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SCOTTISH STATUTORY INSTRUMENTS

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**2008 No. 298**

**The Action Programme for Nitrate Vulnerable  
Zones (Scotland) Regulations 2008**

**PART 2**

**General application and duties**

- 4.—(1) These Regulations apply to any farm which is in a nitrate vulnerable zone.  
(2) The occupier must ensure that this Part is implemented in relation to such a farm.

**Fertiliser and manure management plan**

5.—(1) Before 1st March each year, a fertiliser and manure management plan must be prepared in respect of the farm for that year.

(2) The purpose of the plan is to assess the crop requirement for nitrogen fertiliser for each crop on each field each year and to establish the quantities of livestock manure produced and safe methods of collection, storage and land application.

- (3) A fertiliser and manure management plan must consist of—
- (a) a risk assessment plan in respect of organic manure;
  - (b) a calculation of the capacity of storage facilities for livestock manure required on the farm; and
  - (c) a calculation of the quantity of nitrogen fertiliser required in relation to each crop on the farm.
- (4) A risk assessment plan must contain a map of the farm, which must clearly show—
- (a) the delineation of every field;
  - (b) the area of every field in hectares;
  - (c) the location of all surface water, wells and boreholes or similar work sunk into underground strata for the purpose of providing a water supply;
  - (d) any area of land with a slope of 12 degrees or more;
  - (e) the location of any field heaps; and
  - (f) any other area of high risk to the water environment.

(5) No nitrogen fertiliser is to be applied to any crop in any year prior to the calculation under paragraph (3)(c) being completed for that crop and that year.

**Storage of livestock manure**

6.—(1) Subject to regulations 7 to 11, the capacity of storage facilities for livestock manure on a farm must be sufficient to store all livestock manure which is likely to require to be stored on the

farm for such period as may be required to secure compliance with these Regulations and to avoid pollution of the water environment.

(2) Storage facilities for livestock manure must be maintained free from structural defect and otherwise be of such standard as is necessary to prevent run off or seepage to the soil or groundwater.

### **Storage of slurry from housed pigs and housed cattle and manure from housed poultry**

7.—(1) A farm must have capacity to store the total quantity of slurry likely to be produced by housed pigs or housed cattle and manure from housed poultry calculated by adding up the total figures produced for each type of livestock, in accordance with paragraph (2).

(2) The quantity referred to in paragraph (1) shall be calculated—

- (a) in the case of slurry produced by housed pigs, by adding the totals for each type of housed pig on the farm, in accordance with the following formula—

$$X \times Y \times 182$$

where—

X represents the number of pigs by type on the farm (but excluding pigs housed in a straw bedded system), and

Y represents the daily excreta figure per pig of that type set out in column 2 of table 1 in Schedule 1; and

- (b) in the case of slurry produced by housed cattle, by adding the totals for each type of housed cattle on the farm, in accordance with the following formula—

$$X \times Y \times 182$$

where—

A represents the number of cattle by type that are housed in a slurry based system on the farm (but excluding cattle housed in a straw bedded system), and

B represents the daily excreta figure per head of cattle set out in column 2 of table 1 in Schedule 1; and

- (c) in the case of manure produced by housed poultry, by adding the totals for each type of housed poultry on the farm, in accordance with the following formula—

$$A \times B \times 154$$

where—

X represents the number of housed poultry by type on the farm, and

Y represents the daily excreta figure per head of that type of housed poultry set out in column 2 of table 1 in Schedule 1.

(3) In calculating the minimum capacity of storage facilities necessary to comply with paragraph (1) the following figures shall be included:—

- (a) for rainfall, the quantity of any rainfall that is likely to enter storage facilities (directly or indirectly) during collection or storage;
- (b) for cleaning water, the quantity of any cleaning water that is likely to enter storage facilities, using the relevant figures set out in columns 3 and 4 of the table in Schedule 2, unless a lesser amount can be shown to apply.

(4) In calculating the minimum capacity of storage facilities for poultry manure under this regulation, a deduction may be made for any such manure stored or to be stored in any field heap under regulation 10.

(5) In every case where slurry or manure is produced and stored on the farm, a calculation under paragraph (2) must be made, notwithstanding any exemption to paragraph (1) claimed under regulation 11.

### **Exclusions from storage capacity**

8. In calculating the quantity of livestock manure for the purposes of regulations 6 and 7 the following may be disregarded—

- (a) any solids to be removed from slurry, other than pig slurry, by means of a slurry separator, up to a maximum of 20% of the total slurry produced;
- (b) any solids to be removed from pig slurry, by means of a slurry separator, up to a maximum of 10% of the total slurry produced;
- (c) any quantity of livestock manure to be moved off the farm;
- (d) any quantity of livestock manure to be transferred to a person authorised under the Pollution Prevention and Control (Scotland) Regulations 2000(1) or the Waste Management Licensing Regulations 1994(2) for the collection, recovery or disposal of the manure;
- (e) any quantity of livestock manure to be disposed of under contract to a manure processing facility or to an approved treatment or recovery outlet.

### **Storage of solid manure**

9. Subject to regulation 10 the storage of solid manure must—

- (a) be only on an impermeable surface which prevents drainage to the water environment; and
- (b) either—
  - (i) be covered by a waterproof covering; or
  - (ii) have a run-off facility with a means of collecting, storing and recovering run-off water and particulate matter.

### **Temporary storage of solid manure**

10.—(1) Solid manure may be temporarily stored on land otherwise than in accordance with regulation 9 immediately prior to being applied to land but must not be stored—

- (a) in any field heap for more than 12 consecutive months; or
- (b) on the site of any previous field heap unless at least 24 months have passed since the site was last cleared.

(2) No field heap shall be located in any area where the application of organic manure is prohibited under regulation 18 or in an area of high risk identified on the risk assessment map under regulation 5(4).

(3) Any solid poultry manure that is not mixed with bedding material stored under this regulation must be covered by a waterproof covering.

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(1) [S.S.I. 2000/323](#) to which there are amendments not relevant to these Regulations.

(2) [S.I. 1994/1056](#) to which there are amendments not relevant to these Regulations.

**Exemptions from regulations 6(1), 7(1) and 20**

- 11.**—(1) Subject to the provisions of this regulation—
- (a) regulations 6(1) and 7(1) do not apply where the storage capacity on a farm on 1st January 2009 is not sufficient to allow compliance with those regulations; and
  - (b) regulation 20 does not apply where the storage capacity on a farm on that date means that some or all of the slurry collected on the farm can only be applied to land on the farm in contravention of that regulation, due to it not being reasonably practicable for that slurry to be removed from the farm.
- (2) Exemption under sub-paragraph (a) of paragraph (1) lasts until whichever is the earlier of—
- (a) the capacity becoming sufficient to allow compliance with regulations 6(1) and 7(1);
  - (b) 1st January 2012.
- (3) Exemption under sub-paragraph (b) of paragraph (1) lasts until whichever is the earlier of—
- (a) the capacity becoming sufficient so that regulation 20 can apply without the consequences referred to in that sub-paragraph;
  - (b) 1st January 2012.
- (4) An exemption under paragraph (1) applies—
- (a) in respect of 2009, only if a written notification is given to the Scottish Ministers as soon as practicable after 1st January 2009 and in any case no later than 31st March 2009; and
  - (b) in respect of any subsequent year, only if a written notification is given to the Scottish Ministers by 1st January in the year in question.
- (5) Any notification under paragraph (4) must set out—
- (a) whether exemption under sub-paragraph (a) or (b) of sub-paragraph (1) (or under both sub-paragraphs) applies; and
  - (b) the action being taken towards making the storage capacity on the farm comply with regulation 7.
- (6) As long as regulation 20 does not apply to a farm in terms of this regulation no organic manure with high available nitrogen content is to be applied to any crop on that farm between 1st and 31st October.

**Maximum application of nitrogen fertiliser**

- 12.**—(1) The amount of nitrogen fertiliser applied on the farm to any crop must not at any time exceed the maximum figure allowed for the crop type, calculated under this regulation.
- (2) Before planting any crop referred to in column 1 of table 1 in Schedule 3 on any area of land on the farm, the maximum nitrogen which can be applied to that crop for that area shall be calculated, by using the appropriate figures based on the standard yield in that table for:—
- (a) the crop grown immediately previously;
  - (b) soil type; and
  - (c) any other relevant adjustments allowed, if selected for inclusion.
- (3) Before planting any crop which is managed grassland of a type referred to in column 1 of table 3 of Schedule 3, the maximum nitrogen which can be applied to that crop shall be calculated by identifying the appropriate site class by using table 2 of Schedule 3, and using that site class to calculate the appropriate figure in table 3 of that Schedule.
- (4) Before planting any crop which is not referred to in paragraph (2) or (3) the figure for the crop requirement for that crop shall be calculated, taking into account the amount of the nitrogen

residue from the crop grown immediately previously and soil type, and no nitrogen shall be applied in excess of that figure.

(5) For each crop to be grown on the farm, a total sum of all the individual figures for that crop produced under paragraphs (2), (3) or (4) shall be calculated, to show the overall maximum nitrogen figure which may be applied to each crop on the farm.

(6) Subject to the other provisions in these Regulations, the overall figure calculated under paragraph (5) for each crop may be applied to that crop even in excess of the individual figure for the individual area calculated under paragraphs (2), (3) or (4), as long as the overall amount applied to the crop type on the farm does not at any time exceed the sum in paragraph (5).

### **Minimum nitrogen available to crop from livestock manure**

13.—(1) In calculating the overall quantity of nitrogen fertiliser which may be applied in accordance with these Regulations, the percentage of nitrogen taken up by the crop from any given quantity of livestock manure shall be calculated in accordance with table 4 of Schedule 3, using the appropriate figures for manure type, method of application, total nitrogen content of the manure, percentage of dry matter in the manure and soil type.

(12) Notwithstanding paragraph (1) the percentage of nitrogen shall be no less than the relevant figure in table 5 of Schedule 3.

### **Annual farm limit of nitrogen in livestock manure**

14.—(1) In any year the total nitrogen in livestock manure applied to the utilisable agricultural land area of the whole farm, whether directly by an animal or by spreading, must not exceed 170 kg per hectare (“ha”) of that area.

(2) For the purposes of this regulation, and subject to paragraph (3), any calculation of the amount of nitrogen contained in livestock manure from animals on the farm shall be carried out using the appropriate figures in table 1 of Schedule 1, and for livestock manure brought onto the farm, shall be carried out using the appropriate figures in table 2 of that Schedule.

(3) Paragraph (2) does not apply where the occupier provides evidence to the Scottish Ministers, based on such scientific evidence as the Scottish Ministers consider satisfactory, that the total nitrogen contained in the livestock manure to be applied to all land on the farm will not exceed the limit specified in paragraph (1).

### **Annual field limit of nitrogen in organic manure**

15.—(1) Organic manure shall not be applied to any field where the application would result in the total nitrogen contained in organic manure applied in any 12 month period to any field exceeding a rate of 250 kg per hectare excluding that deposited by animals whilst grazing.

(2) For the purposes of this regulation, and subject to paragraph (3), any calculation of the amount of nitrogen contained in livestock manure shall be carried out using the appropriate figures contained in table 2 in Schedule 1.

(3) Paragraph (2) does not apply where the occupier provides evidence to the Scottish Ministers based on such scientific evidence as the Scottish Ministers consider satisfactory, that the total nitrogen contained in the livestock manure to be applied to all land on the farm, will not exceed the limit specified in paragraph (1).

### **Application of nitrogen fertiliser**

16.—(1) Nitrogen fertiliser must be applied to land in as accurate a manner as is practicably possible consistent with good agricultural practice.

- (2) Nitrogen fertiliser must not be applied to any land if—
- (a) the soil is waterlogged;
  - (b) the land is flooded;
  - (c) the soil has been frozen for 12 hours or longer in the preceding 24 hours; or
  - (d) the land is covered by snow.
- (3) Nitrogen fertiliser must not be applied to any land if there is a significant risk of nitrogen entering surface water, taking into account—
- (a) the slope of the land, particularly if greater than 12 degrees;
  - (b) any ground cover;
  - (c) proximity to any surface water;
  - (d) weather conditions; and
  - (e) the type of fertiliser being applied.

#### **Application of chemical fertiliser**

17. Chemical fertiliser must not be applied to any land in any case, location or manner that makes it likely that the fertiliser will directly enter any surface water.

#### **Application of organic manure**

- 18.—(1) Organic manure must not be applied to any land which is situated within—
- (a) 10 metres of any surface water; or
  - (b) 50 metres of any well, borehole or similar work sunk into underground strata for the purposes of any water supply.

#### **Closed period for chemical fertilisers**

19.—(1) Subject to paragraph (4), a chemical fertiliser must not be applied to land specified in paragraphs (2) and (3) on or between the dates so specified in relation to that land.

(2) In relation to the area of land designated as the Aberdeenshire, Banff, Buchan and Moray nitrate vulnerable zone<sup>(3)</sup>, the land and dates specified for the purposes of paragraph (1) are—

- (a) in the case of grassland, 15th September in any year and 20th February in the following year; and
- (b) in the case of other land, 1st September in any year and 20th February in the following year.

(3) In relation to areas of land designated as nitrate vulnerable zones other than the area of land mentioned in paragraph (2)<sup>(4)</sup>, the land and dates specified for the purposes of paragraph (1) are—

- (a) in the case of grassland, 15th September in any year and 15th February in the following year; and
- (b) in the case of other land, 1st September in any year and 15th February in the following year.

(4) Where the fertiliser and manure management plan demonstrates that the nitrogen requirement of the following crops can only be met by applying chemical fertiliser on any dates on which that application is otherwise prohibited by this regulation, such fertiliser may be applied up to the following maximum limits—

(3) Designated as a nitrate vulnerable zone by regulation 3 of the Designation of Nitrate Vulnerable Zones (Scotland) Regulations 2002 (S.S.I. 2002/276).

(4) Designated as a nitrate vulnerable zone either by regulation 3 of S.S.I. 2002/276 or regulation 3 of S.S.I. 2002/546.

- (a) for brassicas 100 kg per hectare;
- (b) for winter oilseed rape the amount set out in table 1 of Schedule 3, taking into account the previous crop, crop yield and soil type.

#### **Closed periods for organic manure with high available nitrogen content**

- 20.**—(1) Organic manure with high available nitrogen content must not be applied—
- (a) on or between 1st September and 31st December, to grassland which is situated on sandy or shallow soil; or
  - (b) on or between 15th October and 15th January to grassland which is situated on any other soil;
  - (c) on or between 1st August and 31st December to land which is not grassland and which is situated on sandy or shallow soil; or
  - (d) on or between 1st October and 15th January to land which is not grassland, and which is situated on any other soil.
- (2) In a case where the prohibition in paragraph (1)(c) applies, organic manure with high available nitrogen content may nevertheless be applied—
- (a) up to and including 15th September if the land is sown with a cereal crop before that date, and
  - (b) up to and including 30th September if the land is sown with oilseed rape, a catch crop or a cover crop before that date.

#### **Closed periods – quantitative restrictions**

- 21.**—(1) Organic manure with high available nitrogen content must not be applied to land in excess of the maximum quantities set out in column 2 of the table in Schedule 4 in relation to the relevant manure during the following periods—
- (a) 4 weeks prior to the first day on which regulation 20 prohibits the application of such manure; and
  - (b) from the day following the last day of that prohibition until 14th February, both dates inclusive.
- (2) In any period during which a prohibition imposed by paragraph (1) applies in respect of land, there may be applied to that land only one of the types of organic manure specified in column 1 of that table.

#### **Closed periods for spreading on bare ground and stubble**

**22.** Organic manure with high available nitrogen content may only be applied to bare ground and stubble during the months of July, August and September if the land to which it is applied is drilled with a crop within 6 weeks of the first application.

#### **Minimum period between applications of livestock manure**

**23.** A period of at least 3 weeks must elapse between each completed application of livestock manure to an area on the farm.

#### **Restriction on method of application of slurry**

**24.**—(1) From 1 July 2009, slurry may not be applied to land by means of high trajectory raised splash plates.

(2) Paragraph (1) does not apply to the application of slurry to land on which arable crops are growing.