How to comply with your environmental permit for intensive farming

Appendix 7

Undertaking a housing review

Version 3
February 2012
Introduction
All farms permitted under the Environmental Permitting Regulations (formerly the Pollution Prevention and Control Regulations) are required to work to achieve Best Available Techniques (BAT).

All new installations must meet BAT (Best Available Techniques) standards before a permit is issued. If you have an existing farm which is expanding above the threshold, you should review any existing livestock housing and identify all aspects of the design and management which does or doesn’t meet BAT standards. Where you identify any improvements you can make to either the design or management of housing to reduce any emissions, you should submit an Improvement Plan with a timetable for implementation with your application. This plan may be included as part of an improvement programme within your permit.

Any plan should take account of the appropriate measures identified in S5.2 & S6.2 of Technical Guidance Note (TGN) How to Comply, Version 1 (or Version 2). It should identify measures to reduce emissions to all media and the likely cost of these measures.

Reviews which include planned improvements for future implementation will be assessed against the risks of pollution before a permit is issued.

- For some installations with uniform, modern and purpose built buildings, the review of housing may be simple, and may result in very little action required to be included in the plan. For others, with a range of building types, often utilising outdated technologies and not specifically designed for their present role, the resulting actions may be more extensive.

- The review should identify the aspects of your housing design and management that contribute to emissions from the installation. This will help you to identify whether any improvements are needed. These may be either by changing management practices (doing things differently) and/or adapting or installing physical structures. The changes you identify will form the actions in your plan.

- There may be a large range of building types and production systems within a single installation. The following guidance explains a systematic approach to carrying out a review of housing on your farm whatever type of buildings you have. This can help you to produce a plan that identifies where improvements may be needed and how they may be achieved.

- Where an installation includes multiple sites, you will need to complete a housing review for each individual site.
Before you start

- For permits that reference version 1 of How to Comply, you will need to refer to the IPPC Technical Guidance Note ‘How to Comply – Guidance for intensive pig and poultry farmers – April 2006’ (chapter 5 for poultry, chapter 6 for pigs). For permits that reference version 2, you will need to refer to chapter 2 of this document. This How to Comply document sets out Best Available Techniques (BAT) for the intensive farming sector.

- You must complete a review for each livestock building in an installation. The template can be used for any building whatever its role.

- We don’t expect your plan to compromise the health and welfare of your livestock.

Using this guidance

Step 1 – Follow the flow chart on page 5 to identify if each building’s design conforms to BAT as described in How to Comply.

- The flow chart will identify the relevant section in How to Comply which will show the standard of design and management that’s required to achieve BAT.

- There are additional guidance checklists on pages 7 and 8 of this document.

Step 2 - Follow the flow chart on page 6 to identify if the management of each building conforms to BAT for manure management, temperature management and ventilation management. Answer each question in turn.

- The flow chart will identify the relevant section in How to Comply which will show the standard of design and management that’s required to achieve BAT.

- There are additional guidance checklists on pages 7 and 8 of this document.

Step 3 – Summarise the buildings. Page 9 of this document is a table for you to provide a summary of all of the housing on the installation. It records whether each building has reached BAT for both design and management. Any building in which either the design or management isn’t yet BAT should be recorded on the Improvement Plan (see Step 4).

Step 4 – Produce the Improvement Plan. Where you identify any improvement you can make to either the design or management of the housing which will help to reduce the emissions, then you should enter this in the Improvement Plan at the back of this guidance, with a timetable for implementing it.

Step 5 – Submit the plan to your Environment Agency officer within 12 months of your permit being issued. Timescales for improvement must be agreed with the officer before you implement them.
Housing design – the route to BAT

START

Does the housing design conform to a BAT standard as set out in How to Comply?

yes

Can repairs or modifications further reduce emissions?

yes

Have you identified improvements needed and are solutions viable?

yes

If you choose not to maintain this building it may cease to be BAT.

no

There is no further action necessary. Make sure routine maintenance schedules maintain these standards.

no

Building to be phased out for pig/poultry use. There may be other uses for it.

no

Can building ever be modified, retro-fitted or adapted to meet BAT standards?

yes

Could you invest in this building to attain BAT?

yes

Cost and schedule work. Submit plan to Environment Agency.

no

Have you identified improvements needed and are solutions viable?

no

If you choose not to maintain this building it may cease to be BAT.

yes

Do work to standards and timescales agreed with Environment Agency.

no

There is no further action necessary. Make sure routine maintenance schedules maintain these standards.
Housing management – the route to BAT

START

1. Is slurry, litter and manure managed to the standards in How to Comply?
   - no
   - yes
     - Manure is managed to BAT - no further action required
     - You may need to adapt your management as it isn’t BAT
       - Have you implemented any of the management suggestions from How to Comply?
         - yes
         - no

2. Is ventilation managed to the standards in How to Comply?
   - no
   - yes
     - Ventilation is managed to BAT - no further action required
     - You may need to adapt your management as it isn’t BAT
       - Have you implemented any of the management suggestions from How to Comply?
         - yes
         - no

3. Is temperature managed to the standards in How to Comply?
   - no
   - yes
     - Temperature is managed to BAT - no further action required
     - You may need to adapt your management as it isn’t BAT
       - Have you implemented any of the management suggestions from How to Comply?
         - yes
         - no

4. Does the general management conform to the standards in How to Comply?
   - no
   - yes
     - Building is managed to BAT - no further action required
     - You may need to adapt your management as it isn’t BAT
       - Have you implemented any of the management suggestions from How to Comply?
         - yes
         - no

Identify improvements to management practices and record in Housing Improvement Plan
The following list identifies a number of emission reduction measures that may be considered as part of your housing improvement plan when reviewing housing design and management. It isn’t exhaustive and not all measures will be appropriate for all housing types. It’s in addition to the suggestions in How to Comply (Version 1 or Version 2).

**Piped systems** – there may be mains pressure drinking supplies, pressurised washer lines or pumped feed lines. Check that:
- there are low pressure cut-off valves at the pump for liquid feed systems to protect against pipe failures;
- there are anti-back siphoning measures installed where appropriate;
- if they are above or below ground, isolation taps or gate valves are present;
- there is protection from frost, impacts and livestock.

**Drinkers and feed troughs** – these may be tanks/troughs, bowls, nipples, bell, metal or glazed ceramics. Check as appropriate that:

**Drinkers**
- are set at the correct height;
- shut off correctly;
- can be altered during the production cycle;
- spills can be either caught (in troughs under drinkers), absorbed by litter, or are able to drain away quickly.

**Feed troughs**
- feeder pipes are tamper-proof;
- automatic feeding systems have emergency cut-out mechanisms installed.

**Manure management** - this will vary according to the systems employed in any individual building. Check that:
- the location of dunging areas is not being adversely influenced by draughts, damp, temperature;
- the removal of manure and slurry from buildings is frequent and that it works (this may rely on slopes, pumps or vacuum systems) – laying hens with long production cycles may involve removal only at the end of each batch;
- deep littered housing – for both pigs and poultry – has an impermeable base;
- passageways without channel or drain inlets at intervals along their length are scraped and/or littered frequently enough to avoid ponding (which is a source of ammonia and odour).
Ventilation and temperature – when considering how well the building reaches and maintains the desired temperature it may be necessary to look at all aspects of ventilation including both its design and its operation. The following factors can all influence emissions of dust, ammonia and odour from a building.

If the answer to any of the following points is yes then you may wish consider addressing them in your Housing Improvement Plan:

- If fans discharge through roofs or side-walls can the dust contaminate otherwise clean roof or surface water run-off?
- Is insulation lacking, damaged or wet? Ineffective insulation contributes to condensation and may adversely affect litter dry matter.
- Does ventilation management cause noise problems – duration, volume, pitch and frequency?

Also, if the answer to any of the following points is no then you could consider addressing them in your Housing Improvement Plan:

- Have humidistats or thermostats been checked to ensure that they work and have been calibrated?
- Are vents maintained, efficient, clean, and adequately sized?
- Are automatic ventilation systems which utilise both fans and vents achieving effective temperature and humidity control?
- Is the air filtered?
- Is the formulation and the transport of feed managed to minimise dust risk? Meal is inherently dustier than nuts or pellets.
- Is litter introduced into buildings with consideration to minimising the creation of airborne particles?
<table>
<thead>
<tr>
<th>Name of Building</th>
<th>Function</th>
<th>Is Building Management BAT or not BAT?</th>
<th>Is Building Design BAT or not BAT?</th>
<th>Is it identified in Housing Improvement Plan?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weaner House</td>
<td>Weaner rearing</td>
<td>BAT</td>
<td>Not BAT</td>
<td>Yes</td>
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<tr>
<td>Finisher Shed</td>
<td>Finishers</td>
<td>Not BAT</td>
<td>BAT</td>
<td>Yes</td>
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<tr>
<td>Shed 3</td>
<td>Broiler rearing</td>
<td>Not BAT</td>
<td>BAT</td>
<td>Yes</td>
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</tbody>
</table>
### Housing Improvement Plan – Examples of possible improvements, solutions and timescales

<table>
<thead>
<tr>
<th>Area needing Improvement</th>
<th>What needs to be done – possible solutions</th>
<th>Proposed cost</th>
<th>Proposed timescale for completion</th>
<th>Timescale agreed with Environment Agency</th>
</tr>
</thead>
</table>
| Building design changes | Replace building:  
1) engage consultant and agree design and location  
2) apply for planning permission to construct new building  
3) start using new building  
4) de-commission old building | 6 months 9 months 24 months 28 months | Timescale agreed with Environment Agency |

Building design changes – these are likely to involve the largest costs. They may need a staged approach to design, finance, build and commission. You may need flexible milestones to allow external agencies (planning and appeals) to grant approvals etc.

| Weaner house is not BAT (converted sow house) |  |
|-----------------------------------------------|-------------------------------------------|---------------|-----------------------------------|------------------------------------------|
| Building management changes |  |

Building management changes – these are likely to involve the least costs.

| Damp litter at west end of Broiler Shed 3 during rainfall if wind from east | Block up any holes  
Monitor litter during rainfall events and add extra litter/install space heater to dry wet litter  
Extend fan hood at end of building to protect it from rain  
Damp-proof wall at west end of building to prevent seepage | 1 month  
6 months  
9 months if fan hood extension doesn’t solve problem |  |
|-----------------------------------------------|-------------------------------------------|---------------|-----------------------------------|------------------------------------------|
| Manure juice leaking from finisher shed muck passageway doors | Check floats in drinker to minimise spillages  
Can spillages be collected by troughs beneath drinkers  
Use more bedding – especially near doorways  
Use end pen as straw storage  
Install sleeping policeman in doorway | ASAP If no improvement will install barrier at end of current batch |  |

The above examples show a range of solutions. The first possible solution is the least cost option and this should be tried first to achieve the desired improvement. If this doesn’t have the desired effect then you should move onto the next option and continue to work through the options until the improvement is satisfactory. The solutions may need to become more complex and cease to be management changes and become building design changes which may need longer timescales and involve higher costs.
## Housing Improvement Plan

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