Dŵr Cymru
Welsh Water

Network Reinforcement

Data and Information Request

Supporting document

August 2022

dwrcymru.com

1. Methodology

1.1. Purpose

This document provides part of Dŵr Cymru Welsh Water's (DCWW) response to the information notice 'IN 22/02 Cost assessment data requests' issued by Ofwat on 28 April 2022. This document provides supporting information to the tables for network reinforcement data. This submission has been prepared in line with the 'Network reinforcement data request – supporting guidance' issued by Ofwat on 17 May 2022.

This submission collects additional network reinforcement data from incumbent water and wastewater companies for the 2017-18 to 2021-22 period. Ofwat has requested this data to inform cost assessment of network reinforcement expenditure at PR24. The submission will help Ofwat to understand efficient costs of network reinforcement activities to support its assessment of this expenditure at PR24.

This document is submitted alongside the completed Excel tables in '2022-05-17-Network-reinforcement-data-request_FINAL WSH.xlsx'. The data tables contain the following elements:

Table number	Description
1	Network reinforcement drivers - potable mains, sewers, pumping stations and pumping capacity - proportional allocation
2	Network reinforcement drivers - potable mains, sewers, pumping stations and pumping capacity - allocation in full

This supporting document comprises of an outline of the approach taken to completing the data tables with confidence grades for each line and a summary of DCWW's approval and governance procedures alongside the independent assurance findings.

1.2. Background

This data request will collect additional network reinforcement data from incumbent water and wastewater companies between 2017-18 and 2021-22 to enable Ofwat to consider its approach to cost assessment of network reinforcement expenditure at PR24. The request asks companies to report new and upsized water mains and sewers as well as new and upsized pumping stations including additional capacity installed. The request asks companies to split these activities across the following investment drivers:

- network reinforcement;
- requisition mains/sewers;
- resilience;
- maintenance; and
- water quality.

This data request requires companies to allocate the activity between cost drivers proportionally and in full.

1.3. Confidence grades

Confidence grades have been provided for each component of the submission where appropriate. The confidence grades include two components, firstly a letter is assigned for the reliability of the data and secondly a number to reflect the accuracy.

Reliability bands:

A. Measured data from sound textual records, procedures, investigations or analysis properly documented and recognized as the best method of assessment
B. As A, but with minor shortcomings. Examples include old assessment, some missing documentation, some reliance on unconfirmed reports, some use of extrapolation
C. Extrapolation from limited sample for which Grade A or B data is available
D. Unconfirmed verbal reports, cursory inspections or analysis

Accuracy bands:

1. Accuracy to or within +/- 1%
2. Accuracy to or within +/- 5%
3. Accuracy to or within +/- 10%
4. Accuracy to or within +/- 25%

1.4. Structure

The structure of this document is as follows:

Section 2 contains the line commentary for:

Table 1: Network reinforcement drivers - potable mains, sewers, pumping stations and pumping capacity - proportional allocation; and
Table 2: Network reinforcement drivers - potable mains, sewers, pumping stations and pumping capacity - allocation in full

Section 3 contains a summary of DCWW's approval and governance procedures with the independent assurance findings from Jacobs.

2. Table commentaries

This section provides commentary for this data submission which sets out:

- The approach/methodology taken to complete each field and any assumptions that have been applied;
- An indication of the level of confidence behind the data provided in each table.

2.1. Commentaries

Line 1: Length of new potable mains laid

Line 1 reports the total length of new mains as reported in our Annual Performance Report in table 6C line 4. The reported APR number has been allocated by investment driver for this submission. A reconciliation between table 6C line 4 and the year-on-year movement in table 6C line 1 has been undertaken and no material differences were found. The totals reported in lines 1 and 2 in the proportional tab of the data tables have been reconciled to table 6C line 4. Lengths of mains are recorded on our reporting systems and cross-checked against our asset mapping system (GIS) for accuracy.

Network reinforcement, requisitions and self-lay adoptions

Lengths of new potable mains laid under a requisition have been reported in our Annual Performance Report in table 4Q line 13 for the reporting periods 2020-21 and 2021-22. Lengths of new potable mains laid by a self-lay provider and vested by DCWW have been reported in our Annual Performance Report in table 4Q line 14 for the reporting periods 2020-21 and 2021-22.

For the initial three years of the data request, lengths of new potable mains related to developer services activities have been apportioned between network reinforcement, self-lay and requisitions. As our cost reporting systems do not separate on-site and off-site developer services activities, analysis of all projects undertaken within each reporting period has been completed to allocate lengths of potable mains to investment driver in line with the definitions provided in the data tables.

Where requisition schemes contained lengths of mains for network reinforcement, these have been allocated in full to both requisitions and network reinforcement under the incumbent columns. Self-lay adoptions have been reported separately. No network reinforcement has been undertaken by self-lay providers across all reporting periods.

Confidence grade: B2

Resilience and maintenance

Lengths of new potable mains delivered through our capital programme have been apportioned by

investment driver based on how expenditure has been reported for our Annual Performance Report. Where expenditure has been reported as enhancement, the line definitions provided in the data tables have been used to inform the allocation between resilience and maintenance. No schemes have been reported with water quality as the investment driver.

Confidence grade: A2

Line 2: Length of potable mains upsized

Network reinforcement, requisitions and self-lay adoptions

No lengths of upsized potable mains have been identified across the reporting periods for developer services activities.

Confidence grade: B2

Resilience and maintenance

No lengths of upsized potable mains have been identified across the reporting periods for resilience and maintenance activities.

Confidence grade: A2

Lines 3: Length of new sewers laid

Line 3 reports new sewers laid and constitutes part of the total length of sewers reported in our Annual Performance Report in table 7C. Lengths of mains are recorded on our reporting systems and cross-checked against our asset mapping system (GIS) for accuracy.

Network reinforcement, requisitions and self-lay adoptions

Lengths of new sewers related to developer services activities have been apportioned between network reinforcement, self-lay and requisitions. As our cost reporting systems do not separate on-site and off-site developer services activities, analysis of all projects undertaken within each reporting period has been completed to allocate lengths of sewers to investment driver in line with the definitions provided in the data tables.

Where requisition schemes contained lengths of mains for network reinforcement, these have been allocated in full to both requisitions and network reinforcement under the incumbent columns. Self-lay adoptions have been reported separately. No network reinforcement has been undertaken by self-lay providers across all reporting periods.

Confidence grade: B2

Resilience and maintenance

Length of new sewers delivered through our capital programme have been compiled from schemes relating to sewer flooding, rising main replacement, Section 101a and surface water removal. Sewer flooding, rising main replacement and Section 101a schemes have been allocated to maintenance in line with the line definitions provided in the data tables. Most surface water removal schemes have been allocated to resilience based on how expenditure has been reported for our Annual Performance Report. Where expenditure has been reported as enhancement, the line definitions provided in the data tables have been used to inform the allocation between resilience and maintenance. Zero lengths of new sewers have been reported as resilience for several years as although surface water removal schemes have been delivered in most years, many of these schemes have not resulted in new sewers.

Confidence grade: B2

Line 4: Length of sewers upsized

Network reinforcement, requisitions and self-lay adoptions

No lengths of upsized sewers have been identified across the reporting period that relate to developer services activities.

Confidence grade: B2

Resilience and maintenance

Length of new sewers delivered through our capital programme have been compiled from schemes relating to sewer flooding, rising main replacement, Section 101a and surface water removal. Sewer flooding, rising main replacement and Section 101a schemes have been allocated to maintenance in line with the line definitions provided in the data tables. Most surface water removal schemes have been allocated to resilience based on how expenditure has been reported for our Annual Performance Report. Where expenditure has been reported as enhancement, the line definitions provided in the data tables have been used to inform the allocation between resilience and maintenance. Zero lengths of new sewers have been reported as resilience for several years as although surface water removal schemes have been delivered in most years, many of these schemes have not resulted in upsized sewers.

Confidence grade: B2

Line 5: New potable water pumping stations built

Line 5 reports the number of new potable water pumping stations built within each reporting period and constitutes part of the total number of potable water pumping stations that pump into and within the treated water distribution system as reported in our Annual Performance Report in table 6B line 20. A reconciliation has been undertaken between the year-on-year movement in table 6B line 20 and

the number of new pumping stations reported in this submission.

In the preparation of information for this submission, two additional pumping stations have been identified that have not previously been reported in our Annual Performance Report. The first is a new pumping station allocated to network reinforcement for the 12 months ending 31 March 2019. The second is a new pumping station allocated to maintenance for the 12 months ending 31 March 2022. In addition to the number of new pumping stations reported in the tables, movement between years can be attributed to data improvement and assets being removed from this line due to being classed as a common treated source.

Network reinforcement, requisitions and self-lay adoptions

New pumping stations built on our water network for network reinforcement by DCWW as identified through a full review of schemes undertaken by reporting period. No pumping stations driven by network reinforcement were identified as being built by self-lay providers across all years.

Confidence grade: A2

Resilience and maintenance

New potable water pumping stations have been identified through extracting data from our production system (SAP) and cross-referencing the information across departments. New potable water pumping stations delivered through our capital programme have been apportioned by investment driver based on how expenditure has been reported for our Annual Performance Report. Where expenditure has been reported as enhancement, the line definitions provided in the data tables have been used to inform the allocation between resilience and maintenance. No schemes have been reported with water quality as the investment driver.

Confidence grade: A2

Line 6: Existing potable water pumping stations upsized

Network reinforcement, requisitions and self-lay adoptions

No upsizes of existing potable water pumping stations have been identified across the reporting period that relate to developer services activities.

Confidence grade: A2

Resilience and maintenance

Upsizes of existing potable water pumping stations have been identified through extracting data from our production system (SAP) and cross-referencing the information across departments. Upsizes of existing potable water pumping stations delivered through our capital programme have been apportioned by investment driver based on how expenditure has been reported for our Annual

Performance Report. Where expenditure has been reported as enhancement, the line definitions provided in the data tables have been used to inform the allocation between resilience and maintenance. No schemes have been reported with water quality as the investment driver.

Confidence grade: A2

Line 7: Additional potable water pumping capacity installed

A review of additional pumping capacity installed at water pumping stations has been undertaken in response to the requirement to explain differences between the year-on-year movement in our Annual Performance Report table 6B line 1 and the numbers reported in this data submission. Movement between years can be attributed to new pumping stations, data improvement and assets being removed from this line due to being classed as a common treated source.

Network reinforcement, requisitions and self-lay adoptions

Capacity for new and upsized potable water pumping stations has been identified through reviewing individual schemes that have been recorded on our developer services reporting system (BPM).

Confidence grade: A2

Resilience and maintenance

Capacity for new and upsized potable water pumping stations has been identified through extracting pump data from our production system (SAP) and comparing kW year-on-year across the reporting period.

Confidence grade: A2

Line 8: New pumping stations built on sewerage network

Line 8 reports the number of new pumping stations built on our sewerage network within each reporting period and constitutes part of the total number of network pumping stations reported in our Annual Performance Report in table 7C line 4. A reconciliation has been undertaken between the year-on-year movement in table 7C line 4 and the number of new pumping stations reported in this submission. In the preparation of information for this submission, one additional pumping station has been identified that has not previously been reported in our Annual Performance Report. This new sewerage network pumping station has been allocated to network reinforcement for the 12 months ending 31 March 2022. In addition to the number of new pumping stations reported in the tables, movement between years can be attributed to data improvement and the adoption of private pumping stations.

Network reinforcement, requisitions and self-lay adoptions

New pumping stations built on our sewerage network for network reinforcement by DCWW as

identified through a full review of schemes undertaken by reporting period. No pumping stations driven by network reinforcement were identified as being built by self-lay providers across all years. Pumping stations built by developers and private pumping station adoptions have been excluded.

Confidence grade: A2

Resilience and maintenance

New pumping stations built on our sewerage network have been identified through extracting data from our production system (SAP) and cross-referencing the information across departments. New sewerage network pumping stations delivered through our capital programme have been apportioned by investment driver based on how expenditure has been reported for our Annual Performance Report. Where expenditure has been reported as enhancement, the line definitions provided in the data tables have been used to inform the allocation between resilience and maintenance. Private pumping station adoptions and schemes with an NEP (Welsh Environment Programme) driver to improve water quality of the receiving watercourse have been excluded.

Confidence grade: A2

Line 9: Existing stations upsized on sewerage network

Network reinforcement, requisitions and self-lay adoptions

Upsized pumping stations on our sewerage network for network reinforcement by DCWW as identified through a full review of schemes undertaken by reporting period. Both network reinforcement pumping stations for the 12 months ending 31 March 2019 and for the 12 months ending 31 March 2022 resulted in zero increase to pumping capacity. No pumping stations driven by network reinforcement were identified as being built by self-lay providers across all years.

Confidence grade: A2

Resilience and maintenance

Upsized pumping stations built on our sewerage network for maintenance to deliver base levels of service. Pumping stations have been identified through extracting data from our production system (SAP) and cross-referencing the information across departments. Upsizes of existing pumping stations delivered through our capital programme have been apportioned by investment driver based on how expenditure has been reported for our Annual Performance Report. Where expenditure has been reported as enhancement, the line definitions provided in the data tables have been used to inform the allocation between resilience and maintenance.

Confidence grade: A2

Line 10: New pumping capacity installed on sewerage network

A review of additional pumping capacity installed at sewerage pumping stations has been undertaken in response to the requirement to explain differences between the year-on-year movement in our Annual Performance Report table 7C line 3 and the numbers reported in this data submission. Movement between years can be attributed to new pumping stations and the adoption of private pumping stations.

Network reinforcement, requisitions and self-lay adoptions

Capacity for new and upsized pumping stations on our sewerage network has been identified through reviewing individual schemes that have been recorded on our developer services reporting system (BPM). The two network reinforcement pumping stations identified as upsizes in line 9 for the 12 months ending 31 March 2019 and for the 12 months ending 31 March 2022 resulted in zero increase to pumping capacity.

Confidence grade: A2

Resilience and maintenance

Capacity for new and upsized pumping stations on our sewerage network has been identified through extracting pump data from our production system (SAP) and comparing kW year-on-year across the reporting period. Only foul flow has been included in the additional pumping capacity installed.

Confidence grade: A2

3. Assurance and Governance

We have adopted a three lines of defence approach to the data required for this submission, in line with our approach to regulatory data submissions.

Each data line was assigned an owner who produced a methodology statement for production of the data. The data was peer reviewed, with sign off provided by the responsible manager and director. In addition, the submission has been subject to external assurance from Jacobs. Jacobs concluded that:

- [The Welsh Water] team has a good understanding of your processes to produce the data in line with Ofwat guidance;
- [The Welsh Water] team's internal commentaries were consistent with the data we saw at the time of reviewing them and did not contain any obviously false or misleading statements in relation to that data; and
- data are competently sourced, processed and fit for purpose.

The final submission was approved by the Strategy and Regulation Director, the Managing Directors of our Water and Wastewater businesses and the Business Customer Services Director.