

EA/EPR/QP3407PH New installation application for Denham Feed Mill

Duly Making Questions

I've received the above application for assessment. Before I continue and consider the application duly made the following additional information is required:

Revised site layout plan.

The plan provided does not appear to be complete with silos unlabelled and storage vessels stated within the supporting documentation not included. The plan must be fully labelled. For example, where is the store?

Created new Site Layout Plan to improve clarity, and identified all the storage silos, bins and vessels. The store was marked as 'warehouse' on the original plan, now marked 'store' same as the locations in the materials inventory. Supplied with the responses to the duly making questions.

Drainage details must also be more clearly identified (on a separate plan if necessary) to show the locations of the drains, manhole covers, interceptors and the direction of flow and discharge point.

The plan or plans must also show the locations of spill kits, drainage mats and other measures to contain spills.

Created a new and separate Site Drainage Plan to improve clarity and identified all the down-pipes for roof water, inspection pits / catch-pits / CP, drainage channels with grating, underground pipes and identified direction of overland surface water flow to the catch pits. Marked location of spill kits alongside fuel and bulk liquid ingredient storage vessels. Supplied with the responses to the duly making questions.

Bunding and containment.

You must demonstrate that the bunding on site is capable of containing spillages from all the fuel oils and feed ingredients stored externally. This must include:

1. Details of how the bunding is constructed (considering the CIRIA guidance C736 'Containment systems for the prevention of pollution' (2014)).

Three glass fibre storage tanks, associated pumps and pipework were installed for storing additives (L-lysine, Leciol® and Rhodimet®AT88) during refurbishment of the mill in 2019. A rectangular secondary containment bund was constructed by a professional builder around all three tanks in September 2019, before tanks were brought into operation.

Constructed a structurally independent reinforced half blockwork wall. Overall internal measurements 13.59 x 4.29 x 1.35m (length x width x height). Used 440x215x140mm hollow dense concrete blocks with masonry cement and reinforcement bars inside and

anchored into the concrete hardstanding. Blocks filled-up with concrete during construction and has created a solid wall. Block buttresses/pilasters included at regular intervals.

According to CIRIA - reinforced blockwork and brickwork is suitable only for class 1 containment, even if lined with a waterproof render. The overall site hazard rating from the three-tier risk assessment indicates class 3 containment should have been provided. Both class 2 and 3 containment systems should be constructed as properly reinforced concrete structures built to a water retaining code of practise.

Block work walls in class 2 or 3 situations should either be replaced, or alternative measures put in place such as tertiary containment to reduce risk sufficiently. Operator will be seeking further professional advice, and it might even be possible to construct a tertiary reinforced concrete containment outside the existing blockwork.

Delivery points for all three tanks are located outside the bund, there is also a fourth outside the bund for a tank inside the mill but not currently being used. All will need to be re-engineered/ located inside the tertiary containment.

2. A calculation to demonstrate that the available volume in the bund is at least 110% of the volume of the tank or 25% of the combined volume of all of the tanks (whichever is greater).

Confirmed the available volume inside the bund is 60.65m³ and the bund capacity is 122% of the largest tank (49,500 litres) so passes the 110% rule, a stricter test than 25% of the total capacity of all the tanks. Includes an allowance for rainfall and permanent structures inside the bund (i.e. block buttresses/pilasters, concrete plinth, steelwork and insulated tank, pipework, and pumps) having doubled the estimate of the volume of the pipework and pumps to allow for uncertainty.

3. Confirmation that pumps, valves, filling points and pipework are located in the bunds

Delivery points for all three tanks are located outside the bund, there is also a fourth outside the bund for a tank inside the mill, historically used for vegetable oil but not currently being used.

4. Provide details of the locations and construction of the containment bunding on site for the boiler treatment chemicals which is not included on the site plan.

Purchased in 25litre plastic drums and kept inside the Store. One or two drums are working quantities at any-time stored in the Boiler Room, shown on the Site Layout Plan

5. Demonstrate surface waters are sufficiently protected from spills and leaks from externally stored materials. This must include:

1. Details of any containment or bunding as specified above.

Package, polyethylene diesel and gas oil tanks have been installed outside. Manufacturers technical specifications confirm both are double skinned and include

overflow prevention valves and automatic shut off nozzles with holsters. Operator is keeping cabinets locked to control access and should be inspecting & maintaining the tanks in accordance with manufacturers advice. The tanks are in accordance with requirements in OSR.

Package, double-skinned, steel, fuel storage tank has been installed outside for kerosene. Tank is fixed to the boiler & kept locked. Operator should be inspecting & maintaining the tank in accordance with manufacturers advice. The tank is in accordance with requirements in OSR.

2. Details of any routine monitoring of storage areas

Daily inspections by mill workers to be implemented including walking round the site & noting any signs of deterioration of tanks or surroundings, noting any small leaks or spills, fixing them, and cleaning them up immediately & checking spill kits.

3. Procedure for handling spills

Proprietary package spill kit & company procedures to be installed next to the delivery points for cleaning up small leaks or spills.

4. Details of any mechanisms within the drainage system to prevent spills being discharged to surface waters

We recognise outside spaces at Denham Feed Mill are zoned by virtue of there being separate catchment areas and drainage for surface water run-off.

Concrete hard standing on southern and eastern sides of site, where fuels are stored outside, slopes towards a continuous drainage channel with grating shown on the Site Drainage Plan. It will receive most of the clean surface water run-off from this side. The channel terminates in a catch-pit into an underground pipe conveying the flow under the site boundary, marked as emission point W2 on the Site Drainage Plan into a larger catchpit and automatically pumped into an off-site earth-banked holding lagoon prevents spill being discharged to surface waters. Originally a slurry lagoon when pigs were being reared intensively at Town Farm.

Concrete hard standing on western and northern sides of site, where feed additives are stored outside, generally slopes towards a single catch-pit shown on the Site Drainage Plan. It will receive most of the clean surface water run-off from this side. The catch-pit drains into an underground pipe and conveys flow under the site boundary, marked as emission point W1 on the Site Drainage Plan. The off-site flow continues inside a culvert and outfalls into an open ditch in 190m north east from the boundary at grid reference TM 19849 74904 shown on the map. Next into another culvert and then outfalls into an unnamed watercourse in 410m of the boundary at TM 19973 75070. The water course flows north-west into the Chickering Brook in 2.2km at TM 19674 76304. Next Gold Brook in 4.2km, and into the River Dove in 5.3km. The Environment Agency has designated the R. Dove a main river.

5. Surface water management.

You must demonstrate that the surface water lagoon (SW2) receives only “uncontaminated” waters by providing sampling data for relevant determinants and explain why this storage and disposal route has been chosen.

Reason – you have stated boiler blowdown waters are channelled to this system before being land spread. We would normally expect such waters to be discharged to sewer via on site effluent treatment systems. You must therefore fully explain why there is no alternative route and that the waters are clean and uncontaminated.

As reported in the types and amounts of raw materials for processing into animal feedstuffs at Denham Feed Mill - the boiler treatment chemical is a multi-functional product (oxygen scavenger, alkalinity builder, sludge conditioner). Removing residual oxygen from the feed water to protect the boiler and avoid corrosion. Raises feed water pH to protect the hot well and feed line from acid corrosion. Sludge conditioner to prevent scale and ensuring precipitated hardness is converted into a mobile sludge which can be removed by blowdown. According to the Freeston Water Treatment SDS ecological information phrases include biodegradable, no bioaccumulation potential, negligible ecotoxicity. The product is automatically administered and diluted in the infeed to very-low levels - measured in parts per million - and reacts with the oxygen and residual minerals so they can be removed. Water inside the boiler is constantly automatically monitored for conductivity, and automatically and regularly blows down a small amount of water and suspended minerals with steam off the surface of the boiling water inside, where the minerals would otherwise accumulate.

The minerals in the blowdown water are naturally occurring minerals in the mains water supplied by the water undertaker here, having been removed and being returned to the environment via the holding lagoon. Looking to Schedule 22(3)(b) of the EPR “The Regulator may determine that a discharge, or an or an activity that might lead to a discharge, is not a groundwater activity if the input of the pollutant – is or would be of a quantity and concentration so small as to obviate any present danger or future danger of deterioration in the quality of the receiving ground water.

The installation is connected to the mains water supply but not to the mains sewer under the highway in Denham Road. We have a presumption that adjacent Town Farmhouse and Messrs Easey’s offices and mess room (also used by the operator), probably are connected. Providing a connecting spur, assuming it is actually possible, from the boiler room would be relatively expensive for only a few litres of boiler blowdown water every day, which otherwise poses no risk to groundwater via spreading on land.

BATC.

You must provide a BAT assessment in line with the BAT Conclusions for the Food, Drink and Milk sectors issued November 2019. The BAT document used is out of date although some measures remain relevant.

You may find the attached GAP Analysis Tool useful in completing the assessment.

Used the GAP Analysis Tool to complete the BAT assessment and supplied with the responses to the duly making questions.

Emissions Management Plan (Dust)

You must provide a DMP. This is required as a standard document when processing fine and dusty materials within 500m of sensitive receptors. You must explain in detail the housekeeping and management techniques in place to control dust along with further detail regarding operation and maintenance of the abatement systems in place. Additional guidance on producing a DMP can be found here. <https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit#emissions-management-plan-for-dust>

Created a DMP in accordance with the government guidance. We have assessed releases, potential for emissions and overall risks for sensitive receptors including 46 dwelling houses and 6 agricultural and commercial premises within 500m using the Environment Agency principle of source, pathway receptor model at <https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit> Concluded overall risks are negligible or not significant. DMP supplied with the responses to the duly making questions.

Additional fee of £1241 for the assessment of the emissions management plan.

This must be paid directly to our Sheffield Support Centre

Paid £1,241.00 BACS 09/11/20 Remittance advice PSCGREEN009

AQ Report for kerosene boiler.

Please provide the model input files for verification.

Attached a separate email link to the file sharing site for the ADM files.

A5.5c Details of Directors

There has been a recent resignation and an appointment of a Director. Details and date of birth have been supplied with the responses to the duly making questions.

Please provide the requested information within two weeks, by 27/10/2020. Could you also confirm receipt of this email, I have been having some problems with external emails.

Kind regards

Katie Dunmore

Permitting Officer

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