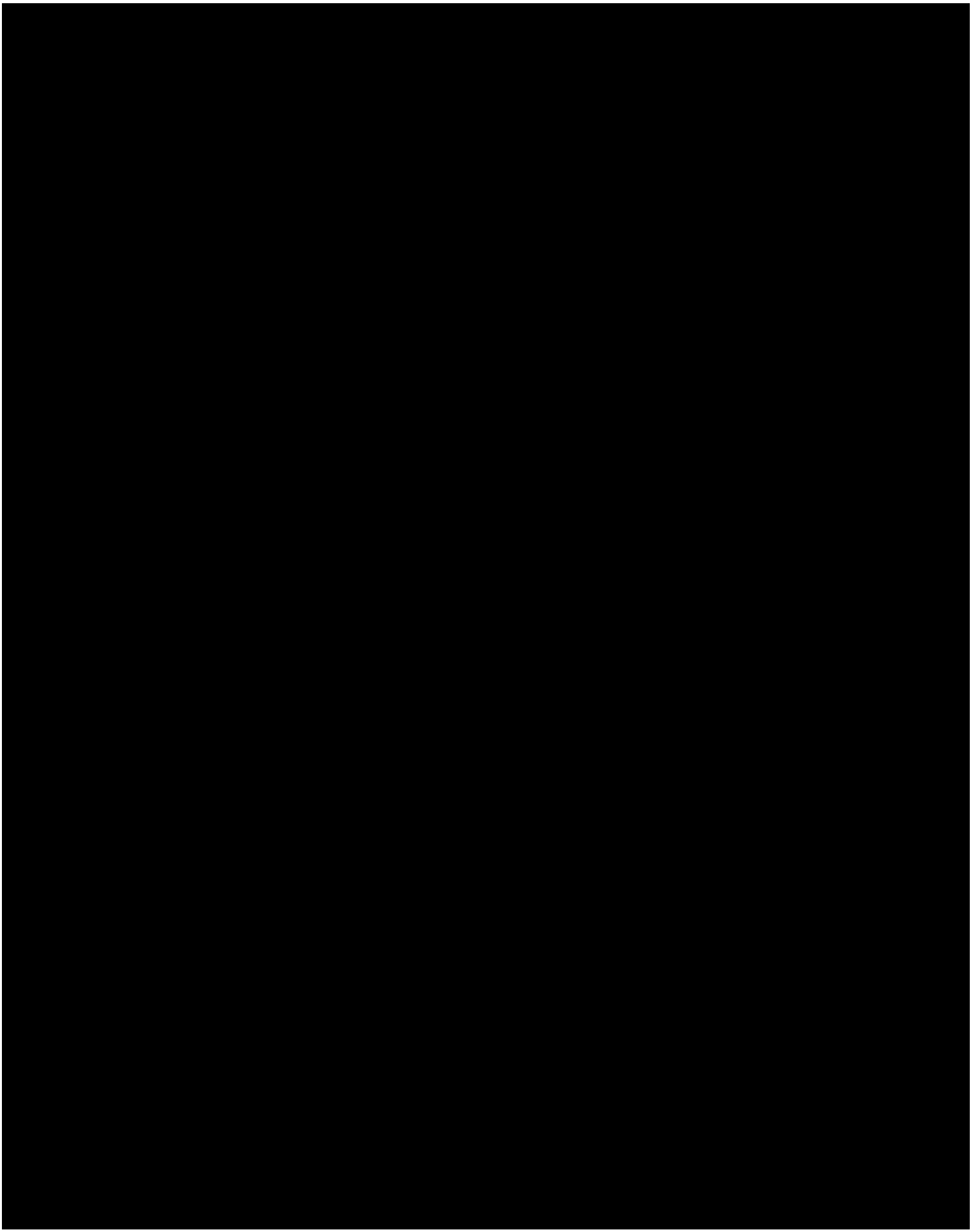

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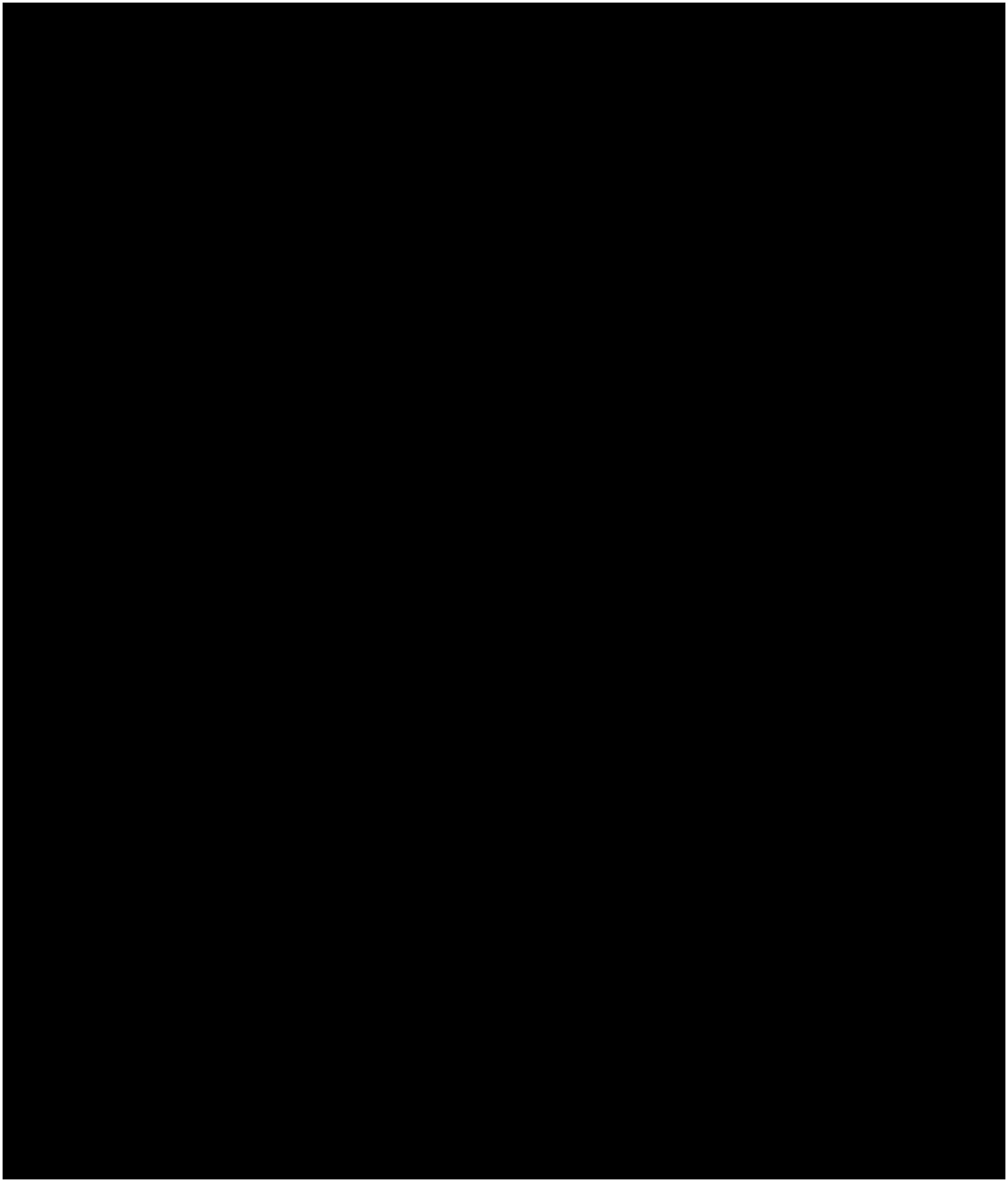

GTQ55: Do you agree with our proposed TIM sharing factor?

831. We agree with Ofgem's proposals.

832. The totex incentive mechanism (TIM) sharing factor is designed to ensure an appropriate sharing of risk or reward of performance against allowances between customers and networks. Therefore, there is an inherent link between this assessment and cost confidence, with a mechanistic outcome of a 39% sharing factor set for RIIO-T2. Ofgem has decided to retain this for National Gas Transmission in RIIO-GT3.

833. We recognise, as Ofgem states in paragraph 5.15 of the National Gas Transmission Draft Determination document, that whilst an increasing proportion of our activities are well understood based on previous work performed, it operates in a sector of one. This prevents Ofgem from comparing the cost of many of our proposed activities to other networks. Whilst we maximised the opportunity to benchmark our proposed costs, and presented this evidence to Ofgem alongside our Business Plan, (i.e. business support costs, IT capex and opex, cyber and physical security costs), many of our proposed investments on the network cannot be benchmarked given the absence of direct comparators and require assessment via first principle estimates. Therefore, if Ofgem applies the same mechanistic methodology as applied in RIIO-T2, evidence for a material movement from the 39% sharing factor appears limited.

GTQ56. Do you agree with our BPI assessment results for National Gas as outlined in this chapter?

834. We agree with many aspects of the business plan incentive (BPI) assessment, particularly the recognition of strengths in Stage A and Stage C. However, we ask Ofgem to reconsider the application of sector-specific weightings and reflect on how future guidance can better support alignment between company proposals and regulatory expectations.

835. We are broadly supportive of the general approach to adjust BPI rewards and penalties based on stakeholder feedback and updated cost information, ensuring fairness and transparency. We also support the use of basis points of Return on Regulated Equity (RoRE) as the mechanism for applying BPI incentives and penalties.

Stage A

836. We agree with Ofgem's decision to award a pass at Stage A, recognising that we have met the minimum requirements set out in the Business Plan Guidance (BPG).

Stage B

837. A high proportion of our costs sit in the bespoke element of the BPI due to the inherent nature of our business. We are a sector of one and most of the work we carry out is not high-volume repetitive work, as is the case for distribution companies where benchmarking and cost comparison is viable. Most of our costs have been assessed as bespoke, which has resulted in a higher penalty and lower potential reward compared to other companies merely due to the nature of our business.

838. We have previously expressed our concerns in our engagement with Ofgem on its approach to BPI for bespoke costs, as detailed below.

Comparatively assessed costs

839. For us, this only includes Business Support categories excluding IT and Telecoms and Insurance. As stated in the BPG, BPI is calculated on the relative efficiency of networks in the cost assessment models for this category. We have provided a detailed response to the cost assessment approach in GTQ50 and would expect the cost assessment methodology to be updated for Final Determination and any impact on BPI to be updated accordingly.

840. With respect to the specific points raised in GTQ50, we note that gas transmission (GT) and electricity transmission (ET) were not assessed using a consistent methodology. Setting a BPI based on relative efficiency can only be done if a consistent methodology is used.

841. We also highlight in our response to GTQ50 that the 'GT Dummy' variable effectively assumes any difference between costs for National Gas Transmission and ET networks are sectoral differences rather than a result of National Gas Transmission efficiency. As the model discounts the possibility of relative efficiency as an assumption, it is inherently unfair to then base BPI on relative efficiency of this model. Unless Ofgem can find a way to update the cost assessment methodology to adequately address this concern we do not expect a penalty to be applied to this category.

Bespoke costs

842. We recognise that these are more subjective in nature and acknowledge that the justification is consistent with feedback Ofgem has provided in bilateral discussions since issuing the Draft Determination.

843. Our response to issues raised is covered in each of the individual cost areas and we ask Ofgem to consider this along with any evidence not yet reviewed from the original submission, before making a final assessment on BPI.

844. We would welcome further discussions with Ofgem so that appropriate consideration is given to our unique position and is reflected by revising our Stage B assessment for Final Determination.

Stage C

845. We support the clarity assessment and welcome Ofgem's comments that:

846. 'National Gas' Business Plan was of a high standard, with the layout and structure of the Business Plan being clearly signposted and coherent throughout. The information provided in the Business Plan was accessible and clear, using technical language only when necessary, making its contents clear to all stakeholders.'

847. We accept Ofgem's assessment that there were instances of minor inconsistencies across the plan and will take this feedback on board for future submissions.

848. We also support Ofgem's assessment of our business plan commitments, particularly the recognition of the 'clear thread centred around National Gas' twelve commitments,' which were 'underpinned by strong stakeholder engagement.' We welcome the acknowledgement of proposals developed in response to stakeholder feedback, including new financial incentives (eg, Greenhouse Gas incentives), the biomethane proposal, and mechanisms aimed at supporting decarbonisation.

849. As discussed in our response to OVQ12, we support the equal rating weightings across the assessment areas within the Business Plan Commitments Scorecard. However, we do not support Ofgem's decision to apply sector-specific outcome weightings after business plans had been submitted. As noted in OVQ12:

850. 'Had this information been available earlier, companies could have tailored their commitments to better reflect the areas Ofgem considers most beneficial to consumers. This would have supported a more targeted and strategic alignment between company proposals and regulatory expectations.'

851. We believe equal weighting should be applied across Ofgem's regulatory outcomes. A summary of this position is included in the table below.

	Infrastructure fit f a low-cost transition to net zero	Secure and resilie supplies	High quality of service from regulated firms	Total
Ofgem's position weighting and award	20% - 1.3 bps	50% - bps	30% - 1.95 bps	3.25 bps
Our proposal – weighting and award	33% - 2.145 bps	33% - 0 bps	33% - 2.145 bps	4.29 bps

Table 1

GTQ57. Do you agree with the level of proposed NIA funding for National Gas?

852. We do not agree with the proposed level of funding for Network Innovation Allowance (NIA) and believe that 100% of the requested funding should be allocated for the following key reasons:

853. The scope of activities in the RIIO-3 period has been misrepresented and the split across network innovation and future of gas is incorrect. The proportion of work that should be enabled through NIA, based on the proposed criteria and scope, is £26.5m. Please see sections; Overview, 2.3 and 2.6.

854. The exclusion of future of gas work is contrary to government direction on Power and Industry and the latest data from the spending review for CCUS and blending consultation. In this the consideration of at least a further £6m for industry and power future of gas projects should be included. In consideration of the NTS's role in power, industry and blending all future of gas work should be enabled at £13.5m. The alternative mechanisms suggested for funding this activity are not appropriate. Please see sections overview and 2.1.

855. We do not agree that we have not met the areas highlighted by Ofgem on eligibility, duplication, dissemination and scope and detail why below. Please see section 2.

856. The 22% reduction for not meeting the innovation annex criteria seems high in relation to the information provided and we believe this should be reduced. Please see section 3.

857. We have structured the remainder of our response as follows:

1. Overview

2. Key focus areas provided by Ofgem

2.1. NIA is not the most appropriate route for further work relating to future of gas and hydrogen

2.2. Key areas of focus for NIA spending

2.3. Meeting eligibility criteria and scoping guidance

2.4. Ensuring projects are not duplicative

2.5. Proposals to disseminate

2.6. An explanation of why the innovation in question cannot be funded from the totex allowance

3. Adherence to business plan requirements

858. Further information on the distribution of IA funding across the networks and against criteria set can be found in the answers OVQ20 to OVQ23.

1. Overview

859. The proposal of £11.2m is not appropriate to ensure continued levels of innovation to support the required whole system approach for the energy transition. Furthermore, the reasoning for this proposal has several inaccuracies that we will look to address below. Whilst we disagree that future of gas should be excluded from the allowance, we believe that the proportion of projects Ofgem has associated to it is inaccurate. As shared in our RIIO-GT3 Business Plan, we have 39 key areas of innovation with 27 of these being focussed on National Transmission System (NTS) innovation, not future of gas. We provide further detail of this below see figure 1 and accompanying info.

860. Through RIIO-T1 we undertook NTS-focussed innovation and averaged spend of around £5m per annum and in RIIO-T2 have averaged £7.7m per annum including future of gas projects. The funding allocation proposed is equivalent to £2.2m per annum and would dramatically reduce the impact and capability of National Gas to be ready for the future. We believe that based on the criteria set out in the Draft Determination excluding future of gas their NIA allowance should be £26.5m.

861. Further to the above, the removal of all future of gas activity and waiting on decisions regarding heat and blending policies is not relevant for the NTS. The NTS has already been identified as a key component in future energy system through the repurposing of assets for CCUS and hydrogen for industry and power. The following papers confirm this position:

- 'Second National Infrastructure Assessment' (2023) NIC,
  'Core networks of infrastructure to transmit and store hydrogen and carbon are essential by 2035. They will support industrial decarbonisation and provide the fuel needed to generate low-carbon power'
- 'Hydrogen to Power Report' (2025) NIC,
  To achieve the 2030 clean power system ambition... it is critical that the new government takes resolute actions now to support H2P at scale.'
  'H2P projects will be at the heart of this integrated system... with extensive cross-chain connections for hydrogen production, transport pipelines and storage assets'
- 'Delivering a Reliable Decarbonised Power System' (2023) CCC,
  'Fast-track the development of new business models for hydrogen transportation and storage infrastructure, with a view to keeping options open for larger scale hydrogen use by 2030'
- 'Hydrogen Trasport and Storage Networks Pathway' (2023) DESNZ
  'Hydrogen transport and storage infrastructure will be critical in supporting our low carbon hydrogen production ambitions by 2030.'
  'Strategic planning can provide greater certainty... fuelling the growth of the hydrogen economy'
- 'Hydrogen in a Low-Carbon Economy' (2018) CCC
  'Repurposing gas distribution networks to contribute to buildings decarbonisation would mean that low-carbon hydrogen is widely available, enabling it to play a wider role within other sectors'
- 'FES 2025'(2025) NESO
  'Hydrogen will play a pivotal role, powering the network with between 98 and 325 TWh by the middle of the century'
- 'Spending review' (2025) Gov
  'The government has confirmed... landmark new funding to create the UK's first regional hydrogen transport and storage network... delivering clean energy while creating thousands of skilled jobs' 'By building hydrogen networks, we are securing homegrown energy that will power British industry for generations to come.'

- 'Hydrogen Update to the Market' (2025) DESNZ
  'Hydrogen has a fundamental role to play in not one but two of our core Missions... helping us grow the economy and deliver net zero'
- 'Hydrogen Strategy Update to Market' (2024) DEZNZ
  'Low carbon hydrogen has a unique role to play in supporting the decarbonisation of power and in transitioning vital UK industries away from fossil fuels'
- 'Hydrogen blending into the GB gas transmission network' (2025) DESNZ
  'Blending hydrogen into the gas transmission network could provide strategic and economic value... as an interim measure alongside the development of a dedicated core hydrogen transmission network'

862. The Blending consultation released by DESNZ in July 2025 is against a minded to position enable blending from 2028, in order to achieve this we will be implementing measurement technologies and utilising work we have done in RIIO-T2 on blending connections and management systems. However, with the uncertainty on locations of connections and potential for added complexity with certain end users we believe there are innovations that could be required in RIIO-GT3 to enable blending.

863. The latest governmental direction provides funding for CCUS and Hydrogen for industrial clusters and power, including the repurposing of NTS assets to support this. Without innovation funding for the future of gas at a transmission scale there is a contradiction between enabling repurposing of assets and not funding innovation to implement that vision in a more efficient way. We believe that future of gas innovation activities should be added back for networks relating to the future of Clean Power, CCUS and Industrial clusters and this would take the total NIA fund for National Gas to **£32.5m**. We do not agree that the Hydrogen Transport Business Model (HTBM) is a suitable alternative funding mechanism for this necessary innovation work and detail our reasons behind this in our response to OVQ21.

864. The lack of a firm baseline fund for innovation risks the ability for National Gas to innovate, implement and disseminate activities. Without a team of suitable scale to develop applications and proposals to attain SIF and Re-opener funding, the level of innovation will dramatically fall. Other mechanisms do not allow for this and provide a level of risk that regulated companies are unlikely to achieve. The proposed level of £0.56m per year for internal costs to include resource, dissemination (conferences, events), process (project management tracking, data sharing and capture), strategy (stakeholder engagement sessions) will greatly reduce the impact innovation has had over the past two price controls and reduce innovation culture across the business and energy system. This would be seen as a backwards step for the energy transition at a time when more investment is required to match the aspirations of the UK Government.

865. The current distribution of the NIA funding across the networks is unlikely to support a whole system approach for the future and whilst electrification is a target, the importance of having an equally supported gas transmission system for dispatchable power has been highlighted through the Clean Power activity and other studies in RIIO-T2.

2. Key focus areas provided by Ofgem

866. Based on the rationale provided in the RIIO-3 Draft Determinations – National Gas Transmission document, we set out to address Ofgem's key points below:

2.1 'For the reasons set out in Chapter 11 of the Overview Document, we have decided that NIA is not the most appropriate route for further work relating to future of gas and hydrogen, and so we are proposing to reduce National Gas' NIA allowance by £25.6m.' 7.4 [RIIO-3 Draft Determinations – National Gas Transmission]

867. Our requested NIA proposal in RIIO-GT3 is £40m which represents a continuation of the level of RIIO-T2 NIA spend for the National Gas. We believe that a similar level of innovation is needed in RIIO-GT3 to enable the energy transition following the evidence produced in RIIO-T2 to demonstrate that the NTS can be repurposed and transitioned to net zero. Innovation in facilitating, enabling and making the transition more efficient comes at a vital

point during RIIO-GT3 to continue the momentum created from the previous price controls. The NTS has been identified as a key system for dispatchable energy for Power whilst also providing repurposing opportunities for CCUS and Hydrogen supporting the industrial clusters. The continued investment in this network is required to ensure it is available through the energy transition.

868. Whilst we appreciate the uncertainty around the energy transition and policy decisions on blending and heat, the National Transmission System has been identified as a facilitator for CCUS and Hydrogen core networks through repurposing. To halt all activity in this space awaiting decisions aligned to the distribution network assets seems counter to decisions being made by the UK Government. The result of promoting the use of transmission assets through Project Union and SCO2T for Clean Power but then removing any innovation spend in this area will result in inefficiencies and the inability to trial and deploy innovative technologies to repurpose the assets, having a net effect of increasing the cost of these major projects. Our RIIO-1 innovation shows current benefits of over £200m from an investment of £36m, but by removing future of gas innovation from the transmission sector will prevent similar benefits from being realised on our hydrogen and CCUS workstreams. Repurposing the network is of consumer value and enabling future solutions through innovation projects is vital to ensuring this can occur:

869. Risk of increased tariffs – as the user base contracts, the remaining users could see an increase in tariffs to cover network costs. Repurposing pipelines offers a cost-effective way to reduce the carbon emissions of large methane users. An example is SCO2T supporting the Scottish belt where the users currently make up approximately 2.5% of the total natural gas demand in the UK. If they can continue to operate, supported by CCUS it will reduce the contraction of the natural gas user base and diversify the spread of costs. Whilst repurposing for hydrogen can remove assets from the natural gas system cost base thus reducing the tariffs for current users and providing a return to the natural gas consumer through the asset transfer/sale.

870. Risk of decommissioning costs - If pipeline sections become severely underutilised and net liabilities to the network, decommissioning costs could be incurred. Repurposing pipelines enables their continued use and transfers future decommissioning costs to Hydrogen and CO2 users. [redacted] This reduces the burden on methane consumers to establish a decommissioning fund.

871. Risk of stranded assets - Changes in forecasted usage of pipelines can lead to write-down in the useful life and value of assets. There is substantial unrecovered historical investment and need to invest to provide methane users with continued energy security and energy resilience. Through repurposing, consumers are protected from the risk of stranded assets through an extension of the asset's useful life and fair value transfer of assets between natural gas to CO2/H2. Repurposing strengthens the incentive to invest in maintaining the methane network and removes need to accelerate asset depreciation.

872. The Hydrogen Transport Business Model (HTBM) is due to provide funding for construction of hydrogen networks but will not drive innovative approaches to delivering hydrogen opportunities, such as repurposing, in the future. The statement that HTBM and other funding will be appropriate for future of gas innovation is misaligned with the funding guidance for the HTBM provided to date which requires the following eligibility criteria – Onshore pipeline transporting H2 as a gas, project maturity operational by Dec 2032, be 'large' and have at least one storage partner and be GB based. Incorporating innovation, research and development activities in HTBM bids is likely to result in the project being unfunded. For this reason, we do not believe the HTBM is the right route to fund innovation in this space. The inability for networks to progress hydrogen projects for a 5-year period will significantly impact competitiveness of this option. The proposals highlighted in our business plan look to improve the efficiency of deploying hydrogen developing from our RIIO-T2 evidence on network capability. In RIIO-2 Ofgem included the HyINT mechanism to enable hydrogen specific projects to be progressed if justified and aligned to broader government decisions. We believe this mechanism should be repeated in RIIO-GT3 if baseline funding is removed.

873. The spending review decision to fund and progress Acorn and the subsequent SCO2T project will mean that in the timeline of RIIO-GT3 we will be transitioning assets to Carbon transportation. Whilst we have undertaken some work

on repurposing for carbon, we believe there is further technical innovation in the field of venting, emergency procedures and asset integrity that will ensure safety and reduce environmental impact of the repurposed system.

874. Following publication of our RIIO-GT3 plan, we undertook a series of engagements to help customers and stakeholders better understand our submission. In response, over 40 of our customers and stakeholders provided letters of support to the RIIO-3 Call for Evidence Process, the majority of which cited support for innovation in the future of gas and/or the importance of maintaining a strong culture of innovation. Some examples include:

- 'Innovation must be leveraged to develop the evidence base needed to enable the energy transition and drive continuous improvement.' Future Biogas
- 'National Gas should be investing during RIIO-GT3 in low-regrets activities... and keeping a continued focus on fostering innovation to drive efficiencies and make vital progress towards a net zero future.' CCSA
- 'In addition, it is clear that in future at least part of the National Gas Transmission assets will be essential to provide transmission infrastructure for hydrogen and CO2 to support delivery of targets around carbon capture and storage and decarbonisation of hard to abate sectors. National Gas Transmission will have a key role to play in this area, building on the current extensive research programs being delivered ... related to repurposing natural gas assets.' - DNV
- 'Innovation must be leveraged to develop the evidence base needed to enable the energy transition and drive continuous improvement.' ENGIE
- 'It is imperative that National Gas continue to invest in innovation and foster a culture of innovation – the energy industry is evolving quickly, and innovation must be leveraged to develop the evidence base needed to enable the energy transition.'
- 'National Gas must continue to invest in innovation and foster a culture of innovation… to develop the evidence base needed to enable the energy transition and drive continuous improvement.' Hydrogen UK

875. Further to the above direct feedback we are a part of the Hydrogen Innovation Initiative who have provided several papers on the opportunity for innovation in hydrogen across all industries and demonstrate the need for funding through 2025-2035.

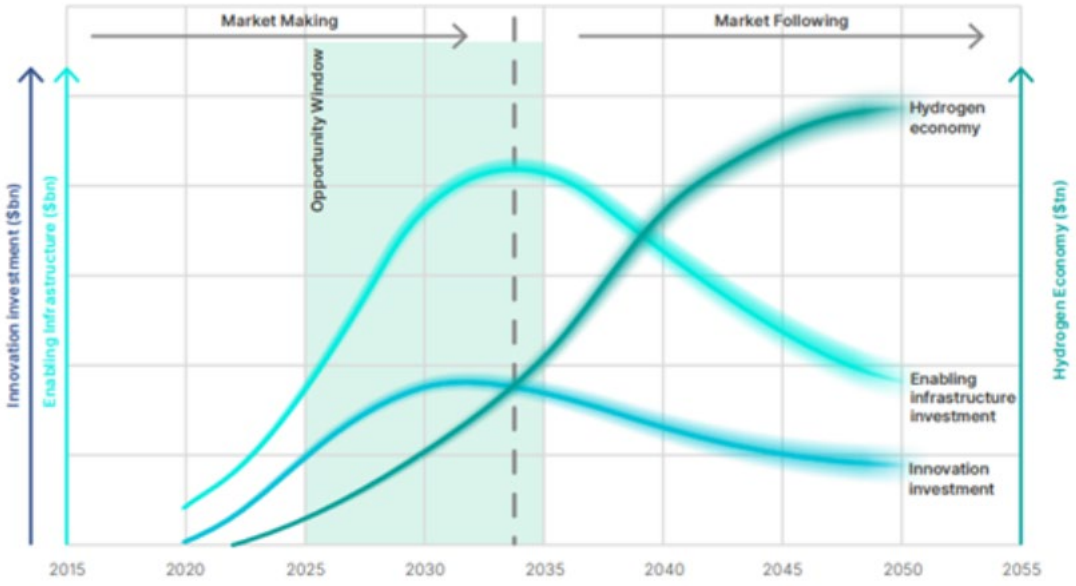

Figure 1 – Trends in the evolution of the global hydrogen economy - Hydrogen Innovation Initiative - The UK hydrogen innovation opportunity

876. Within engagement sessions held in Summer 2024, stakeholders primarily associated our Business Development stream with hydrogen and storage, with a dual focus on training and upskilling our workforce and ensuring that standards and research outcomes could be quickly adopted to support asset design, integrity, management and safe operation.

877. Similarly, stakeholders predominantly associated our Asset Development for Risk Management Stream with readiness to transport hydrogen, with particular expectation that National Gas innovate on consideration and measurement of hydrogen emissions and maximum blend percentages; repurposing existing valves and gas analysers; investigating processes applicable to manage hybrid networks; digitalisation of asset data and digital twin projects for Project Union.

878. The proposed approach to Future-of-Gas has been discussed with the gas distribution networks and we are aligned in the need to enable funding in this area.

879. We believe that the decision to not fund the future of gas work is contrary to government and stakeholder positions and provides no confirmed alternative funding route to ensure continued development for the energy transition.

2.2 'Key areas of focus for NIA spending: National Gas sets out and explains at a high level its planned areas of focus. However, there was no detail on the breakdown of costs outside of the £40m total requested. We have adjusted all networks' NIA requests accordingly. Where work has clear benefits to consumers, regardless of the outcome of government decisions, such as decommissioning or biomethane, this can still be carried out under the NIA.' 7.5 RIIO-3 Draft Determinations – National Gas Transmission

880. In the RIIO-GT3 Business Plan we have provided insight into the broad range of topics that we should explore to improve, maintain and manage the NTS. We have provided our innovation strategy updated for 2025 showcasing innovations across the spectrum of activity.

881. As per our business plan Innovation Annex (fig 8) we provided information on our key topics of innovation. As can be seen there are future of gas workstreams included in the list but not to the level of split stated by Ofgem (£14.4m - £25.6m). The split should be (£26.5m - £13.5m) covering 27 NTS focussed themes vs 12 future of gas themes. We argue that some elements of future of gas should be allowed due to decisions in CCUS repurposing of NTS assets SCO2T and Project Union. The CCUS elements account for a further £2m and those associated to industry and power £4m. We therefore believe that the National Gas NIA budget should be **£32.5m** using the criteria set out by Ofgem's Draft Determination.

882. Please see appendix GTQ57 Project Roadmaps which showcases the themes, timelines and cost associated. Below there is a description of each and their impact on the consumer. The diagram on slide 2 showcases the Key technologies mapped to themes, from the National Gas Innovation Annex against the RIIO-GT3 period and highlights their focus area – Core network vs future of gas. The symbols against each line provide insight into their key benefits strands aligned to the Innovation Measurement Framework utilised in RIIO-T2 and in development with Ofgem and ERM.

Project area	Principle
Road to Net Zero	Embeds sustainable thinking into decisions made by networks or consumers
	Encourage culture or behaviour which aids the transition to net zero
	Drive attitude change towards the net zero transition
	Ensure the production and use of green gas from feedstock to end user is sustainable
	Upgrade gas distribution systems to allow other gases to be transported
	Ensure green gas is prioritised for hard-to-electrify applications
Energy/Network Security	Increase the resilience of the energy system
	CML
	Increases energy security
Consumer/ network cost reduction	Facilitate the reduction of network operation costs or household bills
Other consumer solutions / improving consumers interactions with the networks	Facilitate transparency/openness of the networks
	Increase customer engagement
Health, Safety and environment	Reduce the likelihood of an incident
	Encourage proactive risk management
	Improve protocols to identify and mitigate hazards
	Discourage the use of un-developed land or encourage the reuse or recommissioning of previous sites.
	Expand biodiversity and enhance ecosystem resilience
Data and Digitization	Developing a model or platform which gives insight into gas or electricity network operation or planning
	Develop a system to improve or simplify network monitoring or automation
Vulnerable consumer	Give vulnerable consumers greater access to energy at times of need
	Insulate vulnerable customers from cost increases
	Ensures that vulnerable consumers are actively supported and engaged with
	Ensures vulnerable customers are able to engage with low carbon technologies

Figure 2

883. It can be seen that we align our portfolio to ensure consumer benefits across the focus areas directed to us by Ofgem ([redacted]) Each project provides a benefits statement that is measured throughout the project and finalised into an implementation plan at the end. The value delivered is then measured against both the end of project benefits and the initial proposed benefits.

884. Our innovation portfolio is driven by delivering benefits to the consumer. Whilst the NTS is not directly connected to a large proportion of consumers the changes we make could have a great impact in cost reduction, environmental

impact, safety and energy security. It is vital that we continue to invest in our network assets to enable a resilient whole system future of energy.

885. The following provides insight into each of the themes key topics and how they align to consumer benefits:

886. Asset development - £10m (FOG £5m)

- Modernising our systems (NTS) £1m 
  To support the transition to net zero, modernising our National Gas Transmission systems is essential. Innovation projects focused on climate-resilient network assets, enhanced asset flexibility and resilience, and state of the art technologies will ensure a future-ready infrastructure. Additionally, incorporating updated storage and transport standards and automated documentation updates will ensure a Gas Transmission Safety Case fit for a Net Zero future. Embracing technologies like operational hydrogen storage, waste heat recovery, and predictive condition-based monitoring for assets will drive efficiency, sustainability, and reliability across the network.
- Maintain, Decommission & Replace (NTS) £1.5m 
  To achieve net zero, it's vital to maintain, decommission, and replace gas transmission assets through innovative approaches. Projects that improve maintenance and repair processes, enable the reuse of assets and materials, translate technical evidence into actionable insights, and apply digital tools like AI and Augmented/Virtual Reality in commissioning, decommissioning, and construction will drive efficiency, sustainability, and long-term resilience across the network.
- Design for Remanufacture / Decommission (NTS) £1m 
  The early integration of remanufacture and decommissioning methodologies into the design of the network will decrease the cost later in the asset's life. This includes building on the successful Digital Decommissioning SIF project delivered in RIIO2. In particular, redundant Network Entry and Exit points could be reutilised to reduce the cost or timeline for future connections.
- Decarbonising construction (NTS) £1m 
  Decarbonising construction is a critical step toward achieving net zero, requiring innovative approaches that reduce emissions across the asset lifecycle. A number of major projects are planned for RIIO3, such as compressor replacements, all of which require significant construction workstreams. Innovation projects will enable efficient low-carbon network connections and Above Ground Installations for biomethane, CO_2, and H_2—while prioritising safety in the energy transition, will help transform construction practices into sustainable, future-proof solutions.
- Compressor strategy (NTS) £0.5m 
  Compressor units are large carbon emitters on the NTS, and a number of options are available for decarbonisation including electrification and alternative low carbon fuels. However further optimisation of the operation of compressor and technologies can be deployed to improve efficiency and reduce emissions. This includes novel combustion control systems and recompression.
- Hydrogen for Industry & Power (FoG) £2m 
  This theme looks to understand the asset impact of Clean Power 2030 and the industrial clusters move to hydrogen, with a focus on supporting power generation using biomethane, synthetic fuels, hydrogen and hydrogen blends. The design of connections into the NTS and the enablement of storage through line-pack is key to enable fast response times for these customers.
- Hydrogen Network (FoG) £0.5m 
  The reuse of NTS assets to support hydrogen enables the decarbonisation of industry and power. This theme looks at the enabling technologies and systems to support NTS repurposing driving down the cost of asset decommissioning under natural gas and enabling future decarbonisation. This theme looks at hydrogen specific assets and requirements for future hydrogen networks.

- Pipeline Safety Case (FoG) £0.5m 
  The pipeline safety case is about ensuring that pipelines are safe and reliable for transporting new, low carbon gases. Modernising the safety case means updating standards and procedures ensure that pipelines remain safe with new gas. It is vital that we modernise our approach to safety cases alongside the variability in the use of the network to ensure safety of consumers and staff.
- Carbon Network (FoG) £2m 
  The reuse of NTS assets to support CCUS enables the decarbonisation of industry and power. This theme looks at the enabling technologies and systems to support NTS repurposing driving down the cost of asset decommissioning under natural gas and enabling future decarbonisation. This theme looks at carbon specific assets and requirements for future carbon networks.

887. Automation and measurement - £6m (FOG 0.5m)

- Robotics (NTS) £0.5m 
  This theme looks at novel options for robotics that can support inspection of above and below ground assets. Soft robotics and form-factor-specific robotics could be considered alongside more available solutions. We have been working with the nuclear, aerospace and water industries to use learning from their work on similarly challenging inspections, to identify opportunities for quickly assessing assets without the need for costly excavation.
- Robotic deployment (NTS) £1m 
  Whilst robotics and sensor technologies are developing quickly, the deployment of robotics on the NTS in the field is more difficult as site-specific and system operation challenges remain. The opportunity of utilising robotics to improve safety, efficiency and cost is also limited by the cost of deployment which is a focus for this theme. Increasing deployment of novel integrity management robotics is predicted to offer a significant cost saving.
- System Readiness and Advanced analytics (NTS) £0.5m 
  Managing gas composition will be more challenging as we move to increased levels of Biomethane on the network and careful mixing of gas prior to reaching storage facilities will be needed. Smart, real-time monitoring using IOT enabled devices and low-cost sensor options could prevent costly metering systems being deployed. Similarly, network content modelling could remove the need for certain instances of physical measurement on the network. Real time settlement methodologies will also be considered in this theme.
- Autonomous surveillance using AI (NTS) £0.5m 
  At present helicopter flights are utilised every 2 weeks to survey the network, this has gaps in data and is costly with high levels of carbon impact. We are looking at the use of satellite, drone, vibration monitoring and other inspection tools but each requires data to be analysed and acted on. The use of AI could dramatically reduce the cost of inspection whilst increasing the output and reducing emissions. Ensuring the safety of the consumer whilst reducing their costs.
- Leak detection and emissions monitoring (NTS) £1m 
  In RIIO-T2 we have been working to develop multigas detection systems which can identify gas releases, these however cannot measure the scale of a release or its impact. We believe satellite tools can be used for surveillance and emissions management alongside the other options for surveillance such as drones with novel quantum sensors. These tools could more quickly identify leaks and enable them to be resolved. The continued interrogation of Unaccounted for Gas (UAG) data using advanced computing may also enable large scale emissions reductions and improved asset interventions.
- Modernising our systems (NTS) £0.6m 
  This theme looks at our current measurement systems for safety, vibration, control, integrity and considers how these can be updated to more efficient and robust solutions. Many of our systems are as installed with the

pipeline and would be greatly improved with modernisation, this includes the investigation of novel sensing solutions e.g., optical measurement of gas components

- Smart networks (NTS) £0.5m 
  Enabling edge computing and IOT to manage sites could reduce the impact of cyber security and reduce opex associated. Consideration of how smart networks can support the control room, through AI-enabled decision support tools for more efficient and environmentally friendly compressor operations. The use of integrated non-destructive integrity systems and alerts may ensure issues are identified earlier and will improve safety and reduce the cost to the consumer. Virtual sensors, enabled by Machine Learning, may also offer measurement of new properties and provide enhanced system insights.
- Asset integrity management (NTS) £0.8m 
  In line inspection tools can be costly to deploy and cause emissions, this theme looks at how this approach could be improved on both counts whilst also considering techniques for un-PIGable pipelines. It also considers advancements for in-line inspection payloads such as couplant-free ultrasound inspection.
- Predictive maintenance (NTS & FoG) £0.8m 
  Automated & digitally integrated inspection and condition monitoring technologies will enable us to manage the network more effectively, predicting issues before they occur and ensuring security of supply for our consumers. These can reduce the number of asset interventions required on the current network and help consolidate the increasing complexities of managing the integrity of a multi-gas system.
- Hydrogen network (FoG) £0.3m 
  The measurement of hydrogen through meters and gas analysers has been evidenced through RIIO-T2 with systems identified and developed to meet our requirements. This is however a fast-moving market and new devices with improved accuracy and responsiveness are in development. This theme would look to trial and test novel options to support the deployment of hydrogen networks, enabling the energy transition in as cost-effective manner as possible.

888. **Materials and processing - £6m (FOG £1m)**

- Asset integrity (NTS) £2m 
  Asset integrity on the NTS is predominately focussed on the materials and potential for damage and corrosion. This theme looks at modelling tools to predict failure, understand optimised approaches to corrosion management, develop automated integrity management systems and look at materials developments.
- Network resilience and capability (NTS) £1m 
  Our network will be required to operate in different manners through the energy transition and flexibility and resilience will be key to energy security. Our materials are limiting factors to pressure and fatigue cycling, solutions to this and improving our network capability is key for the future.
- Automated repair (NTS) £1m 
  Repair of defects on the network is one of the largest maintenance costs and is increasing with the age of the assets, enable defects to be identified and repaired in situ and in an automated fashion could reduce costs and prevent large scale fixes being required in the future.
- Inline repair (NTS) £1m 
  We inspect our pipelines utilising pipeline inspection gauges that run through the pipeline, these then indicate areas where excavation is required, this theme looks to reduce to need for excavation using internal repair techniques to prevent the cost and time associated with excavation.
- New materials and printing parts (NTS & FoG) £1.3m 
  There are several developments in the areas of meta materials, smart materials, additive manufacturing and

base material composition to support the reduction of corrosion, 3rd party damage and cost. All options could reduce cost for the consumer in the future whilst also decreasing the impact on the environment.

- Hydrogen network (FoG) £0.7m 
  Understanding the impact of hydrogen on materials is a challenging topic as there are several methodologies and approaches being taken across the globe. Further work on hydrogen resilient materials, coatings and inhibition techniques, construction materials and mechanisms of impact are vital to extending the lifetime of our assets and improving their operating envelopes.

889. **Digital systems and simulation - £9m (FOG £1m)**

- Modernising our systems (NTS) £0.6m 
  Delivering accurate data to our control systems and consumers is key to our future success and requires us to keep up with the fast - moving digitalisation industry, which will allow us to work more collaboratively with the wider energy network. This theme will consider how our data and network is managed by utilising novel approaches to manage current and historic data, whilst enabling the integration of these datasets into current and future systems.
- Whole System Demand Forecasting (NTS) £1.4m 
  The government targets for clean power and decarbonisation require the system to forecast future scenarios and impact, the GSO supports NESO with modelling these scenarios whilst providing detailed plans for high demand scenarios such as winter days. Improving our forecasting alongside NESO is important for the energy system to ensure we're modelling our network efficiently enabling us to prioritise investments based on robust, reliable and realistic results.
- Cyber and infrastructure (NTS) £1.4m 
  This theme supports the prioritisation of cyber resilience across our operational and IT estate, with a focus on compliance, modernisation, and risk mitigation fostering innovation to support the necessary enhanced tightening of security, as mandated by Government. This will help support other themes such as AI & ML by providing good quality and secure datasets that can be efficiently and safely shared.
- Digitisation & Digital Twin (NTS) £2m 
  The development of advanced analytics and systems for the digital twins developed in RIIO-T2 through the utilisation of APIs linked to internal data which has provided benefit versus procurement of 3rd party solutions. The roll out of this is to continue as BAU in RIIO-3 and will be supported by further innovations to integrate business use cases and more advanced analytics capabilities. Digitisation of our processes and activities continued and where more challenging such as when considering critical national infrastructure data, we will develop novel secure methods to support the business.
- Augmented / Mixed reality (NTS) £1m 
  The adoption of Augmented reality for operational activities, training, digital twin interaction and customer engagement is important to enable the upskilling of our workforce as we move through the energy transition. This theme will support the acceleration of training reducing the reliance on physical assets, improving safety and knowledge transfer using novel technologies.
- Artificial intelligence and machine learning (NTS) £3m 
  The use of AI and ML to improve efficiency and delivery is key to the success of the energy system in the future but needs to be managed to ensure security of data and our systems. Internal system AI tools are already in use but linking these across the whole system and enabling further functionality for a broader range of use cases requires innovation to enable. This is a growing area of activity and is likely to require further funding to reach its potential, SIF and alternative funding will be considered.

- Systems Operation for a decarbonised energy network (FoG) £0.6m 
  The network management of multiple molecule systems needs careful management through system operators whilst also closely linking to NESO and the electricity system operation. This topic covers the development of SO interactions with the networks and the broader energy system to improve efficiency and reduce complexity. The opportunity for automated and autonomous control systems to support the operators and provide faster scenario assessment and planning is currently in review and discussion with NESO to develop collaborative projects to support future network management.

890. Business development and process - £9m (fog £6m)

- Decarbonised Natural Gas (NTS) £1m 
  The opportunity to reduce the carbon intensity of the natural gas we transport is key to supporting clean power through certification. This theme looks at supporting biomethane connections to integrate faster and at a reduced cost. Other alternatives such as synthetic natural gas will be considered as longer-term options.
- Emissions Elimination (NTS) £2m 
  Whilst we have looked at emissions monitoring, the methods for preventing emissions once identified and ensuring in emergency scenarios that alternative safe capture and management compared to venting, needs further work. This theme continues to look at recompression and capture systems alike Ch4rge to eliminate emissions across the network.
- Hydrogen for Industry & Power (FoG) £2m 
  This theme looks at the market and business requirements to enabling power and industry to utilise hydrogen. This will continue to develop how to innovatively support their energy requirements through utilising line pack and storage for multiple molecule transmission to ensure flexibility in supply to ensure vulnerable consumers energy remains protected.
- Future Markets (FoG) £0.5m 
  The market for future molecules will be different to that seen today and needs further consideration to optimise and ensure consumers are protected. Connecting new emerging markets and exploiting currently unlinked markets (e.g. synthetic fuels, pink hydrogen etc.) to gas networks in the UK and exploring diverse supply options will secure energy in the UK to support consumers.
- Hydrogen Mix / Blending/Deblending (FoG) £2m 
  The minded to position for Hydrogen blending is currently being consulted on, this theme looks at how our network will manage blends efficiently through the system operator and ensure vulnerable consumers do not receive unwanted compositions. Developing innovative ways to manage the blend will enable greater control over transporting blends and help alignment with interconnected parties thus enabling the transition more broadly.
- Net Zero UK (FoG) £0.5m 
  This theme looks at the whole system approach to net zero and supports projects associated with how the gas and electricity networks will interact. This theme looks at how we do this in the most efficient manner and supports NESO planning for future network scenarios. The theme incorporates developing rollout efficiencies through upskilling innovatively, scaling up low TRL but high potential technologies and refining supply chain interactions to enable the transition spanning the UK and critical industries.
- Hydrogen for Transport (FoG) £1m 
  In RIIO-T2 we have demonstrated that we can take hydrogen from the network and provide it to transport applications, this further expands this to broader applications and continues work in SAF and e-methanol for aviation and maritime.

891. As stated in the Innovation Annex (NGT_AO4_Innovation_Annexe_RIIO-GT3) under section 5.3, allocating set funding per innovation theme does not allow the flexibility that is required for innovation especially in the changing landscape expected in the RIIO-GT3 price control. Whilst we have predicated our budget through allocating spend to specific areas, we expect that this will change over the period.

892. The NIA funding is to be utilised for work that would only progress in the case that it primarily supports consumer benefits over network company benefits. Where network company benefits are the direct output, we progress these activities through our implementation innovation team and look to demonstrate value in delivery to the business within a price control. In the last year of RIIO-T2 we have been developing a portfolio of BAU innovation projects aligned to the RIIO-GT3 business plan that can be seen in the detailed theme pipelines.

2.3 'Meeting eligibility criteria and scoping guidance: While National Gas provides a high-level overview of how the criteria are met, it was not explained clearly how many specific workstreams enable the transition or protect vulnerable consumers.' 7.5 RIIO-3 Draft Determinations – National Gas Transmission

893. **Energy system transition**

With the positive movement towards the role that the gas National Transmission System will play in any of the future energy scenarios we believe that all of our proposed NIA activities would fall under the workstream of 'enabling the transition'. Regardless of whether the gas in the NTS methane is, biomethane, hydrogen or carbon dioxide, its role to facilitate Clean Power in the future is vital to enable the transition to net zero for the UK. A resilient, flexible Natural Gas transmission system in the UK is required to support renewable energy through dispatchable power. Ensuring that domestic, industrial and transport consumers have a consistent energy supply through the transition and beyond. For these reasons when we carry out NIA projects that improve the NTS we are contributing to the energy transition.

894. **Customers in vulnerable situations**

Whilst the NTS does not directly supply vulnerable consumers the energy it supplies, and the resilience of that source is vital for the downstream distribution networks who do, directly interact with vulnerable customers. The work to ensure the resilience of the network will prevent vulnerable consumers from losing power, heat & transport that could be fatal. Further to this the development of low-cost solutions for the energy transition to support electrification will prevent energy bills from exceeding thresholds that consumers can manage.

895. Through RIIO-T2 we have engaged with stakeholders on how to best innovate and benefit our consumers, we shared these insights in our innovation annex submission. Over 40 letters were received and utilised to direct our submission. Many of the letters of support and directions demonstrated a need for innovation to support our consumers.

- **Ensure affordability and cost efficiency of the energy system**
  'simplifying biomethane connection processes will reduce costs and complexity, benefiting consumers' CNG services
- **Ensure reliability and resilience of supply**
  'Investments are crucial to ensuring continued availability and reliability of the National Transmission System to Britain's gas consumers.' [redacted]
- **Support for decarbonisation and energy transition**
  'Investments in hydrogen and CCS infrastructure support a secure, low-carbon energy system.' SSE Thermal
  'Investments are crucial to decarbonisation and must avoid unfairly burdening customers during a financially challenging period.' Hydrogen UK
- **Enable workforce development and skills investment**
  'Upskilling and reskilling the workforce ensures safe, competent delivery of services to homes and businesses.'

3t Training
'Investing in people ensures a resilient workforce to keep gas flowing to homes and businesses.' GMB Union and Prospect Union

- **Ensure future readiness**
'It is imperative that National Gas continue to invest in innovation… to drive continuous improvement.' [redacted]
'Innovation must be leveraged to develop the evidence base needed to enable the energy transition.' Hydrogen UK

2.4 'Ensuring projects are not duplicative: While National Gas explains at a high level how it will avoid duplication, we expect more detail to be given here, including the processes they have in place to avoid duplication and how they work in practice.' 7.5 RIIO-3 Draft Determinations – National Gas Transmission

896. Preventing duplication is considered one of the key matters that the gas networks work collaboratively on to address and we do this through our Gas Innovation Governance Group (GIGG) which is led by the Future Energy Networks or FEN. Prior to any project commencing a search of past project activities is undertaken through the project portals. Past projects are reviewed for duplication and where similar topics are being progressed, meetings are set up with the project/network to discuss any duplication. This is also identified through the network project notifications. In the early stages of developing a project, the lead network will complete a 1-pager summary which is then uploaded to a shared folder hosted by FEN and the project is added to a tracker. These proposed NIA projects are reviewed by the other networks to prevent duplication, by sharing this information wider in their teams outside of innovation. Comments then come back to the lead network through ad-hoc meetings or at the next available GIGG meeting where all of the notifications are summarised. Throughout RIIO-1 and RIIO-2 this process has led to several projects altering their scopes or being halted due to this process. This process will continue through RIIO-3 and will be developed to ensure it is fit for purpose. Additionally, the collective Energy Innovation Strategy that will be developed at the end of RIIO-2 will highlight key topic areas that we will collaborate on with our fellow energy networks. Topics such as Whole System integration, Biomethane and Digital Twins to name a few will be discussed collectively and the resulting projects will be assigned to a specific network. This approach will help increase collaboration and reduce any perceived duplication as the list of required work for a specific topic will be split up across the networks involved. Ensuring there is no duplication between Gas and Electricity is an important step for National Gas and we will continue to work with the Electricity networks and discuss our proposed projects at joint meetings.

897. Whilst the NIA project duplication is a focus it is important to understand what is going on in other sectors that can be transferred into energy and through this we work with nuclear, water, automotive, aerospace and other industries to share learning and identify opportunities for knowledge transfer. As the only gas transmission network in the UK we work closely with our European neighbours to ensure we do not duplicate work ongoing across Europe and the globe. We are a part of several working groups H2GAR, GERG, PRCI and EPRG that enable us to share the cost of developments and prevent duplication.

2.5 'Proposals to disseminate: While National Gas gives examples of its dissemination efforts and events and conferences it has attended, we expected a more targeted dissemination approach as well as more comprehensive plans for future dissemination.' 7.5 RIIO-3 Draft Determinations – National Gas Transmission

898. Whilst we did not provide a dissemination plan for the RIIO-GT3 period we did provide insight into how we have been disseminating through the RIIO-T2 period and plan to build on this stakeholder first approach. See section 3.0 of the Innovation Strategy. The purpose of dissemination is to provide insight to the wider energy system of work done to date and invite challenge and opportunities to be raised and developed. Through RIIO-T2 we have done this through conferences, webinars, stakeholder days and events, LinkedIn, our website and project portals. We regularly review and develop our energy system strategy, National Gas strategy and annual project summaries to provide insight into our projects and our challenges. We have supported basecamp and other initiatives through SIF to further improve our portfolio of innovation.

899. High level figures (for the 2024/25 period) include:

- **123** = number of events attended
- **63** = number of conferences we've spoken at
- **175** = number of project partners we've worked with
- **145** = number of supporting SME's we've worked with
- **131** = number of projects where we've disseminated knowledge or learning

Dissemination approach in RIIO-GT3

900. As discussed in our business plan we will continue to disseminate our innovation projects both to internal and external stakeholders. We aim to provide transparency and share learning from our projects to build trust and credibility for the energy transition and our energy networks. We will be using several methods for dissemination bearing in mind that each stakeholder requires different information and absorbs it in different manners. This is a must to ensure the impact of the work we are doing.

901. Internally we are looking to create dissemination portals using AI to enable our teams to ask questions and interrogate the data we have. In future we look to build similar capability into our project portals online to help external stakeholders to find the right information in a secure manner.

902. We will continue to utilise the ENA and FEN portals but also look to enable data access through our website. We will continue to utilise LinkedIn and other social media platforms to share innovation information to a broader range of stakeholders, whilst continuing webinars, conferences and stakeholder days. Our innovation strategy, annual summary and major project progress and closure reports will continue to provide an overview of our activities to our stakeholders and point them to where further information can be found.

903. Some lessons we have learnt from RIIO-T2 include moving away from a focus on generic dissemination to more targeted and tailored content for different groups of stakeholders; improving accessibility and interactivity with the content we produce and providing a broader range of dissemination methods to ensure stakeholders can engage with our innovation content.

The sharing of project information through portals

904. As a result of the separation of the gas networks from the Energy Networks Association (ENA), we are no longer able to use the ENA portal to host our project documentation. Project documents are now stored on the Future Energy Networks (FEN) portal. However, this process is undergoing a review, and the approach may change. Considering this, we've made the decision to set up a dedicated project hub on our website and work is currently underway to design and create this space. This means that project specific information (project registrations, progress and closure reports) will be readily available to our stakeholders, in a system managed by us.

905. Alongside this change, we're reviewing the information currently on our website and creating an update plan which outlines how we would like people to engage with the website moving forwards, what content we would like to share (that we don't already), what content we would like to update/remove and how we can implement a process to regularly maintain the pages, to use them as a tool to share information more easily, and keep them more engaging.

Conferences and increased engagement through stakeholder theme days

906. Throughout RIIO-T2, we made real strides to increase our attendance at industry events. We've taken the opportunity to attend a wide variety of different events, not just as attendees, but as guest speakers and panel participants. Examples include the MTC Manufacturing Summit, Utility Week Live, Innovation Zero, iMechE, and the Pipeline Technology Conference.

907. We're planning to continue this as we move into RIIO-GT3 and beyond. We've begun plans to refresh our exhibition stand – moving to a more modular design, which will give us more flexibility and allow us to attend more events.

We've also developed a more targeted event plan, with the aim of showcasing different content and learning depending on the audience. For instance, high-level strategic topics for Innovation Zero, business as usual innovation at Utility Week Live, electricity interactions at Energy Innovation Summit (EIS), technical project dissemination at GAS and PTC etc. The first of these events in 2025 will be the Global Carbon Capture Summit in September, where we plan to officially launch our FutureGrid Carbon project. We are also looking to expand our impact outside of the UK events to Hydrogen Europe and other similar events.

908. Alongside this, we're focusing on refining our stakeholder maps – to make them more specific to our innovation portfolio themes. This programme of work will kick off shortly and will set the foundation for our new stakeholder engagement process. We'll be using these targeted maps, to invite stakeholders to attend regular engagement sessions (both virtually and in-person) to share information on innovation challenges seen across the industry, as well as specifically relating to the portfolio themes, and generate project ideas that focus on overcoming these challenges. We also plan to reach out to these stakeholders to give them an opportunity to shape their involvement and determine the frequency with which we contact them.

Technical and progress reports standards

909. The progress, closure and technical reports created for each project currently use a template which is utilised differently across the networks and project leads. We have created a standard approach for our internal team and are now looking at how we can improve these templates to make these more usable by our stakeholders. Technical reports created by our project partners vary greatly in the level of detail and content provided, so we have created a set of standards for them to use. This will also help the team to manage the content and ensure consistency across all project documentation. All innovation projects provide the requirement for partners to report against the standardised approach set.

LinkedIn followers and increase in content over RIIO-T2 to continue

910. We've continued to use LinkedIn as our primary source of engagement with broader stakeholders. At the beginning of the 2024/25 period, we gave ourselves the target of sharing at least two posts a week and we've exceeded this. As a result, we've seen an increase in engagement from our followers – posts have consistently generated increased likes and comments, and we reached 8,000 followers in July 2025. In February 2025, as part of a wider communications review, and based on the volume of content we were sharing, the decision was made to convert our National Gas Transmission LinkedIn page to be National Gas Innovation specific. We continue to run the page under this name to date.

911. In the latter half of the year, we conducted a review of our innovation communications channels and as part of this, refreshed our 'Innovation Insights' blog series. Previously, we published these blogs as articles hosted on LinkedIn but moved to more strategic long form posts shared directly from the LinkedIn page. Topics we have covered include blending, carbon transportation, building the asset safety case and our clean power ambitions. Changing the approach in this way has led to greater engagement by our followers.

912. We've also introduced an 'Innovation Spotlight' feature – LinkedIn articles and posts published directly by our team members, to give an overview of their role, projects and day to day work. These have proved very popular and have helped to increase the visibility of both the team and the work that we do.

913. We plan to continue utilising LinkedIn as core source of project dissemination – having recently implemented a more robust approach for the creation and publication of key project details. We use kick off announcements to share the context behind our newly launched projects and give an overview of the problem being addressed and the objectives of each project. For longer projects (over a year), we share a project update once the progress report has been published, and once a project has finished, we post a closure announcement to briefly summarise the work undertaken, any key findings and the next steps (where relevant).

Webinars and dissemination events

914. To help us update our Innovation Strategy document, we held several virtual stakeholder workshops. Two in August 2024 were used to discuss progress since the last strategy and gather ideas and feedback on our theme roadmaps and how these may need to change to support our decarbonisation plans. This feedback was used to update the roadmaps. These sessions were followed by two others, held in February 2025, where we invited previous attendees, as well as other interested parties, to give feedback on our updated roadmaps and make changes or additional updates as required. All four sessions were well attended, and we received positive feedback from several people who attended. Holding these sessions helped us ensure our strategy is truly stakeholder led. We're planning on running similar sessions at regular intervals throughout each year, to ensure that our stakeholders and supporting innovators have a chance to input and collaborate, which we hope will continue to drive future project ideas and partnerships.

915. Throughout RIIO-T2, we've hosted webinars on strategic topics and to mark significant milestones, such as the launch of the FutureGrid Phase One closure report. As we head into RIIO-GT3, we've set aside time each quarter to host similar webinars on strategic topics, such as blending, carbon, clean power etc. The slots can also be used to disseminate learning from our projects, similar to the show and tell sessions run as part of the SIF projects.

Broader industries engagement

916. Wherever we can, we aim to provide value across the energy networks by sharing our learning and collaborating with others. We use working groups, conferences and stakeholder sessions to share information on the main technologies we've developed. These working groups provide a forum for exchanging knowledge, developing ideas and accessing a wide range of research and development programmes. They also allow us to seek funding contributions where needed.

917. Internal dissemination is a key focus for us to ensure the knowledge and value created via our Innovation portfolio is maximised and integrated into our major Net Zero Programmes – East Coast Hydrogen & SCO2TConnect. We have been working with our internal stakeholders to agree a knowledge transfer process as shown in Figure 1. This process incorporates all stakeholders to translate Net Zero evidence and research into our Policies and standards to be utilised for our programmes. This enables sharing across industry and safety standards to be met and realise the value of our innovation programmes. One the policies are generated they will be tracked via the IMF process as discussed below.

Engagement with academic partners

918. In the RIIO-T2 period we have been aligned to the HyRES and Hi-ACT university working groups whilst also hosting our innovation team days at universities to enable the team to see some of their work and make connections with professors. We look to sponsor PhD activities that will make a difference for our future network and support through EPSRC funding applications. We have university partners on many of our big programmes of work to enable them to access data and provide a diverse approach to our activities. We find academic partners bring new ways of working and thinking to the team and our projects that we will continue to foster in the RIIO-GT3 period.

Dissemination of energy transition evidence

919. External dissemination - In the RIIO-T2 period we have created evidence for 100%, 5%, 20% Hydrogen and CCUS transmission repurposing. 100% Hydrogen evidence completed to September 2024 was shared with DESNZ and the HSE through the EMF portal, this is now due to be published as part of the heat policy consultation and decision. We will complete the 100% hydrogen evidence by December 2026 and will collate this in an evidence summary as provided to the HSE in December 2024 on the 5% Hydrogen evidence. Further to this 20% Hydrogen and CCUS evidence summaries are in development and will be completed by December 2026. We are also supporting the development of global standards such as ASME, HSE and IGEM Hydrogen and Carbon related documents.

920. Internal dissemination – We have followed the process shown in the below diagram to share knowledge within our business which looks to ensure all key evidence is built into our business policies and procedures. This will then be the base for procurement activities in the future and ensure all knowledge is disseminated to the right stakeholders.

921.

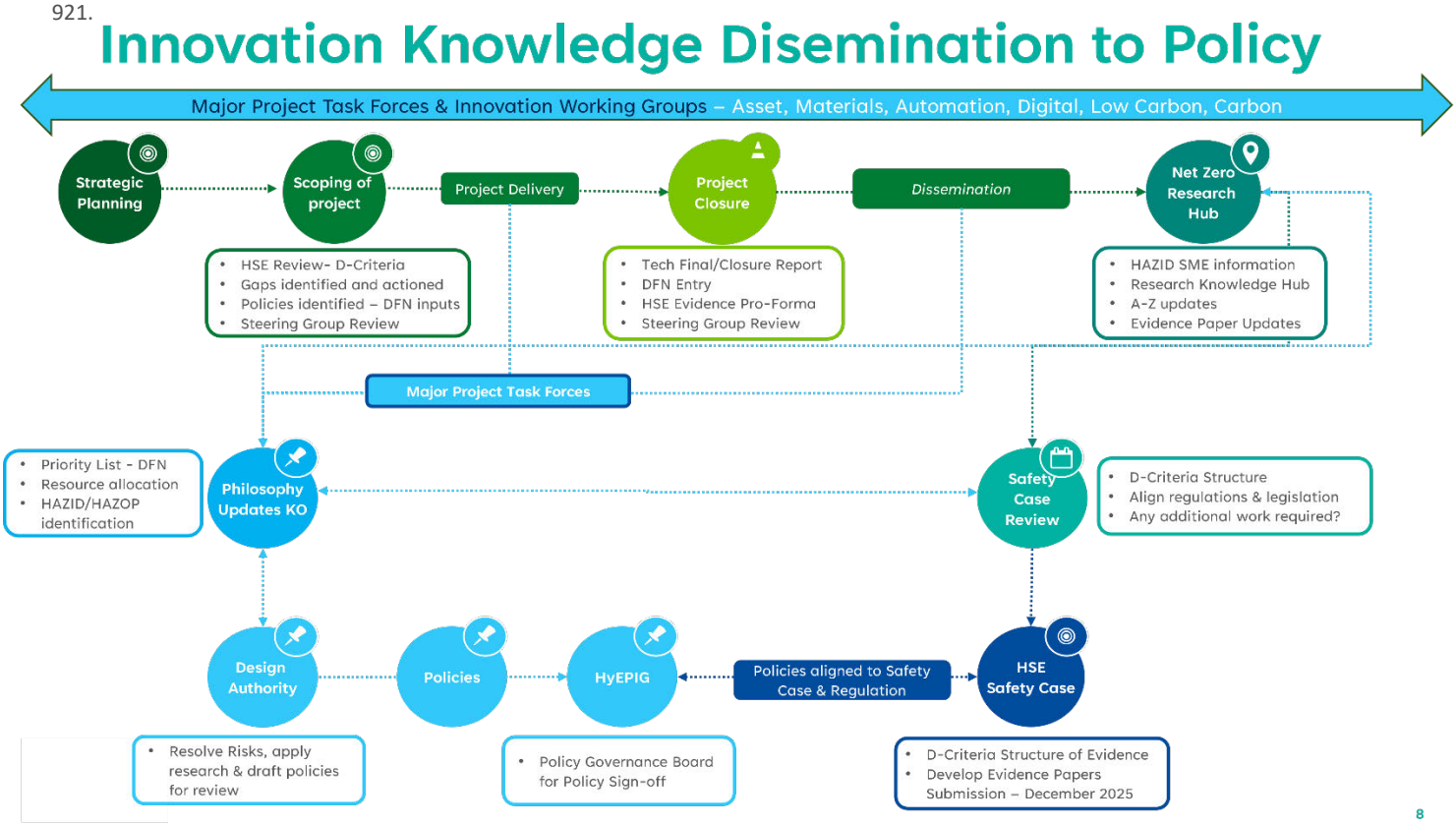

Figure 3 - NGT Knowledge Dissemination and Utilisation Process

2.6 'An explanation of why the innovation in question cannot be funded from the totex allowance: National Gas provided insufficient information on why each workstream cannot be funded from its totex allowance.' RIIO-3 Draft Determination – National Gas Transmission

922. The RIIO-GT3 business plan and regulatory approach does not enable or incentivise the development of riskier opportunities that could greatly improve maintenance, asset integrity, programme delivery and network cost. The delivery of programmes is the focus for the core business and with the scale of work required in RIIO-GT3 the teams will be focussed on delivering based on current systems and processes. The opportunities we have identified in our innovation strategy and annex are directed at optimising RIIO-GT3 business plan activities, driving down cost both in CAPEX and OPEX through the period and beyond.

923. Ofgem should fund riskier innovations through the Network Innovation Allowance (NIA) because these early-stage, lower Technology Readiness Level (TRL) projects are essential for unlocking transformative solutions that may not yet be commercially viable or attractive to private investment. By supporting higher-risk, high-reward initiatives, Ofgem can help de-risk emerging technologies and approaches that could deliver long-term value for consumers and the energy system. National Gas has addressed the challenge of progressing innovations beyond proof-of-concept by splitting out higher TRL activities—those closer to deployment—into Business-as-Usual (BAU) innovation. This ensures that NIA remains focused on catalysing novel ideas, while BAU innovation pathways provide a structured

route for scaling and embedding successful solutions into operational practice, maintaining momentum and delivering tangible benefits.

924. Items that directly support our business in the RIIO-GT3 period are conducted through BAU innovation and those that need more time to develop or have riskier outputs are conducted utilising NIA funding.

925. The project approach across the funding mechanisms can be seen in the appendix GT57 Project Roadmaps. We have showcased how the NIA and SIF activities lead to BAU innovation activity and into Re-openers. We also highlight the difference in the stages of work from BAU and NIA. In RIIO-T2 on average we spent £8.5m per year (~£40m through RIIO-T2) on business-as-usual research and development and in RIIO-GT3 pledge to take on further earlier stage business as usual innovation at £10m.

3. Adherence to Business Plan requirements

926. The % decrease for our Business Plan adherence is unjustifiable. We believe we met the criteria as below:

927. **The key areas of focus for NIA spending, including but not limited to problems to be solved, and/or potential solutions to problems to be explored and why these were chosen, and where known, details of individual planned NIA projects.**
We provided insight into the problems to be solved and potential solutions around the energy transition and consumer vulnerability that we would focus on in RIIO-GT3. We also shared the National Gas innovation strategy on page 23 of the innovation annex which has been updated in March 2025 (GT Strategy 25 Interactive_v12.pdf). We took stakeholder feedback and identified key streams aligned to their requirements to focus on. We provided the key workstreams for each technology theme area and have provided further granularity on these in GTQ57 (See section 2.2).

928. **How the proposed areas of focus and planned projects meet the NIA eligibility criteria 'facilitat[ing] energy system transition and/or benefit[ing] consumers in vulnerable situations', and guidance on scope of projects, as set out in the SSMD.**
The energy system transition requires a whole system approach as described, resilience and flexibility of our current network and systems and the availability of future molecules. The workstreams cover all these areas and demonstrate benefits to the consumer across the portfolio. Whilst we have less direct connection to vulnerable consumers we support broader workstreams with the other networks and have identified where our projects will support reduced costs to the consumer.

929. **How much funding the networks companies believe is necessary for each of these areas of focus, and a justification of the amount.**
Flexibility in the prioritisation of the innovation funding is vital to ensuring the right projects are undertaken in alignment with the changing energy landscape. Whilst we can provide insight into our predicted costs and alignment to topics it is not innovative to restrict activities that may not yet be understood or known.

930. **How activities will be delivered.**
We have provided details on our innovation process within Chapter 6.0 (Delivering Innovation) of the Business Plan Annex, and this covers both internal processes and those across the other networks. The innovation team is well established within National Gas and has been delivering innovation projects from pre RIIO. We believe this has led to the creation of an Innovation Culture at National Gas which is embedded in our core business values of Ownership, Simplicity and Progress.

931. **The value/benefits the networks companies anticipate these activities may generate.**
Our approach for innovation is to deliver 1:4 benefits against the money spent. We provided insight into the value delivered to date from the RIIO-1 projects which currently exceed x6 benefits with further benefits still to be delivered. In RIIO-T2 we continue to plan x4 benefits with a view that these could be exceed with only one repurposing activity of the NTS network for future molecules. We provided a detailed approach to how we monitor

and manage value from all innovation projects and will continue to utilise this in RIIO-3. We provide detailed case studies and publicise the value delivered by innovation annually.

932. **How the overall level of funding compares with the level of NIA funding and spending in RIIO-T2.**
The outcome of the NIA funding allowance has not taken this into account neither has it reviewed the RIIO-T1 spend. On average in RIIO-T1 we spent £5m on innovation and in RIIO-T2 we are on track to spend £8.3m per year. The proposed funding takes this down to £2.2m per annum and will greatly impair the culture of innovation developed to date.

933. **Plans to collaborate with other network companies to identify and deliver NIA projects.**
We provided insight into how we work with the GDNs through the FEN manged GIGG group, how we collaborate with the Electricity transmission networks through our self-managed transmission working group and how we engage with the electricity networks via the ENA project notifications session. Specific projects are developed with network partners as required. Additionally, in RIIO-GT3 there will be closer collaboration with ourselves and NESO to deliver the required whole system energy projects.

934. **The steps that the network companies have in place to ensure that their projects are not duplicative of previous innovation funded work or of work being concurrently delivered by other networks.**
We provided insight into the project notification activities, the pre project portal review, network project notification meetings and discussions alongside the work we do with other industries to take learning from their work prior to commencing projects. We also discussed the activities underway through H2GAR and GERG to share learning across work done in Europe and equally with global networks. Alongside the Draft Determination outcome we have reviewed the 3012 projects currently in the ENA portal for duplication and at present have not found any items not part of a phased project already previously discussed and resolved in the working groups.

935. **The networks companies' proposals to disseminate learnings from innovation.**
We provided insight into the RIIO-T2 dissemination activities and our plan to continue and expand on these in the RIIO-3 period. We provide further clarification in the answer to GTQ57 (see section 2.5).

936. **An explanation of why the innovation in question cannot be funded from the totex allowance.**
The topics described in the NIA allowance funding are lower TRL, higher risk challenges that could provide larger potential value. BAU innovation focusses on deploying projects from NIA, progressing supplier technologies that are at high TRLs and considering opportunities for incremental innovation across the network. We discussed these at length in the proposal and have provided further clarification in the answer to GTQ57 (see section 2.6).

937. **The processes companies have in place to roll out proven innovation into BAU, and evidence that they are already doing so.**
As above we provided this at length and also identified where we were making improvements to increase his activity and further deliver benefits to consumers.

938. **Plans for third-party involvement in their innovation activities, demonstrating how they will engage a wide range of third parties, including small and medium sized enterprises, in their innovation activities and ensure full consideration of third-party innovation ideas.**
In our innovation annex we provided insight into the broad number of stakeholders and partners we have engaged with through the period and our plans to expand on this moving forward. We attend events, conferences and exhibitions to attain further contacts whilst also disseminating challenges for 3rd parties to engage with both through National Gas and base camp.

GTQ58. Do you agree with our proposed level of funding for National Gas data and digitalisation investments?

939. This deals specifically with the assessment of IT project non-operational capex. The opex components of these projects received replicated allowance percentages from the capex allowances and so the new evidence and argument applies equally to this opex. The similar extension of the results to run-the-business (RTB) opex is not dealt with in this response but is addressed in the response to GTQ45 and GTQ51.

940. Please note that this response covers all IT&T investment allowances and not just those categorised as Data & Digitalisation (D&D). Although the D&D assessment carried out a preliminary filter on needs case, it was the IT&T assessment that assigned allowances across the portfolio. Therefore, it is these allowances, provided by Ofgem in the files listed above, that are covered here.

Overview of proposed funding

941. The level of proposed funding set out in NonOpCapex_IT_Cost_Adjustment_Model_v1.5 is:

- 7 investments with 0% allowance, rejected on needs case – [redacted] requested
- 2 investments with 25% allowance – [redacted] requested, [redacted] proposed
- 41 investments with 50% allowance – [redacted] requested, [redacted] proposed
- 30 investments with 75% allowance – [redacted] requested, [redacted] proposed

942. In total this is £412.23m requested and £217.88m proposed (53%), for 80 investments, having excluded 5 UMs and 4 projects where requested capex was <=£0.5m. For these smaller projects, 100% of the capex was allowed and the opex allowance was based on the IJP assessment (Ref DDQNGT17).

943. Transfers from cyber resilience to IT has been detailed later in this response.

Summary of our approach to responding

944. We have considered the assessments and identified areas where expanded evidence would improve the result. This evidence and its impact on the assessments and resulting allowances is contained GTQ58 Appendix. In this response, we summarise our key areas of concern with the allowances and provide revised allowances based on the new evidence.

Key areas of concern

945. The proposed level of funding makes the delivery of the approved projects untenable and poses significant risk to the NTS and National Gas' service to customers and stakeholders.

946. The proposed level of funding is insufficient to deliver the projects and their outcomes in our plan. Indeed, the proposed allowances do not provide a way forward for this plan or one that is in any way similar. The allowances put our IT infrastructure at risk through lack of capital maintenance and by extension, the NTS and our service to customers and stakeholders. They would reverse our digitalisation journey and are counter to our published digitalisation strategy and Ofgem's drive for digitalisation. Further, they prevent delivery of critical business outcomes through lack of funding in the tools by which those outcomes would be delivered.

947. The allowance level is inconsistent with the approval of the needs case for the large majority of projects.

948. The allowance level proposed is inconsistent with the approval of the needs case for 73 projects out of 80 and effectively removes the viability of the projects through lack of funding. It is also inconsistent with the statements made in Section 8 of the Draft Determination document:

- 8.7 'National Gas clearly linked its investments to an improvement in compliance with the Data Best Practice (DBP) principles. The investments proposed help improve compliance across all 11 principles'.
- 8.8 'We are confident that the proposed investments being made by National Gas will allow them to effectively connect to and utilise the DSI. In particular, investment IT040 'Enhanced data driven interoperability for an intelligent, harmonised, network' allows National Gas to prepare data to key internal standards, meaning that data will be ready for DSI exchange in a timely manner for other DSI participants'.
- 8.9 'We consider that National Gas' approach to AI investments is well-thought through and allows National Gas to build capabilities and identify potential new opportunities for AI investment through innovation funding, re-opener windows, and into future price controls'.

949. **The allowance levels are impacted by an arbitrary 'quality penalty' on the evidence submitted by NG, caused by document length and type restrictions imposed by Ofgem**

950. Our understanding is that the individual allowances reflect an unreasonable 'quality penalty' on the evidence submitted, due to the limits on document length and the ban on embedded files such as spreadsheets, which were applied to National Gas' evidence submissions in line with Ofgem's business plan guidance. This blanket and restrictive approach to the provision of substantive evidence had the effect that further information, which would have mitigated the 'quality penalty', was not considered by Ofgem, despite being offered in discussions between National Gas and Ofgem. In National Gas' view, it is also unreasonable to apply penalties on evidence based on its so-called 'quality' when the reason for shortfalls was in fact limitations in document length and type rather than the substance of the evidence.

951. **The allowance levels have been derived using an arbitrary methodology**

952. We understand that only 31 of 84 baseline projects have been assessed, with Ofgem using methods for applying findings from the assessed projects to the unassessed. It is reasonable to assume that the allowance levels in relation to the 53 unassessed projects are therefore currently unreasonably unsupported by a meaningful analysis of the individual projects. We have, in a letter to Ofgem dated 23 July, requested that Ofgem provide its reasoning to the proposed approach to assessing the 53 projects which have not been reviewed in order to be able to meaningfully comment on any changes to proposed allowances.

Suggested way forward based on new evidence

953. In the interests of continuing to assist Ofgem in reaching a Final Determination that is supported by the evidence available, based on the information we have, we set out below a suggested way forward which would in National Gas' view present a more-evidenced based approach and correct errors that we have identified above.

954. At Table 1 below, we have applied the assessment framework to each of our investments based on additional evidence and rationale provided in GTQ58 Appendix. We have structured this evidence and our arguments directly against the assessment criteria to make our rationale for changes as clear and digestible as possible. In particular, GTQ58 Appendix is structured to facilitate comparison with the Ofgem proposal and assessment ratings provided in IT_T_ProjectAssessments_DDs_GT.

955. By way of further explanation on Table 1 below:

- This lists our portfolio of IT investments and allowances proposed in the DD and summarises the Ofgem assessment, indicating whether these were based on individual project assessment or 'IJP Assessment' where the allowance was inherited from another project (and so the RAG is blank).
- A rating for every project is included, rather than only the sample of 31 projects in the DD. We maintain that there is no acceptable rationale for extending sample results to other projects and provide specific ratings using the supplied method as a more appropriate approach.
- Also included are those projects for which the needs case failed in your assessment. As explained above, we have no visibility of the Data & Digitalisation assessment results for needs case other than rejection and so have applied the same logic as for the IT&T projects
- For each project we have considered the RAG ratings in the latest Ofgem file (IT_T_ProjectAssessments_DDs_GT) and provided the revised assessment based on additional evidence provided in GTQ58 Appendix which supports the improvement of assessment ratings.

956. It should be noted that this reuse of the assessment structure does not reflect agreement with the method, with which we have serious concerns as described in our response to GTQ45 'Do you agree with our approach to IT&T assessment?'. If a sampling approach were to be continued, we would expect the application of assessed percentage allowances to unassessed project to continue in the same way as in the DD.

Supporting table for GTQ58

957. Please note that:

- The RAG columns are from the assessment structure and rate six criteria: Needs case; Value for money; Optioneering; Scope; Certainty; and Cost assurity.
- Two figures in the 'Proposed %' column indicates a corrected value (on the right)
- The **bold** project number is the reference line for each IJP, as notified in DDQNGT29, from which unassessed lines inherited their allowance percentage.

IJP	Project #	DD Assessment						Proposed %	New Evidence Reassessment						NGT %
001	IT 021	G	A	A	A	R	R	50%	G	G	A	G	G	G	100%
	IT 022	G	A	A	G	A	A	75%	G	G	G	G	G	G	100%
	IT 025	A	G	A	G	R	A	75%	A	G	G	G	A	G	100%
	IT 026	A	A	A	G	R	R	50%	A	G	G	G	G	G	100%
	IT 027							75%	A	G	G	G	A	G	100%
	IT 029	G	A	A	G	A	A	75%	G	G	A	G	G	G	100%
	IT 030							75%	A	A	G	G	G	G	100%
	IT 031	R						0%	A	G	G	G	G	G	100%
	IT 032							75%	A	G	G	G	G	G	100%
	IT 033							75%	A	G	A	G	G	G	100%
	IT 034	R						0%	A	G	G	G	G	G	100%
002	**IT 046**	A	R	A	G	R	R	50%	G	A	A	G	G	G	100%
	IT 047							50%	G	A	A	G	G	G	100%
	IT 049	R						0%	G	A	A	G	G	G	100%
	IT 050							50%	G	A	A	G	G	G	100%
	IT 051							50%	G	A	A	G	G	G	100%
	IT 052							50%	G	A	A	G	G	G	100%
	IT 056	A	A	A	G	A	R	50%/75%	G	A	A	G	G	G	100%
	IT 102							50%	G	G	A	G	G	g	100%
003	**IT 005**	A	A	A	G	R	A	75%	G	G	G	G	G	G	100%
	IT 006	A	A	A	A	R	A	50%	A	A	G	G	A	G	100%
	IT 007	A	A	A	G	R	A	75%	A	A	G	G	A	G	100%
	IT 008	A	A	A	A	R	R	50%	G	G	G	G	G	G	100%
	IT 009							75%	G	G	G	G	G	G	100%
	IT 010	G	A	R	G	R	A	50%	G	A	G	G	A	G	100%
	IT 011	G	R	A	G	R	R	50%	G	A	G	G	G	G	100%
	IT 012	R						0%	A	A	G	A	G	G	100%
	IT 013	A	A	A	R	R	R	25%	G	A	G	A	G	G	100%
	IT 014							75%	G	A	G	G	G	G	100%
	IT 015							75%	A	A	G	G	A	G	100%
	IT 016	A	A	R	A	R	R	25%	G	A	G	A	G	G	100%
	IT 017							75%	A	A	G	G	A	G	100%
	IT 018	G	R	A	G	R	R	50%	G	A	G	G	A	G	100%
	IT 019							75%	A	A	G	G	A	G	100%
	IT 020	R	A	A	G	R	R	0%	A	A	G	G	A	G	100%
004	**IT 042**	G	A	A	G	R	R	50%	G	G	G	G	G	G	100%
	IT 043							50%	G	G	G	G	A	G	100%
	IT 045	G	A	A	G	R	R	50%	G	G	G	G	A	A	100%

005	IT 001		G	A	A	A	R	R	50%		G	G	G	G	G	G	100%						
	IT 002								50%		G	G	G	G	G	G	100%						
	IT 003								50%		G	G	G	G	G	G	100%						
	IT 004								50%		G	G	G	G	G	G	100%						
	IT 035		G	A	A	A	R	A	50%		G	G	G	G	G	G	100%						
	IT 036		A	A	A	G	G	R	75%		A	G	A	G	G	G	100%						
	IT 037		G	A	A	A	G	R	50%/75%		G	G	A	G	G	G	100%						
	IT 039		A	A	A	G	R	R	50%		G	G	G	G	G	G	100%						
	IT 040		A	A	A	A	R	R	50%		G	A	G	G	G	G	100%						
	IT 041								50%		G	A	G	A	G	G	100%						
	IT 057		R						0%		G	G	A	G	G	G	100%						
	IT 059		R	A	R	G	R	R	0%		G	G	A	G	G	G	100%						
	IT 060								50%		A	A	G	A	G	G	100%						
	IT 061		A	A	A	A	R	R	50%		G	G	A	G	G	G	100%						
	IT 062								50%		A	A	G	A	G	G	100%						
006	**IT 081**		G	A	A	A	R	R	50%		G	G	A	A	G	G	100%						
	IT 082								50%		G	G	A	A	G	G	100%						
	IT 083								100%		G	G	A	A	G	G	100%						
	IT 084								50%		G	G	A	A	G	G	100%						
	IT 085								50%		G	G	A	A	G	G	100%						
	IT 086								100%		G	G	A	A	G	G	100%						
	IT 087								50%		G	G	A	A	G	G	100%						
	IT 088								50%		G	G	A	A	G	G	100%						
	IT 089								50%		G	G	A	A	G	G	100%						
	IT 090		A	A	A	A	R	R	50%		A	A	A	A	G	G	100%						
	IT 092								50%		G	G	A	A	G	G	100%						
	IT 093								50%		G	G	A	A	G	G	100%						
	IT 094								50%		G	G	A	A	G	G	100%						
	IT 095		A	A	A	A	R	R	50%		G	G	A	A	G	G	100%						
	IT 098								77%		G	G	A	A	G	G	100%						
	IT 100								50%		G	G	A	A	G	G	100%						
007	**IT 064**		A	A	A	G	A	A	75%		G	G	G	G	A	G	100%						
	IT 065								75%		G	A	G	G	A	G	100%						
	IT 066								75%		G	G	G	G	A	G	100%						
	IT 067								75%		G	A	G	G	A	G	100%						
	IT 068								75%		A	G	G	G	G	A	100%						
	IT 069								75%		G	A	G	G	G	A	100%						
	IT 070								75%		G	A	G	G	A	G	100%						
	IT 071								75%		G	A	G	G	A	G	100%						
	IT 072								75%		G	G	G	G	A	G	100%						
	IT 073								75%		G	A	G	G	A	G	100%						
	IT 077								75%		G	A	G	G	A	G	100%						
	IT 078		A	A	A	A	A	A	75%		G	A	G	G	A	G	100%						
	IT 079								75%		G	A	G	G	A	G	100%						
	IT 080								75%		G	A	G	G	A	G	100%						
	IT 101								75%		A	G	G	G	G	G	100%						
	Totals																						

Table 1