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Our ref: EIR-503
Date: 30/09/2025
Email: EIRRequests@uuplc.co.uk

Dear [redacted]

Thank you for your request for information relating to Kirkoswald wastewater treatment works (WwTW). We appreciate your interest, and we want to let you know that your request has been carefully considered in accordance with the Environmental Information Regulations (EIR). As your request contained a number of specific questions, this response, restates each part of the request (in bold) and then follows this with our response:

1. **Discharge Data: Volume, frequency and composition of discharges including data on treated sewage, storm overflows and any other releases in to the environment.**

There are two separate consented discharges from Kirkoswald WwTW. These are the discharge of fully treated final effluent from the works and a discharge of settled sewage from storm tanks at the works. These discharges and the detail of the processes at the works are described in more detail in response to question 2.

I have attached a spreadsheet (Appendix 1 – Spill and Flow Data), which contains two worksheets. The first worksheet provides details of the flow to the works. The second worksheet provides raw data indicating that there have been discharges from the storm tanks.

The information that is captured by these monitors is designed to provide the information required by the discharge permit for the storm tanks. This permit is set by the Environment Agency (EA) and requires the start date and time and stop date and time for any recorded spills. We have therefore provided this information in the attached spreadsheet, although as there is no requirement to measure volume of discharge under the environmental permits, we do not hold the total volume that has been spilled. Therefore, in line with Regulation 12(4)(a) of the EIR, we are unable to provide you with the requested total discharge volume.

The spreadsheet contains raw information dating from 1 January 2024 to 4 August 2025. Validated data prior to this date is also available and can be found on our website Storm overflow performance | United Utilities.

When reviewing the attached dataset, it is important to recognise that the data being provided is raw and as yet unvalidated data. There are therefore a number of important points which you should take into consideration:

- Raw telemetry data should not be treated as validated regulatory Event Duration Monitor (EDM) data due to the potential for sensor malfunctions, data transmission errors or environmental interference (which are rectified when this data is validated). There may also

be gaps in the data resulting from instrument failure or maintenance, for example.
- Whilst error codes from sensors are captured and inspected, they may still appear as erroneous data in this raw telemetry dataset, as erroneous and anomalous data will not have been removed.
- As this raw data has not gone through data validation it will likely be different to what is reported annually in our regulatory EDM return.

The first stage of our five-stage process captures data signals that suggest spills may have occurred. This includes all data, with no errors removed. This is the data that you have been provided with. Following the initial recording of data, we review, remove any erroneous data and validate this data through the full five-stage process to generate the consistent final spill count number that is submitted to the EA as part of a formal regulatory return process. The regulatory return is finalised and sent to the EA on an annual basis, with the submission for each calendar year being provided in the spring of the following year. Further details regarding the spill data process are found on our website here - https://www.unitedutilities.com/better-rivers/our-challenges/storm-overflow-performance/. The most recent copy of this is available on this page covers the year 2024.

2. **Treatment Processes: Methods to treat wastewater at this site including information on technology, efficiency and if there has been any recent upgrades of changes.**

Treatment process – all of our WwTW, including Kirkoswald WwTW, operate under permits that are set by the EA. Each permit specifies consented values for the volumes arriving and being treated at the works and for the minimum quality of the final effluent, which is discharged from the works to the local watercourse.

The permit for Kirkoswald WwTW requires the final effluent to meet a consent standard of 40 mg/L BOD and 60 mg/L suspended solids, with a permitted dry weather flow of 265 m^3/day. Like most permits, the permit for Kirkoswald also contains an unusual weather clause, to provide resilience during periods of high rainfall.

Flows arrive at the works via two gravity sewers and are then pumped to the head of the wastewater treatment works. The first stage of treatment (preliminary treatment) involves mechanical (6mm) screening, which removes rags, plastics, and large debris and protects the downstream process stages. Screenings removed by this process are compacted and removed from site, for treatment and disposal.

From here, flows pass into two primary settlement tanks. These tanks are used to settled out the remaining solids in the wastewater, which are and removed as sludge. Both settled sludge from the bottom of the tanks and floating scum from the top of the tanks are removed regularly to prevent carryover to the secondary treatment process and to maintain consistent performance within the primary settlement tanks. Sludge and scum removed from these tanks is then sent off site for further treatment and disposal.

The wastewater then passes into two percolating filters. These filters provide the main stage of secondary biological treatment. Incoming wastewater is evenly distributed over the filters using rotating distributor arms, this allows the flow to percolate through the filter media and allows a biological film to develop on the media, which breaks down the organic matter and ammonia within the incoming wastewater. The works also operates a controlled recirculation system, which returns a proportion of the treated effluent back to the filters. This recirculation process helps to balance the flows through the works in wet and dry periods, supports biofilm activity, and strengthens the overall treatment performance.

Following the secondary biological treatment process, the flow then enters a final settlement tank, which allows any remaining fine solids, or biofilm that has been washed off the filters, to settle out. This final tank also operates a scum removal system to capture any floating material and avoid it entering the final effluent. The sludge and scum from the final settlement process is also removed and sent off site for further treatment and disposal.

During heavy rainfall, excess flows are diverted to storm tanks. The storm tanks provide storage to cope with the excess flow and prevent the biological process from being overloaded. If the storm tanks are filled, during prolonged or very heavy rainfall, then excess storm water is discharged via a screened overflow to river. Records of spills from the storm tanks have been provided in response to question 1. Once the storm subsides, the stored flows are returned to the inlet and pass through the full treatment process.

In summary, the combination of screening, primary settlement, biological treatment, final settlement, controlled recirculation, and scum removal provides a well proven and robust treatment process that enables the site to meet its consent requirements.

Recent upgrades and changes – recent improvements that we have made at the works have included more frequent desludging of the settlement tanks, increased maintenance frequencies for the inlet screens, a refurbishment of the distributor that controls flow within the works and optimisation of the recirculation process.

Looking ahead, we are continuing to explore solutions that will strengthen the site's resilience and support long term compliance. This includes considering process enhancements, operational upgrades, and potential longer term investment opportunities to ensure that Kirkoswald WwTW can continue to operate effectively and protect the environment.

3. **Environmental Impact Assessments: Information on any environmental Impact Assessments that have been conducted on the sewage works with the corresponding impact on the surrounding environment.**

We have not undertaken a formal Environmental Impact Assessment on Kirkoswald WwTW or its potential impact on the surrounding environment. Therefore, in accordance with Regulation 12(4)(a) of the EIR, we are unable to provide you with the requested information.

Whilst we do not complete formal Environmental Impact Assessments for the WwTW, we do produce Drainage and Wastewater Management Plans (DWMPs) every five years, which pro-actively assess the impact of forecasted growth and climate change within all drainage catchments across the North West on our asset base. This includes all of our WwTWs. This allows for early warning and identification of treatment works which will require future investment in order to continue operating within agreed environmental permits. This investment need is then included within our five-yearly Business Plan submission to Ofwat. You can read more on the DWMP for Kirkoswald WwTW here.

4. **Monitoring Data: Data collected by United Utilities regarding the sewage works which include water quality data from the receiving watercourse. In particular levels of phosphate and sulphate figures in the local Raven Beck.**

We have provided details of the permit for Kirkoswald WwTW and information about how the works complies with this permit, in response to question 6 below.

We do not sample the quality of the effluent within the storm overflow tank, and we do not sample the quality of Raven Beck or the River Eden. Therefore, in line with Regulation 12(4)(a) of the EIR, we are unable to provide you with a copy of any monitoring data as it is not held.

5. **Pollution Incidents: Particulars of any pollution incidents that have occurred at the Kirkoswald sewage works previously including the nature of the incident(s), the cause and the subsequent actions taken to rectify it.**

I can confirm that in the last 12 months, there has been one pollution incident at Kirkoswald WwTW, which occurred on 6 January 2025. Details of this can be found in 'Appendix 2 – Compliance Assessment Report', which is attached to this response. Please note that this incident was reported to the EA on the day that the incident occurred, and that a subsequent inspection of the site was carried out by the EA on 13 February 2025.

As can be seen from the attached compliance assessment form, this incident was classified using the Environment Agency's Common Incident Classification Scheme (CICS). Due to the short duration of the spill and the evidence given at the time, this incident was agreed by the EA to be a CICS Category 4 incident, which is defined as an incident, where there is evidence of an event, but it resulted in no actual environmental effect.

6. **Compliance for Permits: Information regarding the environmental permits held by United Utilities for the Kirkoswald site and confirmation that they are meeting the permit conditions.**

Please note that the environmental permit for Kirkoswald WwTW is available on the EA's website, here: View registration NW/017670065/004

Additionally, the EA complete 'EPR Compliance Assessment Reports', which are used by its officers to assess compliance with environmental permits. These are also available on its website, here: View registration NW/017670065/004

7. **Maintenance and Upgrades: Information on any maintenance schedules, upgrades or future planned works at the sewage works. In particular data on when the sewage works was last tested.**

Please see our response to your second and third point.

8. **Plans for Improvements: Are there any in progress or future plans United Utilities has to improve the environmental performance of the Kirkoswald sewage works.**

Please see our response to your second and third points.

9. **Nutrient Neutrality: All information about nutrient neutrality in relation to Kirkoswald location.**

I can confirm that Kirkoswald WwTW does not have a Habitats Directive Nutrient Neutrality driver for the AMP8 period (2025 to 2030). For awareness, UUW operates seven sites which have this driver, and these are located in areas designated as Phosphorus and Nitrogen sensitive areas by DEFRA (Secretary of State) – Designation of Sensitive Catchment Areas Notice 2024 - Notice of designation of sensitive catchment areas 2024 - GOV.UK.

The notice specified that in designated catchments, water companies have a duty to ensure wastewater treatment works serving a population equivalent over 2,000 meet specified nutrient removal standards by 1 April 2030 where the designation takes effect from 25 January 2024. The population equivalent for Kirkoswald is below the 2,000 specified, therefore no driver was allocated by the EA in the Price Review process for 2025-2030.

We hope that this response answers your request. However, if you're not satisfied with how we've handled it, you can request an internal review. To do this, please write to us at Environmental Information Office, Haweswater House, Lingley Mere, Warrington, WA5 3LP or email us at EIRRequests@uuplc.co.uk, addressing your request to [redacted], and explaining why you're unhappy with our response. We'll be very happy to review your request and ensure we've done everything we can to assist you.

Any request for an internal review should be made within 40 working days of receipt of this response, and we will reply within 40 working days from receipt of the request for internal review.

Many thanks
[redacted]

We'd love to hear your feedback on how we handled your request! If you have a moment, please complete our short survey here – your input helps us improve our service.