North Sea Transition Authority

Guidance on retention, reporting and disclosure of carbon storage information and samples

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Contents

Scope and purpose of this guidance

1. This document provides the North Sea Transition Authority[1] guidance on the retention, reporting and disclosure of carbon storage information and samples (information and samples) as set out in:

- The Oil and Gas Authority (Carbon Storage) (Retention of Information and Samples) Regulations 2025[2] (the 'CS retention regulations)
- Section 112 of the Energy Act 2023 (the 2023 Act) (Power of OGA to require information and samples)
- The Oil and Gas Authority (Carbon Storage and Offshore Petroleum) (Specified Periods for Disclosure of Protected Material) Regulations 2026[3] (the CS disclosure regulations)

2. This document specifies:

- what information and samples must be retained, by whom and for how long
- what specific information and samples must be reported, where (or to whom) they must be reported and the timescales for this, and
- how and when, if applicable, the NSTA may disclose the information and samples.

[1] The Oil and Gas Authority ('OGA') is now operating as the North Sea Transition Authority ('NSTA') and will be referred to as the NSTA in this document. The OGA remains the legal name of the company, and all licences and other legal documentation will continue to refer to the OGA

[2] https://www.legislation.gov.uk/uksi/2025/498/made

[3] https://www.legislation.gov.uk/ukdsi/2026/9780348276794/contents

Introduction

3. The regulations that underlie this guidance document enable the NSTA to support the energy transition by providing access to information and samples to new offshore industries. The CS retention regulations enable the safeguarding of information and samples from the point of their creation or acquisition. Once the information and samples are reported to the NSTA and disclosed in line with the CS disclosure regulations, their availability will facilitate data-sharing in the carbon storage industry, helping to stimulate collaboration and competition.

What are information and samples?

4. In this document, the terms 'information' and 'samples' mean 'carbon storage information' and 'carbon storage samples'. These terms are defined in the 2023 Act:

- 'Carbon storage information' is defined in s.107(4) as "information acquired or created by or on behalf of a licensee in the course of carrying out activities under the licensee's carbon storage licence"
- 'Carbon storage samples' are defined in s.107(5) as "samples of substances acquired by or on behalf of a licensee in the course of carrying out activities under the licensee's carbon storage licence".

5. The CS retention regulations and this guidance document set out what categories, and the information and sample types within those categories, that must be retained and reported to the NSTA. This guidance document also covers how information and samples should be retained and reported. The CS disclosure regulations and this guidance document then further specify the minimum confidentiality periods (protected period) that apply to these categories before they may be subject to disclosure.

Creation and acquisition of information and samples

6. The CS retention regulations and s.112 impose an obligation on licensees holding a CS licence (CS licensees) to retain and report specified information and samples which are either held by the CS licensees immediately before the regulations came into force, or are subsequently created or acquired by them, or on their behalf.

7. The NSTA expects the licensees to obtain all the information and samples necessary to meet all of their regulatory obligations including, but not limited to, those necessary to carry out safe and efficient operations and to properly appraise, assess, define, operate and monitor storage sites, including the associated storage complex and hydraulic unit. This also includes establishing and maintaining facilities for these operations and appropriate metering.

Retention, reporting and disclosure

8. Retention, reporting and disclosure ensure that information and samples, as a valuable resource, are preserved and available to the industry, wider stakeholders and the public. The vast majority of information and samples that a CS licensee creates or obtains under their licence is required to be retained and then reported to the NSTA at their creation or specific points within the licence lifecycle. The NSTA may disclose reported information and samples after specified periods designed to strike a balance between protecting the licensee's investment and the benefits of sharing them more widely.

Retention

9. S. 108 of the 2023 Act gave the Secretary of State the power to make regulations for the retention of information and samples. The CS retention regulations set out what information and samples must be retained, who must retain them and when the requirement to retain them ends.

10. CS licensees are required to retain the information and samples described in the CS retention regulations for the respective periods specified within those regulations. Those are the CS licensee's retention obligations.

11. The CS retention regulations require the content of the information to be retained comprehensively. This means that any data (e.g. original measurements taken) needs to be retained alongside any report that includes the data (e.g. describing, interpreting or summarising it). However, not every individual format in which that information is held needs to be retained, unless explicitly required. For example, where information is in the form of a report which falls into one of the categories described in this document, it is the final version which must be retained, not every draft. Drafts, duplicate reports or test datasets that would normally be discarded (for instance in seismic processing) are not required to be preserved, provided the information is retained (either in the latest version of the report or otherwise).

Who must retain information and samples?

12. The CS retention regulations require CS licensees to retain specified information and samples that are created or acquired by them or on their behalf.

13. The requirement to retain applies jointly and severally to all CS licensees in a licence group and it is for the licence group to decide how to meet its obligations.

14. Information and samples that were created or acquired in the same area under a different

licence, other than the active CS licence, are not required to be retained by the CS licensee. Information and sample obligations are tied to the licence, not to the area over which the licence was awarded.

Interactions with licence model clauses and provisions of a storage permit

15. The CS retention regulations apply to information and samples held by, or on behalf of, a CS licensee on the date the regulations came into force or created or acquired after that date.

16. The categories of information and samples that are required to be retained by the CS licensees under these regulations encompass those within the scope of their licence model clauses.

17. In accordance with reg. 3(3) and (4) of the CS retention regulations, the CS licensees must retain information and samples until they are reported to the NSTA:

- In accordance with a notice issued under s.112 of the 2023 Act (s.112 notice),
- In accordance with a provision in their storage permit granted pursuant to a CS licence, or
- Until that information is included in the carbon storage Public register (Public register)

18. The licence model clauses do not specify when the retention obligation ends. However, if information that is required to be retained under the terms of a licence or a storage permit is reported in accordance with a s.112 notice, the NSTA will consider the CS licensee to be relieved of its obligation to retain such information under the relevant CS licence. It should be noted that the retention obligation for the portion of samples not reported continues after the appropriate portion of a sample has been reported. Please refer to the samples section for more information on when disposal of a sample becomes possible.

Retention in relation to licence events

19. Certain licence events require the preparation and agreement of an Information and Samples Plan (ISP) by the responsible person with the NSTA. A ‘responsible person’ in relation to a licence event means the person who is or was, or the persons who are or were, the licensee in respect of the relevant licence immediately before the licence event. ISPs may provide for either the continued retention of the information and samples by the responsible person, its reporting to the NSTA in accordance with a s.112 notice, or transfer to another person. Continued retention of information or samples in accordance with an ISP may be necessary even if the relevant person ceases to be a CS licensee. In this case, retention is in accordance with the ISP and not under the CS retention regulations. Guidance on ISPs and Information and Samples Coordinators (ISCs) is available on the NSTA website.

Reporting

Who must report information and samples?

20. A s.112 notice requires the CS licensees to provide specified carbon storage information or a portion of a carbon storage sample to the NSTA. In this guidance, the provision of such information and/or samples is referred to as 'reporting'.

21. A s.112 notice will apply to all licensees in a licence group, and it is for them to decide how to meet their reporting obligations.

22. The NSTA acknowledges that the exploration operator under the licence may carry out reporting requirements on behalf of other licensees in the group during the initial/appraisal term of the CS licence. Once the CS licence has entered the operational term and a storage permit operator is appointed, it may fall on them to carry out reporting requirements on behalf of other licensees in the licence group. It will normally be acceptable for the exploration operator or the storage permit operator to fulfil reporting requirements, however, any information and samples created or acquired on behalf of a single licensee or subset of licensees (i.e. not the whole licence group) will also need to be reported if requested.

Use of section 112 notices

23. S.112 of the 2023 Act gives the NSTA the power to require the reporting of information and samples by issuing a notice in writing.

24. The NSTA may require information and samples to be reported for several reasons, for example:

- in support of its functions as a regulator
- for their long-term preservation, and/or
- for their subsequent disclosure under the CS disclosure regulations

25. A s.112 notice may be issued to cover routine reporting activities for a period specified in the notice (routine s.112 notices). This notice will state the time period for which the notice is in effect, the information and samples that are required to be reported in response to the notice, how these are to be reported and the reason why the NSTA requires their reporting (e.g. for the purpose of disclosure). A routine s.112 notice will cover, for example, the reporting of information from all wells drilled, or from all geophysical surveys carried out, or of all carbon dioxide injected or any other fluids injected or produced in that specified period. It can also cover information that is submitted to the NSTA as part of its normal regulatory activities, e.g. submissions via the Well Operations Notification System (WONS) or permit applications submitted as part of the permitting process.

26. A s.112 notice may also be issued in relation to a specific item, sample, piece of information or dataset that may not have been covered by a previous routine s.112 notice (standalone

s.112 notice) that sets out the NSTA's particular requirements for the information or sample in question to be reported.

27. All licensees or exploration operators under a CS licence (relevant persons) are required to nominate an ISC. When issuing a s.112 notice to relevant persons, the NSTA will generally send it to the relevant person and the ISC but address it for the attention of the nominated ISC.

Reporting in relation to licence events

28. In addition to reporting under a s.112 notice the NSTA may require reporting of information or samples held in accordance with an ISP. ISPs are required in relation to certain licence events, and they may provide for the reporting of the information and samples which are subject to the ISP to the NSTA in accordance with a s.112 notice.

Reporting in relation to sample disposal

29. The CS retention regulations allow CS licensees to dispose of samples subject to giving the NSTA a period of notice. The NSTA may issue a standalone s.112 notice requiring the reporting of these samples during that notice period in order to supplement or enhance the samples that are already held. Guidance on how to inform the NSTA about sample disposal is included in the samples section of this guidance.

Reporting and relief of retention obligations

30. The CS retention regulations state that the retention obligation ends when the information or samples are reported to the NSTA:

- In accordance with a s.112 notice,
- In accordance with a requirement in their storage permit, or
- Until that information is included in the Public register

31. A s.112 notice will specify the form and manner in which the information, or portion of a sample, must be provided and the time at which (or period within which) it is to be reported. Under a s.112 notice, all information and samples must be reported, in full, for the obligation to retain them to end.

Disclosure

32. S.113 of the 2023 Act provides that once the information and samples are reported to the NSTA under a s.112 notice they are considered to be 'protected material' and are prohibited from being disclosed by the NSTA or a subsequent holder except in accordance with s.114 or Schedule 7.

33. S.114 gives the Secretary of State the power to request these information and samples from

the NSTA. Schedule 7 provides a number of scenarios where disclosure by the NSTA is permitted, namely:

- To a list of specified persons (para. 1)
- For the NSTA to prepare reports required under other Acts or of a general nature (para. 2)
- As part of the publication of details of sanctions (para. 3)
- After specified periods set in regulations (para. 4)
- With consent (para. 5)
- Under an obligation imposed by other legislation (para. 6)
- For the purpose of proceedings (para. 7).

34. Made under para. 4 of Schedule 7, the CS disclosure regulations give the NSTA the power to disclose information and samples obtained under a s.112 notice after a specified period of confidentiality as set out in the regulations. These protected periods are detailed below.

Protected periods

35. The time periods during which information or samples may not be disclosed (the protected period) and the event (or 'trigger) that determines the start of that protected period, varies according to the type of information or sample. These time periods have been determined with regard to the factors set out in Schedule 7, para. 4(6) of the 2023 Act. Protected periods are the minimum length of time that information or samples are kept confidential prior to being disclosable. However, licence events such as a full or partial surrender of the subject licence can shorten the protected period.

36. Please see the table in Appendix B for a summary of protected periods.

Discretionary nature of disclosure

37. The NSTA's powers under the CS disclosure regulations are discretionary, i.e. the NSTA may disclose information, at the earliest, after the specified periods or may choose to delay disclosure or withhold the information/sample from disclosure entirely. This might be (among other things) because:

- a report, document or dataset contains information subject to longer protected periods (for example a seismic line that has been licensed from a seismic vendor),
- the NSTA agrees that the information in question is of such a subjective nature as to be potentially misleading,
- any unusual or unexpected circumstance, which might mean the disclosure of the information at the time allowed in the regulations, could work against the NSTA's goals

38. All representations made with respect to requests to delay or withhold disclosure will be considered by the NSTA's specialist teams on a case-by-case basis.

Representation before disclosure

39. CS licensees should familiarise themselves with the protected periods for different information types set out in the CS disclosure regulations and this guidance. If they wish to make representations to request to delay or withhold disclosure, CS licensees should contact the NSTA, in writing, before the relevant disclosure dates are due, setting out their reasons for the request. Note that in the case of some information types it will be appropriate for CS licensees to make representation about delayed or non-disclosure before the activity in which the information is created or acquired takes place. The NSTA will only consider withholding or delaying disclosure of information and samples in exceptional circumstances.

40. Such written representations should be made to the information and samples mailbox: ISC@nstauthority.co.uk. The applicable time period for making representations is set out in the summary table in Appendix B. The NSTA will inform the CS licensee of its decision in writing, giving reasons (if appropriate) and, where it does not agree with the representations made, before any disclosure occurs.

Regulatory compliance

41. Requirements imposed by the CS retention regulations or a s.112 notice are sanctionable in accordance with Chapter 5 of the 2023 Act. Information on the NSTA's approach to enforcement can be found on the NSTA website[5].

[5] https://www.nstauthority.co.uk/regulatory-information/regulatory-framework/investigations-enforcement/

Form and manner

42. Whilst the CS retention regulations do not set out any detailed requirements for the form and manner in which information and samples are to be retained, CS licensees should be aware of the reporting requirements set out in this guidance when considering their retention and/or storage.

43. The costs of reporting in the correct form and manner will be the responsibility of the CS licensee.

44. Information and samples must be reported to one of the following destinations, as directed by the NSTA:

- Directly to the NSTA via the Energy Portal.This is where, for example, summary well information is reported as part of the well consenting process
- To the National Data Repository (NDR). This is where the majority of information is to be reported (e.g. well logs and reports, seismic data, other licence information)
- Some categories of information (i.e. data that the NSTA requires, for reasons other than disclosure) can be reported directly to the NSTA (ISC@nstauthority.co.uk). For large volumes the NSTA may direct the use of a secure NSTA SFTP facility
- For physical samples, the CS licensee should contact the NSTA (ISC@nstauthority.co.uk) to arrange for reporting.

45. All documents and data submitted for wellbores are expected to be in machine readable digital format. Submission on physical media is not permitted, except where this has been agreed with the NSTA. Documents submitted in PDF format must contain machine readable text, rather than scanned images of text.

46. Physical samples are required to be prepared and reported in accordance with the NSTA's sample form and manner requirements (contact ISC@nstauthority.co.uk for more information).

47. The NDR support centre[6] offers comprehensive information on tagging, metadata, allowable file types and file formats, and how-to guides for data upload, including a detailed form and manner document. Reporting to the Energy Portal is supported by guidance, for example on how to navigate the well consents process and how to use the Well Operations Notification System (WONS)[7].

[6] NDR support centre: https://support.uk-ndr.co.uk/hc/en-gb

[7] https://www.nstauthority.co.uk/regulatory-information/guidance/, see guidance under Licensing and Consents/Wells: Well Consents guidance; Well Operations and Notifications System (WONS) system guidance

Well information

48. Well information includes information on equipment, material and components used (and how they are used) during the drilling, testing, completion for injection, production or monitoring, use of the well for its designated purpose, suspension, and abandonment of the well or wellbore, i.e. the entire well lifecycle. It also includes information about the position and path of the wellbore and its dimensions (such as hole and casing sizes, casing shoe depths, total depths). Where a well is repurposed, the well information created or acquired from the moment of repurposing onwards is in scope of the CS retention and disclosure regulations and this guidance.

49. In the case of strata, well information includes all information created or acquired in the various disciplines used to evaluate the geology of the strata, fluids encountered and other properties of the strata.

50. It is anticipated that much of this information will be in the form of reports created or compiled during or after drilling operations, and may contain information relating to engineering, operations and the geology of the strata.

51. For reporting and disclosure purposes, well information can be subdivided into summary well information and other well information. Summary well information is a collection of metadata attributes relating to individual wellbores, normally contained within a wellbore header and forms part of the System of Record (SoR) for the wellbore (see table 1). Other well information is well information that is not part of the summary information and commonly includes well logs, reports, and all other information and data created in connection with the well lifecycle (see table 2).

52. Carbon storage samples, including samples taken in a well, are discussed in the following section (Samples).

Retention of well information

53. CS licensees are required to retain the following well information (reg.3(b) and para 3 of the schedule to the CS retention regulations):

- the position or dimensions of a well, including the directional path of any borehole,
- the materials, equipment and components used in any of the following activities in relation to a well (each a ‘relevant activity)
  - drilling
  - any test carried out on any fluids or other substances encountered

  - any test carried out on the well
  - any work for the purpose of bringing a well into operation and which is carried out after the well has been drilled (including, for example, the installation of a casing)
  - operation
  - maintenance (including repairs)
  - suspending the operation of the well so that it may be re-used for, or in connection with, the storage of CO_2 or other works (including repurposing)
  - plugging
  - abandoning the well permanently
  - monitoring
- information that summarises a relevant activity, or
- information that relates to the strata, formations or fluids which are, or may be, encountered while undertaking a relevant activity.

54. It is the final versions of such information that are required to be retained. In the planning phase, this will be the final geological and drilling programmes and in other phases of the well lifecycle it will be the finalised information relating to the wellbore as it was drilled and will include any other future operations undertaken. All reports produced for a CS licensee by contractors engaged on any aspect of a well and its entire lifecycle must be retained, in addition to any summaries of those reports, such as those included in an end of well report.

55. Table 2 sets out a detailed list of the information that is routinely created or acquired by or on behalf of a CS licensee for a well and is what the NSTA requires to be retained.

Reporting of well information

Reporting of summary well information

56. Summary well information is generally submitted as part of the NSTA's well consenting processes, normally via the Energy Portal, specifically in WONS. Some of this information is provided in applications for consent to carry out various well operations and some is provided in the subsequent notifications that must be provided to confirm the activities that have actually been carried out on the well or wellbore. As such this information will be subject to a routine s.112 notice for the period specified in the notice.

57. Some of this information (for example NSTA wellbore number and licence number) originates with the NSTA and some of it is made available due to other regulatory processes such as in adherence to the Offshore Oil and Gas Exploration, Production, Unloading and Storage (Environmental Impact Assessment) Regulations 2020 administered by the Offshore Petroleum Regulator for the Environment and Decommissioning (OPRED).

Table 1: Summary well information

Attribute	Notes
NSTA wellbore number	Assigned by NSTA
Parent wellbore (if applicable)	The wellbore from which a sidetrack wellbore kicked off from
Wellbore alias (if applicable)	Assigned by NSTA (and normally agreed with well operator)
Responsible company (wellbore)	The company entity responsible for the wellbore.
Responsible company (reporting)	The company entity responsible for reporting wellbore data.
Wellbore intent	Exploration/appraisal/development
Carbon storage licence number at well origin	The carbon storage licence number at the surface location (origin) of the wellbore
Carbon storage licence number at TD	The carbon storage licence number at the total depth (TD) of the wellbore
Storage site name (if applicable)	The name of the associated storage site if applicable
Actual surface location	Latitude and longitude of location at surface (and relevant datum)
Actual location at total depth (TD)	Latitude and longitude of location at total depth (and relevant datum)
Wellbore TD (measured)	The total depth of the wellbore as measured by the driller along hole from the reference datum
Wellbore TD (true vertical depth subsea)	The total depth of the wellbore as measured vertically from mean sea level
Kickoff depth (MD)	The measured depth at which a sidetrack wellbore commenced
Kickoff depth (TVDSS)	The true vertical depth below sea level at which a sidetrack wellbore commenced
Water depth at well location	The water depth at the surface location of the well

Attribute	Notes
Well datum type	The datum from which the driller measures the depth i.e. drill floor, kelly bushing, rotary table
Well datum elevation	The height above sea level of the well datum
Spud date/kickoff date	The date on which the well spudded
Date TD reached	The date on which the well reached total depth
Regulatory completion date	The date on which, following reaching its target and TD, operations were finished on a wellbore. See footnote 10
Storage formation name(s)	The name of the target formation i.e. Bunter, Forties
Age of storage formation(s)	The age of the target formation i.e. Eocene, Palaeocene
Storage unit thickness	Gross thickness of storage formation target
Pressure classification	Normal/high/ultra-high as defined in WONS
Temperature classification	Normal/high/ultra-high as defined in WONS
Wellbore mechanical status	i.e. abandoned (AB1, AB2, AB3), plugged, completed operating
Flow test results	i.e. flow rates, pressures, types of fluid

Reporting of other well information

58. The NSTA requires all information created or acquired by CS licensees that is in the scope of the CS retention regulations to be reported to the NSTA via the NDR following the drilling of a wellbore and other wellbore related operations (i.e. the various logs reports and other information and data derived from drilling a wellbore or during other operations in the well lifecycle). This will all be subject to a routine s.112 notice.

59. Much of this information will be in the form of reports created or compiled before, during or after drilling, or other subsequent operations, and may contain information relating to engineering, operations and the geology of the strata. All reports produced for a licensee or licence group by the company responsible for the well and/ or contractors engaged on any aspect of a well and its entire lifecycle must be reported, in addition to any summaries of those reports such as those included in an end of well report.

60. Other well information is to be reported six months after the Regulatory Completion Date (RCD, defined below) of the wellbore as recorded in WONS. Information arising from subsequent well activity should be reported no later than six months after it was created, or six months after the activity that the information relates to was completed where multiple reportable pieces of information are generated.

61. The RCD is defined as the date a wellbore, having reached its target, (or final total measured depth) is first left in of one of the following mechanical states following drilling:

1. Completed for its designated purpose (completed – shut in, or completed – operating) – the date that perforation and setting tubing and packers is finished and the wellbore is ready to flow, or;
2. Permanently abandoned (abandoned phase 3 – AB3) – the date that the well (i.e. including all connected wellbores), on completion of operations, is left in such a condition that the open hole is plugged and sealed such that it may not be re-entered (in general this will involve the cutting and retrieval of casing strings, removal of all drilling mud and similar fluids, permanent sealing of the wellhead and removal of the well origin with no components remaining at surface) or;
3. Suspended (abandoned phase 1 – AB1, abandoned phase 2 – AB2, or plugged) – the date that the wellbore is either abandoned downhole or temporarily plugged so that it may be re-entered at a later date. If the well is suspended before the target has been reached, the NSTA will agree the appropriate RCD with the CS licensee through the consenting process.
4. In the case of a series of sidetrack wellbores drilled in succession the regulatory completion date for a parent well will be taken as the kick-off date of the subsequent sidetrack unless the NSTA is notified to the contrary.

62. Where a series of wellbores are drilled in quick succession from the same surface location they must be reported within six months of the RCD of the last wellbore before the rig permanently leaves the location.

63. Table 2 sets out which well information the NSTA requires to be reported and any particular remarks about the report or data type (the s.112 notice will specify the form and manner). All reporting of this category of well information must be carried out via online submission, into the NDR.

Table 2: Other well information

Planning and pre-drilling information

Information type	Reportable for which well lifecycle phase	Description and comments
Authority for expenditure, partner consents, etc.	Pre-drill/drill/+/-completion	A summary in the end of well report would be adequate.
Geological/ well proposals	Pre-drill/drill/+/-completion; sidetrack	Providing basic details of well location, seismic structure, basic well evaluation, mud programme and well evaluation plan. May otherwise be included in geological and/or drilling programme.
Geological programme	Pre-drill/drill/+/-completion; sidetrack	Describing the full structural geological setting, cross sections, stratigraphic column, well evaluation programme – (including coring, logging (wireline/LWD/MWD), mud logging etc.), pore pressure and temperature profiles and other information from geological models, etc. Basic details of contractors, the company responsible for the well, and equity partners may also be part of this. Alternatively, this may be included in the drilling programme.
Drilling/ operations programme	Pre-drill/drill/+/-completion; completion; workover/ intervention; sidetrack; abandonment	Describing the planned design of the well/wellbore such as drill bit diameters, casing types, shoe depths, kick-off points, deviation, plug depths etc. May be combined with the geological programme, above.
Site survey	Pre-drill/drill/+/-completion	Report on rig site conditions, shallow gas, other hazards, bathymetry for the proposed well. Information arising from 2D shallow seismic surveys must be reported as specified in the geophysics section.
Rig positioning report (for mobile unit)	Pre-drill/drill/+/-completion; workover/intervention; abandonment	Documents the physical location of the rig.

Reports and operational information

Information type	Reportable for which well lifecycle phase	Description and comments
Daily (operations) reports	Pre-drill/drill/+/- completion; workover/ Intervention; sidetrack; abandonment	May be retained as separate reports, or as included in contractor daily operations reports. Full reports must be retained in addition to any summary included in the end of well report.
Well examiner reports	Pre-drill/drill/+/- completion; completion; workover/intervention; sidetrack; abandonment	Audit report to verify that drilling and other well operations have been carried out in accordance with all plans and safety criteria.
Definitive deviation survey	Pre-drill/drill/+/- completion; sidetrack	The final, definitive deviation survey as approved by the company responsible for the well on behalf of the other licensees, including the finalised deviation survey data used as a positional reference for all the other data that requires positional referencing, and associated reports (including the deviation survey end of well report).
Casing/ cementing end of well report	Pre-drill/drill/+/- completion; sidetrack; abandonment	Details of casing and cementing operations during the drilling operations phase. Full reports must be retained in addition to any summary in the end of well report.
Mud contractor end of well report	Pre-drill/drill/+/- completion; completion; sidetrack; abandonment	Full reports must be retained in addition to any summary in the end of well report.
LWD/MWD end of well report	Pre-drill/drill/+/- completion; sidetrack	Full reports must be retained in addition to any summary in the end of well report.
Mud logging end of well report	Pre-drill/drill/+/- completion; sidetrack	Report typically includes expected prognosis, drilling dynamics data, lithology and provisional formation tops, and includes associated logs (formation evaluation, ditch gas, temperature, pressure evaluation, etc.).
Core operations report	Pre-drill/drill/+/- completion; sidetrack	Report from the coring contractor. Alternatively, may be included in the end of well report. Conventional or rotary cut core only.
Biostratigraphy, palynology, and palaeontology reports	Pre-drill/drill/+/- completion; sidetrack	Typically provided by the contractor. Includes reports on palaeontological and palynological analysis activities, interpretations and conclusions. Will include zones, species listings and range charts, and includes report from wellsite services, where available.
Geochemistry report	Pre-drill/drill/+/- completion; sidetrack	Typically provided by the contractor. Includes details of methodology, results, and interpretations.

Information type	Reportable for which well lifecycle phase	Description and comments
Conventional core analysis report and core photos	Pre-drill/drill/+/- completion; sidetrack	Typically provided by the contractor. Details of conventional core analysis activity and results. Includes lithological descriptions, porosity, permeability, saturations, matrix densities, and core photos, typically referenced using driller's depths.
Special core analysis (SCAL) report	Pre-drill/drill/+/- completion; sidetrack	Special core analysis performed on preserved samples, including relative permeability data, capillary pressure test data, any other contractor derived data and results.
Sedimentology, petrography, and petrology	Pre-drill/drill/+/- completion; sidetrack	Reports detailing rock properties determined by logging and/or facies descriptions of core.
Pressure, volume, temperature (PVT) and other fluid analysis	Pre-drill/drill/+/- completion; sidetrack	Details of measurement of phase behaviour and pressure/ volume/temperature of reservoir fluids, as typically performed on samples from wireline well testing e.g. MDT, or drill stem testing. e.g. MDT, RFT, flowing and shut- in bottom hole pressure surveys. Pressure data during injection and production operations if recorded, and including reference depth information where available (TVD, MD, etc.). Frac pressure data (via leak off tests). Characterisation of all fluids (water and hydrocarbons) within the former hydrocarbon column (if applicable) and within the aquifer. Chromatographic data if recorded.
Contractor well testing reports	Pre-drill/drill/+/- completion; sidetrack	Reports arising from drill stem tests. Gauge reports (flowing tubing wellhead pressure and temperature, shut-in tubing wellhead pressure and temperature or equivalent). Data from distributed temperature systems.
Other bespoke contractor reports (engineering, geological, geophysical, petrophysical)	Pre-drill/drill/+/- completion; completion; workover/intervention; sidetrack; abandonment	Other specialist reports provided by various contractors, e.g. rock properties (strength, compressibility, stress studies) chemostratigraphy, goniometry on cores, etc.

Logs, wireline testing and borehole seismic information

Information type	Reportable for which well lifecycle phase	Description and comments
Open hole wireline	Pre-drill/drill/+/-completion; Sidetrack	Images and digital data arising from all logs run (includes gamma ray, sonic, density and neutron logs). All logs recorded using wireline, slickline, TLC pipe conveyed, coiled tubing tool conveyance or any other tool conveyance methods.
Core data curves	Pre-drill/drill/+/-completion; Sidetrack	Including core gamma ray. Typically referenced to driller's depths, and used to adjust cores to wireline depths on the composite log.
Cased hole and tubing wireline	Pre-drill/drill/+/-completion; Workover/Intervention; Sidetrack; Abandonment	Images and digital data arising from all logs run (includes cement bond logs and perforation logs, and slickline logs).
Well test/ formation test logs	Workover/Intervention	Logs arising from formation testing tools (e.g. PLT, RFT, TDT, MDT etc.). May include details of samples collected.
Composite well logs	Pre-drill/drill/+/-completion; Sidetrack	Image log with full well header information, showing all primary wellbore measurements, including: formation tops, chronostratigraphy, lithostratigraphy, lithologies, selected log curves, DST intervals (with summary results), cored intervals (depth shifted), sidewall cores, formation tester results, casing/ liner depths, casing shoe depth, deviation data, measured two-way time (TWT) to formation tops.
Joined well logs	Pre-drill/drill/+/-completion; Sidetrack	Joined set of digital log curves spliced together over full depth range of wellbore. Typically used for correlation purposes it will be the most accurate and complete record of the main wireline and/or MWD measurements such as sonic, density, neutron and resistivity. Information on the processing of well logs, including a full audit trail, must also be reported.
Computer processed interpretations (CPI)/ petrophysical data log	Pre-drill/drill/+/-completion; Sidetrack	Spliced, environmentally corrected log curves for use in petrophysical interpretation. Will normally be specialist curves not normally included in a standard composite log. Associated audit trails should also be reported.
Borehole seismic data	Pre-drill/drill/+/-completion; Sidetrack	Includes reports and logs obtained as part of VSP profile, offset VSP, velocity survey etc. All sonic/velocity and TWT logs including calibrated sonic and density logs and any derived calculations. Synthetic seismograms. Data acquired by distributed acoustic sensing techniques for vertical seismic profiling purposes only. Where used for 4D surveillance, baseline, interim and final DAS datasets should be reported.

Information type	Reportable for which well lifecycle phase	Description and comments
LWD/MWD log data	Pre-drill/drill/+/-completion; sidetrack	Data and measurements collected while drilling.
Borehole imaging data	Pre-drill/drill/+/-completion; sidetrack	Includes dipmeter logs, borehole televiewer images, etc.
Wellsite lithology log	Pre-drill/drill/+/-completion; sidetrack	Wellsite lithology descriptions as provided by the wellsite geologist.
Wellsite core logs	Pre-drill/drill/+/-completion; sidetrack	Core descriptions as provided by the wellsite geologist.

End of well reports

Information type	Reportable for which well lifecycle phase	Description and comments
Drilling end of well report	Pre-drill/drill/+/- completion; completion; workover/intervention; sidetrack; abandonment	Also known as the drilling report, end of well report or end of job report or drilling well history. Includes summaries of all contractor activities, and is generated at the end of each well lifecycle activity. Multiple reports may exist for a single well/ wellbore. Typically includes: LWD/MWD/mud/mud logging/ casing/cementing/surveys/ etc. plus final well schematic, lessons learned, cementing, mud logging summary, QC reports, well examiner certificate, and barrier pressure test/leak off test summary. May contain a summary of daily drilling reports. Will also include all information required in a well abandonment report, essentially, the end of job/operational phase report.
Geological end of well reports	Pre-drill/drill/+/- completion; sidetrack	Includes final formation tops, stratigraphy, logging summary, coring summary, core depth shifts (driller to logger) where relevant, samples collected, fluid descriptions, perforated intervals, studies conducted, formation pressures and gradients from formation pressure logs. May contain petrophysical interpretation with audit trail. For some wells there may be a well summary report containing an executive summary of all aspects of well operations and results. This is not a substitute for detailed geological and operational reporting.
Petrophysical end of well report	Pre-drill/drill/+/- completion; sidetrack	Petrophysical interpretation with audit trail if not included as part of the geological end of well report.
Perforation and reperforation reports and logs	Pre-drill/drill/+/- completion; completion; workover/intervention; sidetrack	Report on perforating and perforated or reperforated intervals.
Well abandonment programme	Abandonment	Reports detailing plans for well abandonment/decommissioning operations (before the operations take place).
Well abandonment HSE notification	Abandonment	Notification of well abandonment/decommissioning operations to HSE.
Daily well abandonment operations reports	Abandonment	Well abandonment/decommissioning daily operations reports.

Information type	Reportable for which well lifecycle phase	Description and comments
Well abandonment/ decommissioning end of job reports	Abandonment	Reports detailing well abandonment/decommissioning operations after the operations have taken place. Includes details of pressure tests on all barriers put in place as part of the well abandonment process and details of stratigraphy for all flowing formations encountered.
Well abandonment/ decommissioning cementing reports	Abandonment	Reports detailing cementing operations as part of well abandonment/decommissioning. Includes cement evaluation, pressure tests and weight tests on casing cement and isolation plugs.
Abandonment/ decommissioning logs	Abandonment	Well logs generated in well abandonment/decommissioning operations including cement evaluation tools and casing imaging tools (e.g. pulsed eddy current).
Well schematic	Pre-drill/drill/+/- completion; completion; workover/intervention; sidetrack; abandonment	The final (or most current) well schematic for the well as included in the drilling programme (as-is and planned) and in the end of well report, as submitted to WONS. Includes details for all plugs, barriers, casing strings and shoes against MD and TVDSS where available. Final abandonment (AB3) schematic showing casing cut depths relative to the mudline.
Seabed clearance certificate	Abandonment	A seabed clearance certificate may be applicable to more than one well. Normally included in the end of well report or abandonment report.

Disclosure of well information

Disclosure of summary well information

64. The NSTA may disclose summary well information as soon as it has obtained it (reg.5(b) of the CS disclosure regulations). Disclosure will occur via the NSTA's Data and Insights pages. It is important to note that this includes summary information regarding the results of a well or wellbore.

65. If the information is obtained through a spud notification, the summary well information will be disclosed within 24 hours of the spud notification being accepted by NSTA. Where the information is assigned by the NSTA, disclosure follows 24 hours after assignment. Other summary well information submitted throughout the lifecycle of the well is disclosed 24 hours after being reported.

Disclosure of other well information

66. The NSTA may disclose other detailed well information two years after it was due to be reported to the NSTA or, if earlier, upon a determination event, which occurs in respect of the CS licence (reg.7 of the CS disclosure regulations).

67. A 'determination event' is defined to mean (as per reg.4(2) of the CS disclosure regulations):

a) a surrender of rights in relation to part or all of the licensed area by all licensees,

b) the expiry of a CS licence,

c) the termination of a CS licence,

d) the revocation of a CS licence in respect to all of the licensees, or

e) revocation of the storage permit.

68. Disclosure will occur by making the information publicly available in the NDR. In practice, so that information created or acquired during the drilling and construction phase of the well can be disclosed together in a coherent package (rather than at separate times), the NSTA may disclose information on a date which may be later than the earliest possible date for a particular item.

Samples

69. Carbon storage samples i.e. samples of strata or fluids acquired during well operations include the following:

- core samples
- core plugs
- drill cuttings
- sidewall cores
- thin sections
- polished sections
- grain mounts
- preparations for specialised disciplines (e.g. micro-palaeontology, heavy minerals analysis)
- samples prepared for targeted analysis (e.g. SEM, XRD)
- formation water or other fluid samples

Retention of samples

70. R. 4 of the CS retention regulations sets out retention obligations for carbon storage samples of the strata and of fluids acquired during the drilling of a wellbore or during other operations carried out on the well, which includes any coring or well testing taking place, subject to the limits below:

- a minimum of 1 litre of fluid samples is required to be retained
- a minimum of 100g per sample (where sufficient could be collected) of drill cuttings are required to be retained

71. Physical samples (conventional cores, drill cuttings, sidewall cores, thin sections and grain mounts) must be retained until the later of

- 10 years after the RCD for the wellbore; or
- the last day of the post-closure period for the licence under which the well was drilled

72. Table 3 provides a list of samples that are in scope of the CS retention and disclosure regulations and this guidance. All samples must be clearly labelled with all information that is needed to identify which wellbore the sample was taken from, at which depth and when. It is advisable to retain samples according to the NSTA's form and manner requirements regarding climate controls, boxing specifications and metadata (contact ISC@nstauthority.co.uk for more information).

73. Disposal of physical samples may be possible after a minimum retention period of 10 years after RCD, should the last day of the post-closure period be later than the last day of this 10-year-period. Any disposal of physical samples requires a disposal notice which must be sent to the NSTA at least six months before the intended disposal.

74. There is no minimum retention period for fluid samples, however, a disposal notice must be sent to the NSTA six months before disposal for formation water samples and other sampled liquids. A disposal notice for gas samples must be sent five days before disposal.

75. A common condition for agreement to disposal is that all reports associated with the samples that are requested to be disposed of have been reported to the NSTA.

Reporting of samples

76. Reporting of carbon storage samples will be required six months after they were created, either in response to a routine or a standalone s.112 notice requesting particular samples from a particular wellbore. Such samples may also be required to be reported in relation to an agreed ISP or in response to a request for disposal of the samples in question.

77. Routinely reported samples are generally likely to be :

- Conventional core as slabbed core: full longitudinal section (½ of diameter)
- Washed and dried drill cuttings: no more than100g of washed and dried samples

78. If reporting of a ½ diameter section is not deemed practical or possible for any reason, the CS licensee should contact the NSTA to discuss how the reporting requirement can be fulfilled. Other samples may be required to be reported through a standalone s.112 notice or as set out in an ISP. Note that at the present time, fluid and formation water samples will only be requested exceptionally, by issuing a standalone s.112 reporting notice.

79. Reported samples must follow the NSTA's form and manner requirements regarding boxing specifications and metadata. All costs of packaging and delivery are to be met by the CS licensee(s) and the NSTA shall not have any responsibility for such costs.

Table 3: Samples

Conventional cores

Description	Comments
Slabbed core	Core cut lengthwise into flat slabs to expose internal features for detailed geological and petrophysical analysis. Thickness of the slab depends on the original core diameter
Resinated core	Thin resinated slab to facilitate core description.
Core plugs	Generally 1-2” long, 1” diameter plugs taken for storage formation quality assessment (horizontal and vertical), though larger plugs may also be acquired.
Plug trims	Trimmed sections used for petrography, biostratigraphy etc.
SCAL/preserved samples (full core diameter)	Preserved (commonly waxed) full core samples, flasked in brine or oil based mud, etc.

Drill cuttings

Description	Comments
Washed and dried	Washed and dried small fragments of rock generated by the drill bit during wellbore construction, transported to the surface by drilling fluid for lithological analysis and operational monitoring.
Unwashed samples	Bagged unwashed drill cuttings samples.
Geochemical samples	Tinned unwashed cuttings, with bactericide added, and stored inverted.

Sidewall cores

Description	Comments
Sidewall cores (percussive)	Cores taken from side of borehole normally by explosive wireline tool.
Sidewall cores (rotary)	Cores taken from side of borehole normally by rotary drilled, wireline tool (can be used for poroperm analysis).

Thin sections and grain mounts

Description	Comments
Micropalaeontology and palynological preparations	Thin sections and other preparations (grain mounts, loose grain samples) used for micropalaeontological or palynological analysis
Thin sections	Petrographic thin sections usually resin impregnated and (partially) stained to aid porosity and mineralogy evaluation.
Polished sections	Petrographic polished sections typically used for cathodoluminescence, fluorescence or SEM backscatter analysis.
Grain mounts	Resin mounted grains for used for further analysis of, for example, mineralogy, texture, and diagenetic features of rocks to assess provenance and reservoir quality.
Samples prepared for specialised analysis	Samples prepared specially for analysis methods such as SEM or XRD, may be prepared from core plug trims or drill cuttings

Fluid samples (DST/MDT etc.)

Description	Comments
Formation water samples	Fluids collected from the storage formation during drilling, testing, or injection/production to analyse, for example, salinity or chemical composition
Other fluid samples	Samples of other fluids collected within the wellbore

Disclosure of samples

80. The NSTA may disclose samples two years after they were due to be reported or, if earlier, the date on which a determination event in relation to the relevant licence occurs (reg.16 of the CS disclosure regulations). The NSTA's intention is that well samples will be available for inspection at the same time as logs and reports relating to formation evaluation written following the drilling phase or other relevant operation in relation to the same well are disclosed.

Survey information

81. Survey information is acquired in many ways throughout the licence lifecycle. The following information is considered in scope for this guidance document and the underlying regulations:

- Seismic data (2D, 3D, 4D /time-lapse), both newly acquired or reprocessed, using both streamer (towed source and receiver array) or ocean bottom (where the receiver is placed on the sea floor) techniques, collected as part of a site survey, for exploration or development, or for any other purpose
- Other data that records the physical, gravitational, magnetic and electrical properties of the Earth's surface and subsurface (often referred to as potential field data), data on the seismicity of the area and data on the shape and make-up of the seabed, including high-resolution geophysical surveys of the seabed and the shallow subsurface. This includes:
  - gravity data
  - magnetic data
  - induced polarisation data
  - gravity gradiometry data
  - electromagnetic data
  - bathymetry data
  - natural and induced seismicity data
- Site survey data
  - all multi-channel high resolution seismic
  - single channel seismic (i.e. chirper, pinger, boomer energy source)
  - magnetometer
  - sidescan sonar
  - single/multi beam echo sounder

Retention of survey information

82. Survey information that is required to be retained as per reg.3(a) and para.2 of the schedule to the CS retention regulations includes:

- All geophysical data, whether acquired with passive sensors or with active physical methods using an artificial source and sensor or receiver. All site survey data, including multi-channel high resolution seismic and all site survey reports (whether for a well, installation or any other kind of site investigation conducted by a CS licensee).
- All information relating to the position of energy sources, and sensors during acquisition, data derived from processing of relevant data (where it is used to create an end result) and any reports relating to acquisition, processing and reprocessing. This means that the raw data, navigation data, processed data and reprocessed data (and any associated reports of the data), where available, which arise from remote sensing techniques, including geophysical surveys should be retained, including the following:
  - the raw data acquired using the methods described above, including both the results obtained at the sensors (which may also include any group formed or final field produced data) and the associated navigational information describing the position of the sources and sensors at the times the measurements are taken;
  - reports associated with the acquisition and processing (or reprocessing) of the raw data, as specified in the following tables
  - datasets generated during processing (or reprocessing) of the raw data that are subsequently output as final products
  - the version(s) of any datasets derived during processing of the raw data that are subsequently used in the creation of the final processed stack and migration data (i.e. not including any test or interim datasets that are not eventually used in the creation of the final processed data)
  - final processed stack and migration data

Reporting of survey information

83. Survey information may be reported under a routine s.112 notice (covering activity for a specific time period) or a standalone s.112 notice either for specific information or in relation to an agreed ISP.

84. All survey information, apart from the summary information, should be reported to the NDR.

Reporting of summary information about surveys

85. The NSTA will require summary information about all surveys created or acquired by or on behalf of a CS licensee to be routinely reported.

86. Until further notice, the NSTA will gather most of this information from the NSTA Seismic Survey Acquisition Close Out Report[8] available from the NSTA website or on request from ISC@nstauthority.co.uk. This must be submitted to the NSTA no later than three months after acquisition is complete.

87. Table 4 lists summary information that is required for surveys.

Table 4: Summary survey information

Attribute	Notes
Survey identifier	Please see the survey and line naming standard section in the seismic survey close out guidance
Survey alias	Add if relevant
Description	Short description of survey i.e.: 3D over closure X under licence CS123
Responsible company group name	Name of company group that is currently responsible (retention and reporting) for the survey
Reporting responsible company	Name of company that is currently responsible (retention / reporting) for the survey
Survey type	Type of seismic project being recorded, can be seismic or site
Seismic type	2D/3D/4D/OBS/OBN/BATHY
Licence terms	The licence terms on which the survey was acquired i.e.: exploration, carbon storage licence
Sat reference	Reference from PETS beginning SA/
Start date	First date of acquisition
End date	Last date of acquisition
Acquisition contractor	Company name of the acquisition contractor
Original CRS code	The EPSG coordinate system number, used to interpret Latitude and Longitude (Easting/Northing)
Original CRS name	The EPSG coordinate system name, used to interpret Latitude and Longitude (Easting/Northing)

[8] https://www.nstauthority.co.uk/media/n4upitpy/seismic-survey-close-out-guidance.pdf

Attribute	Notes
Proposed end of processing date	Date that, to best of your knowledge, final processing will be completed.
Actual end of processing date	To be added once processing is completed. It is expected this attribute will be updated at a date later than the original close out.
Storage site	Name of (proposed) storage site(s) if survey is specific to a single or multiple storage site(s).
Statutory licence	"The licence that the survey was acquired pursuant to. (e.g. through licence commitment). In the event that there is a change of control, or transfer of rights, the seismic survey is connected to the statutory licence listed here. Where survey owners believe there is more than one statutory licence, then they should contact the NSTA at: ISC@nstauthority.co.uk"
Other licence	Where survey was acquired for coverage or permitting reasons - can be more than one
Cross border	Does this survey cross a median line?
Energy source type	The type of energy source e.g. Air Gun, Aquapulse, Gas Gun, Seis Probe, Sleeve Exploder, Sleeve Gun, Water Gun
Type of receiver	OBN, OBC, Towed Streamer
Survey offset (km)	The distance between source and receiver.
Full fold area 3D (km^2)	The full fold area of 3D survey in km^2
Original baseline acquisition 3D or 4D survey identifier (if applicable)	For a survey that is part of a repeat survey succession, what is the baseline 3D/4D survey identifier?
Original company group name	Company name of the original survey operator/owner if known. For submission of legacy surveys.
Original company entity name	If known
Original company number	Legal entity number if known
Comments	Any free text comments.

Reporting of other survey information (including baseline surveys)

88. The NSTA's requirement for reporting of data volumes for survey information is that all volumes and all associated reports (as set out in table 5) should be reported on a routine basis. Field data, pre-stack data and subsurface parameter data (velocity, anisotropy, attenuation,

etc.) are due to be reported six months after the survey was acquired. Post-stack data, reprocessed data, positional data and reports are due to be reported no later than six months after the end of acquisition or one month after (re-)processing is complete, whichever is the later. Gravity data, marine or aerial magnetic data, and data from other surveys is also due to be reported no later than six months after the end of acquisition or one month after processing is complete, whichever is the later.

89. Digital, high resolution, multi-channel seismic acquired as part of a site survey are also included and should be reported on the same routine basis as other geophysical surveys. Information from other site survey activities, such as single channel sub-bottom profiling (i.e. using chirper, pinger or boomer energy sources) or sidescan sonar should only be reported in response to a standalone s.112 request.

90. Site survey reports, if related to the drilling of a well, should be routinely reported as set out in table 2 in the well information section. Other site survey reports should be reported if requested under a standalone s.112 request.

91. This information includes all surveys and all information using surveys as an input (e.g. reprocessed data) that are acquired in pursuit of activities carried out under a CS licence, whether or not an additional licence or certificate has been in effect during their acquisition.

Table 5: Survey information acquired in pursuit of activities under a CS licence

Field data

Type	Remarks
Recorded trace data	Including auxiliary channels and source signature, where available
Raw navigation data	Original records of positional information that includes shotpoint and can include receiver positions
Source-receiver navigation data	Original records of positional information that includes shotpoint and receiver positions
Group formed or final field produced	Where partial processing has occurred during acquisition. Including de-ghosted data
Nav-seis merge data	Source/receiver navigation data assigned to CMP positions

Pre-stack data

Type	Remarks
Pre-stack time migrated data	Raw and final PSTM gathers
Pre-stack depth migrated data	Raw and final PSDM gathers

Subsurface parameter data (velocity, anisotropy, attenuation, etc.)

Type	Remarks
Stacking, migration, anisotropy and water column Velocities	Velocity data used in processing
Time to depth velocity datasets	Datasets used to convert seismic travel times into geological depths
Seismic attenuation	Seismic attenuation data

Post-stack data

Type	Remarks
Final migrated stack	**The final migrated stack after full pre-stack (re-) processing**
Final migrated stack after full pre-stack and post stack processing	Includes angle and offset stacks
All other post stack depth migrated volumes	If created as part of a PSDM project
Post stack time migrated volumes	Includes post stack time migrated volumes if created

Positional data

Type	Remarks
Raw navigation	Includes raw navigation, source-receiver navigation
Processed navigation and bathymetric/ topographic data	Includes processed navigation, bathymetry data, and 3D survey bin grids
Projected and geographic coordinate reference systems for processed data	Co-ordinate reference system (CRS)
Final processed navigation data	Final processed navigation data

Reports

Type	Remarks
Acquisition, including QC reports and sources/receivers/ navigation details	Reports detailing the acquisition and quality checking of seismic surveys, including weekly reports and the final deliverables or outputs from surveys. These include shot point base maps and maps showing the full fold of coverage
Field tape listings	Digital distribution of field data is preferred but where tapes are used, listings of the field tapes need to be provided
Observers logs	Report detailing observations recorded during survey acquisition
Source logs	Report detailing source parameters and operational details.
Processing reports	Information on (re-) processing system and sequence, final products, input data etc.
Navigation reports	Report detailing the precise location and positioning data from a seismic survey, including the paths of source and receiver points
Navigation QC reports	Report that assesses the accuracy and quality of the positional data from a seismic survey
Source signature	Information detailing the waveform and characteristics of the energy source used

Gravity data

Type	Remarks
Digital raw data	Acquisition, processing and interpretation. Including information on land gravity tie points, information on reference systems and normal gravity formulas used. Information on geoid models used, if sea- level heights are derived from GPS. Information on bathymetry used if Bouguer anomalies are computed
Reports	Reports on acquisition, processing and interpretation
Processed line and grid data	Data should include latitude, longitude (WGS84), free-air anomaly, gravity (if available), height above sea-level and/or height above ellipsoid, and Bouguer anomaly (if computed)
Free-air gravity anomaly maps	Free-air gravity anomaly maps
Maps	Other gravity survey maps

Marine or aerial magnetic data

Type	Remarks
Acquisition, processing and interpretation reports	Reports detailing the acquisition, processing and interpretation of magnetic data.
Digital raw data	The initial, unprocessed magnetic field measurement data collected during a survey.
Processed line and grid data	Data should include latitude, longitude (WGS84).
Residual magnetic intensity map	Residual magnetic intensity maps
Maps	Other magnetic survey maps

Disclosure of survey information

92. Summary information about surveys may be disclosed as soon as it is obtained by the NSTA (reg.5 and para.1 of the CS disclosure regulations).

93. The NSTA may disclose other information relating to surveys acquired under a CS licence or in pursuit of activities carried out under a CS licence five years after acquisition is complete or upon a determination event in respect of the CS licence, whichever is the earlier (reg.6 of the CS disclosure regulations). This includes reprocessed survey information. Note that where the area of a survey is only partially on a determined licence area (and the remainder is on an area still under an extant licence) the NSTA will normally wait until the remaining area(s) is/are determined before disclosing the survey information.

Disclosure of reprocessed data

94. The NSTA does not currently intend to disclose reprocessed data if it includes data sourced from surveys acquired under an exploration licence unless the data was acquired under an exploration licence in pursuit of activities carried out under a CS licence.

Disclosure of monitoring survey information

95. The NSTA may disclose survey information (including reprocessing) acquired for the purpose of monitoring the CO_2 plume and surrounding area two years after acquisition is complete or upon a determination event, whichever is the earlier (reg.6 of the CS disclosure regulations).

Injection and production information

96. Injection and production information includes a variety of information gathered during injection of carbon dioxide into the subsurface. This information is derived from injection facilities, individual wellbores (either individually metered or allocated) and sometimes individual areas or compartments within the storage site. The information in scope of this guidance and the underlying regulations includes:

- injection rates of CO_2 or any other components or fluids in the injection stream
- rates of any other injected or produced fluid
- the quantity, composition or characteristics of the CO_2 stream or any other fluid or substance that is injected into, or produced from a storage site
- quantities and composition of any other fluids which are released from a storage site which is flared, vented or used in or during operation of the site
- temperature and pressure measurements from down hole gauges (including the depth of those gauges), and at the well head
- the number of hours in the measurement (i.e. how many hours of well activity within a 24-hour period)
- period that the wellbore was open to flow (injection or production)

97. The term 'any other fluids' includes all fluids, for example, water and N_2.

98. While the CS retention and disclosure regulations do not require information to be created or acquired, the storage permit places an obligation on the permit holder to collect information on the quantities and properties of the CO_2 streams that have been delivered to, and injected in, the storage site.

Retention of injection and production information

99. Injection and production information must be retained by reference to the corresponding injection facilities, such as the wellbore (and where such information is acquired, by individual storage site area or compartment) in relation to each period of 24 hours or more (reg.3(d) and para.5 of the schedule to the CS retention regulations).

100. Information collected on a more frequent basis (e.g. hourly or real time) is not required to be retained. If injection or production occurred for less than 24 hours within a 24-hour period, this information still needs to be retained, along with information on how many hours the activity lasted.

Reporting of injection and production information

101. Injection and production information (data) is required to be routinely reported to the NSTA on a monthly basis. The data should comply with the minimum frequency required to be retained (24 hours) per individual wellbore. This applies to all storage sites for as long as injection or production is ongoing until the date on which the storage site is closed or the date on which a determination event occurs, whichever is the earlier. The NSTA will provide more information on where to and how injection and production information should be reported in due course.

102. Table 6 sets out what detailed injection and production information would normally be reported if routinely acquired for a particular well bore.

Table 6: Routine reporting of detailed injection data

Attribute	Notes
Injection/production date	Date on which the information was acquired
Wellbore identifier	NSTA assigned wellbore identifier
Wellbore name or alias	Internal name or alias used by the storage site operator
Wellbore type	Wellbore type i.e. if wellbore is injector/producer
Change of use date	If use has changed over time
Storage site name	NSTA-approved name of storage site
Facility name	Name of the injecting or producing facility offshore
Measurement basis	i.e. allocated or based on separator data
Hours of activity	Hours on injection/production in a 24-hour period, i.e. if a well was active for less than 24 hours within a 24-hour period, the amount of time that the well was active must be provided
Average downhole temperature	"Average measurements, if available, should preferably be calculated over the period the well had potential to flow, although averages over the full 24-hour period will also be accepted. Includes shut-in and flowing measurements from permanent gauges at surface, subsea, and downhole, where available."
Average downhole pressure	As above; includes shut-in and flowing measurements from permanent gauges at surface, subsea, and downhole, where available.
Average annulus pressure	As above
Average wellhead temperature	As above
Average wellhead pressure	As above

Attribute	Notes
Average choke size	Measurement must be consistent across all wells and for the whole life cycle for the wellbore, i.e. a mix of % and imperial/ metric for a wellbore is not acceptable nor is providing some wellbores in % and some in imperial/metric
Injected CO_2 quantity	Provided in kt (thousand tonnes)
Injected CO_2 density	Provided in kg/m^3
Injected CO_2 stream composition	Should include details on the percentage of CO_2, water and any other impurities in the CO_2 stream
Produced types of fluids or other substances	e.g. water/brine produced from the storage site
Produced volumes of fluids or other substances	reported in standard m^3
Injected volumes of fluids or other substances	reported in standard m^3
Injected produced water volume	reported in standard m^3

Disclosure of injection and production information

103. The NSTA may disclose injection and production information from individual wellbores, consolidated by month (consolidated injection information), as early as 2 calendar months after the last day of the month to which the information relates (reg.8 of the CS disclosure regulations).

104. Under regulation 9 of the CS disclosure regulations the NSTA may disclose injection information from individual wellbores in relation to each period of 24 hours or more (detailed injection information) after the date on which the storage site is closed, or, if earlier, after the date on which a determination event occurs.

Storage resources information

105. Storage resources information provides estimates of the quantity of CO_2 that has been stored or could be stored in a storage site or a part of the storage site. It also includes:

- a description of the part of the storage site to which the estimate relates
- information about the storage site which has been acquired or created in the course of making an estimate
- where the estimate results from an activity which is permitted by the relevant CS licence, a description of the activity

106. These estimates are typically expressed as a range of quantities or probabilities associated with a quantity and are often based on subsurface modelling. The NSTA aligns to the CO_2 storage resources management system (SRMS[9]) definitions of storage resources.

Retention of storage resources information

107. All storage resources information as described above is required to be retained (reg.3(d) and para.5(1)(a) of the schedule to the CS retention regulations). There may be many versions and updates of these estimates throughout the life of a licence, however, the NSTA only requires the retention of the most recent estimate of storage resources information.

Reporting of storage resources information

108. Storage resources information that is reported with the intention to disclose it will be required to be reported to the NSTA via a standalone s.112 notice. In addition, the NSTA runs an annual stewardship survey in which it requests the reporting of storage resources information.

Disclosure of storage resources information

109. Regulation 10 enables the NSTA to disclose storage resources information on the date on which the storage site is closed or the date upon which a determination event occurs in respect of the CS licence, whichever is the earlier.

9

Computerised model information

110. Computerised model information is information which relates to the creation of a CO_2 storage model which provides a spatial representation of the distribution of the sediment, rock and wells in the storage complex and simulates the flow of fluids in the storage complex.

111. Computerised models of the subsurface strata and fluids may be created to gain an understanding of the make-up and behaviour of the storage site. The models can either be geological models (including geomechanical models), which are a computerised static spatial representation of the distribution of sediments and rocks in the subsurface; or storage formation simulation models, which are computerised models that simulate the flow of fluids in the storage formation and potential flow units in the overburden. Computerised models may also include coupled models, which model fluid behaviour across injection infrastructure, such as pipelines and wells, and the subsurface.

Retention of computerised model information

112. The NSTA requires the retention of computerised models (reg.3(d) and para.5(1)(i) of the schedule to the CS retention regulations). There may be many versions and updates of these models throughout the lifecycle of a licence (or storage complex within which the licence is located), however only the most recent version must be retained. Throughout the licence lifecycle, computerised models may serve specific purposes, such as the definition of the storage site or a prediction of the distribution of the CO_2 plume prior to injection.

113. Documentation showing how these models have been created, including all input data and software versions used must also be retained.

Reporting of computerised model information

114. This information will be required to be reported to the NSTA via a standalone s.112 notice. A standalone s.112 notice may be issued at any point within the licence lifecycle.

Disclosure of computerised model information

115. The NSTA may disclose computerised model information two years after it was due to be reported or on the date on which a determination event occurs, whichever is the earlier (reg.11 of the CS disclosure regulations). Therefore, unless a determination event occurs, the timing for disclosure depends on when a standalone s.112 notice requires the reporting of this information.

Geotechnical information in a storage permit application

116. Storage permit applications contain geotechnical information about the structure and geology of the storage site, the physical properties and petrophysics of the storage formation rocks and fluids, and information on how the storage site is to be developed in terms of injection profiles, monitoring, planned drilling, injection facilities, plans for decommissioning and well abandonment. This information provides insights and valuable interpretation information into the individual storage site, the storage complex, the hydraulic unit and the UKCS storage resource as a whole.

Retention and reporting of geotechnical information in a storage permit application

117. Since the storage permit application document is submitted to the NSTA as part of its storage permit awards process there is no retention obligation placed on the CS licensee after submission. Reporting of a storage permit application is achieved through the NSTA's permit awards process which is encompassed in the scope of the routine s.112 notice.

Disclosure of geotechnical information in a storage permit application

118. The NSTA may disclose information in a storage permit application as described above at the earlier of five years after first injection into the storage site or on the date that a determination event occurs in respect of the CS licence (reg.12 of the CS disclosure regulations).

119. The NSTA recognises that storage permit applications may contain commercially sensitive information and will discuss any redactions with the CS licensee prior to disclosure. To note, the CS disclosure regulations cover information in final applications, not initial submissions or drafts.

Storage formation and site information

120. Summary storage site information includes high-level information on the relevant CS licence, information on the subsurface properties and configuration of the storage site and storage complex and information on the CO_2 injected, among other things. Table 7 provides more information on summary storage site information.

121. Storage formation information includes the latest or final copy of any report from a study into the subsurface on topics such as the geology of the strata, the structure of the storage formation, the geomechanics of the store and surrounding area, the chemistry of the formation water and how it reacts to the injected CO_2 stream, how the CO_2 may behave in the storage formation, how CO_2 may migrate from the injection point(s), or well integrity assessments. This includes studies that draw on varied information sources and are then synthesised into one study or report and spans studies on the storage site, the storage complex and the hydraulic unit.

122. The NSTA considers this to be any report not related to an individual well or survey, containing for example geological, biostratigraphical, petrophysical, geophysical, geochemical and geotechnical information about the formations and fluids in the storage site, storage complex or hydraulic unit, including any analysis and/or interpretation of such information.

Table 7: Summary storage site information

Attribute	Notes
Storage site name	NSTA-approved storage site name
Status	Pre-injection, injection, post-closure
Current CS licence	Licence that the storage site is currently under
Past CS licence(s)	Licence(s) that the storage site was under in the past
Permit status	Whether the storage site is currently covered by a storage permit
CO_2 phase	The injection phase of the CO_2 (e.g. dense phase, gaseous, etc.)
Site definition – store type	Description of the trapping mechanism for the storage site (e.g. structural closure, fault seal, lithology/porosity pinch out, migration assisted storage)
Site definition – storage unit(s) stratigraphy	The age and lithostratigraphical classification of the permeable unit(s) that will contain the injected CO_2
Site definition – storage unit(s) lithology	The rock type of the permeable unit(s) that will contain the injected CO_2

Attribute	Notes
Complex definition – primary storage unit(s) stratigraphy	The age and lithostratigraphical classification of the permeable unit(s) that will contain the injected CO_2 as per the storage site definition
Complex definition – primary storage unit(s) lithology	The rock type of the permeable unit(s) that will contain the injected CO_2 as per the storage site definition
Complex definition - primary seal stratigraphy	The age and lithostratigraphical classification of the units directly overlying and adjacent to the storage unit that are sufficiently impermeable so as to prevent the escape of injected CO_2.
Complex definition – primary seal lithology	The rock type of the units directly overlying and adjacent to the storage unit that are sufficiently impermeable so as to prevent the escape of injected CO_2.
CS licence term or period	Whether the CS licence is in the initial or appraisal term, the operational term, the post-closure period
Date of first injection	The date on which CO_2 was first injected into a storage site
Date of last injection	The last date on which CO_2 was injected into a storage site
Closure date	The date on which a storage site is closed

Retention of storage formation and site information

123. The NSTA requires CS licensees to retain all storage formation and site information as described above and set out in table 7 (as per reg.3(c) and para.4 of the schedule to the CS retention regulations).

Reporting of storage formation and site information

124. Storage formation information will be required to be reported to the NSTA when requested through a standalone s.112 notice while the summary storage site information will be subject to a routine s.112 notice. Note that summary storage site information is provided as part of the storage permit application process which is encompassed in the scope of the routine s.112 notice.

Disclosure of storage formation and site information

125. The NSTA may disclose the summary storage site information as soon as it has been obtained by it (reg.5 of the CS disclosure regulations) and the detailed storage site and storage formation information on the date on which the storage site under the relevant CS licence is closed, or the date on which a determination event occurs in respect of the relevant CS licence, whichever is the earlier (reg.13 of the CS disclosure regulations).

Installation information

126. An installation can be established or maintained in a controlled place by or on behalf of a CS licensee for the purposes of carrying out activities under their licence. An installation includes any floating structure or device maintained on a station by whatever means and that may be used for any of the following activities:

- the appraisal or exploration of a storage complex and surrounding area
- the conversion of any place for the purpose of storing CO_2 (with a view to its permanent disposal, or as an interim measure prior to its permanent disposal)
- the storage of CO_2 (with a view to its permanent disposal, or as an interim measure prior to its permanent disposal)
- the unloading of CO_2
- the conveyance of substances by means of a pipe, or system of pipes connecting to a storage site
- the provision of accommodation for persons who work on or from a relevant installation, including a planned relevant installation
- the processing or transportation of CO_2
- the monitoring of the CO_2 plume and surrounding environment.

127. The NSTA considers installation information to include:

- Information relating to the materials, equipment and components that are used in the:
  - Construction of the installation
  - Operation of the installation
  - Maintenance of the installation and any remedial activities
  - Decommissioning of the installation
- Information relating to the position and dimensions of the installation and the associated components and equipment
- Information relating to inspection of the installation and the associated components and equipment
- Information relating to the maintenance and integrity management of the installation
- Information relating to the decommissioning of the installation

Retention of installation information

128. The CS retention regulations require the retention of the installation information mentioned above by CS licensees (as per reg.3(f) and para.7 of the schedule to the CS retention regulations). The NSTA expects CS licensees to retain all of the information required to comply with its other legal obligations with respect to such installations.

129. The NSTA does not require documents and drawings to be retained which are related to installations that have been completely removed and recovered to shore as part of decommissioning for permanent destruction, provided these have been reported as required.

Reporting of installation information

Reporting of summary installation information

130. Summary information about installations must be reported to the NSTA on a routine basis as part of its biannual reporting cycle (Q2 and Q4 of every year). Among other things, this information should include operator details, positional information, operational status and a simple description. Table 8 sets out what is routinely required to be reported.

Table 8: Summary installation information

Attribute	Notes
Installation identifier	Unique agreed name of the installation
Company identifying installation	Name of the company that uses the installation title. Will normally be either the owner or operator
Installation operator	Company who operates the installation
Installation description or title	A description or title of the installation
Surface or subsea?	Required to be reported on separate templates
Installation owner	Current owner of the installation. The company who has responsibility under the terms of the licence for the infrastructure
Installation type	Type of surface installation (i.e. FPSO, TEE PIECE). List of values included in reporting template
Start date	Date when construction was complete and installation was fully operational

Attribute	Notes
Status	Functional status of the installation (i.e. precommissioned, proposed, active, not in use, decommissioned)
Easting or longitude	Easting (metres) or longitude (decimal degrees, negative west) of the installation
Northing or latitude	Northing (metres) or latitude (decimal degrees) of the installation
Coordinate system	EPSG code for coordinate system used for above easting and northing i.e.4326 (lat/lon, WGS84)
Description of coordinated point	Description of this position on the installation (e.g. centre point of installation)
Connected pipelines and cables	Information on which pipelines and cables are connected to the installation
Comments	Any further useful contextual information that can be provided

Reporting of detailed installation information

131. The NSTA will not require detailed installation information to be reported on a routine basis and will issue a standalone s.112 notice if information is required for disclosure or the NSTA's own activities. Examples of the type of infrastructure information the NSTA might request are given in table 9.

Table 9: Detailed installation information

Type	Remarks
Basis of design	The latest version of the basis of design for installations, detailing the description and justification for the design
Operating and maintenance philosophies	The latest version of reports detailing maintenance and operating philosophies for installations, including major process and utility systems
Start-up and shutdown procedures	The latest version of start-up and shutdown procedures for installations, including major process and utility systems

Type	Remarks
Inspection reports	The latest reports detailing the condition of installations
General arrangement drawings	The latest version of plot plans, elevations, equipment layouts and general arrangement drawings of installations
Facilities positional data	Accurate facilities positional data describing the co-ordinates of installations
Availability and reliability reports	Reports detailing the availability and reliability of installations
Specifications	The latest version of specifications of major equipment and structures
Marine documentation	Naval architecture reports, structural design reports, moorings reports, turret design reports and metocean studies for installations

Disclosure of installation information

132. The NSTA may disclose summary installation information as soon as it has been obtained by it (reg.5(d) of the CS disclosure regulations) and the detailed installation information on the date after the storage site to which this installation relates is closed or on the date that a determination event occurs in respect of the CS licence, whichever is earliest (reg.14 of the CS disclosure regulations).

Monitoring information

133. Monitoring information encompasses multiple techniques and approaches. It can also be acquired over a larger area than the CS licence footprint (including at least the storage complex) but this is in pursuit of the licensed activities under a CS licence and therefore subject to the CS retention and CS disclosure regulations. Some monitoring information is acquired using permanently installed measurement tools, recording information at a set frequency (e.g. daily). This is called 'continuous monitoring' and these measurements may include data acquired via seabed landers, for example, such as pH, or data acquired using in-well equipment. All monitoring information should include geospatial data, illustrating where the information was collected.

134. Table 10 lists categories of monitoring information and samples that are in scope.

Table 10: Monitoring information

Information category	Remarks
Geophysical survey monitoring	Time-lapse/ 4D surveys for monitoring purposes
Well monitoring	Individual or repeated measurements from permanently or temporarily installed downhole tools, including any sampling or well specific geophysical investigation (e.g. vertical seismic profile (VSP))
Seabed and shallow borehole monitoring	Surveys providing information on the morphology and composition of the seabed, including high-resolution geophysical surveys of the seabed and the shallow subsurface and information and samples comparable to those typically acquired as part of a site survey
Water column monitoring	Individual, repeated or continuous sampling of the water column (e.g. water chemistry sampling)
Remote sensing monitoring	Individual, repeated or continuous remote observation of the subsurface, seabed, water column or water surface (e.g. acoustic bubble detection)

Retention of monitoring information

135. The NSTA requires all monitoring information to be retained (reg.3(e) and para.6 of the schedule to the CS disclosure regulations). This includes surveys acquired for monitoring purposes (reg.3(a) and para.2 of the schedule to the CS disclosure regulations).

Reporting of monitoring information

136. The NSTA requires all monitoring information created or acquired by CS licensees to be reported to the NSTA in response to a routine s.112 notice. In general, monitoring information is required to be reported no later than 6 months after its creation.

137. Where processing is necessary (e.g. for geophysical survey monitoring or satellite-based monitoring techniques), the information requiring processing should be reported either 6 months after the end of acquisition or one month after the end of processing, whichever is the later. Where applicable, summary survey information is required to be reported through the NSTA's Seismic Survey Acquisition Close Out Report as set out in the reporting of survey information section.

138. Continuous monitoring information which does not require further processing beyond simple compiling (e.g. continuous measurements down-hole or through landers) may be reported annually, rather than continuously as it becomes available. It is then due to be reported within 1 month of the end of the year to which the information relates. However, the NSTA may require more frequent reporting of this information via a standalone s.112 reporting notice, which will be decided on a case-by-case basis.

139. The NSTA acknowledges that monitoring information covers a considerable variety of information types and that techniques are under constant development in this nascent industry. CS licensees are therefore encouraged to contact the NSTA (via the ISC mailbox) should agreeing a bespoke reporting approach be preferable to reduce the burden of fulfilling this regulatory requirement.

Disclosure of monitoring information

140. Monitoring information is disclosed after the period of two years, beginning with the date on which the information was due to be reported, or after the date on which a determination event occurs in respect of the relevant carbon storage licence, whichever is the earlier (reg.15 of the CS disclosure regulations). This allows for the information to be evaluated within the wider context of other project-related information with the same disclosure periods such as well information, computerised model information and monitoring surveys to avoid the risk of potential misinterpretation.

141. Survey information that is acquired for the purpose of monitoring may be disclosed two years after its acquisition was complete (reg.6 of the CS disclosure regulations). It should be noted that where baseline information underlies a protected period that is set out in the relevant

regulations and section of this guidance, that protected period will apply. For example, where a geophysical survey is used for monitoring purposes, the baseline survey (i.e. the first survey in a time-lapse/ 4D sequence) will be disclosed five years after acquisition. Any repeat surveys, i.e. those acquired for ongoing monitoring purposes, will however be disclosed two years after their acquisition was complete.

142. Summary survey information for surveys acquired for the purpose of monitoring may be disclosed immediately, as set out in the disclosure of survey information section (reg.5 of the CS disclosure regulations).

Definition of terms

Table 11: Definition of terms

Term	Definition
Abandoned AB1	A wellbore where the reservoir has been permanently isolated. The wellbore below the barrier is no longer accessible.
Abandoned AB2	All required permanent isolation barriers have been installed and verified (including environmental barriers). No “in-well” work is required to fully decommission the well. The well origin and conductor along with all associated structures and equipment above the well origin may still require to be removed.
Abandoned AB2 (derogated)	All “in-well” isolation work is complete. Derogation to leave the well origin or well equipment, e.g., conductor, above the well origin has been granted by OPRED.
Abandoned AB3	In addition to permanent isolation barriers associated with AB1 and AB2 status, the well origin and all conductor equipment associated with the well origin have been removed.
Baseline information	Information that was acquired ideally before injection started, capturing an undisturbed starting point, and that subsequently acquired repeat information is compared against.
Carbon storage licence	‘Carbon dioxide appraisal and storage licence’, granted by the NSTA under section 18 of the Energy Act 2008
Carbon storage information	Information acquired or created by or on behalf of a licensee in the course of carrying out activities under the licensee’s carbon storage licence
Carbon storage samples	Samples of substances acquired by or on behalf of a licensee in the course of carrying out activities under the licensee’s carbon storage licence
Compliance	A CS licensee is considered compliant if they have fulfilled all retention and reporting requirements placed upon them by the regulations and reporting notices in full
Data	Data is the raw output of measurement devices as opposed to reports or documents

Term	Definition
Determination event	"A determination event is defined in regulation 4(2) of the CS disclosure regulations as one of the following: a) a surrender of rights in relation to part or all of the licensed area by all licensees, b) the expiry of a carbon storage licence, e) revocation of the storage permit. d) the revocation of a carbon storage licence in respect to all of the licensees, or c) the termination of a carbon storage licence,"
Economic licence	'Carbon dioxide transport and storage license' granted the economic regulator under section 7 of the Energy Act 2023
Exploration licence	A licence to acquire geophysical survey information in the UKCS, granted by the NSTA under section 3 of the Petroleum Act 1998, and sections 4 and 18 of the Energy Act 2008, and in accordance with regulation 2 of the Offshore Exploration (Petroleum, and Gas Storage and Unloading) (Model Clauses) Regulations 2009
Exploration operator	The person who is organising or supervising any activity under a carbon dioxide appraisal and storage licence during the Initial or Appraisal Term of the licence
Hydraulic unit	This is a hydraulically connected pore space where pressure communication can be measured by technical means and which is bordered by flow barriers, such as faults, salt domes, lithological boundaries, or by the wedging out or outcropping of the formation (as defined in Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009)
Information	Information includes both the raw output of measurement devices (data) and any reports or documents that discuss the data by, for example, providing interpretation or otherwise presenting or summarising the data
ISC	Information and Samples Coordinator
ISP	Information and Samples Plan
Processed data	Seismic data that has undergone standard processing steps, such as noise attenuation, deconvolution, migration, and stacking, to produce an interpretable image of the subsurface
Protected period	The protected period is the period during which the NSTA may not disclose information or samples. It is a minimum period and the NSTA may use its discretion to extend it.

Term	Definition
Relief from the obligation to retain	"The CS licensee can relieve themselves from the obligation to retain by reporting carbon storage information and samples to the NSTA: • In accordance with a notice issued under s.112 of the 2023 Act (s.112 notice), • In accordance with a requirement in their storage permit, or • Until that information is included in the Public register Note that the NSTA does not have a formal process to provide relief from the obligation to retain"
Repeat survey	A survey that is acquired after the baseline survey to identify any changes in the survey response
Representation	If the CS licensee is interested in extending the protected period for any carbon storage information or samples they may make representation to the NSTA which the NSTA will assess on a case by case basis
Reprocessed data	Previously acquired seismic data that is processed again using updated techniques or parameters to improve image quality, resolution, or extract new insights
Sample disposal	Sample disposal is the process by which CS licensees may permanently discard samples, subject to notifying the NSTA in advance and allowing time for the NSTA to request reporting or transfer of those samples
SEM	Scanning electron microscope
Storage complex	The storage site and surrounding geological domain which can have an effect on overall storage integrity and security; that is, secondary containment formations (as defined in Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009)
Storage permit	A storage permit is a consent granted under a licence, authorising the use of a place as a storage site (as defined in The Storage of Carbon Dioxide (Licensing etc.) Regulations 2010)
Storage permit operator	The storage permit operator in relation to a storage permit, means the person who carries on or (where different) controls activities at the storage site (as defined in The Storage of Carbon Dioxide (Licensing etc.) Regulations 2010)
Storage site	A storage site is a defined volume area within a geological formation used for the geological storage of CO_2 and associated surface and injection facilities (as defined in Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009)

Term	Definition
Time-lapse	Time-lapse includes the baseline and all repeat surveys; it describes the overall technique of comparing seismic data acquired at different times
Well	A well is a consented or actual drilled hole in the ground designed to exchange (or facilitate the exchange of) fluids between a subsurface reservoir/storage formation and the surface, or to enable the detection and measurement of rock properties. There may be multiple wellbores (active, suspended, plugged, or abandoned) within a well.
Wellbore	A wellbore is a drilled path in the subsurface and extends from the well origin (top/start) to a terminating point (bottom/end).
WONS	Well Operations Notification System
XRD	X-ray diffraction

Appendix A: summary of reporting timelines, protected periods and minimum representation periods

Table 12: A summary table

Category	Reporting due date	Earliest disclosure under the 2023 Act	Representation before disclosure
Summary well information	Routinely reported as part of the NSTA's consenting processes	Immediately after it has been obtained by the NSTA	During the planning or consenting process
Other well information	"Routinely reported six months after the Regulatory Completion Date (RCD) for information created before the RCD, or six months after the information was created if it was created after the RCD. (see section five for definition of RCD)"	Two years after the information was due to be reported to the NSTA, or at a determination event	At least three months
Samples	To be reported no later than six months after samples were acquired, as per routine or standalone s.112 notice	Two years after the samples were due to be reported to the NSTA, or at a determination event	At least three months
Summary survey information	Routine reporting through seismic survey acquisition close out report, to be submitted no later than three months after acquisition is complete	Immediately after it has been obtained by the NSTA	When preparing the seismic survey acquisition close out report

Category	Reporting due date	Earliest disclosure under the 2023 Act	Representation before disclosure
Survey information	"Routine reporting six months after acquisition was complete for field data, pre-stack data and subsurface parameter data; post-stack data, positional data and reports to be reported six months after acquisition is complete or one month after processing is complete, whichever is the later. Standalone reporting as specified in the relevant s.112 notice"	Five years after acquisition is complete, or at a determination event	At least six months (to allow for understanding the potentially complex relationship between the survey and the related licence(s))"
Consolidated injection and production information (per well/per month)	Routine reporting at the end of the month, reported per well/per day	After two months from the end of the month to which the information relates, or at a determination event	As soon as the information is reported to the NSTA
Non-consolidated injection and production information (per well/per day)	Routine reporting at the end of the month, reported per well/per day	On the date on which the storage site is closed, or at a determination event, whichever is the earlier	At least three months
Total storage resources information	Standalone reporting as specified in the relevant s.112 notice	On the date on which the storage site is closed, or at a determination event, whichever is the earlier	At least three months

Category	Reporting due date	Earliest disclosure under the 2023 Act	Representation before disclosure
Computerised model information	Standalone reporting as specified in the relevant s.112 notice	Two years after the information was due to be reported to the NSTA, or at a determination event	At least three months
Geotechnical information in a storage permit application	Routine reporting through the NSTA's permit awards process	Five years after the date of first injection, or at a determination event	At least three months
Summary storage site and storage complex information	Routine s.112 notice	Immediately after it has been obtained by the NSTA	Before the information is reported to the NSTA
Storage formation information	Standalone s.112 notice	On the date on which the storage site is closed, or at a determination event, whichever is the earlier	At least three months
Summary installation information	Routine reporting as part of biannual reporting cycle (Q2/Q4)	Immediately after it has been obtained by the NSTA	Before the information is reported to the NSTA
Installation information	As per standalone s.112 notice	On the date on which the storage site is closed, or at a determination event, whichever is the earlier	At least three months
Monitoring information – general	To be reported no later than six months after it was created	Two years after the information was due to be reported to the NSTA, or at a determination event	At least three months

Category	Reporting due date	Earliest disclosure under the 2023 Act	Representation before disclosure
Monitoring information – continuous monitoring	To be reported annually, one month after the end of the year to which the information relates	Two years after the information was due to be reported to the NSTA, or at a determination event	At least three months
Monitoring information – survey monitoring	To be reported six months after acquisition is complete or one month after processing is complete, whichever is the later.	Two years after acquisition was complete, or at a determination event	At least six months

North Sea Transition Authority

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