
From: JOHN COOK
Sent: 09 July 2021 10:46
To: Hilary Saunders
Subject: NYM/2020/0562/FL

Good morning

I had an in-depth conversation with your Ecologist yesterday and was asked to write to you to confirm that our intention, subject to planning, is to stop using our current slurry store as a store for cattle slurry. We would like to store dirty water in the current store, which consists of parlour washings, run off when it rains on uncovered cattle areas, rain water from the silage clamps and other non-cattle concrete areas.

Our planning application was for the construction of another clay lined lagoon which would then be used solely for cattle slurry storage.

The ecologist is seeking advice regarding the emissions from dirty water - this is not in the SCAIL Assessment model. I did point out that because the dirty water will not be going in with the slurry then the level of the lagoon will rise more slowly (as clay-lined lagoons have shallow sloping banks the surface area of exposed slurry increases all the time). This means that the exposed surface area will increase more slowly and, if the emissions from dirty water are very low, this final system may actually reduce storage emissions.

I also pointed out that when DEFRA releases its guidance, 'promised' by 2022, we shall be in a better position to plan for emission reductions. What is currently known is that splash plate spreading will not be permitted after 2025. However, if spreading during winter is currently undertaken (allowed in non NVZ areas) because of insufficient capacity in a high rainfall winter, splash plates are used because they are smaller equipment and can be used with a smaller tractor with wide wheels to minimise soil damage(as the soil is wetter at this time of year). When the land is dry heavier equipment (injectors and trailing shoes), which apply the slurry in such a way as to reduce emissions, can be used without damaging the soil. Our proposal means that we can stop using splash plates during the winter and this will help to reduce our total system emissions.

I also pointed out to the Ecologist that the SCAIL model does not currently have a lagoon option. I think that the SCAIL model came from Ireland where many of their soils are free draining and thus not suitable for the construction of clay-lined lagoons. Cattle farmers there store their slurry in above-ground tanks which have vertical walls. Thus the exposed area of slurry, once the floor is fully covered, remains constant, whereas the exposed area of a shallow-banked lagoon starts small but increases daily as the lagoon is filled. There is no guidance that I could find that allows for this. The 'worst case' scenario of a full store is only valid for a short period.

I also found that when I did successive calculations on the model by progressively reducing the size of the store (keeping all other factors constant) that the effect on the SSI nearest to me only reduced at the lower level from 23% to 22%. This 22% figure still applied when the store was only 5 metres square. The model did reduce the emissions proportionally to the surface exposed surface area but this did not seem to change the effect on the SSI.

My gut feeling (which of course has no legal standing) is that our proposal will actually reduce emissions because it will eliminate any winter spreading with a splash plate and the level of the slurry, and hence the exposed area, will increase more slowly because of the absence of dirty water draining into the lagoon (assuming that the emissions from dirty water stored alone are low).

The proposal, however, is definitely better for the prevention of watercourse pollution as all spreading will occur at times of the year when the soil is dry and at times of maximum plant growth for better utilisation of nutrients. The latter point also allows for a reduction in fertiliser useage which reduces emissions(do the models allow for this?).

The Ecologist is getting back to me as to whether I should contact a consultant to run SCAIL and assess our current situation.

Many thanks for your help and guidance in this matter.

Kind regards

John Cook

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