

FINAL FACILITATED STAKEHOLDER CSR OMNIBUS INFORMATION SESSION

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Final Omnibus Stakeholder Information Session - Vancouver
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Ministry of
Environment

FINAL INFORMATION SESSION

Presentation Outline

1. Glyn's Comments on "*Standards in General*"
2. Stakeholder Comment on Proposal Papers
 - a. What we heard
3. Summary Protocol Papers
 - a. What was changed
4. Omnibus Final ? - Next steps
 - a. Final ? - Emerging Contaminants
 - b. Final ? - Checks for DRAFT Standards
 - c. Final ? - Timeline to Complete project
5. New Schedule Formats for Some Selected DRAFT Standards

GENERAL NOTES ON STANDARDS

1. CSR standards are “***conservative by design***”
2. CSR numeric standards are dual purpose:
 - a. Determine if a site is a “contaminated site”
 - b. Determine if a contaminated site has been “satisfactorily remediated”
3. Risk Assessment always gives the most flexible answer
 - 1990s – Number of sites using risk assessment approach circa 3-5%
 - 2010s – Number of sites using risk assessment approach circa 45-50%
4. CSR numerical standards are just one tool in the CSR regulatory toolbox

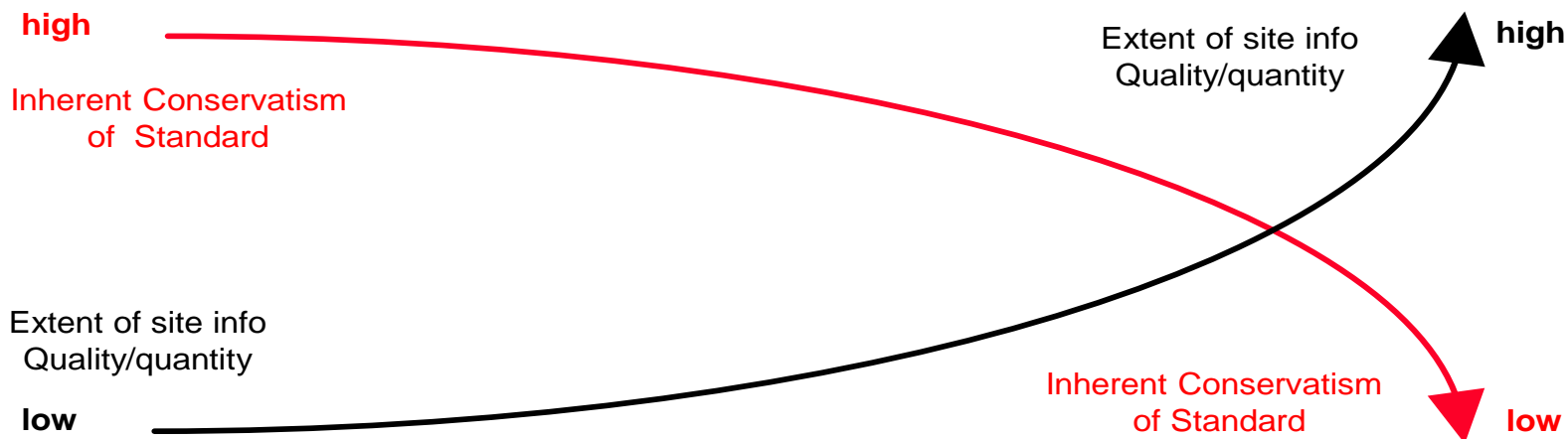


“The standards are simply the product of the protocol”

CONSERVATISM OF CSR STANDARD VS. EXTENT OF SITE KNOWLEDGE

Contaminated Sites Management

Type of CSR standard				
Generic	Matrix	SSS (Site Specific Standard)	SLRA (Screening Level Risk Assessment)	DRA (Detailed Risk Assessment)



Degree of associated regulatory complexity	
less complex ←	→ more complex
Extent of regulatory flexibility	
least flexible ←	→ most flexible

STAKEHOLDER COMMENT

“One on One” meetings on proposal papers with key stakeholders, including:

BCBC	BCELTAC	BC MOH	CAPP	CFA
City of Surrey	City of Vancouver	COFI	CSAP	DFO
EC	EPD	1 st Nations Health Authority	HC	Maa-nulth Nation
MARR	OGC	SABCS	Toquaht Nation	UDI

- Written Comments:**
1. Two month comment period (July 7, 2015 to Aug. 28, 2015)
 2. 300 comments submitted from wide range of stakeholders
 3. Many comments were technical in nature
 4. Most comments focussed on concerns with proposals



THANKS FOR
COMMENTING

COMMENTS – GENERAL SUPPORT

Proposal Papers – Common Endorsed Elements

Unanimous support for:

- ongoing fixed cycle of standards updating
- new High Density Residential land use standards
- new “Parkade” vapour standards



Strong support for:

- new Sch X (soil) and Sch W (water) formats
- new WL modified regression derivation method
- updating the Sch 10 Soil and DW standards
- converting aesthetic-based DW standards to new toxic-based DW standards
- eliminating Sch 7 CSRA standards/use all CSR standards for CSRA purposes
- deferring updating of IW and LW standards to next cycle
- deferring updating of sediment standards to next cycle

COMMENTS – GENERAL CONCERNS

Proposal Papers – Common Concerns

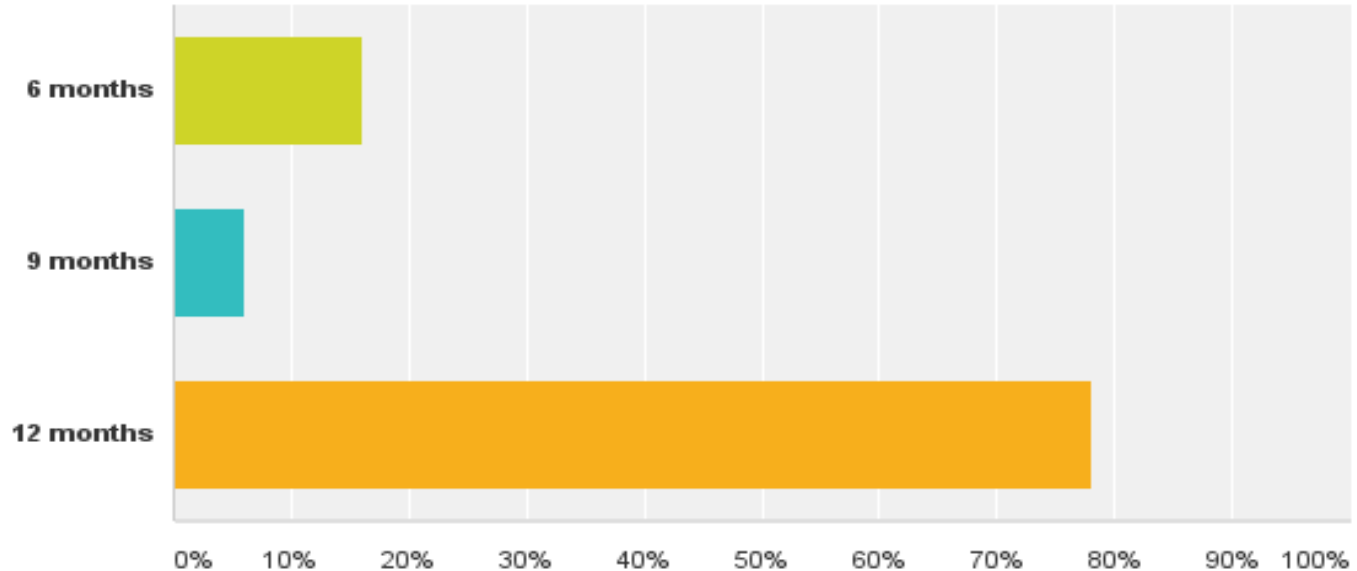
- must have a “grandfathering period” re: Stage 10 implementation
- timeline to complete Stage 10 amendment
- will Analytical methods (for emerging toxicants) be available ?
- will Background and Detection Limit checks be retained ?
- concerns for conflicts between Health Canada DW tox-based guidelines and proposed new LRS updated tox-based DW standards
- will there be an opportunity to see/review the Emerging Toxicants list ?
- concerns re: hierarchy of TRV sources
- Will there be an opportunity to see/review the TRV list ?
- transparency/documentation of new derived standards
- will there be an opportunity for further consultation on actual calculated standards ?
- will Clinical Adjustment Factors be retained for arsenic, cadmium and lead ?



TRANSITION PERIOD – SURVEY RESULTS

Q1 Please indicate your preferred length of time for the transition period for the new standards:

Answered: 168 Skipped: 0



COMMENTS – GENERAL CONCERNS

Proposal Papers – Common Concerns

- GW model and soil to GW to protect DW standards – too conservative
- ETs for human health standards – too conservative
- concerns for WL standards
 - EC15 level of protection of protection – too conservative
 - using combined lethal and non-lethal ECx data to set WL standards
 - New WL standards will increase cost of site assessment and remediation
 - No support for Human Health WL vapour standards
 - Need for more clarity re: application of WL vs. Urban Park standards in cities
- scope and timing of Consequential Amendments to HWR and OMRR
- controversy re: possible adoption of CCME PHC analytical methodology, derivation approach and guidelines versus retaining the existing BC PHC analytical methodology, derivation approach and standards
- concern with enforcement of HDR prohibitions (e.g. no playgrounds and 3 story rule)



SUMMARY PROTOCOL PAPERS – WHAT WAS CHANGED/DECIDED

CSR Sch 4, 5 and 10 HH Soil standards

Proposal Concern/Decision

1. Exposure terms too conservative
2. For Ca. substances - Set std to more stringent of Ca./non-Ca. endpoints
3. Eliminate clinical adjustment factors for: arsenic, cadmium and lead
4. Follow TG 7 hierarchy for TRVs

Change/Decision

- ET adjustment deferred to next cycle
- changed RLHDR SIR from 80 to 40 mg/d
- Proposal adopted
- clinical adjustment factors eliminated
- Proposal adopted



Next cycle

1. Re-consider conservatism of Exposure terms
2. Revise/eliminate quantitative soil stds
(e.g. NAPL – not present, odorous substances – not present)
3. Revise/replace VPH/LEPH/HEPH standards
(possibly CCME Canada Wide Standard for PHC)

SUMMARY PROTOCOL PAPERS – WHAT WAS CHANGED/DECIDED

CSR Sch 5 EH Soil standards

Proposal Concern/Decision

1. WL EC 15 standard too conservative for C/I sites reverting to Wildland
2. RL_{HDR} (set = 1/2 CL) too conservative
3. $WL_{Natural}$ (set = PL/2) too arbitrary
4. More toxicity data needed to set WL stds

Change/Decision

- Adopted, 2 tier Wildlands standards ($WL_{Natural}$ and $WL_{Reverted}$)
- Agreed, RL_{HDR} (set = CL)
- Agreed, new empirically derived “divisor” = 1.6 used to set $WL_{Natural}$ (set = PL/1.6)
- CSAP funded review to augment augment toxicity data

Next cycle

1. Consider wildlife soil/fodder stds to supplement livestock soil/fodder stds
2. Consider developing soil invert/plant bioavailability/bioaccumulation EH soil stds
3. Consider developing terrestrial vertebrate EH soil standards

Thank you

SUMMARY PROTOCOL PAPERS – WHAT WAS CHANGED/DECIDED

CSR Sch 5 Soil to Groundwater standards

Proposal Concern/Decision

1. Some US EPA Kds unreliable
2. Need for peer reviewed mixing model equations
3. Adopt US EPA 1996 pH-dependent K_{oc} isotherm for pentachlorophenol

Change/Decision

- Retained most US EPA soil-water distribution coefficient isotherms
- adopted *Sauve et al, 2000* isotherm for lead
- GW model changed to use peer reviewed US EPA 2002 Soil Screening Guidance mixing model
- Agreed US EPA PCP isotherm was adopted

Next cycle

1. Reassess assumptions for Dilution Attenuation Factor (DAF) value
2. For chlorinated solvents, evaluate ways to determine whether biodegradation occurs and consider concomitant potential for toxic daughter products in groundwater

SUMMARY PROTOCOL PAPERS – WHAT WAS CHANGED/DECIDED

CSR Sch 6 Generic Water Standards

Proposal Concern/Decision

1. For HC DW stds limit *de novo* derivation of tox-based DW stds to only those with aesthetic-based DW standards
2. For Ca. substances, derive *de novo* DW std based on more stringent of Ca. or non-Ca. toxic endpoints
3. Adjust Sch 10 DW stds to reflect CSST Protocol ILCR and default 20% DW exposure apportionment
4. For volatile substances include exposure from showering in DW tox-based derivations

Change/Decision

- Agreed
- Agreed
- Agreed
- Deferred to next cycle

Next cycle

1. Update DW derivation protocol for volatile/semi-volatile substances, by including DW exposure via inhalation from showering or grooming

SUMMARY PROTOCOL PAPERS – WHAT WAS CHANGED/DECIDED

CSR Sch 10 Generic Vapour Standards

Proposal Concern/Decision

1. Wildlands vapour stds defined exposure scenario is premature and lacks sufficient scientific support
2. Parkade assumed exposure term is too conservative

Change/Decision

- Agreed, deferred to next cycle
- PK ET retained, (SABCS and CSAP supported)

Next cycle

1. Re-consider “state of the science” for human health protective generic vapour stds for wildlands land use
2. Consider developing new soil vapour standards for additional substances (e.g., emerging volatile substances, semi-volatiles, mercury vapour, etc.).
3. Review options to possibility update VPHv std and possibly derive new vapour stds related to other petroleum hydrocarbon fractions

Emerging Contaminants Selection Criteria

1. Significantly toxic
e.g. acute or chronic effects – human or ecological receptors
(neurological/developmental toxicant, carcinogenic, endocrine mimic, teratogenic, immunosuppressive, etc.)
2. Persistent/Bioaccumulative
e.g. heavy metals, PAHs, pesticides, etc.
3. Used in British Columbia
e.g. commonly used in agriculture, commerce, industry, etc.
4. Known to have significant environmental issues in BC
e.g. nonylphenol, EE2, PFOS, etc.

Standards Derived for Following Emerging Contaminants

Soil – Emerging Contaminant

1. anthracene
2. cyanide (free)
3. DIPA (diisopropanolamine)
4. fluoranthene
5. nonylphenol
6. PFOS (perfluorooctane sulfonate)
7. sulfolane¹
8. uranium

Water – Emerging Contaminant

1. tetraBDE (tetrabrominated diphenyl ether)
2. DIPA (diisopropanolamine)
3. EE2 (17- α -ethinylestradiol)
4. nonylphenol
5. PFOS (perfluorooctane sulfonate)
6. PFOA (perfluorooctanoic acid)
7. sulfolane¹

¹ Sulfolane is 2,3,4,5-tetrahydrothiophene-1,1-dioxide

OMNIBUS NEXT STEPS – FINAL CHECKS

BCELTAC Checks

1. Analytical method availability check
2. Analytical method detection limit check
3. “Dissociation” check
4. Flammability/Lower Explosive Limit check – vapours
5. Laboratory “Reality” check
(e.g. prohibitive analytical cost, limited lab capacity, etc.)

LRS Checks

1. Solubility check
2. Provincial Background check
3. Regulatory Consistency check (HWR/OMRR consequential amendments)



OMNIBUS – ?? FINAL?? SCHEDULE

Date 2016	Task to be completed
early March	Final Stakeholder Information Sessions
mid March	Final Drafting Instructions completed and reviewed by MoE solicitor
end March	All standards calculated/checked
	JAG Drafting Lawyer assigned
	Minister's Order package initiated (finalize Schedules)
April 5 th	Minister's Omnibus meeting/briefing
April 18 th	Final MO package sent for Minister's review/approval
early May	Minister's Order approved and promulgated
Prior to Omnibus coming into force	Complete consolidated new 2016 CSST Protocol, critical (e.g. P2, P11, P13, etc.) and other needed Protocols/Tech Guidance/ Procedures, etc.

EXAMPLES OF DRAFT STANDARDS

Coded comparative Sch X, [Part 1](#) matrix standards

1. Examples for: BTEX, As, Cd, Pb, BaP, Naphthalene, TCE, PERC, PCP

Summary Indicator Coded Sch X, [Part 2](#) generic HH standards

Summary Indicator Coded Sch X. [Part 3](#) generic EH standards

Summary Indicator Coded Sch W generic [water](#) standards

1. Examples for BTEX, As, Cd, Pb, BaP, Naphthalene, TCE, PERC and PCP

Summary Indicator Coded Sch V generic [vapour](#) standards

QUESTIONS ?

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