



Oil & Gas
Authority

Stewardship Expectations

SE-03 Optimum Use of Subsurface Data
Implementation Guide

1. Objectives

The objectives of this Stewardship Expectation are to ensure that business decisions throughout the E&P lifecycle are informed by the most appropriate subsurface datasets and workflows so that decision making is as robust as reasonably possible. This Stewardship Expectation guide describes how integration of modern sub-surface data and techniques will maximise well success rates and ultimate recovery through continuous improvement of E&A and field development activities through the lifecycle of a licence. This Stewardship Expectation directly supports the MER UK strategy.

2. Indicators to assess delivery

The licensee should demonstrate that they are aware of relevant data acquisition and processing activity by third parties in addition to their own internal activities throughout the E&P lifecycle. This should take the form of a Technical Data Quality Review upon licence application (Production Licence Application) and specifically Appendix B of the application where available data, and data used across the licence are discussed. After award, this review will be provided in the form of completing the annual UKCS Stewardship Survey (licensing section) including discussion on what value new data would provide, and how this data will be integrated into the E&P lifecycle of the licence and surrounding area. It is expected that the licensee will be proactive, as opposed to reactive, regarding the acquisition and integration of new, high-quality data.

2.1 Scope and definition

This expectation covers subsurface datasets which support decisions throughout the E&P lifecycle, and, therefore, covers licensee activities which fall under:

- Production licences in their initial term (E&A phase)
- Production licences in their second term
- Production licences in their third term, or subsequent terms

The optimum use of available subsurface data should be used to support business decisions. Subsurface data included in this expectation may include: Geophysical data (gravity and magnetics, seismic, other potential fields techniques); well based data (released and value added); and third-party studies. The use of multi-azimuth data (Coil, Star, OBC / OBN, etc) should also be considered and commented on if deemed of use.

Licensees should review historical legacy data; new data that has come available; data that has been acquired or is being planned (Commercial/Multi-client or Group-Shoot surveys); or propose acquisition of new data that, if acquired, would assist in the evaluation and development of the licence and surrounding area. This should be incorporated into the Technical Data Quality Review to be updated yearly through the UKCS Stewardship Survey (licensing section).

The definition of what constitutes the 'optimum' use of subsurface data relates to the age and value of information of the available datasets when applied to the relevant stage of the E&P lifecycle. Data acquired in the initial term may not hold the same value and relevance in subsequent terms, and licensees should consider which datasets are most pertinent for characterising and exploiting the subsurface in the applicable licence term. Guidance to this is provided in Table 1 below.

2.2 Subsurface Dataset Vintage

Good practice is demonstrated by each licensee using recently acquired or re-processed seismic data to support decision making pursuant to the stewardship of assets within its production licences. As such Table 1 offers the good practice on what may be considered the optimum use of various subsurface data to be used by licensees.

Table 1

Lifecycle phase	Age of dataset
In the exploration/appraisal phase	Acquire new seismic data every 8 - 10 years; the acquisition of other types of data should also be considered (Multi-azimuth, Gravity, Magnetics, and CSEM etc.)
In the exploration/appraisal phase	Consider reprocessing seismic data every 4-5 years
Prior to commencing the production phase	Acquire a baseline streamer or Ocean Bottom 4D seismic survey, if applicable
In the producing phase	Acquire a new 4D Monitor seismic survey every 3-4 years or as necessary
In the producing phase	Consideration of new seismic to cover near-field exploration opportunities. An example would be acquisition of Multi-azimuth, Broadband or Ocean Bottom data to increase resolution at the reservoir level or in other zones of interest

Note: if a licensee chooses not to follow the above guidance on Subsurface Dataset Vintage, the licensee should document its rationale and share this on request with the OGA.

3. Submission to the OGA

3.1 Technical data quality review

Information is required by the OGA detailing the datasets being used by licensees as follows:

- a. On licence application the technical data quality review shall take the form of a description of data used and proposed work plan as part of the Production Licence Application and associated Appendix B, providing the detail described in Table 2 of this guide.
- b. On licence award, the successful licence operator shall update the Technical Data Quality Review through the next scheduled UKCS Stewardship Survey (licensing section).
- c. On an annual basis, the UKCS Stewardship Survey will be renewed. A separate, written Technical Data Quality Review is not required to be uploaded or sent to the OGA, unless additional information is requested by the OGA.

3.2 Joint-venture shared access to data

Where a joint venture (JV) has not defined a common subsurface dataset, this can seriously hinder the decision making process and work programme execution. If this is the case, the JV participants should inform the OGA (on request) which subsurface datasets are being used by each licence participant and should comment on the reasons behind the misalignment (budgetary, deemed suitability etc.).

4. OGA Analysis

Information will be gathered from licensees by the OGA at various stages through the E&P lifecycle through the UKCS Stewardship Survey to verify they are using the optimum available subsurface data. The OGA will consider this information and assess the optimum use of available subsurface data by asking the key questions below (Table 2):

Table 2

Phase	Information reviewed by OGA	Key questions to verify optimum use of subsurface data
Licence application	<ol style="list-style-type: none"> Submitted Work plan Technical Data Quality Review (Appendix B) 	<ul style="list-style-type: none"> Which datasets have been used in developing the licence application? Which datasets are planned for purchase, reprocessing or shooting by the licensee in the Initial term? Which third party datasets are available? If newer/more advanced data is available and you choose not to use this data, provide justification for your decision. Do the licensees of a JV group possess a common data set? If not what are the reasons for this?
Initial term of production licence	<ol style="list-style-type: none"> Approved Work plan Annual update to the Approved Work plan Technical Data Quality Review (UKCS Stewardship Survey) 	<ul style="list-style-type: none"> Do the licensees of a JV group possess a common data set? If not what are the reasons for this? Which new third party datasets have become available? If you choose not to use this data what are the reasons for your decision? Which datasets have been purchased or shot by the licensee in the last year? Which datasets are planned for purchase or shooting by the licensee in the remainder of the production licence term? Has a refresh of the seismic dataset through reprocessing been undertaken or considered by the licensee in the past year? If not what are the reasons for this? If a licensee chooses not to follow the OGA direction on subsurface data age what are the reasons for this?
Second/third term of production licence	<ol style="list-style-type: none"> Approved Work plan Annual update to the Approved Work plan Technical Data Quality Review (UKCS Stewardship Survey) 	<ul style="list-style-type: none"> Do the licensees of a JV group possess a common data set? If not what are the reasons for this? Which new third party datasets have become available or been proposed either by JV partners or through commercial multi-client geophysical companies? If you choose not to use this data what are the reasons for your decision? Which datasets have been purchased or shot by the licensee in the last year? Which datasets are planned for purchase or shooting by the licensee in the remainder of the production licence term? Has a refresh of the seismic dataset through reprocessing been undertaken or considered by the licensee in the past year? If not what are the reasons for this? If a licensee chooses not to follow the OGA direction on subsurface data age what are the reasons for this?
Continuously		<ul style="list-style-type: none"> Consider the impact of the optimum subsurface dataset on your licence on MER UK

For decisions not to use various datasets, the licensee should be prepared to justify this on the basis of: age of dataset, changes/developments in technology, suitability of dataset to your specific reservoir characterisation and subsurface modelling uncertainties, value of information, and other factors. Consider the use of case studies to assist in identifying the subsurface, business and MER UK impact of using the optimum data.



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