

Application Variation V006 File Note

A carbon capture plant will be retrofit to the existing Energy from Waste (EfW) facility and operated by a different operator. The operator applied for a variation to vary the installation to a multi-operator installation. The operators of the multi-operator installation are Viridor Energy Limited and Viridor Energy Runcorn CCUS Limited. Viridor Energy Limited operate Runcorn Energy from Waste facility. Viridor Energy Runcorn CCUS Limited operate the carbon capture (CC) plant which will treat the flue gas stream from the EfW. The multi operator condition, 1.5.1, has been added to the permit.

The operator will be required to ensure that flue gases passed to the carbon capture plant are in specification as required by the ELVs in table S3.1.

The carbon capture plant will be located on land adjacent to the existing EfW. A site condition report has been submitted under application (EPR/QP3724SE/A001). The operation of the carbon capture plant is not considered in this application (EPR/XP3005LB/V006).

A revised site plan has been included in Schedule 7 of the permit and shows the installation boundary and the extent of the boundaries for the EfW facility and CC facility.

4 new monitoring points have been added to the permit; C1, C2, C3 and C4. The exact location of the monitoring points is subject to pre-operational condition POM1 however, the monitoring point will be before the flue gases are passed to the CC facility and before the flue gases from the 4 incineration lines are combined into a single flue gas stream. This will ensure that the installation is operated in compliance with the ELVs.

The existing 4 monitoring points, A1, A2, A3 and A4 will remain in the permit. If the CC plant is unavailable emissions will be discharged via the EfW stack as per the existing arrangements.

There are no changes to the parameters or ELVs in the permit. There are no changes to the emissions to water.

An Environment Agency initiated variation added the mercury confidence interval to condition 3.2.2(a) as set out in the EfW template.

The variation notice also authorises the move from 100%ile to 97%ile short-term emission limit for Total Organic Carbon (TOC), from 20 mg/m³ to 10 mg/m³. While the new limit is lower, this change allows for unavoidable short term spikes in TOC emissions where the level could be above 20 mg/m³ for a short period of time. We are aware that there has been an increase in very short-term high Total Organic Carbon (TOC) emissions due to small gas cannisters getting into the waste stream. Where a 100%ile emission limit is set in the permit for TOC, although they have no impact on air quality, these unavoidable spikes in TOC emissions can cause ELV breaches.

When moving to a 97%ile limit, the ½-hr average limit is numerically lower, but in very short-term the operator could have higher emissions for 3% of the time. The operator still has to meet the daily average emission limit values in the permit of 10 mg/m³. The environmental standards (ES) for benzene and 1,3-butadiene is a daily or annual averages so there is therefore no increased risk.