

Dear Senators VICK, Heider, Stennett, and  
Representatives GIBBS, Lickley, Rubel:

The Legislative Services Office, Research and Legislation, has received the enclosed rules of the  
Idaho Department of Water Resources:

IDAPA 37.03.04 - Drilling for Geothermal Resources Rules (ZBR Chapter Rewrite, Fee Rule) -  
Proposed Rule (Docket No. 37-0304-2201);

IDAPA 37.03.05 - Mine Tailings Impoundment Structures Rules (ZBR Chapter Rewrite, Fee Rule) -  
Proposed Rule (Docket No. 37-0305-2201).

Pursuant to Section 67-454, Idaho Code, a meeting on the enclosed rules may be called by the  
cochairmen or by two (2) or more members of the subcommittee giving oral or written notice to Research  
and Legislation no later than fourteen (14) days after receipt of the rules' analysis from Legislative  
Services. The final date to call a meeting on the enclosed rules is no later than 11/18/2022. If a meeting is  
called, the subcommittee must hold the meeting within forty-two (42) days of receipt of the rules' analysis  
from Legislative Services. The final date to hold a meeting on the enclosed rules is 12/16/2022.

The germane joint subcommittee may request a statement of economic impact with respect to a  
proposed rule by notifying Research and Legislation. There is no time limit on requesting this statement,  
and it may be requested whether or not a meeting on the proposed rule is called or after a meeting has  
been held.

To notify Research and Legislation, call 334-4854, or send a written request to the address on the  
memorandum attached below.



**Terri Kondeff**  
Director

# Legislative Services Office

## Idaho State Legislature

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*Serving Idaho's Citizen Legislature*

### MEMORANDUM

**TO:** Rules Review Subcommittee of the Senate Resources & Environment Committee and the House Resources & Conservation Committee  
**FROM:** Deputy Division Manager - Katharine Gerrity  
**DATE:** November 01, 2022  
**SUBJECT:** Idaho Department of Water Resources

IDAPA 37.03.04 - Drilling for Geothermal Resources Rules (ZBR Chapter Rewrite, Fee Rule) - Proposed Rule (Docket No. 37-0304-2201)

IDAPA 37.03.05 - Mine Tailings Impoundment Structures Rules (ZBR Chapter Rewrite, Fee Rule) - Proposed Rule (Docket No. 37-0305-2201)

#### **1. IDAPA 37.03.04 - Drilling for Geothermal Resources Rules**

##### **Summary and Stated Reasons for the Rule**

The Idaho Department of Water Resources submits notice of proposed rule at IDAPA 37.03.04 - Drilling for Geothermal Resources Rules. This is a chapter rewrite and a fee rule. According to the department, this rule was reviewed as part of the 5-year review process pursuant to the Governor's 2020 Executive Order. The department states that changes to the rule are a result of removal of obsolete provisions, removal of unnecessary provisions, and modifications to existing rules regulating the processing of permits for the drilling of wells to use geothermal resources. The department adds that it is authorized by statute to provide for fees for geothermal exploratory wells, production wells, injection wells, and amendments to permits.

##### **Negotiated Rulemaking / Fiscal Impact**

The department states that negotiated rulemaking was conducted. There is no fiscal impact as a result of the rulemaking.

##### **Statutory Authority**

The rulemaking appears to be authorized pursuant to Sections 42-1734, 42-1805, and 42-4010, Idaho Code.

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Paul Headlee, Deputy Director Legislative Services Office	Kristin Ford, Manager Research & Legislation	Keith Bybee, Manager Budget & Policy Analysis	April Renfro, Manager Legislative Audits	Glenn Harris, Manager Information Technology
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Statehouse, P.O. Box 83720  
Boise, Idaho 83720-0054

Tel: 208-334-2475  
legislature.idaho.gov

## **2. IDAPA 37.03.05 - Mine Tailings Impoundment Structures Rules**

### **Summary and Stated Reasons for the Rule**

The Idaho Department of Water Resources submits notice of proposed rule at IDAPA 37.03.05 - Mine Tailings Impoundment Structures Rules. This is a chapter rewrite and a fee rule. According to the department, this rule was reviewed as part of the 5-year review process pursuant to the Governor's 2020 Executive Order. The department notes that there is only one change from the existing rule that addresses fixing an inconsistency between current statutory requirements and outdated requirements in the old rule concerning the inspection intervals of mine tailings impoundment structures. The department states that the rule provides acceptable construction standards and governs its design and technical review of mine tailing and water impoundment structures. The department adds that the rule supports the collection of a fee to review plans, drawings, and specifications pertaining to any mine tailings impoundment structure.

### **Negotiated Rulemaking / Fiscal Impact**

The department states that negotiated rulemaking was conducted. There is no fiscal impact as a result of the rulemaking.

### **Statutory Authority**

The rulemaking appears to be authorized pursuant to Sections 42-1710 and 42-1714, Idaho Code.

cc: Idaho Department of Water Resources  
Megan Jenkins

### **\*\*\* PLEASE NOTE \*\*\***

Per the Idaho Constitution, all administrative rules may be reviewed by the Legislature during the next legislative session. The Legislature has 3 options with this rulemaking docket: **1)** Approve the docket in its entirety; **2)** Reject the docket in its entirety; or **3)** Reject the docket in part.

**IDAPA 37 – IDAHO DEPARTMENT OF WATER RESOURCES /  
IDAHO WATER RESOURCE BOARD**

**37.03.04 – DRILLING FOR GEOTHERMAL RESOURCES RULES**

**DOCKET NO. 37-0304-2201 (ZBR CHAPTER REWRITE, FEE RULE)**

**NOTICE OF RULEMAKING – PROPOSED RULE**

**AUTHORITY:** In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has initiated proposed rulemaking. This action is authorized pursuant to §§ 42-1734(19), 42-1805(8), and 42-4010, Idaho Code.

**PUBLIC HEARING SCHEDULE:** Public hearing(s) concerning this rulemaking will be scheduled if requested in writing by twenty-five (25) persons, a political subdivision, or an agency, not later than October 19, 2022.

The hearing site(s) will be accessible to persons with disabilities. Requests for accommodation must be made not later than five (5) days prior to the hearing, to the agency address below.

**DESCRIPTIVE SUMMARY:** The following is a non-technical explanation of the substance and purpose of the proposed rule.

The Idaho Department of Water Resources (IDWR) and the Idaho Water Resource Board (IWRB) (the “Agencies”) initiated this rulemaking in compliance with [Executive Order No. 2020-01, Zero-Based Regulation \(ZBR\)](#) (EO 2020-01), issued by Governor Little on January 16, 2020. Pursuant to EO 2020-01, each rule chapter effective on June 30, 2020, must be reviewed by the promulgating agency over a five-year period. This review is being conducted according to a schedule established by the Division of Financial Management, Office of the Governor (DFM), posted at [https://adminrules.idaho.gov/forms\\_menu.html](https://adminrules.idaho.gov/forms_menu.html). This rule chapter was scheduled for review in 2022.

With this Notice, the Agencies propose a new chapter of drilling for geothermal resources rules. The new chapter is approximately 23% shorter than the existing drilling for geothermal resources rule chapter due to both internal agency analysis and external stakeholder negotiation, commentary, and editing. Changes to the rule come through a combination of (a) removal of obsolete provisions (such as the classification and treatment of “confidential” agency well construction records), (b) removal of unnecessary provisions (such as the definition and use of the term “production well”), and (c) modifications to existing rules regulating the processing of permits for the drilling of wells to use geothermal resources.

Pursuant to the ZBR process, this Notice represents the promulgation of a new rule chapter. As a result, the proposed rule does not contain strike-out/underline text in legislative format. The old rule has been repealed and replaced in its entirety. However, the development of the proposed rule text through two publicly-released preliminary rule draft iterations may be viewed at: <https://idwr.idaho.gov/legal-actions/rules/idwr-rulemaking-2022-2023/>. At the same website, the Agencies also developed and published rulemaking support documents, which provide the Agencies’ recommendations on rulemaking, rulemaking analysis, and responses to substantive comments received through the negotiated rulemaking process.

Citizens of the state of Idaho, water users, governmental agencies, and environmental groups may be interested in commenting on the proposed rule text. After consideration of public comments received in response to this Proposed Rule, the Agencies will present the final rule text to the Idaho Legislature in the late fall of 2022.

**FEE SUMMARY:** The following is a specific description of the fee or charge imposed:

IDAPA 37.03.04 governs the regulation of geothermal resource exploration and development and ensures that such activities occur in the public interest. The Rule promotes Idaho’s geothermal policy, “to maximize the benefits to the entire state which may be derived from the utilization of our geothermal resources, while minimizing the detriments and costs of all kinds which could result from their utilization”. The Rule also requires fees for geothermal exploratory wells, production wells, injection wells, and amendments to permits, as set forth in Idaho Code §§ 42-4003 and 42-4011.

**FISCAL IMPACT STATEMENT:** The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars (\$10,000) during the fiscal year: N/A.

**NEGOTIATED RULEMAKING:** Pursuant to § 67-5220(1), Idaho Code, negotiated rulemaking was conducted. The Notice of Intent to Promulgate Rules – Negotiated Rulemaking was published in the March 2, 2022, Idaho Administrative Bulletin, Vol. 22-3, pages 26-27.

**INCORPORATION BY REFERENCE:** Pursuant to § 67-5229(2)(a), Idaho Code, the following is a brief synopsis of why the incorporation by reference is necessary: N/A.

**ASSISTANCE ON TECHNICAL QUESTIONS:** For assistance on questions concerning this proposed rulemaking, contact Mathew Weaver at [mathew.weaver@idwr.idaho.gov](mailto:mathew.weaver@idwr.idaho.gov), (208) 287-4800.

Anyone can submit written comments regarding this proposed rule by mail to the address below or by email sent to [rulesinfo@idwr.idaho.gov](mailto:rulesinfo@idwr.idaho.gov). The Department will consider all written comments received by the undersigned on or before October 26, 2022.

Dated this 2nd day of September 2022

Gary Spackman, Director  
Idaho Department of Water Resources  
322 E. Front Street  
PO Box 83720  
Boise, ID 83720-0098  
Phone: (208) 287-4800

**THE FOLLOWING IS THE PROPOSED TEXT OF FEE DOCKET NO. 37-0304-2201**  
**(Zero Based Regulation (ZBR) Chapter Rewrite)**

**37.03.04 – DRILLING FOR GEOTHERMAL RESOURCES RULES**

**000. LEGAL AUTHORITY (RULE 0).**  
Section 42-4001 through Section 42-4015, Idaho Code. ( )

**001. TITLE AND SCOPE (RULE 1).**  
These rules establish the framework for the drilling, operation, maintenance, and abandonment of all geothermal wells in the state. ( )

**002. -- 009. (RESERVED)**

**010. DEFINITIONS (RULE 10).**  
For these rules, the following definitions apply. ( )

**01. Applicant.** Any person applying to the Department of Water Resources for a permit for the construction and operation of any well or injection well. ( )

**02. Board.** The Idaho Water Resource Board. ( )

**03. BOPE.** An abbreviation for Blow Out Prevention Equipment which is designed to be attached to the casing in a geothermal well to prevent a blow out of the drilling mud. ( )

**04. Completion.** A well is completed thirty (30) days after drilling operations have ceased unless a suspension of operation is approved by the Director, or thirty (30) days after it has commenced producing a geothermal resource, whichever occurs first, unless drilling operations are resumed before the end of the thirty (30) day period or at the end of the suspension. ( )

**05. Conductor Pipe.** The first and largest diameter string of casing to be installed in the well. This casing extends from land surface to a depth great enough to keep surface waters from entering and loose earth from falling in the hole and to provide anchorage for blow out prevention equipment prior to setting surface casing. ( )

**06. Department.** The Idaho Department of Water Resources. ( )

**07. Director.** The Director of the Idaho Department of Water Resources. ( )

**08. Drilling Logs.** The recorded description of the lithologic sequence encountered in drilling a well. ( )

**09. Drilling Operations.** The actual drilling, redrilling, or recompletion of the well for production or injection including the running and cementing of casing and the installation of well head equipment. Drilling operations do not include perforating, logging, and related operations after the casing has been cemented. ( )

**10. Exploratory Well.** A well drilled for the discovery or evaluation of geothermal resources. ( )

**11. Geothermal Area.** The same general land area which in its subsurface is underlain or reasonably appears to be underlain by geothermal resources from or in a single reservoir, pool, or other source or interrelated sources, as such area or areas may be designated from time to time by the Director. ( )

**12. Geothermal Field.** An area which contains a well or wells capable of commercial production of geothermal resources. ( )

**13. Geothermal Resource.** The natural heat energy of the earth, the energy in whatever form which may be found in any position and at any depth below the surface of the earth, present in, resulting from, or created by, or which may be extracted from such natural heat and all minerals in solution or other products obtained from the material medium of any geothermal resource. Groundwater having a temperature of two hundred twelve (212) degrees Fahrenheit or more in the bottom of a well shall be classified as a geothermal resource. Geothermal resources are found and hereby declared sui generis, being neither a mineral resource nor a water resource but they are also found and hereby declared closely related to and possibly affecting and affected by water and mineral resources in many instances. ( )

**14. Injection Well.** Any special well, converted producing well, or reactivated or converted abandoned well employed for injecting material into a geothermal area or adjacent area to maintain pressures in a geothermal reservoir, pool, or other source, or to provide new material or to serve as a material medium therein, or for reinjecting any material medium or the residue thereof, or any by-product of geothermal resource exploration or development into the earth. ( )

**15. Intermediate Casing.** The casing installed within the well to seal out brackish water, caving zones, etc., below the bottom of the surface casing. Such casings may either be lapped into the surface casing or extend to land surface. ( )

**16. Material Medium.** Any substance including, but not limited to, naturally heated fluids, brines, associated gasses and steam in whatever form, found at any depth and in any position below the surface of the earth, which contains or transmits the natural heat energy of the earth, but excluding petroleum, oil, hydrocarbon gas, or other hydrocarbon substances. ( )

17. **Notice of Intent (NOI).** A written statement to the Director that the applicant intends to do work. ( )
18. **Observation Well.** A small diameter well drilled strictly for monitoring purposes. In no case shall an observation well be completed for production of geothermal resources or for use as an injection well. ( )
19. **Operator.** Any person drilling, maintaining, operating, pumping, or in control of any well. The term operator also includes owner when any well is or has been or is about to be operated by or under the direction of the owner. ( )
20. **Owner.** The owner of the geothermal lease or well and includes operator when any well is operated or has been operated or is about to be operated by any person other than the owner. ( )
21. **Permit.** A permit issued pursuant to these rules for the construction and operation of any well or injection well. ( )
22. **Person.** Any individual natural person, general or limited partnership, joint venture, association, cooperative organization, corporation, whether domestic or foreign, agency or subdivision of this or any other state or municipal or quasi-municipal entity whether or not it is incorporated. ( )
23. **Production Casing.** The casing or tubing through which a geothermal resource is produced. This casing extends from the producing zone to land surface. ( )
24. **Surface Casing.** The first casing run after the conductor pipe to anchor blow out prevention equipment and to seal out all existing groundwater zones. ( )
25. **Suspension of Operations.** The cessation of drilling, redrilling, or alteration of casing before the well is officially abandoned or completed. All suspensions must be authorized by the Director. ( )
26. **Waste.** Any physical waste including, but not limited to: ( )
- a. Underground waste resulting from inefficient, excessive, or improper use, or dissipation of geothermal energy, or of any geothermal resource pool, reservoir, or other source; or the locating, spacing, constructing, equipping, operating, or producing of any well in a manner which results, or tends to result in reducing the quantity of geothermal energy to be recovered from any geothermal area in the state; ( )
- b. The inefficient above-ground transporting and storage of geothermal energy; and the locating, spacing, equipping, operating, or producing of any well or injection well in a manner causing or tending to cause unnecessary or excessive surface loss or destruction of geothermal energy; ( )
- c. The escape into the open air from a well of steam or hot water more than what is reasonably necessary in the efficient development or production of a well. ( )
27. **Well or Geothermal Resource Well.** Any excavation or other alteration in the earth's surface or crust by means of which the energy of any geothermal resource or its material medium is sought or obtained. ( )
011. -- 024. **(RESERVED)**
025. **DRILLING (RULE 25).**
01. **General.** All wells shall be drilled to protect or minimize damage to the environment, waters usable for all beneficial purposes, geothermal resources, life, health, or property. ( )
02. **Permits and Notices.** ( )
- a. **Permit to Drill for Geothermal Resources.** Any person, owner, or operator who proposes to construct or alter a well to produce or explore for geothermal resources or to construct or alter an injection well shall

first apply to the Director for permit. If the owner or operator plans to deepen, redrill, plug, or perform any operation that will in any manner alter the well, an application shall be filed with the Director and written approval must be received prior to beginning work. Application for permit shall be on a form approved by the Department. ( )

**b.** Application for Permit to Convert to Injection. If the owner plans to convert an existing geothermal well into an injection well with no change of mechanical condition, an application for permit shall be filed with the Director and written approval must be received prior to beginning injection. Application for permit shall be made on a form approved by the Department. ( )

**c.** Amendment of Permit. No well may be owned or operated by any person whose name does not appear on the permit or permit application and no changes in departure from the procedures, location, data, or persons specified on the face of a permit shall be allowed until an amendment to such permit is approved by the Director. Application for amendment shall be made on a form approved by the Department. ( )

**d.** Notice to Other Agencies. Notice of applications, permits, orders, or other actions received or issued by the Director may be given to any other agency or entity which may have information, comments, or jurisdiction over the activity involved. The Director may execute a memorandum of understanding with other agencies to eliminate duplication of applications or other efforts. ( )

**e.** No application shall be accepted by the Director until the filing fee required by § 42-4003(5), Idaho Code has been deposited with the Director. ( )

**03. Bonds.** ( )

**a.** The Director shall require every operator or owner who engages in the construction, alteration, testing, operation, or abandonment of the well to provide to the Director evidence of good and sufficient security in the form and amounts required by Idaho Code § 42-4005(f). ( )

**b.** Bonds remain in force for the life of the well or wells and may not be released until the well or wells are properly abandoned, or another valid bond is substituted therefor. Any person who acquires the ownership or operation of any well or wells shall within thirty (30) days after acquisition provide to the Director evidence of good and sufficient security in the form and amounts required by Idaho Code § 42-4005(f). ( )

**04. Well Spacing.** ( )

**a.** Any well drilled for the discovery and production of geothermal resources or as an injection well shall be located more than one hundred (100) feet from and within the outer boundary of the parcel of land on which the well is situated, or more than one hundred (100) feet from a public road, street, or highway dedicated prior to the commencement of drilling. This requirement may be modified or waived by the Director upon written request. ( )

**b.** For several contiguous parcels of land in one or different ownerships that are operated as a single geothermal field, the term outer boundary line means the outer boundary line of the land included in the field. In determining the contiguity of any such parcels of land, no street, road, or alley lying within the lease or field shall be determined to interrupt such contiguity. ( )

**c.** The Director shall approve the proposed well spacing programs or prescribe such modifications to the programs as he deems necessary for proper development giving consideration to such factors as, but not limited to, topographic characteristics of the area, hydrologic, geologic, and reservoir characteristics of the area, the number of wells that can be economically drilled to provide the necessary volume of geothermal resources for the intended use, minimizing well interference, unreasonable interference with multiple use of lands, and protection of the environment. ( )

**d.** Directional Drilling. Where the surface of the parcel of land containing one acre or more is unavailable for drilling, the surface well location may be located upon property which may or may not be contiguous. Such surface well locations shall not be less than twenty-five (25) feet from the outer boundary of the parcel on which it is located, nor less than twenty-five (25) feet from an existing street or road. The production or injection interval of



the well shall not be less than one hundred (100) feet from the outer boundary of the parcel into which it is drilled. Directional surveys must be filed with the Director for all wells directionally drilled. ( )

**05. Casing.** ( )

**a.** General. All wells shall be cased in such a manner as to protect or minimize damage to the environment, usable ground waters, geothermal resources, life, health, and property. The permanent well head completion equipment shall be attached to the production casing or to the intermediate casing if production casing does not reach the surface. No permanent well head equipment may be attached to any conductor or surface casing alone. The specification for casing strength shall be determined by the Director on a well-to-well basis. All casing reaching the surface shall provide adequate anchorage for blow out prevention equipment, hole pressure control, and protection for natural resources. Sufficient casing shall be run to reach a depth below all known or reasonably estimated groundwater levels to prevent blow outs or uncontrolled flows. The following casing requirements are general but should be used as guidelines in submitting applications for permit to drill. The casing schedule may consist of multiple casing strings (i.e., surface casing, intermediate casing, production casing) provided drilling depth does not exceed ten times the depth of last cemented casing. ( )

**b.** Conductor Pipe. A minimum of forty (40) feet of conductor pipe shall be installed. The annular space is to be cemented solid to the surface. A twenty-four (24) hour cure period for the grout must be allowed prior to drilling out the shoe unless additives sufficient, as determined by the Director, are used to obtain early strength. An annular blow out preventer shall be installed on all exploratory wells and on development wells when deemed necessary by the Department. ( )

**c.** Surface Casing. The surface casing hole shall be logged with an induction electrical log or equivalent or gamma-neutron log before running casing. This requirement may be waived by the Director. Permission to waive this requirement must be granted by the Director in writing prior to running surface casing. This casing shall provide for control of formation fluids, protection of usable groundwater, and for adequate anchorage for blow out prevention equipment. All surface casing shall be cemented solid to the surface. A twenty-four (24) hour cure period shall be allowed prior to drilling out the shoe of the surface casing unless additives sufficient, as determined by the Director, are used to obtain early strength. ( )

**i.** In areas of known high formation pressure, surface casing shall be set at the depth determined by the Director after a study of geologic conditions in the area. ( )

**ii.** In areas where subsurface geological conditions are variable or unknown, surface casing shall be in accordance with specifications as outlined in a. above. The casing must be seated through a sufficient series of low permeability, competent lithologic units such as claystone, siltstone, basalt, etc., to ensure a solid anchor for blow out prevention equipment and to protect usable groundwater from contamination. Additional casing may be required if the first string has not been cemented through a sufficient series of such beds, or a rapidly increasing thermal gradient or formation pressures are encountered. ( )

**iii.** The temperature of the return drilling mud shall be monitored continuously during the drilling of the surface casing hole. Either a continuous temperature-monitoring device shall be installed and maintained in a working condition or the temperature shall be read manually. In either case, the return temperature shall be entered into the logbook on thirty (30) foot increments. ( )

**iv.** BOPE capable of shutting in the well during any operation shall be installed on the surface casing and maintained ready for use at all times. BOPE pressure tests shall be performed by the operator for Department personnel on all exploratory wells prior to drilling out the shoe of the surface casing. The decision to perform BOPE pressure tests on other types of wells shall be made on a well-to-well basis by the Director. The Director must be notified five (5) days in advance of a scheduled pressure test. Permission to proceed with the test sooner may be given verbally by the Director upon request by the operator. ( )

**d.** Intermediate Casing. Intermediate casing shall be required for protection against anomalous pressure zones, cave-ins, washouts, abnormal temperature zones, uncontrollable lost circulation zones or other drilling hazards. Intermediate casing strings when installed shall be cemented solidly to the surface or to the top of the casing. ( )

e. Production Casing. Production casing may be set above or through the producing or injection zone and cemented either below or just above the objective zones. Sufficient cement shall be used to exclude overlying formation fluids from the geothermal zone, to segregate zones, and to prevent movement of fluids behind the casing into possible fresh groundwater zones. Production casing shall either be cemented solid to the surface or lapped into the intermediate casing if run. If the production casing is lapped into an intermediate casing, the casing overlap shall be at least fifty (50) feet, the lap shall be cemented solid, and the lap shall be pressure tested to ensure its integrity. ( )

**06. Electric Logging.** All wells except observation wells shall be logged with an induction electrical log or equivalent or gamma-neutron log from the bottom of the hole to the bottom of the conductor pipe. This requirement may be modified or waived by the Director upon written request. ( )

**026. ALTERNATIVE METHODS (RULE 26).**

To accommodate the use of advanced or new technology, and in consideration of methods not specifically addressed in these rules, the Director may consider specific proposals for alternative methods of drilling and constructing geothermal resource wells. ( )

**027. -- 029. (RESERVED)**

**030. RECORDS (RULE 30).**

**01. General.** The owner of any well shall keep or cause to be kept a careful and accurate log, core record, temperature logs, and history of the drilling of the well. These records shall be kept in the nearest office of the owner or at the well site and together with all other reports of the owner and operator regarding the well shall be subject to inspection by the Director during business hours. All records unless otherwise specified must be filed with the Director within thirty (30) days of completion of the well. ( )

**02. Records to Be Filed with the Director.** ( )

a. Drilling Logs and Core Record. Include the lithologic characteristics and depths of formations encountered, the depth and temperatures of water-bearing and steam-bearing strata, the temperatures, chemical compositions and other chemical and physical characteristics of fluids encountered as ascertained. The core record shall show the depth, lithologic character, and fluid content of the obtained cores. ( )

b. Well History. The well history shall describe in detail all significant daily operations carried out and equipment used during all phases of drilling, testing, completion, and abandonment of any well. ( )

c. Well Summary Report. The well summary report shall accompany the core record and well history reports. It is designed to show data pertinent to the condition of a well at the time of completion of work done. ( )

d. Production Records. The owner of any well producing geothermal resources shall file with the Director on or before the 20th day of each month for the preceding month a statement of production utilized in such a form as the Director may designate. Copies of monthly geothermal energy report forms are available from the Director; however, production data can be submitted on non-department forms if previously approved by the Director. ( )

e. Injection Records. The owner of any well injecting geothermal fluids or wastewater for any purpose shall file with the Director on or before the twentieth day of each month for the preceding month a report of the injection in such form as the Director may designate. Copies of monthly injection report forms are available from the Director. Injection data may be submitted on non-department forms if previously approved by the Director. ( )

f. Electric Logs and Directional Surveys. When conducted, electric logs and directional surveys shall be filed with the Director within sixty (60) days of completion, cessation of drilling operations, excluding any approved suspension of operations, or abandonment of any well. Like copies shall be filed upon recompletion of any

well. Upon a showing of hardship, the Director may extend the time within which to comply for a period not to exceed six (6) additional months. ( )

**031. -- 034. (RESERVED)**

**035. BLOW OUT PREVENTION (RULE 35).**

**01. BOPE.** Must be capable of controlling the well under known and unknown reservoir conditions. ( )

**a.** If reservoir conditions are unknown, data loggers shall be installed to continuously monitor and record the following conditions until the well has been drilled to total depth. ( )

i. Drilling mud temperature (in and out). ( )

ii. Drilling mud pit level. ( )

iii. Drilling mud pump volume. ( )

iv. Drilling mud weight. ( )

v. Drilling rate. ( )

vi. Hydrocarbon and hydrogen sulfide gas volume (with alarm). ( )

**b.** Annular BOPE with a minimum working pressure of one thousand (1,000) PSI shall be installed on the surface casing. If unusual conditions are anticipated, a BOPE may be required on the conductor pipe. ( )

**c.** If drilling mud temperature out reaches one hundred twenty-five (125) Degrees C (Celsius), drilling operations shall cease, drilling mud circulation will continue and the Director must be notified immediately. The operator must obtain the Director's approval of his proposed course of action prior to resuming drilling operations. ( )

**d.** When reservoir conditions are known, a gate valve with a minimum working pressure rating of three hundred (300) PSI may be installed on the well head. ( )

**e.** When reservoir conditions are known, the temperature of the return mud shall be monitored continuously. Either a continuous temperature monitoring device shall be installed and maintained in working condition or the temperature shall be read manually. In either case, return mud temperatures shall be entered into the logbook for each thirty (30) feet of depth drilled. ( )

**f.** The Director may approve BOPE modifications upon written request by the applicant. BOPE requirements under these rules may be modified by the Director depending upon the knowledge of the area. Such requirements may be set forth on the approved application for permit to drill a geothermal well or made in the field by Department personnel monitoring construction of the well. ( )

**036. -- 039. (RESERVED)**

**040. INJECTION WELLS (RULE 40).**

**01. Construction.** The owner of a proposed injection well or series of injection wells shall provide the Director with such information he deems necessary for evaluation of the impact of such injection on the geothermal reservoir and other natural resources. Such information shall include existing reservoir conditions, method of injection, source of injection fluid, estimates of daily amount of material medium to be injected, zones or formations affected, and analysis of fluid to be injected and of the fluid from the intended zone of the injection. Such information shall be on a form approved or provided by the Director. ( )

**02. Surveillance.** ( )

**a.** When an owner proposes to drill or modify an injection well or convert a producing or idle well to an injection well, he shall be required to demonstrate to the Director by means of a test that the casing has complete integrity. This test shall be conducted in a method approved by the Director. ( )

**b.** To establish the integrity of the annular cement above the shoe of the casing, the owner shall make sufficient surveys within thirty (30) days after injection is started into a well to prove that all the injected fluid is confined to the intended zone of injection. Thereafter, such surveys shall be made at least every two (2) years or more often if necessary. The Director shall be notified forty-eight (48) hours in advance of such surveys in order that a representative may be present if deemed necessary. If in the Director's opinion such tests are not necessary, he may grant a waiver excepting the operator from such tests. ( )

**c.** Department personnel may inspect the well site periodically after the well has been placed on injection. The Director may notify the operator or owner if any remediation work is necessary. Any remediation work must be performed within ninety (90) days of notification by the Director. The Director may rescind approval of the injection well for failure to perform necessary work. ( )

**041. -- 044. (RESERVED)**

**045. ABANDONMENT (RULE 45).**

**01. Objectives.** The objectives of abandonment are to block interzonal migration of fluids to: ( )

**a.** Prevent contamination of fresh water or other natural resources; ( )

**b.** Prevent damage to geothermal reservoirs; ( )

**c.** Prevent loss of reservoir energy; and ( )

**d.** Protect life, health, environment, and property. ( )

**02. General Requirements.** The following are general requirements which are subject to review and modification for individual wells or field conditions. ( )

**a.** A NOI to abandon geothermal resource wells is required to be filed with the Director five (5) days prior to beginning abandonment procedures. A permit to abandon may be given verbally by the Director provided the operator submits a written abandonment request on a form approved by the Director within twenty-four (24) hours of the verbal request. ( )

**b.** All wells abandoned shall be monumented with four (4) inch diameter pipe ten (10) feet in length of which four (4) feet shall be above ground. The remainder shall be embedded in concrete. The name, number, and location of the well shall be shown on the monument. Alternate methods of monumentation may be approved by the Director where land surface use indicates the above-described method is not satisfactory. ( )

**c.** Heavy drilling fluid or other seal material approved by the Director shall be used to replace any water in the hole and to fill all portions of the hole not plugged with cement. ( )

**d.** All cement plugs with a possible exception of the surface plug shall be pumped into the hole from the bottom up through drill pipe or tubing. ( )

**e.** All open annuli shall be filled with cement to the surface. ( )

**f.** A minimum of one hundred (100) feet of cement shall be emplaced straddling the interface or transition zone at the base of groundwater aquifers. ( )

**g.** One hundred (100) feet of cement shall straddle the shoe plug on all casings including conductor

pipe. ( )

**h.** A surface plug of either neat cement or cement shall be emplaced from the top of the casing to at least fifty (50) feet below the top of the casing. ( )

**i.** All casing shall be cut off at least five (5) feet below land surface. ( )

**j.** Cement plugs shall extend at least fifty (50) feet over the top of any liner installed in the well. ( )

**k.** Other abandonment procedures may be approved by the Director if the owner can demonstrate that the geothermal resource, groundwaters, and other natural resources will be protected. Such approval must be given in writing by the Director prior to the beginning of any abandonment procedures. ( )

**l.** An abandonment report must be submitted to the Department within five (5) days after the completion of the abandonment. ( )

**046. -- 049. (RESERVED)**

**050. MAINTENANCE (RULE 50).**

**01. General.** All well heads, separators, pumps, mufflers, manifolds, valves, pipelines, and other equipment used to produce geothermal resources shall be maintained in good condition in order to prevent loss of or damage to life, health, property, and natural resources. ( )

**02. Corrosion.** All surface well head equipment and pipelines and subsurface casing and tubing will be subject to periodic corrosion surveillance to safeguard health, life, property, and natural resources. ( )

**03. Tests.** The Director may require such tests or remediation necessary to prevent damage to life, health, property, and to protect geothermal and groundwater resources. Such tests may include, but are not limited to, casing tests, cementing tests, and equipment tests. ( )

**051. -- 059. (RESERVED)**

**060. HEARINGS ON DENIED, LIMITED, OR CONDITIONED PERMIT OR OTHER DECISIONS OF THE DIRECTOR (RULE 60).**

Pursuant to Idaho Code §§ 42-4004(c) and 42-4005(d), any applicant who is granted a limited or conditioned permit, or who is denied a permit or any person aggrieved by a decision of the Director may seek a hearing on said action of the Director by serving on the Director written notice and request for a hearing before the Board within thirty (30) days of service of the Director's decision. Said hearing will be set, conducted, and notice given as set forth in the Rules promulgated by the Board under the provisions of Title 67, Chapter 52, Idaho Code. Any applicant may appeal the decision of the Board to the District Court within thirty (30) days of service of the decision. ( )

**061. -- 064. (RESERVED)**

**065. ENFORCEMENT (RULE 65).**

**01. Enforcement by Director.** When the Director determines that any person is in substantial violation of any provisions of the Geothermal Resources Act (Chapter 40, Title 42, Idaho Code) or of any rule, permit, certificate, condition of approval or order issued or promulgated pursuant to the Geothermal Resources Act, the Director may commence an administrative enforcement action by issuing a written notice of violation in accordance with the provisions of Idaho Code §42-1701B. The Director may enforce any provision of the Geothermal Resources Act or any order or regulation issued or adopted pursuant thereto by an appropriate action in the district court. The Director may bring action in the District Court to enjoin noncompliance with any provision of this act. ( )

**066. --999. (RESERVED)**

## PROPOSED RULE COST/BENEFIT ANALYSIS

Section 67-5223(3), Idaho Code, requires the preparation of an economic impact statement for all proposed rules imposing or increasing fees or charges. This cost/benefit analysis, which must be filed with the proposed rule, must include the reasonably estimated costs to the agency to implement the rule and the reasonably estimated costs to be borne by citizens, or the private sector, or both.

**Department or Agency:** Idaho Department of Water Resources

**Agency Contact:** Mathew Weaver

**Phone:** 208.287.4800

**Date:** September 12, 2022

**IDAPA, Chapter and Title Number and Chapter Name:**

IDAPA 37.03.04 Drilling for Geothermal Resources Rules

**Fee Rule Status:**  Proposed  Temporary

**Rulemaking Docket Number:** 37-0304-2201

### **STATEMENT OF ECONOMIC IMPACT:**

IDAPA 37.03.04 governs the regulation of geothermal resource exploration and development and ensures that such activities occur in the public interest. The Rule allows Idaho's geothermal policy, "to maximize the benefits to the entire state which may be derived from the utilization of our geothermal resources, while minimizing the detriments and costs of all kinds which could result from their utilization" to be met. The Rule also requires fees for geothermal exploratory wells, production wells, injection wells, and amendments to permits, as set forth in Idaho Code, §§ 42-4003 and 4011.

The proposed rule has no impact to the state general fund, dedicated funds, or federal funds. Permit application fees are controlled by statute rather than rule. Refer to I.C. § 42-4003. As a result, the proposed rule does not change existing fees.

**IDAPA 37 – IDAHO DEPARTMENT OF WATER RESOURCES /  
IDAHO WATER RESOURCE BOARD**

**37.03.05 – MINE TAILINGS IMPOUNDMENT STRUCTURES RULES**

**DOCKET NO. 37-0305-2201 (ZBR CHAPTER REWRITE, FEE RULE)**

**NOTICE OF RULEMAKING – PROPOSED RULE**

**AUTHORITY:** In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has initiated proposed rulemaking. This action is authorized pursuant to §§ 42-1710 and 42-1714, Idaho Code.

**PUBLIC HEARING SCHEDULE:** Public hearing(s) concerning this rulemaking will be scheduled if requested in writing by twenty-five (25) persons, a political subdivision, or an agency, not later than October 19, 2022.

The hearing site(s) will be accessible to persons with disabilities. Requests for accommodation must be made not later than five (5) days prior to the hearing, to the agency address below.

**DESCRIPTIVE SUMMARY:** The following is a non-technical explanation of the substance and purpose of the proposed rule.

The Idaho Department of Water Resources (IDWR) and the Idaho Water Resource Board (IWRB) (the “Agencies”) initiated this rulemaking in compliance with [Executive Order No. 2020-01, Zero-Based Regulation \(ZBR\)](#) (EO 2020-01), issued by Governor Little on January 16, 2020. Pursuant to EO 2020-01, each rule chapter effective on June 30, 2020, must be reviewed by the promulgating agency over a five-year period. This review is being conducted according to a schedule established by the Division of Financial Management, Office of the Governor (DFM), posted at [https://adminrules.idaho.gov/forms\\_menu.html](https://adminrules.idaho.gov/forms_menu.html). This rule chapter was scheduled for review in 2022.

With this Notice, the Agencies propose a new chapter of mine tailings impoundment structures rules. The new chapter is approximately the same length as the existing mine tailings impoundment structures rules. Only one change from the existing rule is proposed in this rule. The change addresses fixing an inconsistency between current statutory requirements and outdated requirements in the old rule concerning the inspection intervals of mine tailings impoundment structures. Rules 10.13 and 40.01 were updated to reconcile the inconsistency.

Pursuant to the ZBR process, this Notice represents the promulgation of a new rule chapter. As a result, the proposed rule does not contain strike-out/underline text in legislative format. The old rule has been repealed and replaced in its entirety. However, the development of the proposed rule text through two publicly-released preliminary rule draft iterations may be viewed at: <https://idwr.idaho.gov/legal-actions/rules/idwr-rulemaking-2022-2023/>. At the same website, the Agencies also developed and published rulemaking support documents, which provide the Agencies’ recommendations on rulemaking, rulemaking analysis, and responses to substantive comments received through the negotiated rulemaking process.

Citizens of the state of Idaho, water users, governmental agencies, and environmental groups may be interested in commenting on the proposed rule text. After consideration of public comments received in response to this Proposed Rule, the Agencies will present the final rule text to the Idaho Legislature in the late fall of 2022.

**FEE SUMMARY:** The following is a specific description of the fee or charge imposed:

IDAPA 37.03.05 establishes acceptable construction standards and governs IDWR’s design and technical review of mine tailing and water impoundment structures. The Rule also supports the collection of a fee to review plans, drawings, and specifications pertaining to any mine tailings impoundment structure.

**FISCAL IMPACT STATEMENT:** The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars (\$10,000) during the fiscal year: N/A.

**NEGOTIATED RULEMAKING:** Pursuant to § 67-5220(1), Idaho Code, negotiated rulemaking was conducted. The Notice of Intent to Promulgate Rules – Negotiated Rulemaking was published in the May 4, 2022, Idaho Administrative Bulletin, [Vol. 22-5, page 84-85](#).

**INCORPORATION BY REFERENCE:** Pursuant to § 67-5229(2)(a), Idaho Code, the following is a brief synopsis of why the incorporation by reference is necessary: N/A.

**ASSISTANCE ON TECHNICAL QUESTIONS:** For assistance on questions concerning this proposed rulemaking, contact Mathew Weaver at [mathew.weaver@idwr.idaho.gov](mailto:mathew.weaver@idwr.idaho.gov), (208) 287-4800.

Anyone can submit written comments regarding this proposed rule by mail to the address below or by email sent to [rulesinfo@idwr.idaho.gov](mailto:rulesinfo@idwr.idaho.gov). The Department will consider all written comments received by the undersigned on or before October 26, 2022.

Dated this 2nd day of September 2022

Gary Spackman, Director  
Idaho Department of Water Resources  
322 E. Front Street  
PO Box 83720  
Boise, ID 83720-0098  
Phone: (208) 287-4800

**THE FOLLOWING IS THE PROPOSED TEXT OF FEE DOCKET NO. 37-0305-2201**  
**(Zero Based Regulation (ZBR) Chapter Rewrite)**

**37.03.05 – MINE TAILINGS IMPOUNDMENT STRUCTURES RULES**

**000. LEGAL AUTHORITY (RULE 0).**

These rules are adopted pursuant to Section 42-1714, Idaho Code. ( )

**001. SCOPE (RULE 1).**

**01. Scope.** ( )

**a.** These rules and standards will only apply to structures upon which construction, lift construction, enlargement, or alteration is underway on or after July 1, 1978. Under no circumstances shall these rules be construed to deprive or limit the Director of the Department of Water Resources of any exercise of powers, duties and jurisdiction conferred by law, nor to limit or restrict the amount or character of data, or information which may be required by the Director from any owner of a mine tailings impoundment structure for the proper administration of the law. ( )

**b.** The design requirements listed are intended as a guide to establish acceptable standards of construction. They are not intended to restrict the application of other sound design principles by engineers. The Director will evaluate any deviation from the standards hereinafter stated as they pertain to the safety of any given mine tailings impoundment structure. Engineers are encouraged to submit new ideas which will advance the art and provide for the public safety. ( )

**002. -- 009. (RESERVED)**

**010. DEFINITIONS (RULE 10).**

Unless the context otherwise requires, the following definitions govern these rules. ( )



- 01. Board.** The Idaho Water Resource Board. ( )
- 02. Director.** The Director of the Idaho Department of Water Resources. ( )
- 03. Department.** The Idaho Department of Water Resources. ( )
- 04. Mine Tailings Impoundment Structure.** Any artificial embankment which is or will be more than thirty (30) feet in height measured from the lowest elevation of the toe to the maximum crest elevation constructed for the purpose of storing mine tailings slurry. ( )
- 05. Mine Tailings Slurry.** All slurry wastes from a mineral processing or mining operation. ( )
- 06. Mine Tailings Storage Capacity.** The total storage volume of the impoundment when filled with tailings to the maximum approved design storage elevation. ( )
- 07. Borrowed Fill Embankment.** Any embankment constructed of borrowed earth materials and which is designed for construction by conventional earth moving equipment. ( )
- 08. Reservoir.** Any basin which contains or will contain the material impounded by the mine tailings impoundment structure. ( )
- 09. Owner.** Includes any of the following who own, control, operate, maintain, manage, or propose to construct a mine tailings impoundment structure or reservoir. ( )
- a.** The state of Idaho and any of its departments, agencies, institutions and political subdivisions; ( )
  - b.** The United States of America and any of its departments, bureaus, agencies and institutions; provided that the United States of America shall not be required to pay any of the fees required by Section 42-1713, Idaho Code, and shall submit plans, drawings and specifications as required by Section 42-1721, Idaho Code, for information purposes only; ( )
  - c.** Every municipal or quasi-municipal corporation; ( )
  - d.** Every public utility; ( )
  - e.** Every person, firm, association, organization, partnership, business, trust, corporation or company; ( )
  - f.** The duly authorized agents, lessees, or trustees of any of the foregoing; ( )
  - g.** Receivers or trustees appointed by any court for any of the foregoing. ( )
- 10. Alterations, Repairs or Either of Them.** Only such alterations or repairs as may directly affect the safety of the mine tailings impoundment structure or reservoir, as determined by the Director. ( )
- 11. Enlargement.** Any change in or addition to an existing mine tailings impoundment structure or reservoir, which raises or may raise the storage capacity of the structure, as defined in Rule Subsection 010.06. ( )
- 12. Days Used in Establishing Deadlines.** Calendar days including Sundays and holidays. ( )
- 13. Certificate of Approval.** A certificate issued by the Director for the mine tailings impoundment structure listing restrictions imposed by the Director, and without which no new mine tailings impoundment structures shall be allowed to impound mine tailings slurry or water and no existing impoundment shall be allowed to impound water or continue deposition of mine tailings slurry. The structure will be recertified following the site

inspection scheduled according to the Hazard Classification assigned by the Department, unless the Director determines that the structure is unsafe. ( )

**14. Engineer.** A registered professional engineer, licensed as such by the state of Idaho. ( )

**011. -- 024. (RESERVED)**

**025. AUTHORITY OF REPRESENTATIVE (RULE 25).**

When plans, drawings and specifications are filed by another person on behalf of an owner, written evidence of authority to represent the owner shall be filed with the plans, drawings and specifications. ( )

**026. -- 029. (RESERVED)**

**030. FORMS (RULE 30).**

Forms required by these rules. ( )

**01. Samples of Forms.** Samples of all forms required by these rules are available from the Department to interested parties upon request. ( )

**02. Form 1721.** Construction of a mine tailings impoundment structure requires the filing of Form 1721. ( )

**031. -- 034. (RESERVED)**

**035. PLANS, DRAWINGS, AND SPECIFICATIONS (RULE 35).**

The following provisions shall apply in submitting plans, drawings, and specifications. ( )

**01. Submission of Plans, Drawings, and Specification.** Any owner who shall desire to construct, or enlarge, or alter or repair any mine tailings impoundment structure shall submit duplicate copies of plans, drawings, and specifications prepared by an engineer for the proposed work to the Director with required fees. An owner who desires to construct a continuously raised tailings impoundment structure shall submit duplicate copies of plans, drawings, and specifications prepared by an engineer, showing the stages of lift height, by periods of time, and ultimate design height. ( )

**02. Application for and Receipt of Written Approval.** Construction of a new mine tailings impoundment structure or enlargement, or non-emergency alteration or repairs on existing mine tailings impoundment structures shall not be commenced until the owner has applied and obtained written approval of the plans, drawings, and specifications covering the work. In emergency situations, the owner shall make the required alterations or repairs necessary to relieve the emergency, and notify the Director. ( )

**03. Preparation and Submission of Plans.** Plans must be prepared on a good grade of tracing linen or a good quality vellum or mylar. Transparent copies reproducible by standard duplicating processes, if accurate, legible and permanent, will be accepted. Plans may initially be submitted in the form of nonreproducible paper prints. After reviewing the plans, the Director will notify the owner of any required changes. ( )

**04. Scale of Plans and Drawings.** Plans and drawings shall be of sufficiently large scale with an adequate number of views and proper dimensions, so that drawings may be readily interpreted and studied. ( )

**05. Dimensions of Plans.** All sheets for a set of plans shall have an outside dimension of twenty-four by thirty-six (24 x 36) inches. A margin of two (2) inches on the left-hand end and a margin of one-half (1/2) inch on the other three sides must be provided, making the available work space twenty-three (23) x thirty-three and one-half (33 1/2) inches. ( )

**06. Plans.** The plans shall include the following: ( )

**a.** A topographic map of the mine tailings impoundment structure site showing the location of the proposed mine tailings impoundment structure by section, township and range, and location of spillway or diversion

structures, outlet works, and all borings, test pits, borrow pits; ( )

**b.** A profile along the mine tailings impoundment structure axis showing the locations, elevations, and depths of borings or test pits, including logs of bore hole and/or test pits; ( )

**c.** A maximum cross-section of the mine tailings impoundment structure showing elevation and width of crest, slopes of upstream and downstream faces, thickness of any proposed riprap, zoning of the earth embankment (if any), location of cutoff and bonding trenches, elevations, size and type of decant systems, valves, operating mechanism, and dimensions of all other essential structural elements such as cutoff walls, filters, embankment zones, etc.; ( )

**d.** Detailed drawings describing the outlet system, i.e., decant line, barge pump system, siphon system; ( )

**e.** If a spillway is used, a curve showing the discharge capacity in cubic feet per second of the spillway vs. gage height of the storage pool level above the spillway crest up to the maximum high-water level, and the formula used in making such determinations; ( )

**f.** If a stream diversion is created, a tabulation of the discharge capacity in cubic feet per second of any diversion works and of the diversion channel vs. flow depth through the diversion works or channel up to maximum capacity of the system, and the formulas used in making such determinations; ( )

**g.** Where staged construction will take place and no spillway exists, a curve showing maximum safe operating level for the tailings as a function of embankment height and the design criteria used to arrive at this; ( )

**h.** Detailed plans, including cross-sections and profile, of the spillway or diversion works and any associated channels; ( )

**i.** Plans for monitoring and/or recovering seepage from the reservoir in those instances where safety of the impoundment may be affected; ( )

**j.** An operation plan; ( )

**k.** An emergency procedure plan for protection of life and property; ( )

**l.** An abandonment plan that assures the Director to his satisfaction that, upon completion of the mining operation, the site will be in a safe maintenance-free condition. ( )

**07. Specifications.** Specifications shall include provisions acceptable to the Director for adequate observation, inspection and control of the work by a registered professional engineer during the period of construction. ( )

**08. Provision Included with Plans.** The specifications shall provide that the plans and specifications may not be materially changed without prior written consent of the Director. ( )

**09. Provisions Included with Specifications.** The specifications shall provide that certain stages of construction shall not proceed without the approval of the Director. Those stages requiring approval are as follows: ( )

**a.** After clearing and excavation of foundation and prior to placing any fill material; ( )

**b.** After installation of the decant conduit and any proposed collars and before placing any backfill material around conduit; ( )

**c.** After construction is completed (first stage starter dike if staged construction) and before any water or mine tailings slurry is stored in the reservoir; ( )

- d. Before each successive enlargement of the impoundment structure; ( )
- e. After each stage of enlargement of the impoundment structure is completed and before storage is allowed to exceed the level approved for the previous approved stage; ( )
- f. At such other times as determined necessary by the Director. The Director will, within seven (7) days after notification by the engineer, inspect and if satisfactory, approve the completed stage of construction. Owners are encouraged to give prior notice to the Department, so that the inspection can be scheduled to prevent delays. ( )
- 10. Inspections, Examinations, and Tests.** All materials and workmanship may be subject to inspection, examination and test by the Director at any and all reasonable times during manufacture and/or construction and at any and all places where such manufacture and/or construction are carried on. ( )
- 11. Rejection of Defective Material.** The Director shall have the right to require the owner or engineer to reject defective material and workmanship or require its correction. Rejected workmanship shall be corrected and rejected material shall be replaced with proper material. ( )
- 12. Suspension of Work.** The Director may order the engineer to suspend any work that may be subject to damage by climatic conditions. ( )
- 13. Responsibility of Engineer.** These provisions shall not relieve the engineer of his responsibility to assure that construction is accomplished in accordance to approved plans and specifications or to suspend work on his own motion. ( )
- 14. Detailing Provisions of Specifications.** The specifications shall state in sufficient detail, all provisions necessary to ensure that construction is accomplished in an acceptable manner and provide needed control for construction to ensure that a safe structure is constructed. ( )
- 15. Required Information.** The following information shall be submitted with the plans and specifications. ( )
- 16. Engineer's Report.** An engineer's report giving details necessary for analysis of the structure and appurtenances. Included as a part of the report where applicable shall be the following: ( )
- a. Formulas and assumptions used in designs; ( )
- b. Hydrologic data used in determining runoff from the drainage areas; ( )
- c. Engineering properties of each type of material to be used in the embankment and of the foundation areas; ( )
- d. Stability analysis, including an evaluation of overturning, sliding, upstream and downstream slopes and foundation stability; ( )
- e. Geologic description of reservoir area, including evaluation of landslide potential; ( )
- f. Chemical analysis of all materials composing the slurry; ( )
- g. Earthquake design loads must be evaluated at all sites located east of Range 22 E., Boise Meridian. This area corresponds to Seismic Zone 3 as designated by the Recommended Guidelines of the National Dam Safety Program. Earthquake analysis may be required at other impoundment structure sites if deemed necessary by the Director; ( )
- h. A seepage analysis of the embankment and reservoir bottom; ( )

- i. A hydraulic analysis of the outlet system and spillway, diversion work or diversion channel; ( )
- j. Engineering properties and the weathering characteristics of the proposed tailings to be stored in the impoundment; ( )
- k. Other information which would aid in evaluating the safety of the design. ( )

**17. Filing of Additional Information.** The Director may require the filing of such additional information which in his opinion is necessary to assess safety or waive any requirement herein cited if in his opinion it is unnecessary. ( )

**036. -- 039. (RESERVED)**

**040. BONDING (RULE 40).**

An active surety bond or other means of acceptable surety payable to the Director of the Department of Water Resources shall be on file with the Director throughout the active life of the tailings disposal site. The purpose of this bond is to provide a means by which the tailings impoundment can be placed in a safe maintenance-free condition if abandoned by the owner without conforming to an abandonment plan approved by the Director. ( )

**01. Filing of Bond.** The bond shall be filed prior to any issuance by the Director of a certificate of approval for use of the mine tailings impoundment structure to impound mine tailings slurry and shall run for the approval period covered on the certificate of approval. ( )

**02. Provisions of Bond.** Bond provisions shall provide that the surety may be held liable for a period of up to five (5) years following notice of default on the bond. ( )

**03. Amount of Bond.** The bond amount will be set by the Director and is subject to revision each time it is renewed. The owner must obtain approval for the amount of his surety bond prior to each renewal. ( )

**04. Cost Estimate Submitted by Engineer.** In order to provide a basis for setting the bond amount, the engineer shall submit a cost estimate acceptable to the Director, together with conceptual details needed to arrive at the estimate, for abandonment of the facility at each proposed stage of its construction. ( )

**05. Current Costs for Abandonment.** Bond amount will be based on current costs for abandonment of the facility based on the approved cost estimate for abandonment at the present construction condition or the next approved proposed stage, whichever represents the larger bond amount. ( )

**06. Determination of Bond Amount.** If the final abandonment is determined to be the most costly condition, the owner may elect to use this as a basis for bonding throughout the life of the project. The Director may, however, revise the bonding amount to reflect updated costs when he feels it is necessary in order to maintain a realistic bond. ( )

**07. Filing Initial Bond.** The initial bond shall be filed upon completion of the first stage of construction and before the required certificate of approval is issued to allow storage of mine tailings slurry in the impoundment. No certificate of approval shall be renewed prior to filing by the owner of a bond renewal in an amount approved by the Director. ( )

**08. Filing Copy of Performance Bond.** Upon the filing of a copy of a performance bond with the Director, covering the terms and conditions of a state of Idaho mineral lease or an approved reclamation plan, in which these documents specify compliance with a plan of restoration of all mining operations, including the tailings impounding structure, the Director may determine the bond required of this section has been met, if the amount of the bond accurately reflects the cost associated with the abandonment plan provided by the owner. ( )

**041. -- 044. (RESERVED)**

**045. MINE TAILINGS IMPOUNDMENT STRUCTURES DESIGN CRITERIA (RULE 45).**

The following minimum design criteria shall be used for all mine tailings impoundment structures designed for

installation in Idaho. These limitations are intended to serve as guidelines for a broad range of circumstances, and engineers should not consider them as a restriction to the use of other sound design criteria. Deviation from this established criteria will be considered by the Director in approving plans and specifications. ( )

**01. Embankment Slopes.** ( )

**a.** For construction of borrowed fill embankments, in the absence of a stability analysis, the slopes shall be:

Upstream slope	2:1 or flatter
Downstream slope	2:1 or flatter

( )

**b.** Construction by the upstream method shall not be used in the area of the state east of Range 22 E., Boise Meridian, unless the engineer can provide evidence that the construction and operation of the tailings impoundment will achieve a relative density of sixty percent (60%) or greater in the embankment and tailings to prevent liquefaction during earthquake loading. ( )

**c.** Safety factors for the embankment shall be at least one and five-tenths (1.5) for static loads and a minimum of one (1) for the static plus the appropriate earthquake load. ( )

**d.** To insure sufficient permeability and stability of the embankment, designs will require utilizing materials other than the tailings, when the tailings materials: ( )

**i.** Contain greater than seventy-five percent (75%) passing the #200 standard U.S. sieve, or fifty percent (50%) passing the #325 standard U.S. sieve; ( )

**ii.** Contain phosphate clays; ( )

**iii.** The design calls for the water to be impounded against the embankment; ( )

**iv.** Have other properties which makes them unsuitable for use as construction materials. ( )

**e.** Embankments designed for the storage of hazardous levels of radioactive materials shall, in addition to any requirements of these regulations, meet the criteria outlined in the Nuclear Regulatory Commission Regulatory Guide 3.11 and the Idaho Radiation Control Regulations administered by the Idaho Department of Environmental Quality. ( )

**f.** The design shall consider the need for drains and/or operational procedures to promote consolidation and insure that a low phreatic surface is maintained within the embankment. Drainage pipe shall not be used beneath embankments where excessive or differential settlement may cause failure of the pipes and subsequent piping of the tailings or embankment. When the quality of the mine tailings slurry is such that it will adversely affect the quality of the existing ground water, the design should be coordinated with the Department and the Department of Environmental Quality to insure that all applicable permits are obtained. ( )

**g.** Instrumentation of the embankment and/or foundation will be required to insure that the structure is functioning satisfactorily. Standpipe piezometers with an inside diameter greater than one-half (1/2) inch will not be acceptable for use in fine-grained or cohesive soils in order to minimize response time. ( )

**h.** Tailings impoundment structures which are constructed using the tailings shall not be constructed or raised during freezing weather to prevent frost lenses in the embankment. Sufficient freeboard must be provided during the summer construction season if the disposal operation is to continue during the winter. ( )

**i.** If tailings are to be discharged during times of freezing weather and the embankment is to be constructed using either the upstream or centerline method, the pond shall be of sufficient size to insure that any ice formed in the tailings pond area melts during the next warm season. ( )

**02. Top Width Embankment. ( )**

**a.** In the absence of a stability analysis, the minimum top width for mine tailings impoundment structures shall be:

$W = 2 (H \text{ to } 1/2 \text{ power}) + 4, \text{ minimum}$   
 $W = \text{Top width}$   
 $H = \text{Embankment height} \quad ( )$

**b.** The minimum top width for any tailings embankment is ten (10) feet. ( )

**03. Cutoff Trenches or Walls. ( )**

**a.** Cutoff trenches, if needed, shall be used to bond the fill through relatively pervious material to an impervious stratum or zone. The bond area shall extend up the abutments to the maximum high water or tailings impoundment elevation. Cutoff (keylock) trenches which are to be backfilled with compacted fill shall be wide enough to allow the free movement of excavation and compaction equipment. Side slopes shall be no steeper than 1:1 for depths up to twelve (12) feet, and no steeper than one and one-half (1 1/2) to one (1) for greater depths to provide for proper compaction. Flatter slopes may be required for safety and stability. ( )

**b.** Concrete cutoff walls may be used to bond fills to smooth rock surfaces in a similar manner as cutoff trenches and they shall be entrenched in the rock to a depth approximately one-half (1/2) the thickness of the cutoff wall. Concrete cutoff walls shall be doweled into the rock a minimum of twelve (12) inches with a maximum spacing of eighteen (18) inches for three-quarter (3/4) inch steel dowels. Concrete walls shall have a minimum projection of three (3) feet perpendicular to the rock surface and shall have a minimum thickness of twelve (12) inches. ( )

**04. Borrowed Fill Embankment. ( )**

**a.** The approved earth materials (silt soils are seldom acceptable) shall be zoned as shown in the plans and placed in the embankment in continuous, approximately level layers. Compaction shall be based on ASTM D-698 for cohesive soils and a minimum compaction of ninety-five percent (95%) of the laboratory Standard Proctor dry density is required. Compaction of cohesionless soils shall insure a relative density of sixty percent (60%) or greater. ( )

**b.** An acceptable working range of moisture content for the fill material shall be established and maintained. ( )

**c.** The material shall be compacted by means of a loaded sheepsfoot roller, vibratory roller, or other acceptable means, to the required density. ( )

**d.** No rock shall be left in the fill material which has a maximum dimension exceeding the lift thickness. The fill material shall be free of brush and organic materials. ( )

**e.** The fill shall be carried up simultaneously the full design width of the structure, and the top of the fill shall be kept substantially level at all times or slope slightly toward the reservoir. ( )

**f.** No frozen or cloddy fill material shall be used, and no material shall be place upon frozen, muddy or unscarified surfaces. ( )

**g.** All materials used in the embankment shall meet all the stability and seepage requirements as shown by a design analysis of the structure and shall be properly installed to meet these requirements. ( )

**05. Riprap. ( )**

**a.** All dams shall be protected from wave action. In cases where water is stored directly against the

mine tailings impoundment structure or where wave action at maximum pool level during design inflow events would affect the integrity of the embankment, the Director may require use of riprap or other protective measures. ( )

**b.** If riprap is used the design shall specify the rock size and extent of blanket required to prevent erosion. ( )

**06. Outlet Systems.** ( )

**a.** Reservoirs must safely handle the design inflow for all areas draining into the reservoir. This may be done either by storing the entire design inflow or by having an outlet system or combination of systems adequate to safely pass the design inflow. If the tailings reservoir is situated on a stream channel, an outlet system or an approved alternative system capable of meeting downstream flow requirements must be provided. ( )

**b.** The minimum design inflow for all reservoirs shall be the flood with one percent (1%) probability of occurrence. The Director may require a greater design inflow be used in instances of high hazard, for larger mine tailings impoundment structures, or when the inflow is to be entirely stored in the reservoir during the flood period. ( )

**c.** The outlet system may be composed of one (1) or a combination of the following: decant line, spillway, or stream channel diversion to bypass the reservoir. The system will be determined by individual reservoir conditions. Unless removal of the mine tailings impoundment structure and reservoir is part of the abandonment plan, the outlet system shall be maintained in perpetuity, unless it is demonstrated that an outlet system is not needed. ( )

**d.** Outlet systems will not be allowed if their use would release toxic, highly turbid, radioactive or otherwise hazardous flows from the reservoir. In these cases the design inflow must either be entirely stored or diverted around the reservoir. ( )

**e.** All spillways shall be stabilized to discharge flow through the use of concrete, masonry, riprap or sod, if not constructed in resistant rock. ( )

**f.** Wherever possible, the spillway shall be constructed independent of the impoundment structure. It shall lead the water far enough away from the mine tailings impoundment structure so as not to endanger the structure. ( )

**g.** A diversion system must not subject the mine tailings impoundment structure to erosion during the design inflow event. All stream diversions shall conform to the minimum standards for stream channel alterations as written by this Department. ( )

**h.** Decant conduits, if under the embankment, shall be laid on a firm, stable foundation and normally must not be placed on fill. They shall have a minimum inside diameter of twelve (12) inches and one (1) of the following provisions included in the design: ( )

**i.** The owner shall have the conduit inspected by photographic or video tape equipment and a copy of the inspection provided to the Department, if a problem is suspected; or ( )

**ii.** The conduit shall be completely plugged with concrete and/or suitable material, for that portion which extends through the embankment, if a nonrepairable problem occurs within the conduit. The conduit shall consist of material which has been shown to possess the qualities necessary to perform in the environment of the specific tailings impoundment. The design life of the conduit shall be greater than the life of the mine tailings impoundment structure. The portion of the conduit through the embankment shall be completely filled with concrete, or other suitable material, and the riser portion of the conduit capped, upon abandonment of the mine tailings impoundment structure. ( )

**i.** All decant conduits, if under the embankment, shall have a seepage path through the impervious zone at least equivalent in length to the maximum head above the downstream end of the system. Only one third (1/3) the horizontal distance through the impervious zone will be utilized when calculating the length of the seepage path.



Collars may be used to satisfy this requirement, but all collars shall extend a minimum of three (3) feet outside the conduit. Collars shall be spaced at intervals of at least seven (7) times their height and no collar may be closer to the outer surface of the impervious zone than the distance it extends out from the conduit. ( )

j. More than two (2) decant conduits are not to be used, unless special conditions warrant. ( )

**07. Freeboard.** A minimum freeboard of two (2) feet plus wave height (H) shall be provided on the crest of the mine tailings impoundment structure during passage of the design inflow.

H = 1.95 (F to 1/2 power)  
F = Fetch in miles across water surface at a design maximum level. ( )

**08. Records.** All instrumentation shall be read and recorded on a regular basis, and all records must be available for inspection by Department personnel on request. ( )

**09. Inspection and Completion Reports.** ( )

a. It is the responsibility of the engineer to submit test reports along with periodic inspection and progress reports to the Director. ( )

b. Upon completion of each approved stage of construction, a letter shall be sent to the Director, giving a short, narrative account covering all items of work. As-built plans shall be submitted to the Director if the completed project was substantially changed from the plans originally approved. ( )

**10. Abandonment.** An abandonment plan which provides a stable, maintenance-free condition when the mine tailings impoundment is no longer being regularly maintained by the owner or the owner has ceased to use the site for disposal of mine tailings slurry, shall be submitted to the Director by the owner. The plan shall provide a safe condition by providing for removal of the tailings, or construction of a maintenance-free spillway or diversion works where needed to accommodate runoff. The plan shall include provisions to prevent water storage behind, and erosion of, the mine tailings impoundment structure and the impounded tailing. A conceptual plan which includes an engineering design report, detailed enough to provide the required cost estimate for bonding purposes, will be required prior to the approval of the proposed project. Detailed construction plans must be approved by the Director prior to implementation of any abandonment work. The Director shall notify the owner upon acceptance of completion of abandonment in accordance with the approved plan. ( )

**046. -- 049. (RESERVED)**

**050. DAMS STORING TAILING AND WATER (RULE 50).**

Construction of dams intended to store water in excess of the water being decanted in the tailing placement operation shall also meet the requirements for water storage reservoirs specified in the Department's Rules for the Safety of Dams. The Director may waive any or all of these requirements if, in the opinion of the Director, sound engineering design supplied by the owner indicates such requirements are not applicable. ( )

**051. -- 054. (RESERVED)**

**055. PROVISIONS OF CHAPTER 17, TITLE 42, IDAHO CODE (RULE 55).**

The provisions of Sections 42-1709 through 42-1721, Idaho Code, are a part of these rules. ( )

**056. -- 999. (RESERVED)**

## PROPOSED RULE COST/BENEFIT ANALYSIS

Section 67-5223(3), Idaho Code, requires the preparation of an economic impact statement for all proposed rules imposing or increasing fees or charges. This cost/benefit analysis, which must be filed with the proposed rule, must include the reasonably estimated costs to the agency to implement the rule and the reasonably estimated costs to be borne by citizens, or the private sector, or both.

**Department or Agency:** Idaho Department of Water Resources

**Agency Contact:** Mathew Weaver

**Phone:** 208.287.4800

**Date:** September 12, 2022

**IDAPA, Chapter and Title Number and Chapter Name:**

IDAPA 37.03.05 Mine Tailings Impoundment Structures

**Fee Rule Status:**  Proposed  Temporary

**Rulemaking Docket Number:** 37-0305-2201

### **STATEMENT OF ECONOMIC IMPACT:**

IDAPA 37.03.05 establishes acceptable construction standards and governs IDWR's design and technical review of mine tailing and water impoundment structures. The Rule also supports the collection of fee(s) to review plans, drawings, and specifications pertaining to any mine tailings impoundment structure.

The proposed rule has no impact to the state general fund, dedicated funds, or federal funds. Design review and construction inspection fees are controlled by statute rather than rule. Refer to I.C. § 42-1713. As a result, the proposed rule does not change existing fees.