OSPE response to PEO Consultation: Guideline - *Environmental Site Assessment, Remediation and Management Guideline*

Draft Guideline: Environmental Site Assessment, Remediation and Management Guideline

Statement of proposed amendment or revision:

Following a review of the Draft Guideline by its Environmental Task Force members, the Ontario Society of Professional Engineers (OSPE) acknowledges that this is a well written guide to help our practicing members.

OSPE proposes a few amendments and/or revisions to the document. The details of these are provided below.

Reason:

OSPE's comments primarily focus on the following elements of the document:

- The need for protecting the rights and responsibilities of Ontario's Professional Engineers when carrying out work that is decidedly multi-disciplinary in nature, and not limit their abilities vis a vis other professions, such as Professional Geoscientists. (P.Geo.)
- Further elaboration of certain sections, especially on risk management and contaminated sites management
- Ensuring that enough flexibility is provided in the guidance to allow for the use of professional judgement when considering of the breadth and complexity of environmental sites
- Provide additional language to support the different regulatory framework structures that environmental activities may be completed, as the focus of the draft document was primarily related to provincial regulations
- Additional suggestions to elaborate for better clarity

1. INTRODUCTION
1.3 Sealing Requirements

This would be a good opportunity for PEO to provide some additional clarity about when a seal is required for environmental reports. This exigence should be in line with the requirements of other professional bodies to ensure equivalence with those who undertake same level activity.

1.4 Qualifications

A clear definition of formal education should be provided.

List of qualifications should include Project Management.

Document says: "*To comply with their professional obligations, engineers should only perform or take responsibility for work in which they are certain they are competent".*

- How do you define competency? Being a competent engineer is not the same as being able to carry out a project such as Environmental Site Assessment (ESAs) and other environmental studies effectively. This word "competent" should not limit an engineer's ability to take on stretch assignments.

2. PHASE I ENVIRONMENTAL SITE ASSESSMENTS

2.1 Objective

Is this really a mandatory objective of a "Phase I ESA"? The inclusion of recommendations within a Phase I ESA can introduce bias/confusion relative to the consultant's interpretation of the property owner's regulatory and business interests, especially when the Phase I ESA is for due-diligence purposes only. A separate recommendation letter can be presented to the owner with the scope of work and costs for additional studies, if recommended for consideration.

3. PHASE II ENVIRONMENTAL SITE ASSESSMENTS

3.3 Phase II ESA Practices

3.3.1 Investigation and Sampling Work Plan

The work plan should also:

- Ensure that all monitoring wells are installed by an MECP-licensed Well Contractor in accordance with O.Reg. 903 requirements;
- Appropriate characterization and management of investigation-derived waste

3.3.2 Undertaking Site Investigations

Extra detail regarding the completion of public and private utility locates should be included here – why both are required, and limitations of locates (e.g. unlocatable utilities, clay sewer pipes, unknown tanks, etc.)

3.3.3 Interpretation and Reporting of Sampling Results

Document mentions “remedial action plan”.

Shouldn’t it include contaminated site management plan? Risk assessment plan?

5. SITE REMEDIATION

5.1 Site Assessment Information

Shouldn’t there be mention of potential risk to receptors?

What about the assessment of non-regulated chemicals, such as emerging contaminants?

5.4 Identification and Evaluation of Remedial Alternatives

Activities should include: reduction in toxicity, mobility or volume (e.g., in situ stabilization binds contaminants in place to reduce exposure), as week as contaminant recovery and degradation.

Other factors should be listed, such as the following:

- Site-specific hydrogeological conditions;
- Contaminant types, concentrations, mobility and fate and transport;
- Effectiveness of remedy to achieve targets;
- Implementability;
- Compatibility with current or future site use

Concerning remediation technologies:

- Engineers should be encouraged to evaluate a variety of remediation technologies based on a detailed understanding of the site conditions and case studies for similar projects. It is important not to rush to the selection of a remediation technology when there are significant data gaps remaining.

- Engineers should be encouraged to utilize professional judgement and non-traditional characterization methods when it comes to ESAs, contaminant characterization, conceptual site model development, and remedial design.

Innovative characterization techniques, such as High-Resolution Site Characterization (HRSV) tools [e.g. Membrane Interface Probe (MIP) and Laser Induced Fluorescene (LIF)] can be used to validate/enhance the delineation assumptions that form a basis for the conceptual site model development and remedial design. HRSC tools commonly identify important subsurface conditions that may not have been readily identified through conventional soil and groundwater sampling techniques, providing valuable data in support of remedial designs. High volume sampling can be utilized to determine sub slab conditions when evaluating potential vapour intrusion mitigation measures. Passive sampling devices such as passive diffusion bags (PDBs) or the Waterloo Membrane Sampler™ are two examples of innovative sampling techniques that could be considered for Site characterization.

- With respect to treatability studies, if it doesn't work in the lab then it is highly unlikely to work in the field. When evaluating the remedial options, it is important to evaluate the cost of the potential failure of the remedial approach should the design assumptions turn out to be incorrect. A failed remedial approach is usually much more expensive than the cost of a bench-scale or pilot-scale study.

5.5 Remedial Action Plans

OSPE proposes the following addition:

Establishes monitoring and confirmatory requirements, *with consideration given to any potential effect that the proposed remedial approach may have on the ability to collect representative samples* (e.g. will there be any residual treatment reagent in the aquifer?)

Engineers should consider the potential for the subsurface conditions to be affected by the selected remedial approach, impacting the ability collect representative samples following the remedial efforts (e.g. sampling at a site that has residual treatment reagent may affect groundwater monitoring results over a long time period, resulting in biased/unrepresentative results).

Include the following under what remedial action plan (RAP) normally includes:

- Quality Assurance / Quality Control (QA/QC) plan
- Groundwater management plans (e.g. treatment or disposal of contaminated groundwater);
- Waste management plans (e.g. transport and disposal of impacted soil or hazardous wastes);
- Spill response plans;

5.6 Implementation of Remedial Action Plan

5.6.1 Notifications, Permits, and Approvals

Specific details should be included regarding the requirement for an Environmental Compliance Approval (ECA), either site-specific or mobile. In Ontario, almost every remedial approach other than “dig and dump” requires the property owner, consultant, or contractor to utilize an ECA when there may be an emission of any kind to the natural environment. Engineers should be reminded of the regulatory requirement for ECAs and their duty to ensure that the required ECA is activated prior to the commencement of the remedial activities, when applicable, and that the implementation and verification requirements are carried through following remedial implementation.

With respect to implementation of remedial actions (engineering design, technical specifications, tender documents, contractor agreements, etc.), OSPE believes the document should provide more guidance when it comes to liability.

5.7 Verification, and Documentation

What about performance? What about construction to RAP (e.g., barriers)?

How long should the documents be maintained by the engineer? Originals or e-copies?

6. RISK ASSESSMENT AND RISK MANAGEMENT MEASURES

6.1 Risk Assessment

Regarding the document’s mention that “Risk Assessments are often multidisciplinary in nature and the engineer should confirm those contributing have the necessary level of education, knowledge and experience”

- What about the requirement for a QP_{RA}?
- What about completion of RAs when not specifically following O. Reg. 153/04 for RSC (e.g., federal sites)?

7. EXCESS SOIL

This is a major regulatory issue in Ontario and more detail should be provided regarding the Engineer’s role in ensuring imported/exported soil is properly managed in accordance with existing and proposed regulatory requirements. Improper management of excess soil could potentially result in a significant risk for property owners, consultants, and contractors.

A comment should be included that regulatory changes regarding excess soil have been proposed in Ontario and may be forthcoming – Engineers should monitor the MECP website and engage in continuing education to ensure that the latest guidelines and regulations are understood and followed.

Thank you, once again, for the opportunity to participate in this consultation. We look forward to the reviewing the final version of the policies and guidelines discussed. Please do not hesitate to contact us for additional information or for clarification of our submission.

Sincerely,

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