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Federal Contaminated Sites Action Plan (FCSAP)

**FCSAP Advisory Bulletin (FAB):
How do you address emerging or known
contaminants for which no guideline
currently exists?**

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Federal Contaminated Sites Action Plan (FCSAP)

FCSAP Advisory Bulletin

How do you address emerging or known contaminants for which no guideline currently exists?

Background

The presence of contaminants at a federal contaminated site is typically linked to specific historical activities that have occurred on, or adjacent to, the site. The Treasury Board's *Policy on Management of Real Property* defines a contaminated site as "[...] a site at which substances occur at concentrations (1) above background levels and pose or are likely to pose an immediate or long-term hazard to human health or the environment, or (2) exceeding levels specified in policies and regulations."

This document provides a standard approach for addressing contaminants for which there are no guidelines, objectives, criteria or other kinds of limits placed upon their presence or discharge into the natural environment. This may include: (i) emerging contaminants¹ or (ii) known contaminants for which no guideline or standard exists at this time.

Standard Approach

For FCSAP-funded sites undergoing remediation, the federal custodian is responsible for addressing all contaminants that are the result of historical site activities if those contaminants are present in concentrations that could pose unacceptable risk to human health and/or ecological receptors.

Addressing the potential risk of a contaminant typically includes consideration of federal guidelines, or in the absence of federal guidelines, benchmarks from other jurisdictions (see suggested further reading FCSAP Advisory Bulletin - *Can Provincial/Territorial Guidelines be applied in lieu of existing Federal Guidelines?*).

For both emerging and known contaminants that currently lack human health and/or environmental quality guidelines, standards, or criteria (*i.e.*, both federally and from other jurisdictions), the custodian should consider evaluating these contaminants based upon comparison to adequately defined background concentrations, conducting evaluations of available toxicity studies and literature reviews, and/or consulting with academia or other researchers/departments with expertise pertaining to that specific class of contaminants (*e.g.*, fire retardants, pesticides, steroids, hormones, pharmaceuticals). For further technical information regarding emerging contaminants, consult the list of "Suggested Further Reading" below.

An emerging or known contaminant of potential concern (COPC) cannot be excluded from a site investigation, or screened out of a human health or ecological risk assessment, on the basis that a guideline is not readily available.

¹ Examples of emerging contaminants may include: flame retardants; estrogenic inhibitors; methylated naphthalenes; prions; nanomaterials; pharmaceutically active compounds; and numerous other classes of compounds. For further technical information regarding emerging contaminants, you may wish to consult the list of "Suggested Further Reading". Please note that this is not a comprehensive list.

Furthermore, regardless of the sources used to evaluate emerging contaminants (e.g., background concentrations, available toxicity studies, external expertise), the benchmarks established should offer the same level of protection that is inherent in Canadian Council of Ministers of the Environment (CCME) guidelines.

FCSAP Expert Support may be able to provide additional site-specific advice or information to address the issue of emerging contaminants at a federal contaminated site.

Disclaimer

FCSAP Expert Support provides the above information in accordance with the FCSAP and associated guidelines and policies. This is in no way to be interpreted as any type of approval, authorization, or release from requirements to comply with federal statutes and regulations. If you have any questions or concerns, please e-mail: fcsap.pascf@ec.gc.ca, or contact your regional FCSAP Expert Support.

References

A Federal Approach to Contaminated Sites, Contaminated Sites Management Working Group (CSMWG), 1999

Suggested Further Reading

Canadian Environmental Protection Act (CEPA), 1999. Toxic Substances List.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). A list of parameters that are of top concern based on frequency, toxicity, and potential for human exposure at US sites; this Priority List of Hazardous Substances may also include emerging contaminants.

Environment and Climate Change Canada (ECCC). *Federal Contaminated Sites Action Plan Database of Guidelines* (FCSAP DoG). A compilation of benchmark values for chemicals in various media from numerous national and international jurisdictions. This database has been compiled to assist FCSAP Custodians in the absence of Canadian Council of Ministers of the Environment (CCME) guidelines. The FCSAP DoG has been published at data.gc.ca. The database and an accompanying report are also available upon request from Regional Environment Canada FCSAP Expert Support.

ECCC. Water Quality Monitoring and Surveillance Program. An assessment of the presence of various emerging substances and their levels in selected ecosystems.

ETOX: Information System Ecotoxicology and Environmental Quality Targets. This German database contains information on various national and international environmental quality guidelines, targets, standards, criteria, and limit values.

FCSAP Advisory Bulletin - Can Provincial/Territorial Guidelines be applied in lieu of existing Federal Guidelines? Available on the Federal Contaminated Sites Portal, or by contacting fcsap.pascf@ec.gc.ca, and/or your regional FCSAP Expert Support.

Federal Environmental Quality Guidelines (FEQGs). Guidelines developed based upon hazards of specific chemical substances or groups of substances to ecological receptors. This may serve as a relevant resource with respect to the development of guidelines for flame retardants (e.g., PBDE and PFOS) and other classes of contaminant.

United States Environmental Protection Agency (US EPA) lists unregulated contaminants which may require a national drinking water regulation in future. This Contaminant Candidate List (or CCL) is used to prioritize research and data collection efforts for unregulated contaminants, and to determine whether a specific (emerging) contaminant should be regulated in drinking water.

US EPA Office of Water. A literature inventory developed to identify research relevant to contaminants of emerging concern (CECs) in the environment. This CECs Removals Database stores and manages information from about 100 published scientific studies regarding the removal of over 200 CECs from water and wastewater.

Additional information can be obtained at:

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