

IPPC Technical Guidance Note

Integrated Pollution Prevention and Control (IPPC): Intensive Farming

Undertaking a site drainage review

Guidance for intensive pig and poultry farmers

February 2008



Introduction

All farms permitted under the Pollution Prevention and Control Regulations will have the following improvement condition in their permit:

A written plan shall be submitted to the Agency for approval following a review of all site drainage at the installation.

The plan should take into account the appropriate measures in S3.3 of TGN How to Comply, Version 1, and include a timetable for any improvements to the drainage system. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.

The plan shall be implemented by the operator from the date of approval in writing by the Environment Agency, subject to such amendments or additions as notified by the Environment Agency.

How to comply with the above condition

The plan must be submitted within 12 months of the permit being issued.

For some, the review of drainage may be simple, and will result in very little action required to be included in the plan. For others, the resulting actions will be more extensive. The purpose of this guidance is to take you through the review step by step, so that you can identify where there are risks to the environment and where improvements can be made. These will be either by changing management practises (doing things differently) or adapting/installing physical structures (gutters, downpipes, drains etc.). The changes you identify will form the actions in your plan.

What you need to do – the four steps

The review looks at all sources of drainage, the pathways by which they travel on your site and the receptors that receive the drainage.

Step 1- You should start with the site drainage plan that was completed as part of your PPC permit application (reference - Factsheet 3 Producing a site drainage plan - see our website). Enlarge the plan so that you can clearly see all your drainage system with the accompanying symbols.

Step 2 - Take a walk around your farm and complete the questionnaire as you go with either 'yes', 'no' or 'not applicable' (n/a). An answer 'yes' or 'n/a' means little or no action is required, but a 'no' will require action to be included in the plan. Note where an installation includes multiple sites, there will need to be a drainage review for each site.

Questionnaire

Receptors - where does the drainage end up - the outfall or destination of liquids

On the site drainage plan a **receptor** may be identified as either an engineered structure for the storage and subsequent managed disposal or a point of unmanaged discharge to controlled waters:

- **Engineered structures** – lagoons, above-ground tanks, below ground tanks, reception pits – usually receive only contaminated water and slurries
- **Controlled waters** - ponds, rivers and ditches – these may only receive uncontaminated water
- **Swales and soakaways** – may only receive uncontaminated or lightly contaminated water

Question		Guidance	Answer Yes/No/N/A	Comments
1	Is (are) the receptor(s) clearly identified on the plan?	Show the location and boundary of engineered structures. Ensure that the plans also shows the location of controlled waters, swales and soakaways	YES	e.g. a soakaway by house 3 was missed off the Site plan.
2	Is it (are they) accessible at all times?	Access paths should be kept clear of nettles/thistles etc. to allow inspection by both the operator and the Environment Agency at all times. Answer for each receptor identified if more than one. Observe site health and safety issues when dealing with slurry stores.	YES	
3	Are all sources identified that discharge to your receptors?	Where are the discharge points into ponds and ditches? As this water must be clean sources must be identified. Have you identified the source of all of the pipes discharging to your engineered structures and other receptors?	yes	e.g. there is a drainpipe running to the ditch, that I don't know the source for.
4(a)	Are inlet points known?	The inlet and outlet points to dirty water stores should be identified The inlet points to swales and soakaways should be identified.	YES	
4(b)	Are outlet points known?	How is water level maintained in ponds? Is there an outflow, where is it and to what does it discharge and is it controlled? Where there is no outflow and the pond does not overflow, is the pond leaking to groundwater?	YES	

Pathways – how does the drainage get there – the route that liquids take

On the site drainage plan the pathway should be identified by arrows showing the direction of flows, the location of drain inlets and access points (manhole covers and inspection chambers). The pathways are likely to be one of the following three categories:

- Gutters, downpipes and drains – may be piped pathways fixed or temporary (rigid or flexible), above ground or buried, gravity fed or pumped
- Overland flow – may be planned and marshalled (yards and slopes)
- Channels, gullies and drain inlets – may be directing flow or intercepting it (to protect buildings and structures)

Question		Guidance	Answer Yes/No/N/A	Comments
8	Are all pathways shown on the plan?	The route should be shown in its entirety including direction of flow.	YES	
9	Are all manholes and inspection covers shown on the plan?	Use the standard symbols to describe these. The key to symbols to use is in the 'Introduction' to this document.	YES	
10	Are they identified as either clean, dirty or lightly contaminated on the plan?	This refers to their identification and designation on the plan. Where a diverter is in place to deal with flows of variable quality then the plan should show this and identify all of the categories that may use the pathway	YES	
11	Are they identified on site as clean or dirty by coloured paints?	Are all manholes, inspection chambers, drain inlets etc. identified by paint marks of the appropriate colour to signify their contents - red for dirty, blue for clean? Mark the direction of flow in the appropriate colour. Are they entire (are there missing and broken gutters)? Do they connect to a satisfactory downpipe? Does it discharge to a drain and does the drain exclusively service the gutter (is the water clean and will it remain uncontaminated)? Are they adequately sized (downpipe frequency, diameter etc.)? Are they fitted with filters? Are they maintained and do they work?	~~YES~~ NO	will rectify 6 months
12	Are all gutters downpipes and drains in good condition?		YES	

Sources and pollutants – where does the drainage come from and what is it

On the site drainage plan a source will be shown as a physical structure. This may include:

- buildings, tanks, hoppers, raceways, yards, reception pits, clamps, incinerators, wheel washes etc. Depending on what the structure is, it will generate a range of liquids and possible contaminants.

Question		Guidance	Answer Yes/No/N/A	Comments
17	Are all sources included on the plan and are they clearly identified?	Are all the buildings included on the plan?	YES	
18	Is the roof water from the structure uncontaminated?	The collection of rainwater from roofs is the most obvious source of potentially uncontaminated liquid (clean water). This, and run-off from clean yard surfaces is the only material that can be directed straight to a watercourse. However, where there are roof vents, roof water is assumed to be contaminated and should be intercepted.	YES	
19	Is the rainfall collected from yard areas uncontaminated?	Provided that they are kept clean, run-off from yards can be classed as uncontaminated. Yard cleanliness may be periodic. During shed emptying or livestock removal they may be dirty and some form of drainage diversion will be necessary.	YES	

Checklist – are the following included on your drainage plan?

Points to be shown on plan	Tick if included on plan
The location of all receptors	✓
All buildings, structures and other sources of drainage	✓
Points where clean water discharges to ditches, rivers and watercourses	✓
Outfall points into dirty water lagoons and their emptying points	✓
Boundaries of grassed areas, swales and soakaways	✓
Pathways using blue where the flows are clean water	✓
Pathways using purple where the flows are lightly contaminated water	✓
Pathways using red where the flows are dirty water	✓
Access points into the pathways and coloured accordingly	✓
Inspection points and manholes and coloured accordingly	✓
Diverter, interceptors and sleeping policemen	✓