

Questions for Nevada Division of Environmental Protection, Bureau of Mining Regulation and Reclamation from the stakeholder group for the negotiated rulemaking of Idaho's Rules for Ore Processing by Cyanidation; August 27, 2019.

1. What pre-application discussions and interactions occur between Nevada regulators and mining companies regarding a permit for processing operations? Where does a conceptual design fit into the Nevada permitting process?
2. Please explain how Nevada's regulations allow for a performance-based approach to the design and construction of cyanidation facilities. Please identify the criteria for evaluating the performance of a particular design or construction method. Please provide examples of each type of facility containing process water, as applicable, that is permitted using a performance-based approach.
3. How is Section 445A.438 applied given that the other sections specific to different types of processing facility components already specify liner requirements? What types and thicknesses of synthetic liners are required or approved by Nevada? Under what conditions and for which types of processing facilities are synthetic liners required? How do geosynthetic clay liners and compacted clay liners fit into liner requirements?
4. In evaluating containment permeability equivalence under NAC 445A-437.01, how often are synthetic liners approved by Nevada? Does Nevada accept manufacturer representations on permeability of liners when approving an equivalent containment design?
5. In determining whether an alternative level of containment may be required under 445A-437.02.a, one of the criteria applied is the "characteristics of the material deposited". Are there certain materials, like cyanide, mercury, arsenic etc., deposited in a tailings impoundment that automatically require alternative containment? What type of analysis does Nevada undertake in determining whether certain material deposited in an impoundment requires alternative containment? Are there threshold concentrations of materials deposited in an impoundment that require alternative containment? What level of containment does Nevada require for tailings impoundments that contain process water containing greater than 0.2, 1.0, 10, and 50 mg/L WAD cyanide? Please give some examples of alternative containment designs required under the Rule, with a brief explanation why such alternative containment was required.
6. Same general questions regarding the criteria requiring alternative containment under 445A-437.02.d related to the "extent of and methods used for recycling or detoxifying liquids". Are there threshold concentration levels for liquids which are placed in an impoundment that require alternative containment? What cyanide destruction processes, if any, are required prior to discharge to the tailings impoundment?
7. How does the size and volume of a tailings impoundment dictate whether Nevada will require alternative containment under 445A-437.02?
8. How does minimization of hydraulic head on liner, and determination of its sufficiency, work in practice under 445A-437.02c? What are the hydraulic relief requirements for a tailings impoundment containment system?

9. What would be the specific requirements for a tailings impoundment containing cyanidation process water? How do the physical and chemical characteristics of the impounded materials and process water affect the design approach? What are typical designs approved by Nevada for tailings impoundments that contain process water containing cyanide.?
10. What would be the specific requirements for a pond containing cyanidation process water? What are typical designs approved by Nevada for ponds that contain process water containing cyanide?
11. What would be the specific requirements for a leach pad containing cyanidation process water? What are typical designs approved by Nevada for leach pads that contain process water containing cyanide?
12. What failures in containment systems have occurred and what were the causes of those failures? How is potential damage to liners minimized during construction?
13. Does NDEP have any checklists or other guidance to help inform what additional information (and necessary level of detail) is required in support of a permit application, such as engineering calculations, modeling, laboratory testing results, and/or material specifications?
14. How many processing facilities are permitted in Nevada?
  - a. How many are leach pads or other nonimpounding surfaces? How many of these are specifically for cyanidation processes?
  - b. How many are process ponds? How many of these are specifically for cyanidation processes?
  - c. How many are vats, tanks or other containers? How many of these are specifically for cyanidation processes?
  - d. How many are tailings impoundments? How many of these are specifically for cyanidation processes?
15. Are datasets available for permitted facilities?