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BAT Conclusions	Applicability Assessment ((1) describe whether or not it applies, stating clearly the precise reasons and (2) how the technique applies or not to your installation)	State whether it is in place or state schedule for implementation
BAT 10. In order to prevent, or where that is not practicable, to reduce noise emissions, BAT is to use one or a combination of the techniques given. (Section 1.7 Noise emissions).		(A) Equipment, Motors feed silos all located as far away as practically possible from Sensitive receptors. (B) All doors kept closed during feeding, avoidance of any noise activities at night, or early morning. (C) Highly efficient mechanical ventilation system in place, all pumps and feeding system motors have vibration isolation and silencers. (D) Silencers and vibration isolation on pumps, all feeding equipment enclosed where practical, all

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<table>
<tr>
<td></td>
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<td>buildings were insulated to aid in soundproofing and keeping adequate temp for poultry.
(E) Surrounding landscape/trees maintained to provide a topographical obstruction to sound waves.</td>
</tr>
<tr>
<td>BAT 13. In order to prevent or, where that is not practicable, to reduce odour emissions and/or odour impact from a farm, BAT is to use a combination of the techniques given (Section 1.9 Odour emissions).
<table>
<tr><th></th><th>Technique (1)</th><th>Applicability</th></tr>
<tr><td>a</td><td>Ensure adequate distances between the farm/plant and the sensitive receptors.</td><td>May not be generally applicable to existing farms/plants.</td></tr>
<tr><td>b</td><td>Use a housing system which implements one or a combination of the following principles:
— keeping the animals and the surfaces dry and clean (e.g. avoid feed spillages, avoid dung in lying areas of partly slatted floors);
— reducing the emitting surface of manure (e.g. use metal or plastic slats, channels with a reduced exposed manure surface);
— removing manure frequently to an external (covered) manure store;
— reducing the temperature of the manure (e.g. by slurry cooling) and of the indoor environment;
— decreasing the air flow and velocity over the manure surface;
— keeping the litter dry and under aerobic conditions in litter-based systems.</td><td>Decreasing the temperature of the indoor environment, the air flow and the velocity may not be applicable due to animal welfare considerations.
Slurry removal by flushing is not applicable to pig farms located close to sensitive receptors due to odour peaks.
See applicability for animal housing in BAT 30, BAT 31, BAT 32, BAT 33 and BAT 34.</td></tr>
<tr><td>c</td><td>Optimise the discharge conditions of exhaust air from the animal house by using one or a combination of the following techniques:
— increasing the outlet height (e.g. exhaust air above roof level, stacks, divert air exhaust through the ridge instead of through the low part of the walls);
— increasing the vertical outlet ventilation velocity;
— effective placement of external barriers to create turbulence in the outgoing air flow (e.g. vegetation);
— adding deflector covers in exhaust apertures located in low parts of walls in order to divert exhaust air towards the ground;
— dispersing the exhaust air at the housing side which faces away from the sensitive receptor;
— aligning the ridge axis of a naturally ventilated building transversally to the prevailing wind direction.</td><td>Alignment of the ridge axis is not applicable to existing plants.</td></tr>
</table>
</td>
<td></td>
<td>(A) Exhaust air from houses is via stacks through ridge of roof
(B) All litter and soiled water operations are carried out in accordance with nitrates directive SI 113 OF 2022</td>
</tr>
</table>

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d	Use an air cleaning system, such as: 1. Bioscrubber (or biotrickling filter); 2. Biofilter; 3. Two-stage or three-stage air cleaning system.	This technique may not be generally applicable due to the high implementation cost. Applicable to existing plants only where a centralised ventilation system is used. A biofilter is only applicable to slurry-based plants. For a biofilter, a sufficient area outside the animal house is needed to accommodate the filter packages.		
e	Use one or a combination of the following techniques for storage of manure:			
	1. Cover slurry or solid manure during storage;	See applicability of BAT 16.b for slurry. See applicability of BAT 14.b for solid manure.		
	2. Locate the store taking into account the general wind direction and/or adopt measures to reduce wind speed around and above the store (e.g. trees, natural barriers);	Generally applicable.		
	3. Minimise stirring of slurry.	Generally applicable.		
f	Process manure with one of the following techniques in order to minimise odour emissions during (or prior to) landspreading:			
	1. Aerobic digestion (aeration) of slurry;	See applicability of BAT 19.d.		
	2. Compost solid manure;	See applicability of BAT 19.f.		
	3. Anaerobic digestion.	See applicability of BAT 19.b.		
g	Use one or a combination of the following techniques for manure landspreading:			
	1. Band spreader, shallow injector or deep injector for slurry landspreading;	See applicability of BAT 21.b, BAT 21.c or BAT 21.d.		
	2. Incorporate manure as soon as possible.	See applicability of BAT 22.		
BAT 25 BAT is to monitor ammonia emissions to air using one of the specified techniques with at least the frequency given (Section 1.15 Monitoring of emissions and process parameters).				

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Section 3. BAT Conclusions for Intensive Rearing of Poultry

BAT 31-34 applies to ammonia emissions from poultry houses
(Section 3.1 Ammonia emissions from poultry houses).

BAT 31.
In order to reduce ammonia emissions to air from each house for laying hens, broiler breeders or pullets, BAT is to use one or a combination of the techniques given **(Section 3.1.1 Ammonia emissions from houses for laying hens, broiler breeders or pullets).**

	Technique (1)	Applicability
a	Manure removal by belts (in case of enriched or unenriched cage systems) with at least: — one removal per week with air drying; or — two removals per week without air drying.	Enriched cage systems are not applicable to pullets and broiler breeders. Unenriched cage systems are not applicable to laying hens.
b	In case of non-cage systems:	
	0. Forced ventilation system and infrequent manure removal (in case of deep litter with a manure pit) only if used in combination with an additional mitigation measure, e.g.: — achieving a high dry matter content of the manure; — an air cleaning system.	Not applicable to new plants, unless combined with an air cleaning system.
	1. Manure belt or scraper (in case of deep litter with a manure pit).	Applicability to existing plants may be limited by the requirement for a complete revision of the housing system.
	2. Forced air drying of manure via tubes (in case of deep litter with a manure pit)	The technique can be applied only to plants with sufficient space underneath the slats.
	3. Forced air drying of manure using perforated floor (in case of deep litter with a manure pit).	Due to high implementation costs, applicability to existing plants may be limited.
	4. Manure belts (in case of aviary).	Applicability to existing plants depends on the width of the shed.
	5. Forced drying of litter using indoor air (in case of solid floor with deep litter).	Generally applicable.
c	Use of an air cleaning system, such as: 1. Wet acid scrubber; 2. Two-stage or three-stage air cleaning system; 3. Bioscrubber (or biotrickling filter).	May not be generally applicable due to the high implementation cost. Applicable to existing plants only where a centralised ventilation system is used.

See also Table 3.1 of CID

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Table 3.1

BAT-AELs for ammonia emissions to air from each house for laying hens

Parameter	Type of housing	BAT-AEL (kg NH_3/animal place/year)
Ammonia expressed as NH_3	Cage system	0,02-0,08
	Non-cage system	0,02-0,13 (1)

(1) For existing plants using a forced ventilation system and an infrequent manure removal (in case of deep litter with a manure pit), in combination with a measure achieving a high dry matter content of the manure, the upper end of the BAT-AEL is 0,25 kg NH_3/animal place/year.

The associated monitoring is in BAT 25. The BAT-AEL may not be applicable to organic livestock production.