ENVIRONMENTAL DATA QUALITY ASSURANCE REGULATION

Contents

PART 1 – DEFINITIONS

Definitions

1 In this regulation:

"aliquot" means a portion of an environmental sample taken for analytical testing or processing;

"authorization" means an order, permit, licence, approval or certificate issued under an enactment administered by the minister;

"authorization holder" means a person who

(a) holds an authorization, and

(b) is required under the authorization to collect environmental samples for analysis or to submit environmental monitoring data;

"director" includes the following:

(a) the administrator and an inspector within the meaning of the *Integrated Pest Management Act*;

(b) a delegate referred to in section 3 of the *Environmental Management Act* who is authorized to exercise powers and perform duties in relation to this regulation;

"discrete environmental sample" means an environmental sample collected for analytical testing or processing by a laboratory;

"environmental sample" means a collection of biological or environmental materials;

"Field Sampling Manual" means the *British Columbia Field Sampling Manual, 2013*, as published by the ministry of the minister and as amended from time to time;

"interlaboratory comparison study" means a comparison of the results of testing conducted by 2 or more laboratories with respect to the same or similar parameters;

"Laboratory Manual" means the *British Columbia Environmental Laboratory Manual, 2020*, as published by the ministry of the minister and as amended from time to time;

"parameter" means a chemical, biological or physical constituent with respect to which sampling, analysis and environmental monitoring is required under an authorization;

"qualified laboratory" means, with respect to a parameter, a laboratory that

(a) is determined under Part 3 to be qualified to analyze environmental samples for the parameter, and

(b) is included in the directory referred to in section 24 *[directory of qualified laboratories]*;

"reference laboratory" means a laboratory that

(a) has unbiased performance, as demonstrated in interlaboratory comparison studies or blind audits, and

(b) is designated by a director as a reference laboratory.

PART 2 – SAMPLING, ANALYSIS AND REPORTING

Division 1 – Methods and Procedures

Environmental sampling methods and procedures

2 An authorization holder must conduct environmental sampling using the sampling methods and procedures as specified by the first of the following that applies:

(a) the authorization;

(b) a director;

(c) the Field Sampling Manual.

Analysis of discrete environmental samples

3 (1) An authorization holder must have a qualified laboratory analyze discrete environmental samples for the parameters specified in the holder's authorization.

(2) For the purposes of the qualified laboratory's analysis, an authorization holder must direct the qualified laboratory to follow analytical methods and procedures

(a) as specified by the first of the following that applies:

(i) the authorization;

(ii) a director;

(iii) the Laboratory Manual, or

(b) that are current and appropriately validated, if no relevant methods and procedures are specified as described in paragraph (a).

(3) An authorization holder must give to a director the results of the qualified laboratory's analysis

(a) as specified by the first of the following that applies:

(i) the authorization;

(ii) a director, or

(b) within 5 days after the analysis is completed, if no relevant procedures are specified as described in paragraph (a).

Reporting of analysis of discrete environmental samples

4 (1) If required by a director, an authorization holder must give to the director an environmental sampling report describing the methods and procedures used to collect and analyze discrete environmental samples.

(2) An environmental sampling report must be given in the form and manner, and by the date, required by the director.

Reporting of air monitoring

5 (1) If required by a director, an authorization holder must give to the director an air monitoring report.

(2) An air monitoring report must include all of the following that are required by the director:

(a) a description of the methods and procedures used to collect air samples and analyze air monitoring data;

(b) continuous data from monitoring conducted

(i) as required under the holder's authorization, and

(ii) for the period to which the report relates;

(c) calibration records, logbooks and other records created in relation to air monitoring.

(3) An air monitoring report must be given

(a) in the form and manner required by the director,

(b) by the date or in accordance with the schedule required by the director, and

(c) with respect to the period specified by the director, if the director specifies a period.

(4) For the purposes of subsection (3) (a), a director may give directions respecting the presentation of data within the air monitoring report.

Division 2 – Audits

Definitions

6 In this Division:

"air audit" means an air audit conducted in accordance with section 10 *[air audit requirements]*;

"split sample audit" means a split sample audit conducted in accordance with section 8 *[split sample audit requirements]*.

When audits are required

7 An authorization holder must participate in a split sample audit, an air audit or other types of audits as required by a director.

Split sample audit requirements

8 (1) In this section, **"split sample"** means an aliquot of a water sample that

(a) is collected from the same source as other aliquots being analyzed, and

(b) has the same chemical and physical parameters, at comparable concentrations, as those other aliquots.

(2) An authorization holder must participate in a split sample audit by

(a) submitting a split sample to a qualified laboratory,

(b) directing the qualified laboratory to analyze the split sample for those parameters that are specified under the holder's authorization and identified by a director for the purposes of the audit, and

(c) give to a director the results of the qualified laboratory's analysis not later than

(i) 30 days after the date that the samples were collected, or

(ii) a later date stated by the director, if the director is of the opinion that extenuating circumstances exist.

(3) To conduct a split sample audit, a director must

(a) submit a split sample, derived from the same water sample as the authorization holder's split sample, to a reference laboratory for an analysis of the same parameters as those referred to in subsection (2) (b), and

(b) compare the results received under subsection (2) (c) with those received from the reference laboratory for the purpose of evaluating

(i) the authorization holder's environmental sampling performance, and

(ii) the quality control measures used by the authorization holder to prevent contamination and to identify potential bias.

Split sample audit fees

9 An authorization holder who is subject to a split sample audit must pay the following fees:

(a) for each parameter to which the audit relates, $15;

(b) a fee that equals the amount of the costs incurred by the ministry of the minister for work performed by a reference laboratory for the purposes of the audit.

Air audit requirements

10 (1) In this section, **"aerometric monitoring instrument"** means a particulate monitor, a gas analyzer or another type of instrument that is used to quantify the parameters of ambient air or air emissions.

(2) To conduct an air audit, a director must do all of the following:

(a) evaluate the performance of an aerometric monitoring instrument that must be operated by the authorization holder who is subject to the audit;

(b) evaluate the performance of equipment that, in association with the instrument referred to in paragraph (a), is used to produce or gather air samples, analytical results, data and reports;

(c) assess the records created in relation to the performance of the instrument referred to in paragraph (a) and the equipment referred to in paragraph (b).

Air audit fees

11 An authorization holder who is subject to an air audit must pay the following fees:

(a) for each particulate monitor audited, $700;

(b) for each gas analyzer audited, $1 800.

Other fees

12 (1) This section applies to an authorization holder who is required, under the authorization or by a director, to do any of the following:

(a) participate in an audit other than a split sample audit or an air audit;

(b) submit information other than as required under this Division.

(2) A person to whom this section applies must pay a fee that equals the amount of the costs incurred by the ministry of the minister for work performed by or on behalf of the ministry for the purposes of the audit.

When fees must be paid

13 An authorization holder must pay fees under this Division within 30 days after the date of the invoice given to the authorization holder by the minister.

PART 3 – QUALIFIED LABORATORIES

Division 1 – Definitions

Definitions

14 In this Part:

"accredited" means to have attained impartial and independent accreditation from an accreditation body as conforming with whichever of the following standards applies:

(a) ISO/IEC Standard 17025, "General requirements for the competence of testing and calibration laboratories", as amended from time to time;

(b) ISO/IEC Standard 17043, "Conformity assessment – General requirements for proficiency testing", as amended from time to time;

"accreditation body" means a body that

(a) is authorized by the ILAC to perform accreditation with respect to the standards referred to in the definition of "accredited" in this section, and

(b) has, with the ILAC, entered into an agreement known as a Mutual Recognition Agreement;

"ILAC" means the International Laboratory Accreditation Cooperation;

"ISO/IEC" means the International Organization for Standardization and the International Electrotechnical Commission;

"qualified professional" means an individual who

(a) is registered in British Columbia with a professional association, is acting under that association's code of ethics and may be subjected by that association to disciplinary action, and

(b) through suitable education, experience and knowledge, may reasonably be relied on to provide advice within the individual's area of expertise, as that expertise relates to this regulation;

"Schedule A parameter" means a parameter listed in Schedule A of the Laboratory Manual;

"scope of accreditation" means a statement, issued by an accreditation body, of the parameters with respect to which a laboratory is accredited for the purpose of analyzing discrete environmental samples.

Division 2 – Qualification of Laboratories for Non-Schedule A Parameters

Application of this Division

15 This Division applies with respect to the analysis of discrete environmental samples for parameters that are not Schedule A parameters.

Accreditation required

16 (1) A director must determine that a laboratory is a qualified laboratory with respect to a parameter if both of the following conditions are met:

(a) the laboratory is accredited with respect to the parameter;

(b) the laboratory gives to the director authorization for the accreditation body that accredited the laboratory to inform the director

(i) of the laboratory's scope of accreditation,

(ii) of any changes to the laboratory's scope of accreditation, and

(iii) if the laboratory's accreditation is suspended, reinstated or withdrawn.

(2) A laboratory must give the authorization referred to in subsection (1) (b) in the form and manner required by the director.

Division 3 – Qualification of Laboratories for Schedule A Parameters

Application of this Division

17 This Division applies with respect to the analysis of discrete environmental samples for parameters that are Schedule A parameters.

Qualification without director's approval

18 (1) A laboratory is a qualified laboratory with respect to a parameter if either of the following apply:

(a) the laboratory is accredited with respect to the parameter and meets the conditions and requirements set out in section 16 (1) (b) and (2) *[accreditation required]*;

(b) the director is satisfied that the laboratory has achieved satisfactory testing performance in a proficiency testing scheme as described in subsection (2).

(2) A proficiency testing scheme must conform to all of the following:

(a) the scheme must be administered by an accredited proficiency testing provider;

(b) the scheme must consist of at least 2 proficiency testing rounds each year;

(c) proficiency testing rounds must be conducted at least 2 months apart and include at least 3 samples in each round, varying in concentration;

(d) the laboratory must give to the director authorization for the accredited proficiency testing provider to inform the director of all parameters with respect to which the laboratory has either

(i) achieved satisfactory testing performance, or

(ii) failed to maintain satisfactory testing performance.

(3) A laboratory must give the authorization referred to in subsection (2) (d) in the form and manner required by the director.

Qualification with director's approval

19 (1) A director may determine that a laboratory is a qualified laboratory with respect to a parameter if the director

(a) approves an alternative method under subsection (2), and

(b) is satisfied that the laboratory has

(i) complied with the requirements and conditions of the approval and section 20, 21, 22 or 23, as applicable, and

(ii) achieved satisfactory testing performance using the approved method.

(2) If a director is satisfied that accreditation or proficiency testing as described in section 18 is not reasonably available or practicable in the circumstances, the director may approve the use of an alternative method as follows:

(a) modified proficiency testing as described in section 20;

(b) a formal study as described in section 21, if the director is of the opinion that the method described in paragraph (a) is not reasonably available or practicable in the circumstances;

(c) an interlaboratory comparison study as described in section 22, if the director is of the opinion that the methods described in paragraphs (a) and (b) are not reasonably available or practicable in the circumstances;

(d) an analyst competency study as described in section 23, if the director is of the opinion that the methods described in paragraphs (a), (b) and (c) are not reasonably available or practicable in the circumstances.

(3) For the purposes of subsection (1) (b) (i), the director must approve all of the following with respect to the use of an alternative method:

(a) the scope, terms of reference and procedures for carrying out analytical testing;

(b) the criteria to be used to determine whether the laboratory achieves satisfactory testing performance.

(4) A laboratory that is approved to use an alternative method must give to the director, in the form and manner required by that director, the results of analytical testing with respect to a parameter using the approved method.

Modified proficiency testing

20 With the approval of a director under section 19, a laboratory may participate in a proficiency testing scheme that conforms to all of the following:

(a) the scheme must be administered by an accredited proficiency testing provider;

(b) the scheme must consist of at least 2 proficiency testing rounds each year;

(c) proficiency testing rounds must be conducted at least 4 months apart and include

(i) at least 2 samples in each round, varying in concentration, or

(ii) one sample in each round if, in the opinion of the director, 2 samples are not available.

Formal study

21 With the approval of a director under section 19, a laboratory may participate in a formal study that is conducted

(a) at least once each year with respect to the parameter in relation to which the director's approval was given, and

(b) by either

(i) an organization that develops and operates proficiency testing schemes, whether or not the organization is an accredited proficiency testing provider, or

(ii) a qualified professional.

Interlaboratory comparison study

22 With the approval of a director under section 19, a laboratory may participate in an interlaboratory comparison study that is conducted

(a) at least once each year with respect to the parameter in relation to which the director's approval was given, and

(b) by a qualified professional.

Analyst competency study

23 (1) With the approval of a director under section 19, a laboratory may

(a) conduct, alone, an analyst competency study that conforms to subsection (2), or

(b) participate with one or more other laboratories in an analyst competency study that conforms to subsection (2).

(2) An analyst competency study must be conducted

(a) at least once each year with respect to the parameter in relation to which the director's approval was given, and

(b) by a qualified professional.

Division 4 – Directory of Qualified Laboratories

Directory of qualified laboratories

24 (1) In this section, **"directory"** means the directory of qualified laboratories, published by the ministry of the minister for the purposes of this regulation.

(2) If a director determines that a laboratory is a qualified laboratory with respect to a parameter, the director must list the laboratory in the directory.

(3) A director must publish in the directory all of the parameters that are within the laboratory's scope of accreditation.

(4) On receiving notice from an accreditation body or an accredited proficiency testing provider, the director must amend the directory to

(a) remove or reinstate a laboratory's listing as a qualified laboratory, if the laboratory's accreditation has been suspended, withdrawn or reinstated, or

(b) remove or include a parameter with respect to which the laboratory is a qualified laboratory, if

(i) the laboratory's scope of accreditation has changed, or

(ii) the laboratory has achieved, or failed to maintain, satisfactory testing performance.

(5) The director must amend the directory as described in subsection (4) if the director

(a) approved, under section 19, the use of an alternative method to demonstrate that a laboratory should be considered a qualified laboratory, and

(b) is no longer satisfied, or is again satisfied, that the laboratory has achieved satisfactory testing performance using the approved alternative method.