EU Water Framework Directive

guidance on metal-EQS implementation

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background

• 2016: Common Implementation Strategy (CIS) Guidance Document No. 27
  – Technical Guidance For Deriving Environmental Quality Standards (EQS)
    • Metal section; implementation to be discussed separately

• CIS expert group on developing guidance for EQS implementation
  – Lead: NL, FR
  – Basis: WCa document 2014
  – 2017 Meetings in Amsterdam, Paris
  – 2nd draft version (7 chapters)
  – 3rd meeting Utrecht (21-22 March 2018)
Main remaining discussion items

• Tiered approach: can bioavailability and background be considered together or not?
• Recognition of geological variability to be included in compliance assessment
• Use of « non-ideal » data
• Simplified bioavailability tools: different results (« Parallel » activity)
• Guidance should be practical
  – Add « how to do it? » sections
• Focus on calculation of the bioavailable fraction (« BioF ») of measured metal,
  – To be combined with 1 EQS
• built-in pragmatism e.g.:
  – Use of « non-ideal » data (e.g. DOC)
  – Use of models outside calibration range
• « Tiered approach »: natural background included in the assessment
  – EQS not relevant in some scenarios
  – Historical mining: article 4(4) or 4(5) application

the Treaty of Utrecht, 1713
1. EQS is based on total risk approach and the metal has a bioavailability model

- **tier 1**
  - Compare monitoring data with the EQS\textsubscript{bioav}.
  - dissolved metal concentration < EQS\textsubscript{bioav}.
    - If yes, no further action required.
    - If no, proceed to tier 2.

- **tier 2**
  - Calculation of the bioavailable metal concentration using user-friendly tools.
  - bioavailable metal concentration (i.e. BioF × dissolved metal) < EQS\textsubscript{bioav}.
    - If yes, no further action required.
    - If no, proceed to tier 3.

- **tier 3**
  - Investigation of local conditions (i.e. more robust assessment of local water chemistry conditions).
  - calculate the bioavailable metal concentration using the full BLM if data allow.
  - bioavailable metal concentration < EQS\textsubscript{bioav}.
    - If yes, no further action required.
    - If no, estimate the bioavailable fraction of the local background (BC\textsubscript{local}) and compare with EQS\textsubscript{bioav}.

- **tier 4**
  - EQS not relevant for local geological situation (i.e. high natural background concentrations).
  - Check the good ecological status of the site as a line of evidence.
  - See the applicability of the concept of ‘natural conditions’ under Articles 4(4) and 4(5) for extending the deadlines to meet the environmental objectives or setting less stringent objectives.

Failure of a site to achieve good chemical status clearly identified: a series of measures must be considered to mitigate the situation.
Geology and bottled water

Zn mineralisations

Zn in mineral waters
Geology and bottled water

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Simplified Tools for BioF

- Simplified tools for BioF give different results
- Chapter 4 on simplified tool(s) for BioF calculation: postponed
- ⇨ « parallel activity »
- SETAC Brussels 2017: Informal scientific process
- Objectives
  - Understand the reasons for the different outcomes of the simplified bioavailability tools
  - Work towards harmonisation of basics to reduce differences
  - Present conclusions to member state - users
- Process taken over by EU Commission (CIS activity)
  - Limited ressources ⇨ reduced programme
  - ...no perspective of harmonisation...?! ⇨ guidance ??
Further planning/new timing (tbc)

- Preparation of third draft (excluding ch.4): April-June
- Parallel activity (tbc): April - October
- Finalisation of chapter 4: October
- External review/review by WG Chem: October-November
- Revised draft for workshop
- Workshop on simplified tools: end of November
- Revise draft based on input from WS: December
- Final consultation of WGChem: December
- Editorial actions by COM consultant: December/January
Summary

• Methodology for EQS implementation reflects state of science
  – Consensus between stakeholders
• Proposed timeline for finalization ambitious
• Simplified tools: missing the chance to solve the problem?
  – Reduced programme, reduced ambitions
    • Completion of Chapter 4?
    • Workshop end Nov ‘18?
• But the guidance contains very useful elements for metal assessment in water