



Guideline on Site Professional Experience Requirements in Atlantic Canada

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1 Introduction

Government regulators from across Canada have taken several different approaches to defining site professional qualifications. These approaches fit into three broad categories:

- (i) self-declaration, wherein membership within a specific professional organization is required, or membership plus a minimum number of years of experience;
- (ii) independent society specifically devoted to contaminated sites work; and,
- (iii) regulator maintained list.

These three categories are very broad, and there are several Canadian jurisdictions that follow hybrid approaches. Additionally, some Canadian jurisdictions utilize extra measures (such as a tiered approach to qualifying professionals) that alter the way in which the system works.

While the provinces within Atlantic Canada apply separate and distinct approaches to qualifying site professionals, regulators within Atlantic Canada unanimously consider relevant experience to be an important factor for demonstrating actual ability and to include in qualification requirements.

In the past, experience requirements for site professionals working within Atlantic Canada have varied between jurisdictions and generally have been vague or loosely defined. The purpose of this guideline is to provide a harmonized approach that outlines consistent relevant experience expectations for qualifying site professionals in Atlantic Canada, while acknowledging that each jurisdiction will define the qualification requirements applicable within their own province.

2 Applicability

This guideline outlines the minimum relevant experience expectations for site professionals who oversee the completion and assurance of environmental site assessment, remediation and contaminated site management work in Atlantic Canada.

This guide does not replace existing legislation, regulations, policies or guidelines, or preclude the need for appropriate education, training and experience prescribed by provincial regulatory authorities. It is not intended to be and should not be expected to be prescriptive or all-encompassing of site professional qualifications. Additional qualification requirements for site professionals are defined by each province. Site professionals should consult with the applicable provincial regulatory authority having jurisdiction for a full description of site professional qualification requirements.

In addition to provincial regulatory requirements, site professionals are expected to conform to this guide to be considered practicing in accordance with what is deemed to be an acceptable experience standard by regulators in Atlantic Canada.

3 Role of Site Professional

A site professional who manages a contaminated site in Atlantic Canada takes responsibility for all aspects of the contaminated sites work and sign off on the project. Site professionals apply their knowledge and judgment to make assurances and provide recommendations to responsible parties and certifications to regulatory authorities for the management of contaminated sites. Site professionals are expected to understand provincial regulations and guidelines, as well as the Atlantic Risk Based Corrective Action (ARBCA) process in assessing environmental risk, preparing and implementing remedial action plans and seeking regulatory site closure for contaminated sites in Atlantic Canada.

4 Minimum Years of Experience

Site professionals must have at least five (5) calendar years of relevant work experience in contaminated site work (investigation, management and remediation) at a *qualifying level* gained under the supervision of a site professional. It is recognized that less than 100% of an individual's time in a calendar year will be specific to contaminated site work. A minimum of 1,000 hours per calendar year of their time working at a qualifying level of experience on contaminated site work is required. When less than 1,000 hours of the individual's work experience in a calendar year has been at a qualifying level of experience on contaminated site work, the individual must factor the time claimed accordingly. The 5 years of experience must include experience in all the following:

(i) Phase I Environmental Site Assessment

- a. Obtaining, reviewing and interpreting existing documentation related to
 - facilities and infrastructure
 - process flow diagrams
 - chemicals handled and stored
 - waste streams (chemicals applicable)
 - potential emission sources
 - site operational records (including regulatory records)
 - adjacent land use: potential receptors, potential sources of contamination
- b. Conducting historical record searches and interpreting findings from
 - aerial photographs
 - land titles
 - tax assessment records

- property use directories
- fire insurance plans
- c. Conducting record searches in public and government databases
- d. Conducting interviews to gather site information
- e. Conducting site reconnaissance to:
 - identify any surficial evidence of contamination
 - assess potential contamination risks on-site
 - confirm status of any remaining equipment or infrastructure
 - identify potential receptors
 - document adjacent land use: potential receptors, potential source of contamination
- f. Reviewing and interpreting previous environmental site assessments and remediation reports, including assessing lab findings to confirm effectiveness of assessment or remediation
- g. Determining whether a Phase 2 ESA is necessary

(ii) Phase II Environmental Site Assessment and supplemental environmental site assessment

- a. Reviewing and interpreting Phase 1 ESA findings
- b. Identifying contaminants of potential concern (COPC) and their potential sources, pathways and receptors
- c. Designing a plan to locate, delineate and quantify contaminants on and off site
- d. Applying sample techniques for soil, soil vapour, sediment, surface water and groundwater
- e. Applying statistics and sampling theory to ensure numbers and locations of samples are representative
- f. Applying appropriate QA/QC procedures in sampling and requirements for submission of samples
- g. Interpreting lithology and surficial geology to conduct geological site characterizations
- h. Evaluating and interpreting drillers logs
- i. Evaluating and interpreting chemical analytical data for soil, soil vapour, groundwater, surface water and sediment
- j. Evaluating and interpreting hydrological and hydrogeological information
- k. Overseeing implementation of sampling, maintenance of sample integrity and testing of samples
- l. Interpreting site conditions and fate and transport of chemicals
- m. Conducting risk receptor evaluation to determine portion of site that:
 - meets generic guidelines
 - warrants site-specific objectives
 - requires remediation
- n. Conducting risk and receptor evaluation to determine potential off-site effects

(iii) Remedial action plan

- a. Selecting appropriate endpoints and remedial objectives
- b. Using appropriate scientific and/or engineering principles and knowledge to select appropriate remedial approach in accordance with applicable standards
- c. Defining sequence of activities for appropriate remediation
- d. Establishing monitoring and confirmatory requirements
- e. Identifying requirements for appropriate specialists
- f. Conducting or reviewing human health and ecological risk assessments and corresponding risk management plans

(iv) Implementation of remedial action plan

- a. Addressing concerns related to contamination of:
 - soil
 - surface water
 - groundwater
 - sediment
- b. Interpreting and complying with remediation plans
- c. Adapting remedial action plans as required
- d. Supervising remediation activities
- e. Overseeing and tracking waste management practices during remediation
- f. Confirming results through sampling
- g. Keeping written and photographic records of remediation activities

5 Qualifying Level of Experience

To attain *qualifying level* work experience, an individual must have primary responsibility (under the supervision of a site professional and on behalf of the party directly conducting the work) for the completion or review of the scientific and technical tasks necessary to complete environmental investigations, risk assessment, management and remediation at contaminated sites, which include:

- i. preparation of technical conclusions and recommendations, based on the results of environmental investigations, risk assessments, management and remediation at contaminated sites;
- ii. application of the appropriate and/or applicable regulatory requirements and guidelines and ensuring that the environmental investigations, risk assessments, management and/or remediation work performed meets those requirements and guidelines, or has met those requirements when performed by others;
- iii. application of a comprehensive and systematic understanding of current knowledge to practice activities;

- iv. application of a comprehensive knowledge of current methods used to undertake investigation

6 Self-Evaluation and Self Designation

A site professional shall recognize that environmental issues are interdisciplinary in nature, undertake only work that they are competent to perform by virtue of training and experience, recognize individual limitations, and have regard for the professional opinions of environmental specialists in other disciplines.

A site professional shall ensure that they possess a combination of formal education, skill, experience and training as required by regulators and the professional regulatory organizations, where applicable, to provide technically sound work.

Site professionals practicing in the investigation of contaminated sites must ensure that their skills are consistent with the requirements of the industry and that these skills are constantly improved and enhanced through training and knowledge sharing.

Site professionals must be ethical, competent and objective when fulfilling responsibilities to the public, the employer or client, the profession (where applicable), and other site professionals.

7 Reporting and Documentation

If the experience requirements for a site professional are to be audited at the discretion of the regulator, the regulatory authority may request that the individual provide information regarding their academic training and work experience, to be presented on a professional resume (curriculum vitae) according to the template for presentation of work experience outlined below:

- an introductory cover letter / summary statement of qualifications;
- name, and contact information (mailing address, telephone number(s), email contact, etc.);
- list of post-secondary education (i.e., BSc, MSc, PhD, other; name and address of institution; degree, discipline, and year completed);
- name and location of employer(s), dates of employment (position title, month and year for start and end), name of site professional who served as supervisor or senior advisor/technical reviewer;

- project descriptions (chronological); full details of relevant work experience, (subject to the considerations and restrictions of consultant / client confidentiality agreements) project name, investigation stage, supervisor or senior advisor / technical reviewer, title, responsibilities, start and end date and relevant work experience claimed; and
- any other relevant information.

The individual's eligibility to be considered a site professional within any jurisdiction in Atlantic Canada is subject to question or review. The review will be based on the information contained in the individual's professional resume (*curriculum vitae*) and supporting materials. Therefore, it is the individual's responsibility to ensure that sufficient information is made available when requested.