



RIIO-GT2

Summary Report

Ofgem

03/12/2020

RIIO-GT2 Summary Report

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Contents

Chapter	Page
1. Methodology	5
2. Key findings	7
3. Scope of Review	8
4. Additional Evidence Review Post Draft Determinations	9

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Introduction

This document has been produced by Atkins on behalf of Ofgem. It contains Atkins' methodology for reviewing the National Grid Gas Transmission (NGGT) Engineering Justification Papers (EJPs), and the key findings from these reviews.

A Draft Determination report was submitted on 9 July 2020 which included details on the methodology, key findings and Atkins' recommendations based on NGGT December 2019 business plan submissions and subsequent Supplementary Questions (SQs).

Where Atkins received further information from NGGT and Ofgem, recommendations have been modified accordingly.

This report includes an outline of Atkins' methodology, findings and recommendations following the review of additional evidence provided by NGGT in response to draft determinations.

1. Methodology

Atkins have carried out a review of the Engineering Justification Papers (EJPs¹) submitted to Ofgem by NGGT. For Asset Health EJPs, the volumes of interventions requested by NGGT were calculated using various bottom-up methodologies. Atkins have reviewed the suitability of the methodologies used to determine the number of requested interventions for each group of assets and validate the resulting volumes of interventions.

Atkins reviewed 24 EJPs across Asset Health and Major Projects as listed in Table 3-1. Atkins and Ofgem worked collaboratively to submit Supplementary Questions (SQs) – on areas where the initial review determined that justifications were insufficient or the methodology was not clear - for further information.

Following the review and SQ process, EJP-specific Technical Notes were prepared. These technical notes were submitted to Ofgem and the intervention volume adjustments were summarised in the final report for Draft Determinations submitted to Ofgem on 11 June 2020, which informed the conclusions published by Ofgem in their Draft Determinations report on 9 July 2019.

Further discussions between Atkins, Ofgem and NGGT were carried out following the publication of the Draft Determinations report. For several EJPs (Table 4-1), further information was provided to Atkins following Draft Determinations. This has been reviewed and conclusions and recommendations have been revised subsequently. These have been summarised in updated Technical Notes submitted to Ofgem.

1.1. Deliverables

Atkins deliverables were agreed on 30 January 2020² as follows:

Asset Health EJPs Deliverables:

- Interim progress report submitted on 16 of March 2020.
- Engineering review sheets were to be kept which record discussions and contain decision on volumes.
- Briefing notes to be produced if needed where more in-depth discussions were required that were not accommodated by the review sheets.
- TOTEX Financial Model Input Sheet was to be produced which recorded all volumes changes across all interventions in RIIO-2.
- Summary presentation to Ofgem on the Asset Health EJPs on 26 May 2020.
- A final report including the engineering review sheets, summary notes and summary tables submitted to Ofgem on 11 June 2020.
- Review of additional evidence following Draft Determinations.
- Summary presentation to Ofgem on the Asset Health EJPs on 30 September.
- Revised final report and Technical Notes submitted to Ofgem on 9 October 2020.

Major project EJPs:

- Interim progress report submitted on 16th March 2020.
- Engineering review sheets were to be kept, as above, with the addition of any necessary changes to the questions for the specifically considered project.
- A briefing note to be produced, if more in-depth discussion was required and was not accommodated by the review sheets.
- Summary presentation to Ofgem on the Major Projects EJPs on 28 May 2020.
- A final report including the engineering review sheets, summary notes and summary tables submitted to Ofgem on 11 June 2020.
- Review of additional evidence following Draft Determinations.
- Summary presentation to Ofgem on the Asset Health EJPs on 30 September.
- Revised final report and Technical Notes submitted to Ofgem on 9 October 2020.

¹ EJPs related to Asset Health and Major Projects investment.

² Email from Colin Laing to Nikola Gargov and Sarah Marvi sent on Thu 30/01/2020 11:38.

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1.2. Process for Revising Intervention Volumes and Closing out EJPs

The process for revising intervention volumes and closing out EJP reviews was agreed at a workshop between Atkins and Ofgem on 9 March 2020:

- Where Atkins concluded that enough information and data had been provided to justify the proposed intervention volumes, Atkins advised Ofgem to include these volumes in the TOTEX model.
- Where there was not enough information provided in the EJPs on the methodologies and assumptions driving intervention volumes, Atkins raised appropriate SQs to seek more evidence and information.
- If, after two iterations of SQs, Atkins had not obtained the requested information to a sufficient level of detail, Atkins flagged this to Ofgem, and calls would be arranged between Atkins, Ofgem and NGGT to resolve the remaining queries.
- In the case of the Major Projects that were proposed to be re-opened at a later date as part of the Uncertainty Mechanism, Atkins provided recommendations on what additional information should be presented in order to allow further funding.

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2. Key findings

This section provides an overview of findings applicable to all, or most, of the EJPs based on Atkins' review of the NGGT EJPs.

2.1. Asset Health EJPs

- **Degradation curves and calculating asset end of life** – these were not provided for all EJPs. On occasions, the methodology for obtaining the data and its associated procedure for the determination of interventions and assumptions was not clear.
- **NOMs methodology** – where the NOMs methodology was used, a caveat was included stating that the data had not been validated at the time in which the EJPs were drafted.
- **Intervention methodologies** – predominantly, little to no detail was provided on the methodologies used to generate the intervention volumes. The method in which asset age, degradation curves (where available) and asset condition grading information was used in determining the type of intervention required (survey / repair / refurbishment / replacement) was also unclear. This resulted in the need to raise SQs and then examine the information provided.
- **Asset condition grading** – the EJPs provided no detail on how assets were graded, what methods and guidance had been used and how many assets had been inspected as a percentage of the total asset population. This information was requested via the SQ process.
- **Quantification of benefits/drawbacks for discounted options** – where intervention programme options were discounted, no qualification was provided to clarify what objectives of the proposed asset health improvement programmes would have not been met. Some of this information was requested via the SQ process.

2.2. Major Projects

Generalising all findings across the major projects was not possible however, the common issues are presented below:

- **Scope of work** – while the EJPs provide extensive narrative on why the work proposed was required, they provide little detail on the scope of the proposed work and how the scope had been determined.
- **Options** – for Wormington Compressor EJP, Atkins identified several options that had not been presented in the EJP. Generally, the EJPs only present high-level justification for rejecting the non-preferred options. More information was sought through the SQ process.
- **Quantification of benefits/drawbacks for discounted options** – similar to asset health EJPs, where options were discounted, there was very little justification or quantifiable data provided.
- **Demand and supply scenarios** – Atkins were concerned that scenarios which were biased towards showing a greater need for the projects had been used to justify the work. Additionally, the EJPs did not provide information on that the asset life of the proposed assets may go beyond the scenario timescales. Therefore, the scenarios would only be applicable to a fraction of the asset life.
- **Cost accuracy** – Atkins were concerned that the projects had not been developed sufficiently to achieve the typical cost accuracy required for project sanctions. It was noted that Ofgem are discussing implementing a mechanism, such as an Uncertainty Mechanism, to review the proposals at a later stage in development when more accurate cost information would be available. Where appropriate, Atkins made recommendations on the additional detailed cost and optioneering that is required before further funding is approved.

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3. Scope of Review

The table below lists the EJPs and Major Projects reviewed by Atkins on behalf of Ofgem.

Table 3-1 - EJPs Reviewed by Atkins

Theme	EJP Title
Cab Infrastructure	Cab Infrastructure
	Fire Suppression Systems
Compressor Train	Compressor
	Gas Generator Power Train
	Variable Speed Drive
	Vent System
Electrical Engineering	Site Electrical Systems
	Standby Power Supplies
Pipelines	Depth of Cover
	Impact Sleeves
	Pig traps
	PL Coating CP
	Watercourse crossings
Plant Equipment	Above Ground Pipework, Cladding & CP systems
	Filters, Scrubbers & Preheaters
	Pressure reduction, flow control and Slamshut Systems
Structural Integrity	Pipe Supports Pits and Ducting
	Security & fences, access & buildings
	Treatment & Drainage, tanks and bunds
Valves	Valves
Major Projects	Wormington Compressor
	Redundant Assets
	Kings Lynn Subsidence
	Increasing Resilience at Blackrod Offtake

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4. Additional Evidence Review Post Draft Determinations

After the publication of the Draft Determination report, additional evidence relating to several EJPs was submitted to Ofgem by NGGT. The new information was reviewed and discussed through several bi-lateral calls between NGGT, Atkins and Ofgem throughout August and September, and a deep-dive call between Atkins and Ofgem on 30 September 2020.

Where appropriate, conclusions have been updated, and modifications made to the recommended allowed intervention volumes. The final report and Technical Notes have been updated accordingly and re-submitted to Ofgem on 9 October 2020.

The EJPs where NGGT have provided additional evidence relating to intervention volumes³ since Draft Determinations are highlighted in the table below.

Table 4-1 - Additional Evidence Reviewed After Draft Determinations

Theme	EJP Title
Cab Infrastructure	Cab Infrastructure
	Fire Suppression Systems
Compressor Train	Compressor
	Gas Generator Power Train
	Variable Speed Drive
	Vent System
Electrical Engineering	Site Electrical Systems
	Standby Power Supplies
Pipelines	Depth of Cover
	Impact Sleeves
	Pig traps
	PL Coating CP
	Watercourse crossings
Plant Equipment	Above Ground Pipework, Cladding & CP systems
	Filters, Scrubbers & Preheaters
	Pressure reduction, flow control and Slamshut Systems
Structural Integrity	Pipe Supports Pits and Ducting
	Security & fences, access & buildings
	Treatment & Drainage, tanks and bunds
Valves	Valves
Major Projects	Wormington Compressor
	Redundant Assets
	Kings Lynn Subsidence
	Increasing Resilience at Blackrod Offtake

³ While there was additional evidence provided for unit costs relating to other EJPs, unit cost review was not in Atkins scope and the EJPs that cost evidence relates to have not been highlighted.

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