

CSR OMNIBUS UPDATING: Proposed Amendments to Schedule 4

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Summary of Proposed Updates for 2015/2016 Stage 10 amendment to CSR

1. Repeal existing CSR Schedule 4 and move existing schedule 4 substances into proposed new single schedule of consolidated (schedule 4, 5 and 10) soil standards further referred to as “Schedule X”.
2. Where sufficient toxicological data exists, for each substance listed in schedule 4, derive new mandatory (i.e. Human health protection – Intake of contaminated soil and Environmental protection – Toxicity to soil invertebrates and plants) matrix soil standards for use in Schedule X.
3. Where toxicological data is insufficient to calculate mandatory matrix soil standards, use the existing schedule 4 soil standard in Schedule X and footnote accordingly.

Introduction

British Columbia Contaminated Sites Regulation (CSR) Schedule 4 contains generic numerical soil standards for five land uses (agricultural, urban park, residential, commercial, and industrial). The current Schedule 4 standards are considered to be generally protective of both human and environmental health.

The existing Schedule 4 soil quality standards were largely sourced from early CCME, 1991 [1] and BC Ministry of Environment, 1995 [2] documents. However, many of the early soil standards [1, 2] actually trace their lineage back through even earlier BC Ministry of Environment, 1989 [3] and Quebec Ministère de l’Environnement, 1988 [4] documents to ultimately the Netherlands, 1983 [5] soil standards. As a result some of the CSR Schedule 4 standards were first promulgated by the Netherlands back in 1983 and are now considered dated. Furthermore, the details of the derivation of the Netherlands, 1983 [5] standards are not publically available. Therefore, it is not possible to determine if the toxicology considered in establishing those standards is still relevant.

In recognition of this successive adoption by the ministry of other agencies’ soil quality standards, often of unknown scientific provenance, an *ad hoc* Joint BC Ministry of Environment and BC Ministry of Health, Contaminated Soil Standards Task Group (CSST) was formed in 1995 to develop a standardized, consistent and scientifically defensible derivation protocol to develop soil quality guidelines for use under the Contaminated Sites Regulation [6]. However,

for those substances, for which in 1996, toxicological information was either too limited, inadequate or simply unavailable to derive CSR Schedule 5 matrix soil standards under the CSST protocol, generic soil standards were provided in Schedule 4. For several Schedule 4 substances, sufficient new toxicological information has become available that it is now possible to update and replace many of the Schedule 4 generic soil standards with Schedule 5 matrix soil standards.

Legislative Review

A legislative review was not completed for the Schedule 4 soil standards. See the Proposal papers related to Schedule 5 updating for a discussion of CSST protocol updates and considerations, proposed for use in updating the Schedule 4 generic soil standards with newly derived Schedule 5 matrix soil standards.

Proposed Updates – Stage 10 Amendment

1. Where adequate human and ecological health toxicological data is available for a Schedule 4 substance¹, derive in accordance with the methodology proposed in the Proposal paper for updating Schedule 5, a complete suite of “derived” matrix soil quality standards for the Schedule 4 substance.²
2. Where toxicological data for a Schedule 4 substance is adequate to derive either the mandatory human or ecological health matrix soil standard, but is inadequate to derive both a human and an ecological health mandatory matrix soil standards; derive in accordance with the methodology proposed in the Proposal paper for updating Schedule 5, either the corresponding human or ecological health mandatory “derived” matrix soil standard. Use the existing Schedule 4 generic soil standard as either the human or ecological health mandatory matrix soil standard for which the toxicological data was inadequate to develop a “derived” mandatory matrix soil standard. Ensure that the use of an existing Schedule 4 generic standard as either the human or ecological mandatory soil matrix standard is clearly identified in a footnote for the substance.

¹ A Schedule 4 substance is any substance prescribed in CSR Schedule 4, irrespective as to whether the substance is prescribed in the body of the schedule *per se* or prescribed in a footnote to the schedule.

² A complete suite of matrix soil quality standards for a Schedule 4 substance includes standards for all site specific factors, all soil types and all land uses (i.e. including the existing land uses currently specified in Schedule 4 and the proposed new Wildlands and High Density Residential land uses).

3. Where toxicological data is inadequate for a Schedule 4 substance to derive either of the mandatory human or ecological health matrix soil standards, use the existing Schedule 4 generic soil standard as both the human and the ecological health soil standard. Ensure that the use of an existing Schedule 4 generic standard as both the human and ecological health soil standards is clearly identified in a footnote for the substance.
4. Consolidate the new Schedule 4 matrix soil quality standards developed under proposals 1 - 3 above, into the proposed new single schedule of consolidated (schedule 4, 5 and 10) soil standards further referred to as “Schedule X” to be established under the Stage 10 amendment to the CSR.

Other Issues – Next Cycle Revisions

1. The proposed Schedule X of consolidated soil quality standards to be established under the Stage 10 amendment to the CSR will be used to revise Protocol 11 Upper Cap Concentrations for Substances Listed in the Contaminated Sites Regulation. The revised Protocol 11 will be implemented concurrent with the Stage 10 amendment to the CSR.
2. Consider as a component of a longer term, future revision to the soil standards for substances originating from Schedule 4:
 - a. eliminating or revising the qualitative soil standards for nonaqueous phase liquids and odorous substances, and
 - b. repealing the existing petroleum hydrocarbon soil standards for VPHs, LEPHs and HEPHs and either:
 - i. adopt the current CCME Petroleum Hydrocarbon F1 through F4 Soil Quality Criteria as CSR petroleum hydrocarbons soil standards, or
 - ii. replace with *de novo*, toxicological CSR petroleum hydrocarbon soil standards derived in accordance with the CSST protocol.

References

- [1] Canadian Council of Ministers of the Environment. (1991). [*Interim Canadian Environmental Quality Criteria for Contaminated Sites*](#). CCME. 1991.
- [2] British Columbia. (1995). [*Criteria for Managing Contaminated Sites in British Columbia. Technical Appendix*](#). Ministry of Environment, Lands and Parks. Sept. 20, 1995.
- [3] British Columbia. (1989) *British Columbia Standards for Managing Contamination at the Pacific Place Site*. Ministry of Environment. April 5, 1989.

- [4] Gouvernement du Quebec. (1988). [Soil Protection and Contaminated Sites Rehabilitation Policy](#). Ministere de l' Environnement. Feb. 1988.
- [5] Netherlands. (1983). *Implementation of the Soil Cleanup (Interim) Act*. Ministry of Housing, Planning and the Environment. 1983.
- [6] British Columbia. (1996). [Overview of Contaminated Sites Soil Task Group \(CSST\) Procedures for the Derivation of Soil Quality Matrix Standards for Contaminated Sites](#). Ministry of Environment. January 31, 1996.

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