DD Supporting Evidence: EJP04

Governor Interventions

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1 Executive Summary

We note Ofgem's draft determination feedback indicating they recognise the need for investment in our governor assets; however, a full engineering assessment was not possible and have requested further data sources to support the assessment, therefore currently grading this investment case as unjustified.

In our response we will:

- Provide the global data deposit requested along with a SOP (standard operating procedure)
- Clarify the difference between the RIIO-2 and RIIO-3 volumes to support better comparison of workloads
- Restate our unit costs
- Clarify how asset health scores have been derived and how they have been used in our modelling

For clarity, the feedback provided by Ofgem for EJP04 – Governor Interventions is shown below (**Error! Reference source not found.**)

Feedback Source	Needs Case	Optioneering	Scope Confidence	Comments
RIIO-3 Draft Determinations – Cadent **Table 34: Summary of Cadent Engineering Recommendations**	Not Justified	Not Justified	Low confidence	Proposed outcome: Unjustified. The EJP narrative justifies the need for investment through NARM. Limited supporting information was provided on the specific assets to be intervened on or their health condition. No unit costs were provided for the proposed work. The paper did not allow easy comparison with RIIO-2 volumes. To allow for a complete assessment of the investment to be undertaken, we would expect to see more detailed data including governor type, location and associated health score.
22nd July Ofgem Engineering – Cadent Bilateral	• Provide information on LTR (long term risk) definitions • Provide average condition scores and stacked bar charts for programme options			

Table 1: Specific EJP04 feedback from the RIIO-3 Draft Determinations Cadent Annex

2 Introduction

This document provides additional information in response to Ofgem's engineering review comments in Table 34 of the Draft Determination (July 2025) and feedback received at the bilateral on 22nd July 2025. It addresses concerns regarding asset data reconciling to the preferred engineering option, (S02), Whole life net benefit with GD2 spend cap. This response outlines our methodology for forecasting intervention volumes, clarification of asset health scoring and re-framing our preferred option in the context of asset risk.

3 Draft Determination Responses

3.1 Global Data

For this EJP, Ofgem deemed it unjustified due to insufficient data, as per Table 34 of the Cadent annex in the draft determination. Cadent is committed to providing further information and clarification through our Draft Determination response and through the ongoing bilateral discussions, and as such have provided the requested data.

This assessment and comment form Ofgem was common across the mechanical assets. We therefore have provided a unified response on the process for modelled investment, a procedure for the interpretation of the asset workbook, and the workbook containing asset data. Please refer to the other documents submitted within this DDQ response for the specific documents:

1. DD – Mechanical process narrative
2. DD – Mechanical – SOP
3. EJP04 – DD – DATA – District Governors and EJP04 – DD – DATA – Service Governors, which includes a summary tab where asset health score can be found, and a tab for LTR (Long Term Risk) definitions can be found.

3.2 RIIO2 and RIIO3 workload comparison

The below table allows for a direct comparison of the workload volumes between RIIO-2 and RIIO-3. We have displayed it in number of components and systems intervened in. This is for all governor types (district, I&C and service).

Governor type	RIIO-2 Components Replaced	RIIO-2 Systems with Investment	RIIO-3 Components Replaced	RIIO-3 Systems with Investment
DISTRICT_GOVERNOR	796	296	3375	680
I&C	18	6	0	0
SERVICE_GOVERNOR	1309	657	1695	565

Governor type	RIIO-2 Components Replaced	RIIO-2 Systems with Investment	RIIO-3 Components Replaced	RIIO-3 Systems with Investment
Grand Total	2123	959	5070	1245

Table 2: RIIO-2 to RIIO-3 workload comparison

As is shown in the table, there is an increase in volumes for both number of systems with investment and for components replaced. This is attributed to two main factors, the first being a holistic approach and replacing full systems. This means we will replace more components and improve the health score of the system as a whole, prolonging the life of the asset and negating the need for significant investment for a long period of time. This addresses the integrity of the governor and benefits from procurement and installation efficiencies. The second factor being the number of ERS (underground modules) major refurbishments as a result of security of supply risk owing to spares and soft parts no longer supported by the manufacturer.

The count for RIIO-2 volumes is the number of regulators and slam shuts that have been or are planned to be replaced. For RIIO-3, the system count is inclusive of the filters. To aide like for like component volume comparison, removing the count of filters in RIIO-3 would mean a reduction of volumes by circa 1220.

3.3 Governor Intervention Unit Costs

The unit costs for each site or system that has been chosen for investment within the RIIO-3 period, has been included within the global asset data workbooks, EJP04 – DATA -GAD – district governors and EJP04 – DD - DATA – Service governors. Where a site or system has not been chosen for investment, it will state “no investment”. These unit costs align with the values provided in section 8.2 of EJP04 – Governor Interventions.

Furthermore, during the SQ (supplementary questions) process that ran from January until March 2025, OFGEM submitted an SQ (SQ_036) relating to governor interventions on 22nd January 2025. Within this question, particularly part 7, OFGEM requested clarity on the cost breakdown for the interventions modes minor refurbishment and full system replacement. This was provided back to OFGEM on 29th January 2025, but for clarity has been provided again below.

Mode 2 for minor refurbishment is detailed in Table 2.

[redacted]

Table 3: Mode 2 – Minor Refurbishment

Mode 4- full system replacement, is split into stream replacement and new governor install in Tables 2 and 3, respectively.

[redacted]

Table 4: Mode 4 – Full Replacement – Stream Replacement

Table 5: Mode 4 – Full replacement – New Governor Install

4 Bilateral Clarification Responses

4.1 Asset Health and Risk

Table 6 compares how the three programme options vary through the application of different constraints (see DD – Mechanical process narrative, section 4.5 – scenario definition and optimisation).

Investment Scenario (Constraint)	Scenario Description	How the scenario / constraint works in the model	CAPEX (£m)
Reactive only	No proactive investment in our governor systems	Used as baseline for volume and cost of repairs, and monetised risk position	[redacted]
Maximise Whole Life Net Benefit (WLNB) within RIIO-2 Spend Cap	Invest in assets with the highest net present value (NPV) within the RIIO-2 spend cap[1], assessed to 2050.	Prioritises systems with greatest NPV (2027–2050), ensuring spend stays within RIIO-2 cap.	[redacted]
Maintain Asset Health Levels	Target poor health assets (score 4 or 5) and stabilise network health to 2024/25 levels.	Selects assets forecasted to exceed score 3.9 by RIIO-3 end; maintains average health baseline at lowest capex.	[redacted]
Maintain Asset Risk Levels	Keep overall monetised risk (safety, supply, carbon, repair) at or below RIIO-2 levels.	Invests in cost-effective interventions to prevent monetised risk increase, while recognising ongoing asset deterioration.	[redacted]

Table 6: Programme options comparison

[1] The GD2 spend cap is based on our RIIO-2 outturn spend.

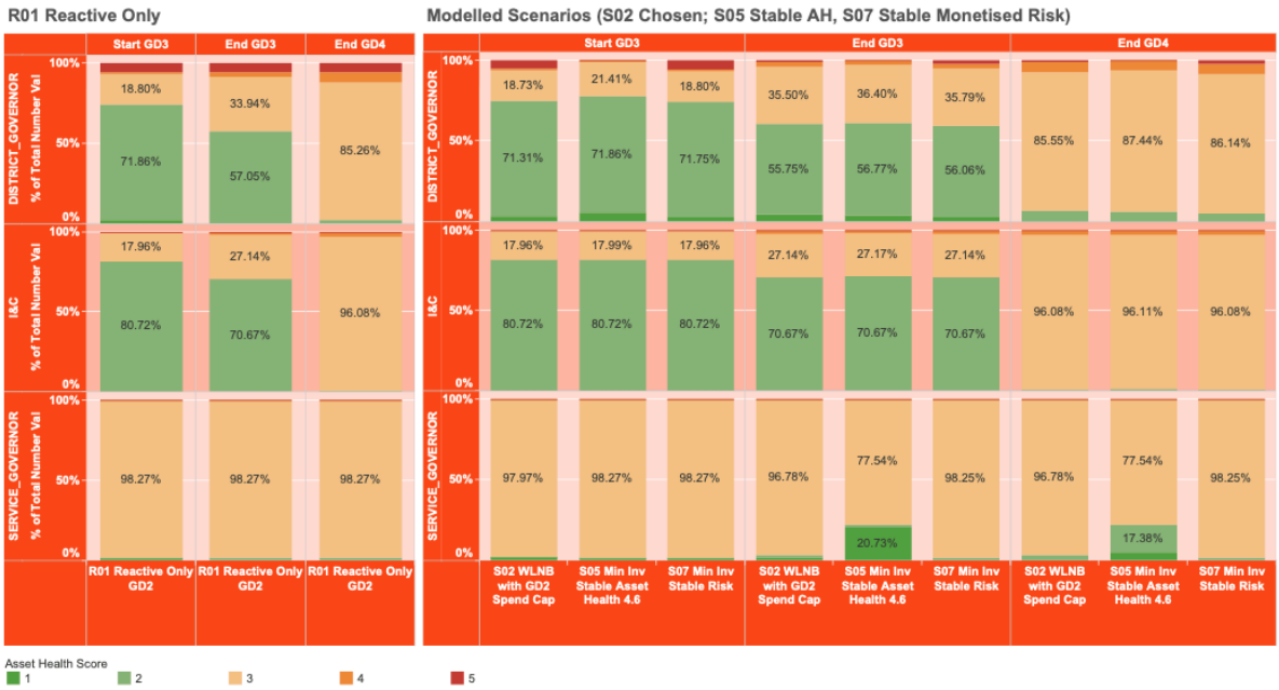

Figure 1: Average condition across selected programme options, across regulatory periods

The above graphic shows how the distribution of asset health grades (1–5), which are explained further on the summary page of EJP04 - DD – DATA – district governors, for governor systems changes across the RIIO-3 and RIIO-4 periods, under four of our programme scenarios. Under the reactive only scenario, there is a noticeable shift from assets with better health grades (grades 1 and 2) moving to the poorer health grades (3, 4, and 5), highlighting the natural deterioration that occurs without any proactive investment, over a 10 year period, out to the end of RIIO-4. Therefore, the CAPEX that would be required to stabilise asset health or return to RIIO-2 end health position would be significant.

Our S02 programme scenario (WLNB within a RIIO-2 spend cap), demonstrates a more balanced health distribution, with a slower rate of declining health and a greater proportion of assets remaining in health grades 1-3.

The stable asset health scenario (S05) is similar to our preferred option S02, however, to achieve these small percentage improvements as demonstrated in the chart, the CAPEX spend required is greater than that of our preferred option and exceeds Ofgem's expectations of keeping RIIO-3 spend broadly stable to RIIO-2. The workload for this option is also undeliverable, as explained in section 9 of EJP04 – Governor Interventions.

The stable risk scenario (S07), although maintaining overall monetised risk, allows asset health to degrade in a similar way to the reactive only approach (R01), demonstrating that stabilising monetised risk does not equate to maintaining physical asset health.

Overall, the graphic supports the case for targeted investment, as seen in our preferred S02 scenario, which helps mitigate deterioration. It also underlines that stable risk strategies may obscure underlying asset deterioration, potentially leading to future spikes in capital expenditure to restore asset integrity

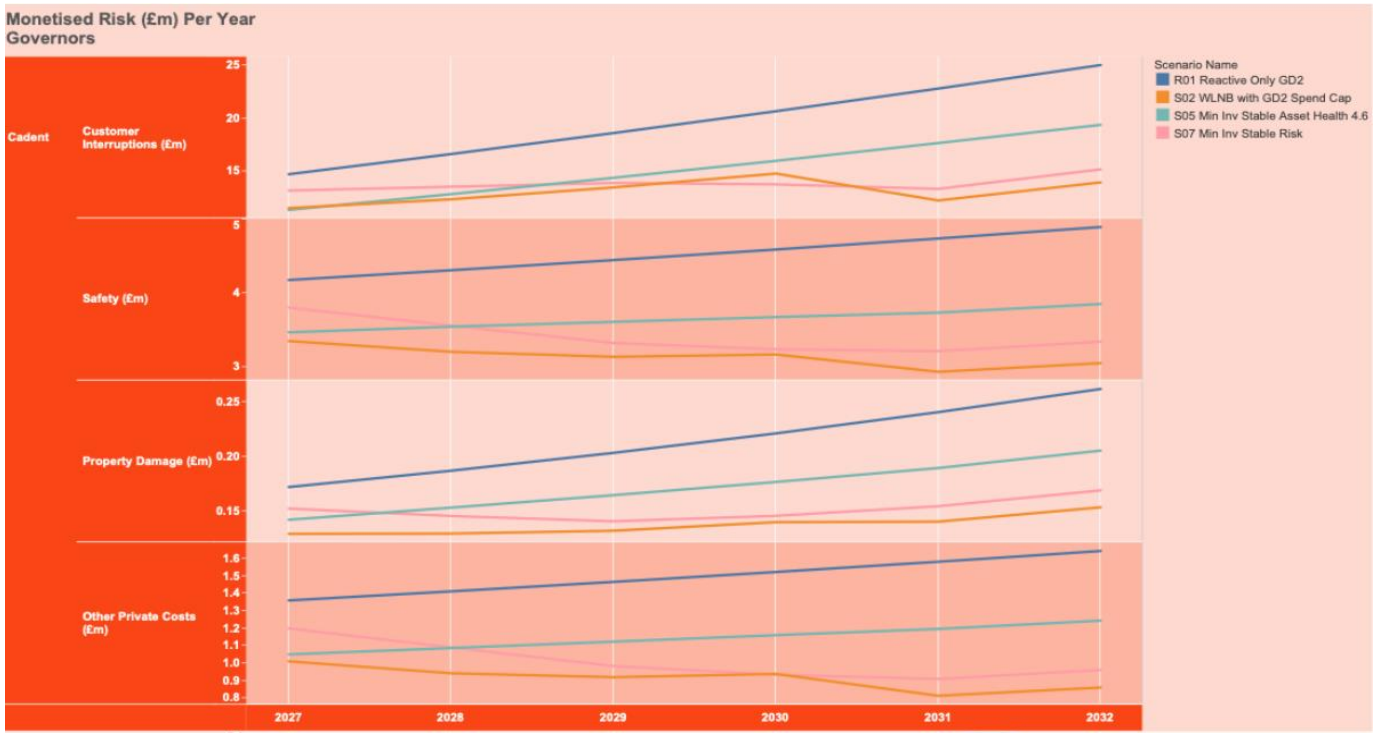

Figure 3: Monetised risk reduction

Average Network Asset Health

Asset Class	Scenario Name	Start GD3	End GD3	End GD4
DISTRICT_GOVERNOR	R01 Reactive Only GD2	2.78	3.15	3.52
	S02 WLNB with GD2 Spend Cap (Chosen)	2.76	3.00	3.40
	S05 Min Inv Stable Asset Health 4.6	2.61	2.99	3.39
	S07 Min Inv Stable Risk	2.78	3.04	3.43
I&C	R01 Reactive Only GD2	2.54	2.94	3.35
	S02 WLNB with GD2 Spend Cap (Chosen)	2.54	2.94	3.35
	S05 Min Inv Stable Asset Health 4.6	2.54	2.93	3.34
	S07 Min Inv Stable Risk	2.54	2.94	3.35
SERVICE_GOVERNOR	R01 Reactive Only GD2	3.14	3.44	3.76
	S02 WLNB with GD2 Spend Cap (Chosen)	3.13	3.41	3.74
	S05 Min Inv Stable Asset Health 4.6	3.14	3.01	3.43
	S07 Min Inv Stable Risk	3.14	3.44	3.76

Figure 2: Average health scores, per asset type, across regulatory periods

Our preferred governor's strategy (S02) delivers lower risk and better asset health by end of RIIO-3 compared to high-cost or reactive scenarios. The above chart illustrates the monetised risk over time for the impact to safety and security of supply as a result of the four programme scenarios. It demonstrates that focusing on stabilising monetised risk isn't enough to keep our assets from physically deteriorating and whilst is comparable to our preferred scenario, our preferred still outperforms and offers better value for money. Asset risk levels can be influenced by things like downstream impacts or larger sites, which means the physical condition of assets can still deteriorate even if the overall monetised risk looks stable. Over time, this can lead to more faults, increased reactive spending, and bigger capital investments down the line to fix the network and bring it back to an acceptable level. S02 and S07 are both favourable in reducing monetised risk, with S02 better managing customer interruptions. S02 reduces monetised risk within the bounds of RIIO-2 expenditure, while S07 increases our RIIO-2 expenditure.

That's why our approach looks at striking a balance between reducing risk, maintaining asset health, and delivering long-term value. Looking at the other scenarios, (R01) reactive only case shows a sharp drop in average asset condition, falling across district, I&C and service governors due to no RIIO-3 investment. Our preferred S02 scenario also sees some decline, but it's far less severe. The S05 Stable Asset Health scenario proves that with the right investment, we can keep asset condition steady through RIIO-3, but at a cost. And the S07 monetised risk stable scenario, despite aiming to manage risk, ends up with similar deterioration to R01, reinforcing the point that managing risk alone doesn't protect asset health.

5 Conclusion

In summary, our preferred governor strategy (S02) offers a balanced and sustainable approach to managing asset health and risk across the RIIO-3 and RIIO-4 periods. The evidence provided demonstrates that while alternative scenarios such as S07 may maintain monetised risk, they fail to prevent physical asset deterioration, ultimately leading to increased future costs and reduced network resilience.

Through the submission of detailed global asset data, a supporting SOP, and a comprehensive process narrative, we have addressed Ofgem's concerns regarding scope confidence and investment justification. Our modelling shows that targeted investment under S02 slows deterioration, maintains a healthier asset base, and delivers long-term value within the RIIO-2 spend cap.

We believe this response reinforces the engineering rationale behind our preferred option and provides the necessary transparency and data to support a fully justified investment case for Governor interventions on offtakes and PRS.