



Idaho Department of Environmental Quality

Rules for Ore Processing by
Cyanidation, IDAPA 58.01.13



Overview

- Comment summary
- Draft rule revisions
- Next steps





Comment Summary

- Bryan Ulrich (Bryan Ulrich LLC, Denver, CO) (May 24)
 - Engineer of record for constructed tailings storage facilities.
 - The requirements in the current rule holds similarities to various codes for mining facilities in Nevada, but are more directly related to regulations for a cyanide-bearing process water pond than for a tailings storage facility.
 - Leak detection system for a process pond is also to assist in directing repairs to the primary liner once a leak is detected.
 - For tailings storage facilities, a complete repair would be rare, complex and potentially dangerous work. The presence of a leak detection system for a tailings storage facility could be a long-term liability for closure as leakage could occur uncontrolled for many decades.
 - Provided Nevada Administrative Code requirements for tailings facilities. Nevada provides an allowance to decrease the protection levels for a soil liner in a tailings storage facility.
 - Modifying Idaho's existing Rules for Ore Processing by Cyanidation to allow designers to propose alternative, or site-specific, designs will allow for the required protection of waters of the State.



Comment Summary

- Tierra Group International, LTD (May 30)
 - Rules do not differentiate between different types of cyanide facilities and the nature of the material being stored in contact with the liner for required design components.
 - Rules do not account for concentration of cyanide in process water being stored.
 - Certain prescriptive measures may have unintended consequences of increasing risk of release. Leak detection between primary and secondary liners in TSFs may reduce level of protection due to hydrologic connection between leaks in primary line with any leaks in secondary liner.
 - For assessing potential leakage, nature of the material being stored is important.
 - Tailings are generally very fine-grained and exhibit very low hydraulic conductivity. Consolidated fine-grained exhibit hydraulic conductivity of less than 10^{-6} and provides an additional protective measure against leakage.
 - Heap leach facilities are designed to maintain high hydraulic conductivities above the liner system.
 - Process ponds store cyanide-containing solutions at or around concentrations used in heap leach. Water is stored directly on liner system.
 - Facility design requirements should consider the facility type, nature of material being stored and how it may impact potential leakage through liner.
 - Tailings storage facilities generally contain very low cyanide concentrations. Heap leach and process ponds generally store solutions with much higher cyanide. Consequences of a leak are greater at greater cyanide concentrations; facility components should account for cyanide concentrations and corresponding impact of release.



Comment Summary

- **Tierra Group International, LTD (continued)**
 - Unintended consequences of multiple layers of a liner system.
 - Hydrologic connection may be established between primary liner leakage source and secondary liner leakage source, resulting in increased leakage.
 - Risk of damage to underlying components when installing additional layers. Increasing amount of activity increases probability of damage.
 - **Tierra Group serves as Engineer of Record for several facilities.**
 - **Nevada requirements**
 - Process ponds require double synthetic liners with leak detection.
 - Heap leach may require leak detection depending on foundation conditions and depth of impounding solution over liner.
 - Tailings storage do not require leak detection if low permeability liner system (synthetic over low permeability subgrade)
 - Facility designed to ensure risk of release is minimized
 - Rules should allow site-specific and operation-specific considerations to address containment.



Comment Summary

- Idaho Mining Association (June 10)
 - Generally supportive of new section 201. Want to discuss scope and intent of hydrogeology assessment, engineering assessment, and water quality assessment.
 - Not clear what is intended for ‘equally protective’ and how an operator would demonstrate it.
 - Disagree with 39-107D governs this rulemaking. Not proposing a specific design or different numerical standard, but a process to approve an alternative design.
 - DEQ can meet 39-107D by relying on Nevada’s standards; Nevada’s standards have not been changed since 2005.
 - Studies and data are not appropriate since it does not appear that DEQ used any such studies or data in 2005.
 - DEQ should coordinate with Nevada regulators about their process.



Comment Summary

- Trout Unlimited (June 10)
 - Sideboards need to be set that protect both ground and surface waters from contamination by cyanide facilities.
 - Shortcomings in design is nearly impossible to correct during the project.
 - Need to provide adequate scientific evidence that any new standards or guidelines adopted are equal to or greater than the design standards currently in the rule.





Common Themes

- Revising current rules is worth considering.
- Need peer-reviewed documentation of current designs; research.
- Need more information on damage to liners.
- Need more information on leak management options.
- Design based on type of facility.
- Design should consider cyanide concentration.





Draft Rule Revisions

- Corrections
 - Section 007.01 – IDAPA 58.01.02 title
 - Section 007.14 – NPDES to IPDES
 - Section 007.xx – new definitions for outstanding resource water and sensitive resource aquifer
 - Section 650 – Idaho Code 47-1501 title
 - Appendix A - spelling





Draft Rule Revisions (Continued)

- Red Tape Reduction Act
 - Unnecessary/Obsolete provisions
 - Section 007.27 – special resource water definition
 - Section 010 – location of copy of rule
 - Redundant provisions
 - Section 100.03.t.i-x – covered in IDAPA 20.03.02
 - Section 200 – multiple references to plans and specifications signed/stamped by a professional engineer
 - Consistency
 - Tailings impoundments instead of tailings ponds
 - Department instead of Idaho Department of Environmental Quality





Draft Rule Revisions (continued)

- Section 050
 - Inclusion of alternative under conceptual design approval subsections
- Section 100.03
 - Include requirements in section 200 as part of Contents of Application; gaps between section 100.03 and section 200
- Section 100.05
 - Agreement for costs incurred if choose utilize the process in section 201 for alternative design proposal
- Section 200
 - Introductory paragraph references section 201 for alternative
- Section 200.03
 - Restructured minimum design criteria for clarity
- New section 201
 - Alternative design criteria to section 200.03





Next Steps

- Comments due July 19, 2019
- Next meeting: August 6, 2019; 9 am to 12:30 pm (MDT)
- Other meeting: Sept 17, 2019; 9 am to 12:30 pm (MDT)
- Schedule
 - Continue negotiated rulemaking summer/fall 2019 and spring 2020
 - Complete negotiated rulemaking by end of June 2020
 - Mid-July 2020 proposed rule to DFM
 - Publish in September 2020 Administrative Bulletin
 - Before Board of Environmental Quality in mid-November 2020
 - Proposed rule to 2021 legislature



Thank you

