

Delivering Scotland's River Basin Management Plans:

Silage, Slurry and Liquid Digestate - Storage and Application

Consultation - Analysis of responses

1. Introduction

The consultation – Silage, Slurry and Liquid Digestate – Storage and Application - was published on 12th January 2021 and ran for 12 weeks, closing on 13th April 2021.

There were 43 responses to the consultation. Forty one responded to the questions on Scottish Government Consultation Hub. Two others responded by email but did not answer the consultation questions. Of the 41 responses to the consultation hub, 29 were from individuals or farm businesses with the other 12 from organisations with an interest in water quality, biodiversity and the agriculture sector. The NFU Scotland response contained details of a survey of 549 farmers and 5 case studies.

A large number of respondents did not provide comment with their response.

The 34 responses permissioned to be published can be found on the Scottish Government Consultation Hub.

Controls over the storage of silage and slurry have been in place since September 1991 through the Silage, Slurry, and Agricultural Fuel Oil (Scotland) Regulations (SSAFO). All structures built since 1991 have been required to comply with the regulations including having 6 months storage for slurry.

The consultation proposed that the SSAFO regulations are consolidated into The Water Environment (Controlled Activities) (Scotland) Regulations (CAR).

In addition, the consultation proposed that the exemption for pre 1991 structures was removed. This does not mean that all pre-1991 structures should be demolished and rebuilt, but that they must meet the requirements of the regulations.

Scottish Government fully understands that the basic design of structures has not changed over the years and that many pre-1991 structures will have been well maintained. But, with age, the risk of failure of the infrastructure associated with silage and slurry stores increases.

One major slurry escape of recent years involved the release of 150,000 gallons of slurry, and was due to a sluice gate jamming open. Such incidents have potential for a devastating effect on water quality and biodiversity. Ensuring that all structures meet basic construction standards will help avoid potential impacts.

Many of the proposals are based on the good practice measures in the Prevention of Pollution from Agricultural Activities code of practice(PEPFAA) which was originally published in 1997 with input from Scottish Government, the Scottish Environment Protection Agency, the NFU Scotland, and the Scottish Rural College

This report will cover points raised on a question by question basis.

2. Analysis of responses

Question 1: Do you agree with the proposed rules for the control of silage in bales or bulk bags?

There were 37 answers to Q.1. Yes – 26 No - 11

Eleven respondents provided comments, including NFU Scotland, and were mostly in agreement. Scottish Water considered that rather than just surface water drains any drain connected to the public sewer system should be included.

SG Comment – The proposed rules were mostly unchanged from existing SSAFO rules. There appeared to be misunderstanding that silage effluent from bales had to be collected. Field storage in wrapped bales or bulk bags is also still allowed as long as the requirements are followed.

Question 2: Do you agree with the proposed rules on the storage of silage?

There were 38 answers to Q.2. Yes – 16 No – 22

Fifteen respondents provided comments which covered a number of topics.

NFU Scotland state: *“NFU Scotland supports policies and practices that aim to reduce emissions and diffuse pollution associated with agricultural activity and believes all farm businesses can and should play their part in meeting climate change challenges and safeguarding water quality“*

One respondent commented that he would have to build new concrete silage pits to replace his earth bank pits.

Other responses raised commented on cost of silage effluent tank alarms and the difficulty of power supply.

One respondent commented that the rules prohibited the opening of silage pits to add 2nd or 3rd cuts..

Another response commented on the cost of roofing silage stores.

SG comment -The standards for silage pits have been in force since 1991 and NFU Scotland had a key role in production of the PEPFAA code on which many of the rules are based.

A recurring theme appeared to be the assumption that a high number of stores will need to be demolished and rebuilt. That is not the intention of the rules. It is considered that a certain degree of retrofitting may, in many cases, achieve compliance with the proposals.

Earth bank pits are a popular method of storing silage and the construction requirements continue to be the same as those currently in SSAFO.

Where power supply for alarms is a limiting factor a battery powered alarm is an option.

The rule on the opening of silage pits only applies from when the pit is open for use as feedstock.

Although roofing stores is an extra level of protection it is not a consultation proposal as it is considered that well maintained stores and proper effluent collection are an acceptable approach.

By ensuring that silage storage is built to an adequate standard Scottish Government considers that regulation by general binding rule is the best approach.

Question 3: Do you agree with the proposal to remove exemptions for silage stores built prior to 1 September 1991?

There were 37 answers to Q.3. Yes – 12 No – 25

Nineteen respondents provided comments.

A number of respondents appear to consider that all pre-1991 stores were now condemned and had to be demolished and rebuilt.

Some respondents commented on the basis of the cost of demolish/rebuild.

SG comment - Many silage stores will most likely have had maintenance work such as flooring, or lining, since they were built. If that maintenance was carried out post 1991 it should have been carried out in accordance the SSAFO regulations.

The intention of the proposals is not to require pre-1991 stores to be demolished and rebuilt but that they are brought in line with modern standards.

The consultation proposals are to ensure that older stores do not pose a risk to groundwater or surface water. This risk will mostly rise from insufficient effluent storage or leaching to groundwater. This is a potential risk to aquatic life and potentially private and public water supplies.

Question 4: Do you agree with the proposed revisions to consolidate the storage requirements for slurry across Scotland at 22 weeks for housed cattle and 26 weeks for housed pigs?

There were 34 answers to Q.4 Yes – 16. No – 18

Eighteen respondents provided comments.

NFU Scotland response considered this is an extension of NVZ rules across the whole of Scotland.

A number of respondents also considered that there was no problem in spreading slurries all year round.

The NFU Scotland survey revealed that 70% of survey respondents with cattle had sufficient storage.

SG comment – The current requirement in the SSAFO regulations for the storage of slurry is six months (Schedule 2 para 6.2), with the requirement in Nitrate Vulnerable Zones 22 weeks for housed cattle and 26 weeks for housed pigs.

Scottish Government considered it more appropriate to consolidate the storage of slurry across Scotland and in doing so proposed to reduce the SSAFO requirement for cattle to 22 weeks in the proposed regulations.

Slurry spread during colder wetter winter months is of no benefit to crop growth and is a breach of CAR GBR 18, where fertiliser should only be spread in accordance with crop need. There is also a greater risk of leaching either as gaseous emissions or to surface or groundwater.

SEPA's catchment work over the last few years has resulted in a large number of farmers increasing storage to the required standard.

Question 5: Do you agree with the proposal to remove exemptions for slurry stores built prior to 1 September 1991?

There were 37 answers to Q.5. Yes – 12 No - 25

Seventeen respondents provided comments.

Respondents were mostly concerned with the cost of rebuilding storage built prior to 1 September 1991.

A number of respondents considered that their pre 1991 facilities have been well maintained and although may not fully meet the standards are fit for purpose.

SG comment -As with silage storage some respondents assumed that any storage built pre 1991 is condemned. That is not case, but all storage must have structural integrity.

As with silage stores where any work has been carried out post 1991 it should have been carried out to the required standard.

Question 6: Do you agree with the proposed rules for slurry storage?

There were 36 answers to Q.6. Yes – 16 No – 20

Twenty respondents provided comments.

As with silage storage the cost of replacing older infrastructure was the main concern to respondents. Particularly for stores constructed pre 1991.

There were also some concerns that transition periods were not long enough due to the availability of materials and contractors.

SG comment - Rules on the storage of slurry have been in place since 1991. Some respondents against the proposed rules appeared to think these were new regulations.

There are various types of slurry stores which can pose different environmental risks. It is important that all slurry stores are properly maintained and that their structural integrity is not compromised.

Question 7: Do you agree with the proposed rules on the storage of liquid digestate?

There were 36 answers to Q. 7. Yes – 24 No – 12

Fourteen respondents provided comments. The comments were mostly in support of the proposals.

SG comment -The number of on-farm anaerobic digestate plants has increased in recent years Scottish Government is confident that storage constructed in association with these plants will mostly be of the required standard.

Where farms are accepting digestate from off farm sources they must be confident that their storage facilities are of the required standard and size to accommodate imports.

Question 8: Do you agree with the proposed revised requirements for the notification of new silage, slurry, and liquid digestate structures?

There were 40 responses to Q. 8. Yes – 22 No – 18

Thirteen respondents provided comments.

Most respondents were in support of the proposal. Two respondents questioned who would have responsibility for final sign off.

SG comment - Responsibility that final sign off is fully in line with initial application and design standards is responsibility of operator of the facility.

Question 9: Do you agree with the proposal that a Risk Assessment for Manure and Slurry (RAMS) Map should be prepared and issued, to those carrying out organic fertiliser spreading operations?

There were 39 responses to Q. 9 Yes – 19. No – 20

Twenty respondents provided comments.

The comments in support of the proposal included NFU Scotland who recognised it as good practice. Some responses considered it would be time consuming and expensive.

SG comment - RAMS maps have been recognised as good practice since introduction of the PEPFAA code. Information on how to produce a RAMS map can be found on the Farming and Water Scotland website.

Scottish Government considers that the important aspect of the proposal is that those carrying out applications should be provided with a copy of the map.

Question 10: Do you agree with proposals for the application of slurry, and liquid digestate, by precision equipment?

There were 37 responses to Q. 10. Yes – 20. No – 17

Twenty-three respondents provided comments.

Overall those that commented, including NFU Scotland, were in support of the proposals but considered that there should be funding available to support the move.

Some respondents considered that existing application methods, such as splash plates, are still an acceptable method of application.

SG comment - More precise applications of slurry and digestate has been identified internationally as the way forward in protecting water quality and reduce climate change contributing emissions.

Question 11: Do you agree with the proposed amendments, on measurements of channel width, to General Binding Rules 5, 6, 8, and 14?

There were 32 responses to Q. 11 Yes – 16 No – 16

Twelve respondents provided comments.

One respondent considered that this could potentially impact on the spawning grounds of freshwater pearl mussels. Other responses were generally supportive.

SG Comment -There are no changes to the conditions protecting freshwater pearl mussels and, where applicable, measures within other rules, such as GBR 9, will continue to give additional protection.

Question 12: Do you agree with the proposed amendments, on operating machinery in a watercourse, to General Binding Rule 9?

There were 31 responses to Q. 12 Yes – 13 No – 18

Thirteen respondents provided comments.

SG comment - There appeared to be some misunderstanding over what the proposal applied to. The proposed amendment only applies to static plant.

Question 13: Do you agree with the proposed amendments, on control of surface water drainage, to General Binding Rule 10?

There were 31 responses to Q. 13 Yes – 16 No – 15

Seven respondents provided comments.

One respondent sought clarification on how proposals might affect their business compared to existing rules.

SG comment - There are no proposed changes to the points raised but Scottish Government/SEPA will work with respondent to fully clarify the proposals.

Question 14: Do you agree with the proposed amendments, on discharge of abstracted groundwater back to groundwater, to General Binding Rule 15?

There were 29 responses to Q. 14 Yes – 14 No – 15

Eight respondents provided comments.

SG comment - The comments were not substantive and were supportive of the proposed amendments.

Question 15: Do you agree with the proposed amendments, on construction of waterbound roads, to General Binding Rule 22?

There were 29 responses to Q. 15 Yes – 15 No – 14

Seven respondents provided comments.

SG comment - The comments were not substantive and were supportive of the proposed amendments.

Question 16: Do you agree with the proposed amendments, on placement of trees to prevent bank erosion, to General Binding Rule 25?

There were 29 responses to Q. 16 Yes – 20 No – 9

Eight respondents provided comments.

SG comment - The comments were not substantive and were supportive of the proposed amendments.

Question 17: Do you agree with the proposed amendments, on oil storage provisions, to General Binding Rules 27 and 28?

There were 28 responses to Q. 16 Yes – 14 No – 14

Seven respondents provided comments.

SG comment - The comments were not substantive and were supportive of the proposed amendments.

3. The Scottish Government response.

Scottish Government appreciated the responses to the consultation and the constructive comments. Following analysis of the responses Scottish Government has taken into account points raised and the potential cost implications for some in the farming sector.

Based on the analysis Scottish Government proposes that:

3.1 Silage storage

- The proposals on storage of silage in bales and bulk bags will be taken forward as drafted.

3.1.1 Pre 1991 stores

- In a change to the consultation proposals the exemption for pre-1991 stores will be removed but these stores will not be required to meet certain rules including the British Standards within the rules.
- Pre-1991 stores will be required to meet a basic set of standards which will ensure their integrity in being fit for purpose and protecting the environment.

- Where any pre-1991 store is enlarged, reconstructed, or remedial work carried out full compliance with all the silage storage general binding rules is required.

3.2 Slurry storage

- The requirement for 22 (cattle) or 26 (pig) weeks storage, for housed livestock, across Scotland will be taken forward.
- The requirement for 6 months storage has been in the SSAFO regulations since 1991.
- The ability to store slurry and apply when there is most nutrient benefit for crop growth is important for all farmers and can be a cost saving on expensive chemical fertilisers.
- We consider that it unfair that only those with storage constructed after 1991 be required to meet the minimum storage capacity requirement.

3.2.1 Pre-1991 storage

- In a change to the consultation proposals the exemption for pre-1991 stores will be removed but these stores will not be required to meet certain rules including the required British Standards.
- Pre-1991 stores will be required to meet a basic set of standards which will ensure their integrity in being fit for purpose and protecting the environment.
- Where any pre-1991 store is enlarged, reconstructed, or remedial work carried out full compliance with the slurry storage general binding rules is required.

3.3 Liquid digestate

- The provisions for the storage of liquid digestate will be taken forward as drafted.
- This is in line with storage of slurry as there are similar characteristics.

3.4 Notification of new silage, slurry, and liquid digestate structures.

- The requirement to notify SEPA before construction will be taken forward.
- This will help identify any issues before becoming operational.

3.5 Risk Assessment for Manures and Slurries map

- The requirement to produce RAMS maps will be taken forward

- RAMS maps have been used by many farmers for a number of years and recognised as a helpful tool.
- The requirement for all farmers to prepare RAMS map will help focus the general provisions of water environment protection.

3.6 The use of precision spreading equipment for slurry and digestate.

- The requirement to spread slurries and digestate will be taken forward.
- A phased move to low emission precision spreading equipment will provide further protection of the water environment from agricultural activities along with supporting Scotland's air quality and climate change targets.

4. Summary

The key concern raised by respondents was the perceived cost to bring the currently exempt silage and slurry structures to compliance with the SSAFO standards. We can also deduce from responses that some post-1991 structures may not be fully compliant with existing legislation.

NFU Scotland recognised the need for farmers to improve their current practices but highlighted that applying a British Standard requirement to the upgrading of old slurry stores would bring unacceptably high costs.

Scottish Government accepts these concerns and now proposes that these older stores meet a basic set of standards which will ensure their integrity in being fit for purpose and thereby protecting the environment. This will be in lieu of meeting the full set of standards which have been in place since 1991 for all structures built post 1991.

In order to give businesses time to adapt transition periods will apply, with up to 4 years, to achieve compliance, allowed for those with older infrastructure.

Although a large number of the proposals consulted on were already in legislation we consider that Scottish Government has fulfilled the principles of consultation and has taken into consideration responses.

The measures taken forward are consistent with Scottish Government's holistic approach to protection of the water environment and in addition will provide benefits to air quality and climate change targets.

Scottish Government Environmental Quality Unit



Scottish Government
Riaghaltas na h-Alba
gov.scot

© Crown copyright 2021

OGL

This publication is licensed under the terms of the Open Government Licence v3.0 except where otherwise stated. To view this licence, visit nationalarchives.gov.uk/doc/open-government-licence/version/3 or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or email: psi@nationalarchives.gsi.gov.uk.

Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

This publication is available at www.gov.scot

Any enquiries regarding this publication should be sent to us at

The Scottish Government
St Andrew's House
Edinburgh
EH1 3DG

ISBN: 978-1-80201-588-1 (web only)

Published by The Scottish Government, November 2021

Produced for The Scottish Government by APS Group Scotland, 21 Tennant Street, Edinburgh EH6 5NA
PPDAS967446 (11/21)

W W W . g o v . s c o t