



DRAFT Guidelines for Seismic Surveying and Submission of Seismic Data to Exploration and Mining Division

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General Purpose of Guidelines

The Exploration and Mining Division (EMD), Department of Communications, Energy and Natural Resources is the Regulator for the mineral exploration and mining sector in the Republic of Ireland.

EMD's responsibilities include the collation, archiving and public release of mineral exploration and mining data. This data includes (but is not restricted to) geological, geophysical, geochemical and drillhole data.

The purpose of these guidelines is to provide information on the data formats and reporting content required by EMD for seismic surveys undertaken by mineral exploration and mining companies who hold Prospecting Licences (PL) under the Minerals Development Acts, 1940 to 1999.

For further information or clarification on these guidelines, please contact EMD at emd.info@dcca.gov.ie.

Reporting to EMD

Planning Stage

EMD must be notified in writing at least one calendar month prior to the commencement of a seismic survey. If the proposed survey is in close proximity to environmentally sensitive areas, then EMD should be notified at three months in advance in order to allow adequate time for screening. The notification should include the exact location of the proposed survey (coordinates and maps should be provided), survey acquisition parameters, the proposed start date, expected survey duration and proximity to Natura 2000 sites. A Screening for Appropriate Assessment Report may be required if the Seismic Survey is planned to be acquired in close proximity to a European Site. All seismic surveys require prior approval from EMD.

Such requisite licences or permissions that are additionally required must be obtained by the commissioner of the Survey from the relevant authorities, such as local authorities, Transport Infrastructure Ireland (TII) etc.



Acquisition Stage

A notification should be sent to EMD at the start of the seismic survey. A notification should be sent to EMD upon data acquisition completion of the seismic survey. This will be recorded as the 'Completion Date'. The notifications should be in writing and may be made electronically.

EMD should be kept informed of the progress of the survey, in particular any matters related to environmental or social issues as they arise. Contact details of the Company Exploration Manager or delegated Project Manager responsible for the acquisition of the survey should be provided, including daytime and after hours telephone numbers.

Post-Acquisition Reporting to EMD

A "Seismic Survey Report" is required for each seismic survey. This report should be lodged with EMD on a confidential basis within one year from the date of survey acquisition completion i.e. the 'Lodgement Date' is one year after 'Completion Date'. It should include details of the survey acquisition and data processing, along with all the raw and processed data.

An Interpretation Report to accompany each survey should be submitted within two years of the 'Completion Date'. For a breakdown of requirements, please see Section 3: Seismic Data Submission Requirements in these guidelines.

In exceptional circumstances, the lodgement date may be extended beyond one year. Permission must be sought in writing from EMD prior to the Lodgement Date.

In addition to the 'Seismic Survey Report' and the 'Interpretation Report', the digital images of the processed seismic data and resulting interpretations relevant to individual PL areas should be referenced in individual PLA and PLA Block Reports. Any subsequent re-interpretation of seismic data should be included for the whole seismic line in Block Reports. These reports should include digital images of processed data and interpreted sections. It is not required that the full seismic dataset be submitted as part of the individual PL or PLA Block report.



Exploration Expenditure Credits

Where a seismic survey is conducted by or on behalf of the holder of a Prospecting Licence under the Minerals Development Acts, 1940 to 1999, the total cost of that survey will be accepted by EMD towards the required exploration expenditure for any licensed area covered by the survey for a period of up to two years after completion of the survey i.e. the 'Completion Date'.

The cost of the seismic survey acquisition and processing may be apportioned (a) equally to each Prospecting Licence Area covered by the survey, (b) on the basis of relative proportion of seismic surveys shot within individual PL Areas, or (c) apportioned equally to each of the licences on the PLA Block. A PLA Block is defined as "two or more contiguous Licences are held by a Licensee and where the group of Licences are explored as a block" – "General Requirements For Work Reports Submitted To EMD", EMD 2008. In the case of expenditure carryover, 25% of the expenditure requirements for each PLA will still need to be met.

Expenditure for reprocessing or interpretation of seismic surveys may be claimed beyond the two year period; however any new data / interpretation must be submitted to EMD as part of review or renewal reports.

Confidentiality

Each seismic survey report, corresponding survey data and interpretation report will remain confidential for a period six years after the 'Completion Date' (i.e. five years after the 'Lodgement Date' and four years after the submission date for the Interpretation Report). However, the report and data may be released earlier into the public domain, in the event that (a) the Licensee surrenders all PL Areas over which the seismic survey was acquired or (b) the Licensee voluntarily agrees to its public release.

In exceptional circumstances, requests can be made for an extension to the confidentiality period. Requests must be submitted in writing to EMD prior to the end of the six year confidentiality period.



The location of acquired seismic lines will be publically available one year and three months after the 'Completion Date'. The locations will be visible in the Department's mineral exploration GIS viewer.

The confidentiality period for individual PLA / PLA Block Reports will remain consistent with current EMD procedures i.e. public release after a six year confidentiality period or upon surrender of the PL Area.

If, over a block of PL Areas covered by a seismic survey, some PL Areas are subsequently surrendered and other PLAs remained held by the Licencee, the seismic survey report and full dataset (raw and processed) will not be released until either the six year confidentiality period has lapsed or all remaining PL Areas covered by the seismic survey are surrendered.

Open Filing

At the end of the six year confidentiality period, all data and reports will be released into the public domain. Data which is placed on open file for public inspection may be used by the State in the preparation of its products.

Seismic Data Submission Requirements

A 'Seismic Survey Report' report for each seismic survey consisting of field data, processed data and corresponding reports should be submitted to EMD within one year from the 'Completion Date' of the survey. An 'Interpretation Report' for each seismic survey should be submitted within two years after the 'Completion Date' of the survey.

Any PDFS submitted to EMD must be searchable with security settings that allow opening, copying, printing and document assembly but not editing. Any digital images (jpegs, tiffs, bmps) should be of at least 300 dpi resolution. Digital data may be submitted to EMD on appropriate media i.e. on CD, DVD, USB drive or via FTP or email. Data transfer can be discussed with EMD prior to submission if required. Each item should be clearly labelled with Licencee name, survey name, location and date. An inventory of submitted items should be included with report.

The data and items that should be submitted as part of the survey report are as follows;

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Field Data and Report – to be submitted in ‘Seismic Survey Report within 1 year of ‘Completion Date’

- One copy of seismic field data / raw data in SEG standard format (SEG-D, SEG-Y) and associated raw navigation file in an established industry standard, such as OGP, SEG P1, SPS.
- One copy of field acquisition report / observer’s logs in hardcopy and digital format (MS Word or PDF).
- QA/QC report of survey acquisition

Processed Data and Report – to be submitted in ‘Seismic Survey Report within 1 year of ‘Completion Date’

- One copy of all Final Processed Data outputs in SEG-Y format, including stacked data such as DMO and migrated data such as post-stack and prestack time and depth migrations if generated. Navigation data should include at least trace number, shot number, CDP, inline/crossline for 3D data, and X/Y coordinate information, preferably in Irish Transverse Mercator format. Coordinate system, projection, and elevations must be clearly identified.
- Velocity data in ASCII format, including stacking velocity data and interval velocity data for used for time to depth conversion if generated.
- One copy of Final Processing report in hardcopy and digital format (MS Word or PDF) that includes processing sequence.
- One paper copy (fan folded / rolled) of the final migrated stack for each seismic profile at a suitable scale to be made available on request to EMD.
- Digital Image files of final processed data / reprocessed data i.e. without interpretation at an appropriate scale
- Any reprocessed data in SEG-Y format and corresponding reprocessing report in hardcopy and digital (MS Word or PDF) format.



'Interpretation Report' – to be submitted within 2 years of 'Completion Date'

- Digital images of data with interpretation.
- Digital geological interpretation data (horizons, faults etc.) to be made available in a suitable format, such as Kingdom Suite.
- Geological Interpretation Report which includes a scaled map showing location of seismic lines.

Individual PLA / PLA Block Review and Renewal Reports (as per licence schedule)

- Reference to seismic survey undertaken within the review or renewal period must be made in report, including the survey report name and a map of survey lines with PLA / PLA Block
- Geological Interpretation Section
- Digital images of processed data within PLA / PLA Block
- Digital images of interpreted sections within PLA / PLA Block
- Raw data is not required.

For further information on navigation formats, please see <http://www.iogp.org/Geomatics>

For further information on SEG formats, please see <http://seg.org/Publications/SEG-Technical-Standards>

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