



Practice Standard for Quality Inspection of Geophysical Data

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The Association of Professional Engineers,
Geologists and Geophysicists of Alberta

FOREWORD

An APEGGA practice standard presents a level of performance expected of APEGGA members. Although a standard is not specifically legislated under the Engineering, Geological and Geophysical Professions Act or the General Regulation, members must conform to it in order to be practising in accordance with what is deemed to be acceptable practice.

Practice standards documents use the word *shall* to indicate requirements to be followed in order to conform to the standard (*Shall equals is required to*). The word *should* indicates that among several possibilities, one is recommended as particularly suitable without mentioning or excluding others; or that a certain course of action is preferred but not necessarily required; or that (in the negative form) a certain course of action is disapproved of but not prohibited (*Should equals is recommended that*). The word *may* is used to indicate a course of action permissible within the limits of the standard (*May equals is permitted*).

PARTICIPANTS

APEGGA's Practice Standards Committee (PSC) publishes practice standards and guidelines to promote high levels of professional service. A subcommittee of PSC prepared this practice standard. At the time the standard was completed, the subcommittee had the following membership:

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1 OVERVIEW

1.1 SCOPE

This is a standard of practice for conducting quality inspections (QIs) of geophysical data related to resource exploration and development. It applies to situations where a broker represents the licensor of the geophysical data. In the absence of written rules provided by the licensor, this standard shall be used. A licensor may set its own rules to govern the quality inspection of its data; in such circumstances, this standard of practice does not apply.

This standard has been written specifically for the trading of seismic data within the oil and gas industry. However, it is also intended to apply to other types of geophysical data. Terms used in this document – such as seismic lines, seismic data, etc. – are intended to be applicable to any other kind of geophysical data, as the situation requires.

1.2 PURPOSE

This standard is meant to provide APEGGA members with the criteria governing quality inspections that fall within the scope above. APEGGA's committees and boards may use these criteria to help them assess whether or not certain practices of APEGGA members are acceptable.

1.3 DEFINITIONS

For the purposes of this standard, the following terms and definitions apply.

1.3.1 Broker

A party which will act as a facilitator for both the licensor and licensee in the granting of a license.

1.3.2 Direct control

The ability to prevent copying or other unauthorized use of a licensor's geophysical data.

1.3.3 License

The non-exclusive, non-transferable, non-proprietary rights with respect to the data granted to the licensee pursuant to an agreement between licensee, licensor and/or broker.

1.3.4 Licensee

A party that acquires, or is in the process of acquiring, a license.

1.3.5 Licensor

A party that grants, or is in the process of granting, a license.

2 THE QUALITY INSPECTION PROCESS

2.1 PURPOSE OF A QUALITY INSPECTION

The oil and gas industry uses extensive geophysical databases for exploration and development. These databases are usually made up of:

- Proprietary data acquired specifically for the use of the company or the company and its partners and owned by the company and its partners.
- Licensed or purchased data, e.g., a copy of seismic data licensed to the company for its exclusive use, ownership remaining with the licensor and carrying specific restrictions relating to the licensee's rights to show or transfer the data to third parties.

A prospective licensee usually has a specific geological objective and, before acquiring licensed data, must be confident that the location, quality and recording techniques of the data are consistent with these objectives. Prior to executing a license agreement, the prospective licensee usually inspects portions of the data with the expressed purpose of examining those issues of location, quality and recording techniques. There will often be a choice of data offered in the QI because frequently there are many seismic lines, recorded by different operators, in any particular area. The QI enables the prospective licensee to select the data that best fits its objectives.

Seismic brokers have expertise in the seismic data market and help to facilitate the licensing of seismic data for both licensor and licensee. The broker usually organizes the QI. The licensee and licensor companies usually employ APEGGA members, but the broker might or might not be an APEGGA member. The broker has a responsibility to prevent any unauthorized use of the licensor's data and must maintain direct control during the QI.

2.2 OBJECTIVES OF A QI

The prospective licensee shall not enter a QI with the objective of forming interpretive opinions. During the course of the QI, the prospective licensee could infer some conclusions in regards to the subsurface of the earth from his or her observation of the unique characteristics of the seismic data; this is interpretation and is not a goal of the QI process. Given the fact that the drawing of conclusions or opinions when looking at a seismic line – even briefly – might occur so naturally and easily as to be termed a reflex, it is unrealistic to demand that no interpretation of this nature be made during the QI. As a result, it is important to define ethical behavior in a QI as it relates to interpretation.

The objectives of the QI are, firstly, to examine the issues of data quality and approximate location and, secondly, to ascertain this quality with respect to the recording and processing techniques used to generate the seismic display. Intentional interpretive use of the seismic data is only granted to the licensee after a license has been obtained and is not a privilege. No interpretive conclusions or opinions shall be used by the prospective licensee, or divulged to others, until a license is confirmed.

2.3 OBLIGATIONS OF AN APEGGA MEMBER IN CONDUCTING A QI

An APEGGA member usually inspects the data for the prospective licensee and then recommends any purchase of licensed copies to his or her management. Sometimes there will be several representatives of the prospective licensee in the QI. This could potentially lead to interpretive discussion that goes far beyond the purpose of a quality inspection and the broker should terminate the QI. The prospective licensee shall avoid such interpretive discussions.

In a situation like this, an APEGGA member shall be familiar with QI rules and procedures and shall “take charge” of the QI and inform the other representatives of the licensee of what is permissible in a QI. An APEGGA member shall react to any improper QI procedure and shall ensure that this standard of practice is adhered to. If it is not adhered to, he or she shall terminate the QI.

An APEGGA member who uses interpretations made in the QI for exploration purposes – such as land sale recommendations – without licensing the data might find that such practice leads to an investigation for unprofessional conduct.

3 STANDARDS FOR CONDUCTING QUALITY INSPECTIONS

A QI shall be restricted to an inspection of the geophysical data for the purpose of establishing quality, location, recording and processing parameters as outlined above. The data usually consist of prints of seismic sections or other types of geophysical data and “stick” location maps. Computer screen images sometimes substitute for paper sections and maps in the process.

The following may be included in a QI:

- a review of parameters on section side labels, SEG Y trace headers or on broker information sheets
- quality parameters such as signal-to-noise, frequency, continuity
- brief comparisons of other lines included in the QI with different recording parameters
- positions of the ends and bends on the seismic lines
- measuring and locating gaps or areas of poor quality in the data

The following shall not be part of a QI, and engaging in any of these activities might lead to an investigation for unprofessional conduct:

- Intentional interpretation and any opinions of an interpretive nature that might be incidentally formed during a QI. Such interpretations and opinions shall not be used for business purposes until a license is confirmed. QI notes made by the prospective licensee shall not contain any specific interpretation or interpretive opinions.
- Quantitative measurements such as specific shot point and station coordinates or locations, except ends and bends as noted above. Measuring reflection time, using dividers, and comparing QI data to a synthetic seismogram or an interpreted seismic section are not permitted.
- Making copies of any portion of the data.
- Requests for any data to be removed from the direct physical control of the licensor or broker.