

R649. Natural Resources; Oil, Gas and Mining; Oil and Gas.

R649-9. Waste Management and Disposal.

R649-9-1. Introduction.

1. Section 40-6-5 UCA authorizes the board to regulate the disposal of salt water and oil-field wastes. It is the intent of the Board and Division to regulate Exploration and Production Wastes E and P wastes and facilities for the disposal of these wastes in a manner that protects the environment, limits liability to producers, and minimizes the volume of waste.

2. These rules specify the informational and procedural requirements for waste management and disposal, the permitting of disposal facilities and the cleanup requirements for E and P waste related sites.

R649-9-2. General Waste Management.

1. Wastes addressed by these rules are E and P Wastes that are exempt from the RCRA hazardous waste management requirements.

1.1. Before using a commercial disposal facility the operator may contact the Division to verify the status of the facility. The Division regularly updates this information on the Division of Oil, Gas and Mining web site.

1.2. Each site and/or facility used for disposal must be permitted and in good standing with the division.

2. Reduction of the amount of material generated that must be disposed of is the preferred practice.

2.1. Recycling should be used whenever possible and practical.

2.2. In general, good housekeeping practices shall be used.

2.3. Operators shall catch leaks, drips, contain spills, and cleanup promptly.

3. The method of disposal used shall be compatible with the waste that is the subject of disposal.

3.1. RCRA exempt waste shall not be mixed with nonexempt waste.

4. Every operator shall file an Annual Waste Management Plan by January 15 of each year to account for the proper disposition of produced water and other E and P Wastes.

4.1. If changes are made to the plan during the year, then the operator shall notify the division in writing of this change.

4.2. This plan will include the type and estimated annual volume of wastes that will be or have been generated.

4.3. The disposal facilities private or to be used for disposal,

4.4. The description of any waste reduction or minimization procedures.

4.5. Any onsite disposal/treatment methods or programs to be implemented by the operator.

R649-9-3. Permitting of Disposal Pits.

1. All commercial disposal pits and disposal pits located off of an existing mineral lease shall be bonded in accordance with R649-9-9, Bonding of Disposal Facilities to assure proper operation, maintenance, and closure of the pits.

2. Application shall be made to the Division for approval of

any disposal pit.

2.1. The pit shall be designed appropriately for the intended purpose.

2.2. Commercial disposal pits shall be designed and constructed under the supervision of a registered professional engineer.

2.3. The application and site shall meet the following requirements:

2.3.1 The pit shall be located on level, stable ground, and an acceptable distance away from any established or intermittent drainage.

2.3.2. The pit shall not be located in a geologically and hydrologically unsuitable area, such as aquifer recharge areas, flood plains, drainage bottoms, and areas near faults.

2.3.3. The pit shall have adequate storage capacity to safely contain all produced water even during those periods when evaporation rates are at a minimum.

2.3.4. The pit shall be designed and constructed so as to prevent the entrance of surface water.

2.3.5. The pit shall be designed, maintained and operated to prevent unauthorized surface or subsurface discharge of water.

2.3.6. The pit shall be fenced and maintained to prevent access by livestock, wildlife and unauthorized personnel and if required, equipped with flagging or netting to deter entry by birds and waterfowl.

2.3.7. The pit levees for produced water pits receiving volumes in excess of five barrels per day, shall be constructed so that the inside grade of the levee is no steeper than 3:1 and the outside grade no steeper than 2:1. The top of the levee shall be level and of sufficient width to allow for adequate compaction.

2.3.8 All approved produced water pits not located at a well site shall be identified with a suitable sign.

2.3.9. The artificial materials used in lining pits shall be impervious and resistant to weather, sunlight, hydrocarbons, aqueous acids, alkalies, salt, fungi, or other substances that might be contained in the produced water.

3. If rigid materials are used, leak proof expansion joints shall be provided, or the material shall be of sufficient thickness and strength to withstand, expansion, contraction and settling movements in the underlying earth, without cracking.

3.1. If flexible materials are used, they shall be of sufficient thickness and strength to be resistant to tears and punctures.

3.2. Commercial disposal pits shall be lined with a minimum liner thickness of 40 mils or as approved by the Division.

3.3. Lined pits constructed in relatively impermeable soils shall have an underlying gravel filled sump and lateral system or suitable leak detection system.

3.4. Lined pits constructed in relatively permeable soils shall have a secondary liner underlying the leak detection system, that is graded so as to direct leaks to the observation sump.

3.5. Test borings shall be taken in sufficient quantity and to an adequate depth to satisfactorily define subsurface

conditions and assure that the liner will be placed on a firm stable base and to determine the appropriate leak detection system.

4. Requirements for Unlined Disposal Pits.

4.1 An application for disposal of produced water into an unlined pit will be considered if such disposal does not demonstrate significant pollution potential to surface or ground water and meets at least one of the following criteria:

4.2. The water to be disposed of does not have a higher total dissolved solids "TDS" content than ground water that could be affected and provided that the water does not contain objectionable levels of constituents and characteristics including chlorides, sulfates, pH, oil, grease, heavy metals and aromatic hydrocarbons.

4.3. That all, or a substantial part of the produced water is being used for beneficial purposes such as irrigation and livestock or wildlife watering and a water analysis indicates that the water is acceptable for the intended use.

4.4. The volume of water to be disposed of does not exceed five barrels per day on a monthly basis.

5. Application Requirements for Produced Water Pits.

5.1. Applications for disposal of produced water into lined pits shall include the following information:

5.2. A topographic map and drawing of the site, on a suitable scale, that indicate the pit dimensions, cross section, side slopes, leak detection system and location relative to other site facilities. The drawings shall be of professional quality.

5.3. The maximum daily quantity of water to be disposed of and a representative water analysis of such water that includes the concentrations of chlorides and sulfates, pH, total dissolved solids "TDS", and information regarding any other significant constituents if requested.

5.4. Climatological data indicating the average annual evaporation and precipitation for the area.

5.5. The method and schedule for disposal of precipitated solids.

5.6. Drawings of unloading facilities and explanation of the method for controlling and disposing of any liquid hydrocarbon accumulation so that the evaporation process is not hampered.

5.7. The engineering data and design criteria used to determine the pit size that includes a 2-foot free-board.

5.8. The type, thickness, strength, and life span of material to be used for lining the pit and the method of installation.

5.9. A description of the leak detection method to be utilized,

5.9.1. The proposed inspection frequency of the detection system.

5.9.2. The proposed procedures for repair of the liner should leakage occur.

6. Applications for disposal of produced water into unlined pits shall include the following information:

6.1. A topographic map and drawing of the site on a suitable scale that indicate the pit dimensions, cross section, side

slopes, size and location relative to other site facilities.

6.2. The daily quantity of water to be disposed of and a representative water analysis of such water that includes the total dissolved solids "TDS", pH, oil and grease content, the concentrations of chlorides and sulfates, and information regarding any other significant constituents if required.

6.3. Climatological data indicating the average annual evaporation and precipitation for the area.

6.4. The estimated percolation rate based on soil characteristics under and adjacent to the pit.

6.5. Estimated depth and areal extent of any USDW in the area and an indication of any effect or interaction of the produced water with any such water resources present at or near the surface.

6.6. If beneficial use is the basis for the application, written confirmation from the user should be submitted.

6.7. If the application is made on the basis that surface and subsurface waters will not be adversely affected by disposal in an unlined pit, the following additional information is required:

6.7.1. A map showing the location of surface waters, water wells, and existing water disposal facilities within a one mile radius of the proposed disposal facility.

6.7.2. The weighted average concentration of total dissolved solids "TDS" of all surface and subsurface waters within a one mile radius that might be affected by the proposed disposal.

6.7.3. Any reasonable geological and hydrological evidence showing that the proposed disposal method will not adversely affect existing water quality or major uses of such waters.

7. Within 30 days of the submission of an application for disposal of produced water into a commercial disposal pit, the division shall review the application as to its completeness and adequacy for the intended purpose and shall require such changes that are found necessary to assure compliance with the applicable rules. If the application is in order, the Division shall provide for a public notice to be published in a newspaper of general circulation in the county where the pit is to be located.

R649-9-4. Permitting of Other Disposal Facilities.

1. Facilities used for the treatment and disposal of E and P wastes other than evaporation pits shall be permitted by the Division. This would include such activities as landfarming, composting, solidifying, bioremediation, and others.

2. All commercial treatment and disposal facilities must be bonded in accordance with R649-9-9, Bonding of Disposal Facilities, to assure proper operation, maintenance, and closure of the facility.

3. Application Requirements for Treatment and Disposal Facilities. The application shall contain the following:

3.1. A complete description of the proposed facility,

3.2. Processes involved including a complete list of all wastes to be accepted at the facility and products generated.

3.3. Maps and drawings of suitable scale showing all facilities and equipment.

3.4. Materials or products to be applied to the land surface or subsurface shall meet the Division's cleanup levels for contaminated soil and other wastes.

3.5. If leachability and/or toxicity is of concern due to the type or source(s) of wastes, tests will be required and may utilize the Toxicity Characteristic Leaching Procedure (TCLP).

3.6. The submission of an application to the Division of Water Quality, Department of Environmental Quality, for a discharge permit may be required if it is determined that the facility and associated activity will not have a de minimus actual or potential effect on ground water quality.

3.7. If the Division determines there is potential for discharge, or if the proposal involves a commercial disposal operation it will be forwarded to the Division of Water Quality for their review.

R649-9-5. Construction and Inspection Requirements for Disposal Facilities.

1. Division personnel shall be afforded a reasonable opportunity for inspection of any proposed disposal facility during the construction and operation of the facility.

2. The division shall be notified at least two working days prior to the installation of a pit liner so that an inspection of the leak detection system can be conducted.

3. In any case, the division shall be notified after completion of facility construction, at least two working days prior to its use, so that an inspection can be conducted to verify that the facility has been constructed in accordance with the approved application.

4. Disposal facilities shall be operated in accordance with an approved application and in a manner that does not cause pollution or safety and health hazards.

5. Failure to meet the requirements and standards for construction and operation of a disposal facility shall be considered as noncompliance and will result in the imposition of corrective actions and compliance schedules or a cessation of operations order.

R649-9-6. Reporting and Recordkeeping Requirements for Disposal Facilities.

1. All unauthorized discharges or spills from disposal facilities including water observed in a leak detection system shall be promptly reported to the division.

2. Each producer who utilizes any approved produced water disposal facility shall comply with the reporting requirements of R649-8-10.

3. Each operator of a disposal facility, excluding disposal wells, shall report to the Division on a quarterly basis. This report shall include the volume and type of wastes received at the facility during the quarter and results of the leak detection system inspections.

4. The occurrence of water in a leak detection system during operation of a pit constitutes liner failure and requires immediate action.

4.1. The Division has the option of allowing the operator a short period of time to take corrective action.

4.2. Further utilization of the pit will be allowed only after liner repairs and an inspection by the Division.

5. Each owner/operator of a commercial disposal facility shall keep records showing at a minimum the following: date and time waste was received, origin, volume, type, transporter, and generator of the waste. These records shall be available for inspection by the Division for at least six years.

R649-9-7. Final Closure and Cleanup of Disposal Facilities.

1. A plan for final closure of a disposal facility shall be submitted to the Division for approval. The closure plan shall include the following:

1.1. Provisions for removal of all equipment at the site.

1.2. Proposed plans and procedures for sampling and testing soils and ground water at the site.

1.3. Soils will need to meet the Division's Cleanup Levels for Contaminated Soils or background levels whichever is less stringent.

1.4. Provisions for a monitoring plan if required by the Division, and

1.5. A consideration of post disposal land use and landowner requests when the closure plan is developed.

2. A bond for a disposal facility will be released when the requirements of a closure plan approved by the Division has been met as determined by the Division.

R649-9-8. Variances from Requirements and Standards.

Requests for approval of a variance from any of the requirements or standards of these rules shall be submitted to the director in writing and provide information as to the circumstances that warrant approval of the requested variance and the proposed alternative means by which the requirements or standards will be satisfied. Variances may be approved only after proper notice and public hearing before the board.

R649-9-9. Bonding of Disposal Facilities.

1. Disposal facilities, other than injection wells, shall be bonded according to this rule in order to protect the State and oil and gas producers from unnecessary liabilities and cleanup costs in the future. The objectives are to provide the State with adequate security to allow rehabilitation of a site to the point of preventing further or future pollution, and health and safety hazards should a facility owner default.

1.1. The parameters used to calculate the proper bond amount are: pit area, storage capacity, and volume of waste stored.

1.2. Bonds accepted shall be of the same type as those accepted for wells i.e. surety, collateral, or a combination of the two as described in the R649-3-1.

1.2.1. In order to assist owners of facilities operating prior to 1997 to establish bonding, the total bond amount provided may consist of an initial amount as determined by the division and an additional amount collected at a price per barrel and/or price

per cubic yard of waste collected until the total bond amount is reached.

1.2.2. The total bond will be held by the division or financial institution until the facility has been closed and inspected by the division in accordance with a division approved closure plan.

1.3. Total bond amount is calculated using values for pit area, pit storage capacity, and volume of stock piled waste material.

1.3.1. No salvage value of equipment or removal cost is used.

1.3.2. This bond will only be used by the State to treat or remove waste from the site and secure the facility to prevent any future contamination should the facility owner default on cleanup responsibilities.

1.3.3. Bond amounts will be calculated as follows, and the per volume or per acre figures may be adjusted periodically to compensate for change in cost to perform the necessary cleanup work:

\$14,000 per acre of pit, partial acres will be calculated at the rate of \$14,000 per acre; plus

\$1.00 per barrel of produced water for one-quarter of the total storage capacity of the facility; plus

\$30 per cubic yard of solid or semi-solid waste material stockpiled at the facility.

\$10,000 Minimum bond amount.

1.4. All commercial disposal facilities (except injection wells covered by R649-3-1) will be covered by an adequate and acceptable bond before being permitted to accept any exploration and production waste. The initial and minimum bond payment will be at least \$10,000. The total bond amount will be calculated as described in Subsection R649-9-9(1.3). If requested by the disposal facility owner, the bond beyond the initial amount may be posted at a rate of two cents per barrel of liquid or sixty cents per cubic yard of solid/semi-solid waste material accepted for disposal at the facility.

KEY: oil and gas law

Date of Enactment or Last Substantive Amendment: June 2, 1998

Notice of Continuation: March 7, 2007

Authorizing, and Implemented or Interpreted Law: 40-6-1 et seq.