

Attachment 1. To CAR report reference CAR_NRW0037020

Dated 30th September 2020

Details of NRW's Assessment

I was escorted around the permitted installation by Mr. Paul Jones of GP Biotech. The installation boundary for this permit is shown in Figure 1 below. The limited visit was arranged in order to see the new digester tanks under construction. These two new tanks are nearing completion and will complement the existing two digester tanks that form this permitted Anaerobic Digestion facility.

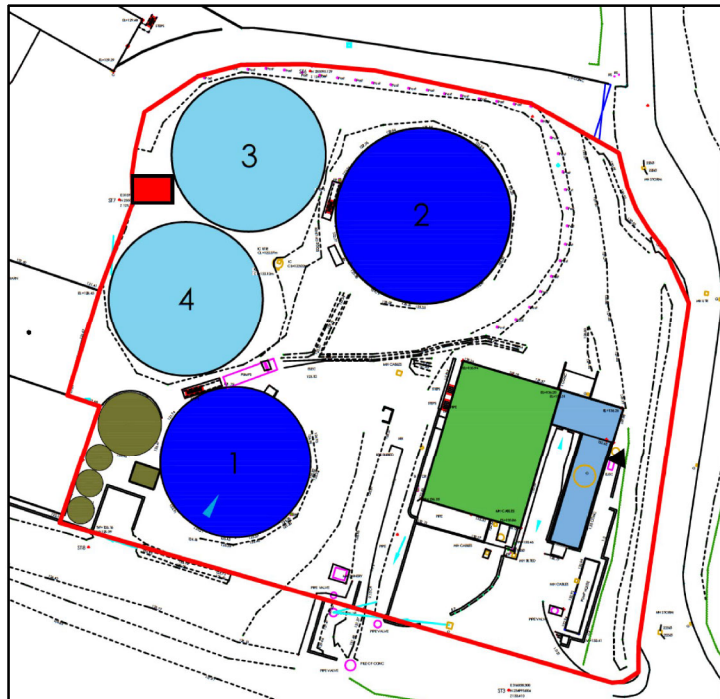


Figure 1. Showing the installation boundary outlined in red.

Note: Tanks numbered 3 and 4 (under construction), were the main subject of this inspection.

Site Observations - Digester Tanks 3 and 4

Civil works have been completed with the fitting of electrics and other ancillary services now underway. Commissioning of the two new digestion tanks is expected to commence in the next few weeks.

The concrete tanks are fitted with a flexible (double membrane) roof to capture top gases which are in turn used to power the gas engines. Each tank is fitted with two paddle stirrers and two submersible stirrers (see Figure 2 & 3).



Figures 2 and 3. Photographs showing paddle stirrer (left) and submersible stirrer (above).

The operator has also designed and built a tertiary agitation system (circulation pumps) as a contingency, should one of primary stirring equipment fail.

All tanks are built within a containment area, most of which is now also concreted.



Figure 4. Photograph showing concrete (secondary) containment bund being constructed

The construction of the new secondary containment bund is also near completion and will be finished before the new tanks are commissioned (see figure 4).

This concrete bund structure is fitted with an access door (inward opening) and the operator indicated that this will be fitted with self-closing mechanism. It is important that the operator ensure that this door is never propped open as it would clearly negate the function of the bund. This is best achieved through a system of good training, signage and regular internal audits/checks (all documented in the site's management system).



Figure 5. Photograph showing door fitted to containment bund.

It appears that significant effort has been made to design and build a facility with robust environmental containment systems. It is important that the maintenance of these systems is incorporated into the site management systems once the new tanks are operational.

Site Observations - Surface Water

Once the new tanks and bunding is completed uncontaminated surface water (e.g. roof water), from the installation is designed to collect in a newly constructed concrete sump (Figure 6). This is situated within the installation. This has a drainage outlet that eventually drains into the Afon Llynfi (at NGR: SO15649 35494).

The sump outlet has been fitted with two manually operated valves. An operative will need to open both valves before the sump can be drained. This will only be permitted after the sump water's pH and ammonia levels has been sampled and a visual inspection also completed.



Figure 6. Photograph showing (W1) clean surface water sump and double valves for outlet.

A record of these check will need to be made prior to any release and records of the checks maintained.

The operator confirmed that to date, no discharges have been made from this point. In practice the operator has intimated that the water in the sump won't be discharged frequently, particularly over the drier summer periods, when the water is likely to be used on site within the process

Two separate sealed sumps have also been built into the concrete apron that surround the tanks. These will collect potentially contaminated water. The sumps will be drained by a vacuum tanker for recovery/disposal. The tanker extraction point will be completed in the next few days.

I also inspected the outlet pipe (NGR: SO15649 35494), which will carry the surface water from the W1 emission point, into a ditch, that eventually flows to the Afon Llynfi. A small clear discharge of what appeared to be surface water was noted in the outlet. The operator believes that this drain also receives surface water from other areas of the farm, in addition to the periodic drainage from the W1 emission point (see comment below on updating drainage plans).

Site Observations – Drainage Plans

Once the new digestion tanks, containment improvements and drainage infrastructure changes have been completed in the next few weeks, the operator will need to review their site drainage plans and submit updated as-built drawings. These plans need to be of a suitable scale and

detail¹. The operator is also advised to update the site drainage plans covering the rest of the facility (outside the installation boundary).

Site Observations – amenity checks

Whilst on site I did not note or observe any amenity issues contrary to the permit (i.e. noise, odour, mud, pests or dust) in any of those areas that were inspected.

Site Observations - AD process control

I was also shown the new computerised process management system (SCADA), which will be used to manage the AD process at the facility, once the new tanks have been commissioned. The operator has used their learning and experience (from operating the first two AD tanks) to help inform improvements to the new system.

Other matters – future works

Once the two new digestion tanks are fully commissioned the facility will have redundancy in the system to permit the older tanks to be subject to more frequent cleaning and inspection. The operator is reminded to ensure that when these tanks are brought offline for cleaning and repair, the opportunity is taken to undertake a full integrity inspection of the tank structures. These inspections will need to be documented and records kept on site. Please also ensure that appropriate odour control measures are undertaken prior to any works that could generate malodorous emissions.

See section 2 of the CAR report for a table of the actions following this visit.

¹ The drainage plan/s should be to scale, show where the drains are located; the types of drains - surface water, potentially contaminated water including effluent; direction of flow; where drains leave the boundary and where they discharge into, for example, a watercourse, clean-water soakaway or sewage treatment works.