United Utilities Water

# Annual Performance Report 2024/25

# External Assurance Reports

July 2025

United Utilities

Water for the North West

# Contents

# 1. Introduction

The purpose of this document is to provide visibility of the external independent assurance undertaken in line with the PR19 final determination requirements. Each performance commitment referred to in this document has been externally audited prior to being signed off by the relevant business unit Director. The sign off process is electronic and is managed through our case management tool, Jira. Each level of reviewer is required to confirm the level and nature of checks undertaken and then subsequently advance the case to the next level or refer to the originator to provide further information. This process is date and time stamped. For the purpose of this document individuals' names have been redacted from the report and replaced with job titles where relevant, showing the level of sign off at each stage of the checks.

In its role as technical auditor, Jacobs undertake detailed audits of our performance commitments and the output of these is recorded on the SAF. The SAF provides a status of actions identified (red, amber, blue, green) against assessments made during the audit and forms an integral part of the supporting evidence for our regulatory reporting process. The criteria used by Jacobs during the audits is described below:

- Red - material concerns over the validity of the reported information
- Amber - potential material concerns over reported information
- Blue - content with reported information but supporting data needs completion / noting/or future improvements required
- Green - no material exceptions and compliant with the requirements

All actions raised in the 2024/25 audits relating to the performance commitments within this document have been satisfactorily addressed.

| Performance commitment (bespoke) | Reporting and assurance requirement |
|---|---|
| Water service resilience<br>See section 2.1 below | The company must publish independent reports of the assessment audit of the baseline position and then further audits of assessment of any changes in the risk position claimed within the year for each year between 2020 and 2025. If changes are necessary to the methodology or underlying data, the reports will assess any potential impact on reported performance and state the impact on the baseline position and any earlier reported years. |
| Better air quality<br>See section 2.2 below | The company will provide independent assurance including that:<br>· The concentration of NOx emissions is measured by independent qualified third party according to BS EN 14792 Stationary source emissions. Determination of mass concentration of nitrogen oxides (NOx) (or its successors or recognised equivalents).<br>· All operational data relating to energy, electricity generation and biomethane production is compliant with the international carbon reporting standard (ISO 14064, Part 1) (or its successors or recognised equivalents) and assured following an audit by an appropriately qualified independent third party. |
| Hydraulic internal flood risk resilience<br>See section 2.3 below | The company must publish independent reports of the assessment audit of the baseline position and then further audits of assessment of any changes in the risk position claimed within the year for each year between 2020 and 2025. If changes are necessary to the methodology or underlying data, the reports will assess any potential impact on reported performance and state the impact on the baseline position and any earlier reported years. |
| Hydraulic external flood risk resilience<br>See section 2.3 below | The company must publish independent reports of the assessment audit of the baseline position and then further audits of assessment of any changes in the risk position claimed within the year for each year between 2020 and 2025. If changes are necessary to the methodology or underlying data, the reports will assess any potential impact on reported performance and state the impact on the baseline position and any earlier reported years. |

## 1.1 Water service resilience

| Project No. | Project Description | Task | |
|---|---|---|---|
| B2349203 | United Utilities assurance | Regulatory Reporting 2025 | |
| **Table number and line number** | **Short description** | **Risk score** | **Reported Performance for PC** |
| 3A.12, Lines 1-2 | **Water Service Resilience**<br>This performance commitment measures the reduction in potential risks of longer supply interruptions from a baseline risk assessment for 31 March 2020. This is measured as a reduction in the number of customer water supply service days at risk per year (csd/yr) | A | 4006 csd/yr |
| **Findings Summary** | The auditee demonstrated good knowledge and understanding of the regulatory requirements. The auditee developed the methodology and the associated risk assessment model that is used to produce the reported value and has an in depth understanding of the methodology and processes. The data checks performed during the audit did not identify any issues.<br>There were no material actions arising from the audit.<br>**Performance and significant events:**<br>The PC reported figure of a 4,006 reduction in customer water supply service days at risk per year (csd/yr) exceeds the committed performance level of 1,526 csd/yr. This results in an outperformance payment of £8,970 for 2024/25.<br>**Methodology:**<br>The methodology for calculating the csd/yr applies the same risk calculation model as previous years. A key input to the csd/yr calculation is the volume benefit derived from resilience investments. This year's benefits were demonstrated through pumped flow tests on the booster pump installation and a calibrated hydraulic model, which confirmed the enhanced resilience through improvements to the gravity operational mode. The audit verified the accuracy of the model inputs, assumptions and outputs with no issues identified.<br>**Guidance:**<br>The regulatory guidance has not changed since the last reporting period.<br>**Assumptions:**<br>Assumptions for the baseline risk model were previously audited and found reasonable. This year's audit did not cover assumptions relating to the overall process and base risk model. Assumptions applied to determine the volume benefit were reviewed and considered reasonable.<br>**Source data:**<br>The source data was clearly described during the audit and documented in supporting material. Test flow data used to calibrate the hydraulic model was traced back to SCADA data, with no issues found.<br>**Commentary:**<br>Performance against target is outlined in section 2 of the Regulatory Reporting Performance and Compliance Statement (**P&CS**), including a summary table of year-on-year variance. The commentary for regulator submission was not available to review during the audit; however, the auditee stated this would be based on the **P&CS**.<br>**Audit trails:**<br>Audit trails of key inputs were well maintained, including email confirmation of the volume benefit and relevant test flow data. | | |
| **Level of audit** | Level 2 - Default audit, aligned to Ofwat 'Reporter style audit', opinion is generally based on a limited audit which also relies on a rolling series of Level 2 audits (which give breadth of opinion) with reference and guidance taken from previous findings. Mainly focussed on methodology and implementation of process, assumptions, material trends and governance, and may include limited sample checks on data and population of tables. | | |
| **Emerging risks/issues** | No emerging risks were identified that may impact **future** reporting. This performance commitment will not be taken forward to PR24. | | |

| Date of audit | Jacobs Team | Client Team |
|---|---|---|
| 23/04/2025 | [redacted] | [redacted] |

| Revision | Date | Description | Author | Checked | Reviewed |
|---|---|---|---|---|---|
| 1.0 | 25/04/2025 | Feedback sent to United Utilities | [redacted] | [redacted] | [redacted] |

| Key to Audit RAG status | |
|---|---|
| A | Low reporting risk - No material exceptions and compliant with the requirements (No actions) |
| B | Low to medium reporting risk - Content with reported information but supporting data needs completion/noting/or future improvements required (weaknesses exist but they are not material - must have action) |
| C | Medium to high reporting risk - Potential material concerns over reported information (material weakness or several minor weaknesses with material effect). |
| D | High reporting risk - Material concerns over the validity of the reported information (two or more material weaknesses) |
| N/A | Not audited as it was outside our scope |
| **Guidance on risk and materiality:** | |
| The score reflects the level of reporting risk for the process and is based on the overall opinion of the auditors. In general, a weakness is material if it has the potential to impact the quality of the reported number to a greater degree than assumed by the confidence grade. All weaknesses (material and non-material) are described below (issues) and have been given a corresponding action. | |

# 1. Issues and Actions

| Data table no. | Line no. | Issue | Actions/ Recommendations | Company Response | Date of Response | Closed? (Y/N) | Impact (Material or non-material) |
|---|---|---|---|---|---|---|---|
| 3A.12 | 1-2 | Sign-off of the reported value was not complete at the time of audit. | Obtain sign-off of the reported value. | Evidence of business lead signoff has been completed and evidence emailed to Jacobs | 28/04/2025 | Y | Non-material |

| 1. | Risk Score (A, B, C or D) |
|---|---|
| *Is the reported data and commentary reasonable and consistent with the other information seen at the audit?* | A |

| *Criteria* | | *Y, N or NA* | *Notes* |
|---|---|---|---|
| *1.1* | *Was the data and supporting information shared prior to the audit?* | Y | The team shared the Performance and Compliance Statement (P&CS), a document describing the basis of the claim and calculation spreadsheets. – See Documents list at the end of this report |
| *1.2* | *Has the data been added to the tables in the right format, correct units and to the right number of decimal places? **Note: Please capture the reported performance for PCs in the Summary table above using format and units stated in the FD. Capture APR data in screenshot to be attached in the screenshot section.*** | Y | Please see screenshot (Figure 1) |
| *1.3* | *Has the company met their respective targets?* | Y | The company has exceeded the committed performance level of 1,526 csd/yr by 2,480 csd/yr, achieving a reduction in csd of 4,006. This results in a reward payment of £8,970 for 2024/25. |

| | | | |
|---|---|---|---|
| | | | The company internal target was set at the PC standard outperformance cap of 4,089 csd/yr. The actual reduction achieved fell short by 83 csd of the internal target. See explanation against Test 1.5 below. |
| 1.4 | *Is the reporting process well managed/maintained?* | Y | The auditee has a thorough knowledge of the reporting process and has continued to produce the reported figure for each year of the AMP7 period. Updates to the process that occurred during the AMP7 cycle are recorded in the P&CS. There were no updates to the process for FY24 or FY25. |
| 1.5 | *Can any difference in performance in relation to previous years and target be explained?* | Y | The reduction in the csd for 2024/25 was achieved by commissioning the Ringley Fold booster on the West East Link Main (WELM 150 resilience project) between Prescott and Woodgate Hill from 122 Ml/d to 141 Ml/d (additional 19 Ml/d). This equates to 423 csd/yr risk reduction.<br><br>Additionally, the gravity operation was enhanced by modifying the control software and system configuration at Prescott (WELM Gravity 120 project). This increased the peak operational flow from 117 Ml/d to 133.5 Ml/d, providing an additional 16.5 Ml/d). This equates to a 334 reduction in csd/yr.<br><br>The FY25 total benefit is 757 csd/yr. This results in a cumulative benefit for the AMP7 period of 4,006 csd/yr.<br><br>The team explained that the internal 4,089 csd/yr was based on achieving a 150 Ml/d pumped operational capability for WELM. This was not achieved due to performance issues at the Ringley Fold booster, which experiences backflow through the non-operational pump. |
| 1.6 | *Is the performance reported for prior years subject to change? (If yes give details below)* | N | |
| 1.7 | *Is commentary provided and is it consistent with the process and the reported number(s)? Does it explain this year's performance in relation to previous years and target?* | Y | Commentary is included in the Regulatory Reporting Performance and Compliance Statement (P&CS) and is consistent with the process and reported numbers. The year-on-year performance is described in Section 3.2 of the P&CS. |
| 1.8 | *Is/are the confidence grade/grades the same as stated in the P&CS document?* ***Note- please record the confidence grade in the notes.*** | Y | The confidence grade of C2 has not changed since previous reporting years and is the same as stated in the P&CS.<br><br>C2 is considered reasonable given the reported value involves some subjectivity associated with the risk assessment model and relies on water resource and hydraulic model outputs. |

| 2. Audit Test – Process compliance | | | Risk Score (A, B, C or D) |
|---|---|---|---|
| *Has the process defined in the methodology document been followed?* | | | A |
| ***Criteria*** | | ***Y, N or NA*** | ***Notes*** |
| *1.1* | *Does the methodology remain unchanged from previous years and is it clearly laid out with key data sources, processes, and well-defined control points?* | Y | The methodology applied to calculate the csd is outlined in document 'performance commitment technical document, chapter 5 supplementary document, as stated in the PR19FD performance commitment appendix. As the risk assessment methodology has remained the same and has been previously assured, we did not review this document as part of this audit.<br><br>Key process assumptions and controls are outlined in the P&CS.<br><br>The document Huntington Watchgate explains the method and assumptions to calculate the volume benefit derived from the two resilience projects:<br><br>• WELM 150 – commissioning of the Ringley Fold pump station<br>• WELM 120 – modifications to the control and operation of the WELM in gravity mode |
| *1.2* | *Does the methodology comply with the latest guidance from Ofwat?* | Y | |
| *1.3* | *Has the process described in the methodology document been used to produce the reported number?* | Y | |
| *1.4* | ***PCs only** – Where there are specific assurance requirements stated in the PR19 Final Determination (or in guidance referred to in the PR19 FD) have these been fully addressed?* | Y | The PR19 FD requires that the company publish the audit report. The company has committed to meet this requirement.<br><br>It is also a requirement that if the methodology or underlying data is changed, the audit makes an assessment of any potential impacts of the reported performance, baseline position and earlier reported years. As there were no changes in the methodology or data for this reporting year, this assurance requirement does not apply. |
| *1.5* | *Are all assumptions reasonable and appropriately applied?* | Y | The risk assessment model assumptions were previously audited and have not changed since previous years.<br><br>The assumptions applied to demonstrate the peak gravity capacity of the WELM 150 are reasonable. The model is fit for purpose, calibrated to operational test data and operational assumptions are appropriate. |
| *1.6* | *Has all evidence of appropriate sign-off been provided?* | N | The team is arranging sign-off by Monday 28/04/2025.<br><br>**29/04/2025:** The team forwarded evidence of sign-off completed by Grant Batty, Water Services Director – see Figure 10. |
| *1.7* | *Has the source data been clearly identified, is it complete beyond* | Y | The source data for this reporting year included hydraulic model outputs and pump test data. We checked the |

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| | | | |
|---|---|---|---|
| | *material concern and is it well managed through to accurate systems input?* | | transposition of source data to the calculation spreadsheet and found no issues. |
| *1.8* | *Is the audit trail detailed, comprehensive and traceable back to source?* | Y | This includes emails, SCADA data confirming pump test results and model outputs. See screenshots taken during audit. |

## 2. Data checks

| Document reference | Details of check | Findings |
|---|---|---|
| Water service resilience AMP7 file | Checked calculations and manual transposition of data. | **No issues identified** |
| March 2025 file | Checked the calculation of the ODI reward. | **No issues identified** |
| | | |

| Sample Checks - approach |
|---|
| 100% - There were two resilience measures contributing to the claimed benefit calculations – WELM 150 (inc Windes BHs) and the WELM Gravity 120. The source data/information and calculations for these were checked during the audit |

| We sample checked the following items back to source: | | | |
|---|---|---|---|
| **Unique identifier** | **Source of data** | **Details of check** | **Findings** |
| Rob lane recorded flows used for calibration | SCADA flow data | Checked that the modelled flow to Rob Lane = 15.35 Ml/d<br>Scenario: Small 25 valve closed; large 120 valve open and bypass valve open.<br>(Figure 5) | No issues |
| Woodgate Hill recorded flows used for calibration | SCADA flow data | Checked modelled flow for Woodgate Hill – 137.2 Ml/d<br>(Figure 6) | No issues |
| Scenario – Rob Lane on-line | Hydraulic model output | Checked the model settings and peak flow operation under modelled scenario of Rob Lane offtake on line at 15.35 Ml/d.<br>Model settings:<br>Bypass closed to 88% closed (based on model calibration to achieve flow trial gravity flow at Prescott of 123.75ML/d); , reservoir level at 3.78m, large 700mm valve at Prescott fully open; small valve shut. Flow rate at Prescott is - 123.75Ml/d.- see Figure 8<br>Flow rate at Woodgate hill at this time –<br>Flow before the offtake – model predicts 139.1 Ml/d which matches 139.1 with Rob Lane online. | No issues |
| Scenario-Rob Lane – offline – demonstrating the peak gravity capacity | Hydraulic model output | If Rob Lane off line: No offtake<br>Predicted flow out of Woodgate Hill – 133.54Ml/d – see figure 9 | No issues |

## 1.2 Better air quality

| Project No. | Project Description | Task | |
|---|---|---|---|
| B2349203 | United Utilities assurance | Regulatory Reporting 2025 | |
| Table number and line number | Short description | Risk score | Reported Performance for PC |
| 3B lines 1-9 | Better Air Quality | B | Tonnes of NOX emissions per GWh ofrenewable electricity generated: 0.87 (OFWAT target is to be below1.42) |

| | |
|---|---|
| Findings Summary | United Utilities provided sufficient evidence to indicate all data provided in lines 1 -9 were correctly calculated, and that they have achieved their performance commitments previously made to Ofwat. The key risk identified is based on the manual input of data into the main calculation sheet used for providing end results.<br>**Performance and significant events:**<br>UU has provided sufficient evidence thatits performance has exceeded the requirements laid out by Ofwat previously. Their performance commitment was to remain under 1.42 tonnes of NOX emissions per GWh of renewable electricity generated. This hasbeen achieved in FY2025.<br>**Methodology:**<br>In terms of calculations, UU uses a spreadsheet that applies 3 different calculation/input sheets to provide the end results for all 9 of the lines in the audit.<br>• A "Main Report", the primary calculation sheet, which provides the end figures used in UU's final reports<br>• "Energy Generation", which is exclusively an input sheet<br>• "Emissions Reports", which is primarily an input sheet but also applies calculations prior to use of data in "Main Report"<br>The key metric, that of the emissions per amount of renewable electricity generated, is calculated using a 3-year rolling average, where the sum of the last 3 years total emissions of NOX are divided by the sum of the last 3 years renewable energy generation. We are satisfied that these numbers have been calculated correctly.<br>**Guidance:**<br>The guidance provided by the auditee showed understanding of the process, and the auditors were able to follow the process in a structured way. The reports provided offer sufficient guidance on how key metrics are calculated.<br>**Assumptions:**<br>The auditee has laid out their assumptions in the Regulatory reporting performance and compliance statement, the key assumptions being:<br>• Engine efficiency is at the design point of engines at 75% load from technical data sheets<br>• The content of methane in biogas is 60%<br>• The calorific value of propane is the same as in UU's Fuel Measurement Sampling<br>From examining UU's calculation sheets, there is no indication that these assumptions haven't been adhered to.<br>**Source data:**<br>UU has explained where the source data originates within their calculation sheets used for final results, both in their methodology report and in their explanation during audit. We were informed by the client that the data is manually inputted, instead of directly provided by the source data, which primarily informed the final decision to move the risk score downwards from A to B.<br>**Commentary:**<br>The commentary provided by the auditee is in the form of their "Regulatory reporting performance and compliance statements". These outline the values provided at each line for FY25, as well as explaining any reasons for material differences to last year's performances where necessary.<br>**Audit trails:**<br>The methodology/ commentary provided by the auditee provides the sources for the data used in the clients end calculation workbook. As previously mentioned, the nature of these figures being manually inputted into the end calculation workbook has the potential to undermine the process slightly, but the trail which produces the end performance results is clear and visible.<br>**Sign off:**<br>The team confirmed that 2024/25 data has received formal sign off and provided JIRA extracts to confirm this. |

| | |
|---|---|
| Level of audit | Level 2 - Default audit, aligned to Ofwat 'Reporter style audit', opinion is generally based on a limited audit which also relies on a rolling series of Level 2 audits (which give breadth of opinion) with reference and guidance taken from previous findings Mainly focussed on methodology and implementation of process, assumptions, material trends and governance, and may include limited sample checks on data and population of tables. |
| Emerging risks/issues | No emerging risks that may impact future reporting . |

| Date of audit | Jacobs Team | Client Team |
|---|---|---|
| 24/04/2025 | [redacted] | [redacted] |
| | | |

| Revision | Date | Description | Author | Checked | Reviewed |
|---|---|---|---|---|---|
| 1.0 | 08/05/2025 | Feedback sent to United Utilities | [redacted] | [redacted] | [redacted] |
| 2.0 | 01/07/2025 | Feedback sent to United Utilities | [redacted] | [redacted] | [redacted] |

| Key to Audit RAG status | |
|---|---|
| A | Low reporting risk - No material exceptions and compliant with the requirements (No actions) |
| B | Low to medium reporting risk - Content with reported information but supporting data needs completion/noting/or future improvements required (weaknesses exist but they are not material- must have action) |
| C | Medium to high reporting risk - Potential material concerns over reported information (material weakness or several minor weaknesses with material effect). |
| D | High reporting risk - Material concerns over the validity of the reported information (two or more material weaknesses |
| N/A | Not audited as it was outside our scope |
| **Guidance on risk and materiality:** | |
| The score reflects the level of reporting risk for the process and is based on the overall opinion of the auditors. In general a weakness ismaterial if it has the potential to impact the quality of the reported number to a greater degree than assumed by the confidence grade. All weaknesses (material and nonmaterial) are described below (issues) and have been given a corresponding action. | |

# 1. Issues and Actions

| Data table no. | Line no. | Issue | Actions/ Recommendations | Company Response | Date of Response | Closed? (Y/N) | Impact (Material or non-material) |
|---|---|---|---|---|---|---|---|
| 3B | 1-9 | Documents used in the audit have (by the time of written report) not undergone a final sign-off at the side of the auditee | Complete the final sign-off of the methodology, commentary and reporting data. | Sign off complete. | 23/06/2025 | Y | Non-material |
| 3B | 1-9 | Data is inputted manually into the calculation workbooks | Consider methods to automate the calculation process | | | | Non-material |

## 2. Key Findings

| 1. Audit Test – Performance and context | | | Risk Score (A, B, C or D) |
|---|---|---|---|
| *Is the reported data and commentary reasonable and consistent with the other information seen at the audit ?* | | | A |
| *Criteria* | | *Y, N or NA* | *Notes* |
| *1.1* | *Was the data and supporting information shared prior to the audit?* | Y | All required information was shared prior to the audit. |
| *1.2* | *Has the data been added to the tables in the right format, correct units and to the right number of decimal places? **Note: Please capture the reported performance for PCs in the Summary table above using format and units stated in the FD. Capture APR data in screenshot to be attached in the screenshot section.*** | Y | The data provided in commentary by UU is typically to 2dp. This matches those of the results in the spreadsheet provided, which outlines their full process in calculating the required figures. All figures in the data sheets are either to 2dp or 0dp, depending on the context of the data. Therefore, we have no concerns around rounding of figures causing inaccurate results, or the formatting of data from the calculations. |
| *1.3* | *Has the company met their respective targets?* | Y | Specific target regarding ODI performance has been 1.42 UU has exceeded this performance target since the beginning of the data provided, in 2018. FY25 figures show a value of 0.87, meaning that NOx emissions are below the performance requirement maximum |
| *1.4* | *Is the reporting process well managed/maintained ?* | Y | Reporting process is managed largely through one calculation spreadsheet (which draws from manual inputs from other data services). This makes the reporting process streamlined to drawn data from for the auditee.<br><br>Nonetheless, we have been informed that FY25 is the final year that such reports will need to be made for provision to OFWAT The client is committed to maintaining this measure for the future for internal reporting, but this is not required to be maintained in the future by the regulator. |
| *1.5* | *Can any difference in performance in relation to previous years and target be explained?* | Y | Main discrepancy in performance differences observed was that singular engine emissions and energy figures varied largely by year. This was easily explained by the client as differing operations of engines across years and therefore is not a cause for concern |
| *1.6* | *Is the performance reported for prior years subject to change? (If yes give details below)* | N | The yearly data is created through checks of different engines throughout the given year. Therefore, the client is certain that previous performance data will not change. |
| *1.7* | *Is commentary provided and is it consistent with the process and the reported number(s)? Does it explain this year's performance in relation to previous years and target?* | Y | Commentary provided with in depth explanation on methodology, assumptions etc. |

| | | | |
|---|---|---|---|
| *1.8* | *Is/are the confidence grade/grades the same as stated in theP&CS document? Note- please record the confidence grade in the notes.* | Y | Confidence grades regarding performance and compliance. Accuracy banding is 3, due to a <10% calibration tolerance within the engine emissions testing equipment, highlighted in the commentary. The accuracy band has remained the same for the past 4 years (according to UU) which indicates no developing issue in confidence grades. |

| 2. Audit Test – Process compliance | | | Risk Score (A, B, C or D) |
|---|---|---|---|
| *Has the process defined in the methodologydocument been followed?* | | | B |
| *Criteria* | | *Y, N or NA* | *Notes* |
| *2.1* | *Does the methodology remain unchanged from previous years and is it clearly laid out with key data sources, processes, and well defined control points?* | Y | Reportedly no changes in methodology since 2019. |
| *2.2* | *Does the methodology comply with the latest guidance from Ofwat?* | Y | As per the methodology report of the Better Air Quality:<br><br>"We have agreed with Ofwat that all operational data relating to electricity generation and Biomethane production will be compliant with international carbon reporting standards and assured via a CEMARS audit.<br><br>We are confident that the Auditee has complied with OFWAT standardsin their monitoring of carbon emissions and electricity generation. |
| *2.3* | *Has the process described in the methodology document been used to produce the reported number?* | Y | Methodology shown in document is comparable to the spreadsheet shown and explained by UU. Therefore, we are confident that the same method has been used. |
| *2.4* | *PCs only– Where there are specific assurance requirements stated in the PR19 Final Determination (or in guidance referred to in the PR19 FD) have these been fully addressed?* | N/A | |
| *2.5* | *Are all assumptions reasonable and appropriately applied?* | Y | The auditee has outlined the assumptions made for each line in the Regulatory reporting Performance and compliance statement. A specific example is biogas methane content, assumed at 60% for all calculations, which is confirmed to be used within the calculation sheet for the end results. |
| *2.6* | *Has all evidence of appropriate sign-off been provided?* | Y | At the time of the audit, JIRA sign-off had not yet been completed. However, we subsequently received evidence of the sign-off via email after the audit concluded. |
| *2.7* | *Has the source data been clearly identified, is it complete beyond material concern and is it well managed through to accurate systems input?* | Y | Source data is clearly mentioned in the methodology sections provided by the auditee. |
| *2.8* | *Is the audit trail detailed, comprehensive and traceable back to source?* | Y | Emissions are measured by consultants Element Ltd. The data used in the reported figures is sourced from their emissions quality reports. We reviewed a sample of these during the audit. |

| | | | |
|---|---|---|---|
| | | | The auditee highlighted that data entered into the calculation spreadsheet usedis inputted manually we recommended that an automated process would reduce the risk of input errors. |

| 3. Audit Test – Data checks | | | Risk Score (A, B, C or D) |
|---|---|---|---|
| *Have the data checks identified any issues?* | | | A |
| *Criteria* | | *Y, N or NA* | *Notes* |
| *3.1* | *Did your spot check of calculations and spreadsheet formula identify any issues? (capture details of checks in table below)* | N | We had 2 processes for spot checking calculations:<br>• The client showed us all key calculations during the audit. We observed no issues with formulae during this.<br>• The support auditor performed checks on the sheet formulae outside of the audit meeting. No issues were specifically spotted in this process.<br><br>It was noticed that some inconsistencies in the data calculations were present, based on when some plants were non-functional (digestion offline). While this was explained by the client within the audit, and is completely compliant with the data methodology, we feel it may be important to highlight this situation more clearly when providing such reports. |
| *3.2* | *Did your spot checks on data- review of highest, lowest, dates, location, etc. identify any issues? (capture details of checks in table below)* | N | Spot checking data provided by UU showed no immediate issues. |
| *3.3* | *Did your end-to-end checks of sample of data to review calculations, categorisations (incl. company allocation) and exclusions against source data identify any issues? (capture details of checks in table below)* | Y | A brief spot check of a specific sample of the engine data revealed no issues – the few calculation columns present for the sampled data did not provided any errors.<br><br>The rest of the sheets provided by the client consist of somewhat brief and non-complex formulae, and we are confident that the calculations are therefore correct. |
| *3.4* | *PCs only- Are the performance figures accurately carried forward to the ODI and correctly calculated in accordance with Ofwat's PR19 FD- United Utilities – Outcomes performance commitment appendix?* | Y | The PC regarding the key ODI target in question has been the same value since FY21. This has been carried forward and adhered to in all years required, and has accurately been compared to in spreadsheet formulae. |

## 3. Data checks

| Document reference | Details of check | Findings |
|---|---|---|
| c | Check on calculations within a sample of engines within the emissions reports. Examining if the key calculations in regard to conversion of different oxygen percentages were correct (5% to 15% vice versa) | Calculations all follow the guidance or formulae laid out at the top of the given sheet. No indication of errors present. |
| Simplified Nox ODI Calculation V5.0 (RR25 12M – 2025-04-07).xlsx | Examining core calculations of the main report sheet, specifically in regard to top 2 tables which give the final results for all 9 lines. | All calculations follow the given methodology and appear to be giving correct results |

| Sample Checks- approach |
|---|
| The lead auditor selected a particular sample of different engines in the dataset to specifically analyse the calculations for outside of the audit session. The support auditor has since revisited the calculation workbook provided, and can confirm that the calculations follow the correct formulae as highlighted by the auditor, and provides correct calculations accordingly). |

| We sample checked the following items back to source: | | | |
|---|---|---|---|
| Unique identifier | Source of data | Details of check | Findings |
| Bury – A11 CHP report. EMT11314 | Element report | Checked figures in report back to inputs into worksheet | No issues |
| Oldham – A1 Engine report. ERE24102 | Element report | Checked figures in report back to inputs into worksheet | No issues |
| Davyhulme – A4 Engine 1 report. EMT09481 | Element report | Checked figures in report back to inputs into worksheet | No issues |
| Davyhulme – A4 Engine 2 report. EMT10205 | Element report | Checked figures in report back to inputs into worksheet | No issues |

## 1.3 Hydraulic internal flood risk resilience and Hydraulic external flood risk resilience

| Project No. | Project Description | Task | |
|---|---|---|---|
| B2349203 | United Utilities assurance | Regulatory Reporting 2025 | |
| Table number and line number | Short description | Risk score | Reported Performance for PC |
| T3B & T10D<br>3B.13– ODI – G05-WWN (Hydraulic flood risk resilience (Internal)) &<br>3B.14 – ODI - G06-WWN (Hydraulic flood risk resilience (External))<br>10D.2-3 – Green Recovery Benefit – HIFRR & HEFRR | Sewer Flooding and Sewer Network Performance - HIFRR & HEFRR | *A* | *G05-WWN*<br>*39.24*<br>*£6.972M*<br>*(reward)*<br><br>*G06-WWN*<br>*181.13*<br>*£-0.647m*<br>*(penalty)* |

| | |
|---|---|
| Findings Summary | **Audit Topics:**<br>As defined in: Consolidated_PR19_final_determinations_Outcomes_performance_commitment_United_Utilites-1.pdf<br>3B.13 - **G05-WWN** The number of predicted flooding incidents each year at properties that had repeat flooding between 2012-13 and 2017-18. It is measured and reported as the number of modelled internal flooding incidents as predicted by the hydraulic model. For instance in terms of annualised risk, flooding on a 1-in-1 event would equal 1 annualised incident while flooding on a 1-in-10 event would be equivalent to 0.1 annualised incidents. Where the modelled frequency is greater than the reported frequency, the reported frequency for the six year period 2012-13 to 2017-18 will be used instead of modelled risk. The modelled risk will be as calculated in 2018-19. Throughout the period 2020-2025, risk values will be updated for each listed property where a permanent intervention is carried out. Risk levels will only be updated where the modelled risk changes solely due to a permanent intervention being carried out in the period with the intention of providing or freeing up additional hydraulic capacity And include:<br>• sewer upsizing;<br>• online or offline storage;<br>• flow transfer;<br>• surface water removal including green infrastructure solutions; and<br>• physical disconnection from a surcharging sewer.<br>Solutions will be designed for a 2040 design horizon, including climate change, proposed development and creep. The reduction will be the difference between the remaining 2040 risk following an intervention, and the baseline risk level. The reduction must be a minimum of a 50% reduction in modelled flood risk frequency. Where properties are not already on the list and are impacted by a repeat flood after 1 April 2018, they will be added to the measure using a consistent method with those currently included.<br><br>3B.14 - **G06-WWN** The number of predicted flooding incidents each year at properties that had repeat flooding between 2012-13 and 2017-18. It is measured and reported as the number of modelled external flooding incidents as predicted by the hydraulic model. For instance in terms of annualised risk, flooding on a 1-in-1 event would equal 1 annualised incident while flooding on a 1-in-10 event would be equivalent to 0.1 annualised incidents. Where the modelled frequency is greater than the reported frequency, the reported frequency for the six year period 2012- 13 to 2017-18 will be used instead of modelled risk. The modelled risk will be as calculated in 2018-19. Throughout the period 2020-2025, risk values will be updated for each listed property where a permanent intervention is carried out. Risk levels will only be updated where the modelled risk changes solely due to a permanent intervention being carried out in the period with the intention of providing or freeing up additional hydraulic capacity and include:<br>• sewer upsizing;<br>• online or offline storage;<br>• flow transfer; and<br>• surface water removal including green infrastructure solutions.<br>Solutions will be designed for a 2040 design horizon, including climate change, proposed development and creep. The reduction will be the difference between the remaining 2040 risk following an intervention, and the baseline risk level. The reduction must be a minimum of a 50% reduction in modelled flood risk frequency. Where properties are not already on the list and are impacted by a repeat flood after 1 April 2018, they will be added to the measure using a consistent method with those currently included.<br>**Audit Scope:**<br>Level 2 audit was completed for the AMP7 common performance commitments G05-WWN and G06-WWN, as contained within Table 3B.13-14 and T10D.2-3, which included checks on key control points and QA procedures to ensure the Company's methodology has been followed and undertake checks to confirm completeness and accuracy of reported data. |

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| | **Performance and significant events:**<br>For RR25, UU has achieved the Year 5 target for G05-WWN (Hydraulic flood risk resilience (Internal)), however, they have not achieved the Year 5 target for G06-WWN (Hydraulic flood risk resilience (External)).<br>The process is well managed. The continuation of the Flood Review Panel provides an additional layer of verification for all arisals, with good evidence compiled to support the addition and removal of properties to/from the HFFR.<br>**Methodology:**<br>Methodology is consistent with current process and largely unchanged. Control points identified and understood.<br>**Guidance:**<br>No changes to the guidance from the previous reporting year.<br>**Assumptions:**<br>The assumptions are clearly recorded within the Performance and Compliance Statement (PCS) and are appropriate for the work undertaken.<br>**Source data:**<br>The Company captures sufficient evidence to enable the appropriate assessment and verification of all arisals and removals.<br>**Commentary:**<br>The commentary provided during the audit was applicable to this document.<br>**Audit trails:**<br>A selection of arisals were trailed back to source. Whilst there were no removals delivered during the year, we confirm that a comprehensive evidence folder is prepared to support all additions/removals. |
| **Level of audit** | Level 2 - Default audit, aligned to Ofwat 'Reporter style audit', opinion is generally based on a limited audit which also relies on a rolling series of Level 2 audits (which give breadth of opinion) with reference and guidance taken from previous findings. Mainly focussed on methodology and implementation of process, assumptions, material trends and governance, and may include limited sample checks on data and population of tables. |
| **Emerging risks/issues** | 'No emerging risks were identified that may impact future reporting' |

| Date of audit | Jacobs Team | Client Team |
|---|---|---|
| 29/04/2025 | [redacted] | [redacted] |

| Revision | Date | Description | Author | Checked | Reviewed |
|---|---|---|---|---|---|
| 1.0 | 13.05.2025 | Feedback sent to United Utilities | [redacted] | [redacted] | [redacted] |

| Key to Audit RAG status | |
|---|---|
| A | Low reporting risk - No material exceptions and compliant with the requirements (No actions) |
| B | Low to medium reporting risk - Content with reported information but supporting data needs completion/noting/or future improvements required (weaknesses exist but they are not material - must have action) |
| C | Medium to high reporting risk - Potential material concerns over reported information (material weakness or several minor weaknesses with material effect). |
| D | High reporting risk - Material concerns over the validity of the reported information (two or more material weaknesses) |
| N/A | Not audited as it was outside our scope |
| **Guidance on risk and materiality:** | |
| The score reflects the level of reporting risk for the process and is based on the overall opinion of the auditors. In general, a weakness is material if it has the potential to impact the quality of the reported number to a greater degree than assumed by the confidence grade. All weaknesses (material and non-material) are described below (issues) and have been given a corresponding action. | |

# 1. Issues and Actions

| Data table no. | Line no. | Issue | Actions/ Recommendations | Company Response | Date of Response | Closed? (Y/N) | Impact (Material or non-material) |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## 2. Key Findings

| 1. Audit Test – Performance and context | | | Risk Score (A, B, C or D) |
|---|---|---|---|
| *Is the reported data and commentary reasonable and consistent with the other information seen at the audit?* | | | A |
| *Criteria* | | *Y, N or NA* | *Notes* |
| *1.1* | *Was the data and supporting information shared prior to the audit?* | Y | Data and supporting information was shared prior to the audit. |
| *1.2* | *Has the data been added to the tables in the right format, correct units and to the right number of decimal places?* ***Note: Please capture the reported performance for PCs in the Summary table above using format and units stated in the FD. Capture APR data in screenshot to be attached in the screenshot section.*** | Y | During this audit we reviewed the performance of 2 separate performance commitments (PCs) related to hydraulic internal flood risk resilience (G05-WWN) and hydraulic external flood risk resilience (G06-WWN). For RR25, UU outperformed the Year 5 target for G05-WWN, resulting in a outperformance payment of £6.973m, but underperformed against the Year 5 target for G06-WWN, resulting in a £-0.647m penalty.<br><br>Hydraulic internal flood risk resilience (G05-WWN) is reported as a number to 2 decimal places.<br><br>Hydraulic external flood risk resilience (G06-WWN) is reported as a number to 2 decimal places. |
| *1.3* | *Has the company met their respective targets?* | Y&N | UU has outperformed the 2024/25 target for the G05-WWN HFFR PC resulting in £6.973m reward.<br><br>The target for G06-WWN was not achieved, resulting in an underperformance penalty of £-0.647m. |
| *1.4* | *Is the reporting process well managed/maintained?* | Y | Process is very well managed. The continuation of the Flood Review Panel provides an additional layer of verification for all arisals, with good evidence compiled to support the addition and removal of properties to/from the HFFR. |
| *1.5* | *Can any difference in performance in relation to previous years and target be explained?* | Y | G05-WWN - The original baseline level of risk following FY19 was 61.04. With the additional risk (9.89), this goes up to 70.93. With the projects delivered year to date (31.69), the risk reduces from that point to 39.24.<br><br>G06-WWN - The original baseline level of risk following FY19 was 276.06. With the additional risk (29.57), this goes up to 305.63. With the projects delivered (124.50), the risk reduces from that point to 181.13. |
| *1.6* | *Is the performance reported for prior years subject to change? (If yes give details below)* | N | There were changes previously which were implemented in FY21 so no changes to prior years. |

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| 1.7 | *Is commentary provided and is it consistent with the process and the reported number(s)? Does it explain this year's performance in relation to previous years and target?* | Y | Commentary on performance is provided within the PCS. It explains why the reported numbers are what they are in relation to targets.<br><br>**G05-WWN – Hydraulic Internal Flood Risk Resilience and G06-WWN – Hydraulic External Flood Risk Resilience (HFRR)**<br><br>• UU developed a measure for AMP7 to identify customers that have experienced repeat internal/external flooding and then deliver permanent solutions for these customers in order to reduce the risk of them experiencing future flooding.<br>• The Company has developed a complex methodology, based on the identification of all properties on Salesforce INS that have experienced at least 2 non-severe flooding incidents since 2012/13. These properties are then reviewed against the Company's comprehensive suite of 2D 'floodmesh' catchment models (last updated in 2020) to assess the modelled flooding risk. Comparison of the modelled risk and the actual historic flooding risk for each property is completed and the lower of the 2 risks is assigned to the property. When permanent solutions are delivered, the risk of flooding is reassessed, and the total resultant risk is then used to assess performance against the HFRR.<br><br>**Green Recovery (T10D.2-3)**<br><br>• In order to assess the modelled number of HFRR incidents resolved through green recovery funding, UU has developed a simple methodology to assess all SUDs schemes (funded through Green Recovery) that were delivered during the year and assess whether the scheme has resulted in reducing the risk of flooding to properties identified on HFRR.<br><br>• We understand the methodology simply involves reviewing the HFRR list of properties against the Green Recovery delivery programme with the relevant Asset Manager (Strategic Programmes) and Strategy Development Manager. Where a property is fully funded through green recovery, the whole of the modelled risk reduction will be added against that particular property. However, where a property is part funded through green recovery, the split of the funding will be used to proportion the benefit. For example, a modelled risk reduction of 1 at a property would be added as 0.5 if 50% of the funding was from Green Recovery.<br><br>• We confirm that no HFRR related schemes were delivered during the year that benefited from a SUDs solution funded through green recovery. |
| 1.8 | *Is/are the confidence grade/grades the same as stated in the P&CS* | Y | We confirmed an A3 confidence grade, which is consistent with all sewer flooding related data. |

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| | *document? **Note- please record the confidence grade in the notes.*** | | |

| 2. Audit Test – Process compliance | | | Risk Score (A, B, C or D) |
|---|---|---|---|
| *Has the process defined in the methodology document been followed?* | | | A |
| ***Criteria*** | | ***Y, N or NA*** | ***Notes*** |
| *2.1* | *Does the methodology remain unchanged from previous years and is it clearly laid out with key data sources, processes, and well-defined control points?* | Y | Methodology is consistent with current process and unchanged. Control points identified and understood. |
| *2.2* | *Does the methodology comply with the latest guidance from Ofwat?* | Y | Methodology is consistent with current process and largely unchanged. Control points are identified and clearly understood. For AMP7 reporting, the methodology reflects current Ofwat guidance. |
| *2.3* | *Has the process described in the methodology document been used to produce the reported number?* | Y | The processes set out in the "HIFRR and HEFRR" methodology documents have been used and followed resulting in the numbers reported as per the Ofwat guidance. |
| *2.4* | ***PCs only** – Where there are specific assurance requirements stated in the PR19 Final Determination (or in guidance referred to in the PR19 FD) have these been fully addressed?* | Y | The company must publish independent reports of the assessment audit of the baseline position and then further audits of assessment of any changes in the risk position claimed within the year for each year between 2020 and 2025. If changes are necessary to the methodology or underlying data, the reports will make an assessment of any potential impact on reported performance and state the impact on the baseline position and any earlier reported years. |
| *2.5* | *Are all assumptions reasonable and appropriately applied?* | Y | Confirmed. Assumptions are appropriate for the work undertaken |
| *2.6* | *Has all evidence of appropriate sign-off been provided?* | Y | Confirmed. There is a clear verification process<br><br>Company have followed their internal governance processes with methodology, P&CS and data table signed off through **JIRA Case Number – SPR-2540 and 2541** |
| *2.7* | *Has the source data been clearly identified, is it complete beyond material concern and is it well managed through to accurate systems input?* | Y | Confirmed. The Company captures sufficient evidence to enable the appropriate assessment and verification of all arisals and removals.<br><br>Source data is derived directly from INS. ODI calculation is consistent with Ofwat's PR19 FD - United Utilities – Outcomes performance commitment appendix. |

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| *2.8* | *Is the audit trail detailed, comprehensive and traceable back to source?* | Y | Confirmed. A selection of arisals were trailed back to source. Whilst there were no removals delivered during the year; we confirm that a comprehensive evidence folder is prepared to support all additions/removals. |

| 3. Audit Test – Data checks | | | Risk Score (A, B, C or D) |
|---|---|---|---|
| *Have the data checks identified any issues?* | | | A |
| ***Criteria*** | | ***Y, N or NA*** | ***Notes*** |
| *3.1* | *Did your spot check of calculations and spreadsheet formula identify any issues? (Capture details of checks in table below)* | N | No issues identified during spot checking of calculations and spreadsheet formula. |
| *3.2* | *Did your spot checks on data - review of highest, lowest, dates, location, etc. identify any issues? (Capture details of checks in table below)* | N | No issues were identified from our spot checks. |
| *3.3* | *Did your end-to-end checks of sample of data to review calculations, categorisations (incl. company allocation) and exclusions against source data identify any issues? (Capture details of checks in table below)* | N | No issues were identified with the calculations, categorisations, or exclusions. |
| *3.4* | ***PCs only** - Are the performance figures accurately carried forward to the ODI and correctly calculated in accordance with Ofwat's PR19 FD - United Utilities – Outcomes performance commitment appendix?* | Y | Source data is derived directly from INS. ODI calculation is consistent with Ofwat's PR19 FD - United Utilities – Outcomes performance commitment appendix. UU has outperformed the 2024/25 target for the G05-WWN HIFRR PCs (£6.973m reward). UU Underperformed for the G06-WWN HEFRR PCs (£-0.647m penalty). |

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