

MINUTE ORDER NO. 89-05

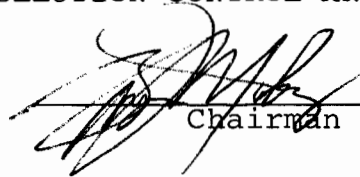
Promulgation
PAGE 1 OF 1

WHEREAS, the United States Environmental Protection Agency promulgated UIC regulations on July 26, 1988, amending 40 CFR Parts 124, 144, and 146.

WHEREAS, the Department of Pollution Control and Ecology finds it necessary to adopt federal regulations in order to maintain an authorized Underground Injection Control Program.

Therefore, the Commission hereby approves the attached Arkansas Underground Injection Control Code which incorporates 40 CFR Parts 124, 144 and 146 dated July 26, 1988.

Promulgated the 24th day of March, 1989.
BY ORDER OF THE COMMISSION ON POLLUTION CONTROL AND ECOLOGY


Chairman

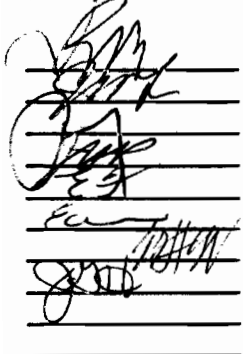
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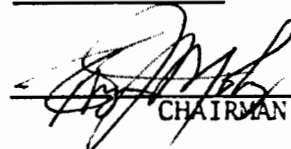

Acting Director

Approved:


Governor

COMMISSIONERS




CHAIRMAN

SUBMITTED BY: Vince Blubaugh DATE PASSED: 3-24-89

This is our response to comments received on the proposed revisions to the Arkansas Underground Injection Control (UIC) Code in accordance with our regulations.

Response to Comments on Revision of the
Arkansas UIC Code

Pursuant to the requirements of 40 CFR Part 145, a public hearing was held on February 2, 1989, in Little Rock, Arkansas to receive comments on the proposed revisions to the Arkansas Underground Injection Control (UIC) Code. This response is made in reference to written comments made during the public notice and comment period as required by 40 CFR Part 145 and the oral and supporting written statements made at the scheduled public hearing.

For the purpose of this response, issues of a non-technical nature or not relevant to the consideration of the public hearing will be dealt with first. Issues of technical nature will be addressed next. The majority of the written comments received prior to and after the public hearing voiced the opinion that they did not believe that operation of underground injection disposal wells in Union and Columbia Counties was a safe practice and that underground disposal of hazardous waste should be stopped immediately. The most prevalent comment was a fear that underground sources of drinking water have been or are threatened by this type of waste disposal operation.

A total of 26 written comments were received requesting disposal operations be discontinued. All of the letters received were reviewed for comments specifically relating to the purpose of the public hearing and/or discussion of the proposed rule changes to the Arkansas UIC Code. Based upon this review no changes to the proposed code revisions were warranted.

Several comments and written statements presented during the public meeting were germane to the discussion of the proposed revisions to the existing UIC Code. They are as follows:

Issue No. 1

The Department should modify the review process of a permit application to take into consideration the past history of violations for a particular operator prior to the issuance of a hazardous waste disposal well permit.

Response No. 1

Under the Corrective Action Requirements established under Section 3004 of the RCRA amendments and under Subpart C, Section 206 of the HSWA amendments before a hazardous waste permit can be issued for a Class I disposal well the permittee must satisfy corrective action for all past and continuing releases of hazardous waste or hazardous constituents for any hazardous waste management unit before a valid permit can be issued. Any

violation that resulted in a release of hazardous material at a hazardous waste management facility shall be repaired, corrected or closed down prior to the issuance of a valid underground injection disposal permit.

Issue No. 2

The Department should adopt regulations that before any permit is granted that the nature of the receiving zone should be investigated totally and completely to make sure that it is compatible in every way with the injection fluids prior to beginning injection operations.

Response No. 2

The Department does require that extensive testing of the compatibility of the injection formation and the injected wastestream be conducted prior to the issuance of a hazardous waste injection well permit. Each receiving formation is tested for porosity, permeability, and reservoir pressure. Conventional cores are taken where possible and if not, sidewall cores are taken to obtain representative samples of both the confining formation and the injection intervals. These samples are subjected to confining stresses and wastestream compatibility studies. Representative samples of injection formation fluids are obtained and tests are conducted that mix formation waters and wastestream fluids under conditions as near as possible to actual down hole formation conditions. Results of these tests determine whether or not adverse reactions of a geochemical nature will occur that may adversely impact disposal operations. In addition to these tests computer simulations of the reservoir properties for each injection interval may also be done to demonstrate that the wastestream and it's anticipated reaction products will not alter the permeability or other relevant characteristics of the injection or confining zones.

Issue No. 3

Federal Regulations require that a history of earthquakes and seismic activity be established and if you identify a problem in that area that you do not locate injection wells in that area.

Response No. 3

A history of earthquake and seismic activity has been developed for all of Arkansas including the areas in which underground injection is currently taking place. Earthquakes and seismic activity can and do occur just about anywhere in Arkansas. Most however are minor and scarcely detectable. Based on historical records there have been minor seismic events in the area of Union and Columbia counties. The largest earthquake event ever recorded was of a magnitude of 4.5 on the Richter scale. Based on this history it is estimated that no earthquakes greater than a magnitude of 5 to 6 are likely in this region. Historical evidence suggests that the area is unlikely to produce any event

that would lead to the breaking or shearing of injection well casings. All hazardous waste injection disposal wells have automatic shutdown systems in case of a catastrophic failure in mechanical integrity.

Earthquakes and other seismic activity in the area are related to minor movements and subsurface crustal readjustments associated with deep seated (20,000 feet) fault complexes developed during the formation of the Ouachita Mountain system millions of years ago. This fault complex runs from the Texas panhandle, across southern Oklahoma and Arkansas and into northern Mississippi. These movements have and will continue to occur for thousands of more years but, the nature of the movement is not anticipated to be of the magnitude to threaten the integrity of underground injection disposal wells in south Arkansas.

As an example, oil wells producing from formations much deeper than the injection zones currently in use, which employ well construction materials comparable with those used in injection wells have never had casings sheared or mechanical problems related to seismic activity in south Arkansas since oil production began in the early 1900's.

Issue No. 4

Require any applicant for a hazardous waste injection well to bond their performance and cleanup either by insurance, a deposit or other satisfactory funds so when they are ready to leave there are resources available to cleanup the site.

Response No. 4

The Specific Conditions of each permit issued requires under the Plugging and Abandonment section that the Permittee shall secure and maintain in full force and effect at all times a performance bond in a form acceptable to the Director, to provide for proper closing and abandonment of the permitted waste disposal wells in the amount set forth below (\$25,000 for each well). The amount of financial assurance may, upon the approval of the Director, be altered at a future date to provide for plugging subject to the prevailing general economic conditions. The permit does not authorize underground injection of fluids unless an effective performance bond is acceptable to the Director.

One final comment was received during the public hearing that commended the Department's management of the Arkansas Underground Injection Control program and supported the adoption of the proposed revisions to the UIC Code by reference.

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
ARKANSAS UNDERGROUND INJECTION CONTROL CODE

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Section 1. TITLE AND PURPOSE

- (A) The following rules and regulations of the Department of Pollution Control and Ecology of the State of Arkansas, adopted pursuant to the provisions of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended; Ark. Stat. Ann. §82-1901 et seq.), shall be known as the ARKANSAS UNDERGROUND INJECTION CONTROL CODE, hereinafter called the UIC.
- (B) It is the purpose of this Code to adopt underground injection control regulations necessary to qualify the State of Arkansas to receive authorization for its Underground Injection Control Program pursuant to the Safe Drinking Water Act of 1974, as amended (PL 93-523 as amended by PL 95-1901 and PL 96-63; 42 USC 300f et seq.). In order to receive such authorization, it is necessary for the Department of Pollution Control and Ecology to have regulations as stringent as the federal program administered by the United States Environmental Protection Agency.

Section 2. DEFINITIONS

When used in this Code:

Abandoned well means a well the use of which has been permanently discontinued or which is in a state of disrepair such that it cannot be used for its intended purpose or for observation purposes.

Administrator means the Administrator of the United States Environmental Protection Agency, or an authorized representative.

Application means the EPA standard national forms for applying for a permit, including any additions, revisions or modifications to the forms; or forms approved by EPA for use in approved States, including any approved modifications or revisions. For RCRA, application also includes the information required by the Director under §122.25 (contents of Part B of RCRA application).

Aquifer means a geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.

Area of review means the area surrounding an "injection well" described according to the criteria set forth in §146.06.

Casing means a pipe or tubing of varying diameter and weight, lowered into a borehole during or after drilling in order to support the sides of the hole and thus to prevent the walls from caving, to prevent loss of drilling mud into porous ground, or to prevent water, gas, or other fluid from entering or leaving the hole (amended by 46 FR 43150, August 27, 1981).

Catastrophic collapse means the sudden and utter failure of overlying "strata" caused by removal of underlying materials.

Cementing means the operation whereby a cement slurry is pumped into a drilled hole and/or forced behind the casing.

CFR means Code of Federal Regulations.

Confining bed means a body of impermeable or distinctly less permeable material stratigraphically adjacent to one or more aquifers.

Confining zone means a geological formation, group of formations, or part of a formation that is capable of limiting fluid movement above and below the injection zone.

Contaminant means any physical, chemical, biological, or radiological substance or matter in water.

Department means the Arkansas Department of Pollution Control and Ecology.

Director means the Director of the Arkansas Department of Pollution Control and Ecology.

Disposal well means a well used for the disposal of waste into a subsurface stratum.

Effective date of a UIC program means the date that a State UIC program is approved or established by the Administrator.

EPA means the United States Environmental Protection Agency.

Exempted aquifer means an aquifer or its portion that meets the criteria in the definition of "underground source of drinking water" but which has been exempted according to the procedures of §122.35(b).

Existing injection well means "injection well" other than a "new injection well."

Facility or activity means any "HWM facility," UIC "injection well," NPDES "point source," or State 404 dredge and fill activity, or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the RCRA, UIC, NPDES, or 404 programs.

Fault means a surface or zone of rock fracture along which there has been displacement.

Flow rate means the volume per time unit given to the flow of gases or other fluid substance which emerges from an orifice, pump, turbine, or passes along a conduit or channel.

Fluid means material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state.

Formation means a body of rock characterized by a degree of lithologic homogeneity which is prevailingly, but not necessarily, tabular and is mappable on the earth's surface or traceable in the subsurface.

Formation fluid means "fluid" present in a "formation" under natural conditions as opposed to introduced fluids, such as drilling mud.

Generator means any person, by site location, whose act or process produces hazardous waste identified or listed in 40 CFR Part 261.

Groundwater means water below the land surface in a zone of saturation.

Hazardous waste means a hazardous waste as defined in 40 CFR 261.3.

Hazardous Waste Management Facility ("HWM facility") means all contiguous land, and structures, other appurtenances, and improvements on the land used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (for example, one or more landfills, surface impoundments, or combination of them).

Industrial waste means any liquid, gaseous or solid waste substance resulting from any process of industry, mining, manufacturing, trade or business or from the development of any natural resources.

Injection well means a "well" into which "fluids" are being injected.

Injection zone means a geological "formation," group of formations, or part of a formation receiving fluids through a well.

Lithology means the description of rocks on the basis of their physical and chemical characteristics.

Major facility means any RCRA, UIC, NPDES, or 404 "facility or activity" classified as such by the Regional Administrator, or in the case of "approved State programs," the Regional Administrator in conjunction with the State Director.

New injection well (UIC) means an injection well which began injection after a UIC program for the State applicable to the well is approved or prescribed.

Other wastes means garbage, municipal refuse, decayed wood, sawdust, shavings, bark, lime, sand, ashes, offal, oil tar chemicals, and all other substances organic or inorganic, not sewage or industrial waste, which may be discharged into the waters of the State. Any wastes and "pollutants" includes sewage, industrial waste, or other wastes.

Owner or operator means the owner or operator of any facility or activity subject to regulation under the RCRA, UIC, NPDES, or 404 programs.

Packer means a device lowered into a well which can be expanded to produce a fluid-tight seal.

Permit means an authorization, license, or equivalent control document issued by EPA or an "approved State" to implement the requirements of Parts 144, 145, 146, and 124. "Permit" includes an area permit (§144.33) and an emergency permit (§144.34). Permit does not include UIC Authorization by Rule (§144.21), or any permit which has not yet been the subject of final agency action, such as a "draft permit."

Person means the State agency, any municipality, governmental subdivision of the State or the United States, public or private corporation, individual, partnership, association or other entity.

Plugging means the act or process of stopping the flow of water, oil, or gas in "formations" penetrated by a borehole or "well."

Plugging record means a systematic listing of permanent or temporary abandonment of water, oil, gas, test, exploration and waste injection wells, and may contain a well log, description of amounts and types of plugging material used, the method employed for plugging, a description of formations which are sealed and a graphic log of the well showing formation location, formation thickness, and location of plugging structures.

Pollution means such contamination, or other alteration of the physical, chemical, or biological properties of

any waters of the State, or such discharge of any liquid, gaseous or solid substance in any waters of the State as will or is likely to create a nuisance or render such waters harmful or detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.

Pressure means the total load or force per unit area acting on a surface.

Radioactive waste means any waste which contains radioactive material in concentrations which exceed those listed in 10 CFR Part 20, Appendix B, Table II, Column 2, or exceed the "Criteria for Identifying and Applying Characteristics of Hazardous Waste and for Listing Hazardous Waste" in 40 CFR Part 261, whichever is applicable.

RCRA means the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (PL 94-580, as amended by PL 95-609, 42 U.S.C. 300(f), et seq.).

Site means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.

Sole or principal source aquifer means an aquifer which has been designated by the Administrator pursuant to §1424(a) or (e) of the SDWA.

State Director means the chief administrative officer of any State or interstate agency operating an approved program, or the delegated representative of the State Director. If responsibility is divided among two or more State or interstate agencies, "State Director" means the chief administrative officer of the State or interstate agency authorized to perform the particular procedure or function to which reference is made.

Stratum (plural strata) means a single sedimentary bed or layer, regardless of thickness, that consists of generally the same kind of rock material.

Subsidence means the lowering of the natural land surface in response to earth movements; lowering of fluid pressure; removal of underlying supporting material by mining or solution of solids, either artificially or from natural causes; compaction due to wetting (hydrocompaction); oxidation of organic matter in soils; or added load on the land surface.

Surface casing means the first string of well casing to be installed in the well.

Total dissolved solids (TDS) means the total dissolved (filterable) solids as determined by use of the method specified in 40 CFR Part 136.

UIC means the Underground Injection Control program under Part C of the Safe Drinking Water Act, including an "approved program."

Underground injection means a "well injection."

Underground source of drinking water (USDW, RCRA and UIC) means an aquifer or its portion:

- (1) (i) Which supplies any public water system; or
(ii) Which contains a sufficient quantity of groundwater to supply a public water system; and
 - (a) Currently supplies drinking water for human consumption; or
 - (b) Contains fewer than 10,000 mg/l total dissolved solids; and
- (2) Which is not an "exempted aquifer."

USDW means "underground source of drinking water."

Well means a bored, drilled or driven shaft, or a dug hole whose depth is greater than the largest surface dimension.

Well injection means the subsurface emplacement of fluids through a bored, drilled, or driven well; or dug well, where the depth of the dug well is greater than the largest surface dimensions.

Well plug means a watertight and gastight seal installed in a borehole or well to prevent movement of fluids.

Well stimulation means several processes used to clean the well bore, enlarge channels, and increase pore space in the interval to be injected thus making it possible for wastewater to move more readily into the formation and includes (1) surging, (2) jetting, (3) blasting, (4) acidizing, (5) hydraulic fracturing.

Well monitoring means the measurement, by on-site instruments or laboratory methods, of the quality of water in a well.

Section 3.

ADOPTION OF FEDERAL REGULATIONS

- (A) Except where manifestly inconsistent with the provisions of the Safe Drinking Water Act, as amended, or with federal regulations adopted pursuant thereto, or with the provisions of this Code, the Department shall have the responsibilities and the authority in the State of Arkansas as granted to the Administrator of the United States Environmental Protection Agency under the provisions of the following federal regulations. The regulations listed below are hereby adopted and made part of this Code as though set forth herein word for word. These regulations shall apply to all persons and activities subject to regulation under the provisions of the Safe Drinking Water Act and/or the Arkansas Water and Air Pollution Control Act, relating to underground injection control within the State of Arkansas:

40 CFR Part 144; dated April 1, 1983; as amended July 26, 1988; and as amended to the date hereof; and

40 CFR Part 145; dated April 1, 1983; as amended to the date hereof; and

40 CFR Part 124, Subpart A, 45 FR 3345, et seq. May 19, 1980; as amended April 8, 1982; as amended July 26, 1988; and as amended to the date hereof; and

40 CFR Part 146, Subparts A, B, D, E, and F, 45 FR 42500, et seq., June 24, 1980; as amended 46 FR 43161, et seq., August 27, 1981; as amended February 3, 1982; as amended July 26, 1988, including the addition of Subpart G; and as amended to the date hereof.

Whenever the effect of any of the aforecited regulations is modified by a formal action of the United States Environmental Protection Agency, as evidenced by publication in the Federal Register, the effect of such action, upon its effective date, shall be extended in full force and effect as Interim Provisions of this Code and shall be enforceable as such, provided that the effect of said action does not conflict with the provisions of the Arkansas Water and Air Pollution Control Act. No Interim Provision of this Code shall remain in effect for more than six months, unless the Commission grants an extension after opportunity for public comment as provided in subsection (E) below.

(B) (Reserved for future federal regulation reference.)

(C) (Reserved for future federal regulation reference.)

- (D) In all instances wherein the federal regulations of 40 CFR 144, 145, 124, and 146 refer to the Administrator of the United States Environmental Protection Agency, the reference, for purposes of this Code, shall be deemed to mean the Department, unless the context plainly dictates otherwise. Nothing herein contained shall be construed as eliminating any approval required from the EPA Administrator under the SDWA for Department action such as aquifer exemption and alternative testing of mechanical integrity.
- (E) The Director, within a reasonable time after the effective date of the Interim Provisions of this Code, shall cause a public notice to be published in a newspaper of statewide circulation stating the existence of such Interim Provisions and giving notice of the public's opportunity to comment on the Interim Provisions. Whenever the Director finds that a public hearing should be held to consider the continued application of Interim Provisions or proposed modifications to such Provisions, a notice of public hearing and formal action of the Commission shall follow in the manner described in subsection (F) below.
- (F) Whenever the federal regulations referenced in subsection (A) of this section are amended, modified, revoked, expanded, supplemented, or otherwise change, such revocation, expansion, supplement or other change shall become part of this Code when:
- (1) a 30-day notice of public hearing upon the proposed change is published by the Department; and
 - (2) such amendment, modification, revocation, expansion, supplement or other change is adopted by the Commission after public hearing; where a time exceeding 35 days exists between the promulgation of the federal regulation and the next regularly scheduled Commission meeting, the Director, finding sufficient cause for earlier consideration may request the chairman of the Commission to call a special meeting of the Commission to consider the matter.

Such amendment, modification, revocation, expansion, supplement or other change shall become effective upon adoption by the Commission unless otherwise set out in the resolution adopting such change.

Section 4. VIOLATIONS

- (A) No person shall construct, install, alter, modify, or operate any underground injection facility without a permit from the Department or, as to Class II and Class V bromine-related brine disposal wells, from the Arkansas

Oil and Gas Commission.

- (B) No person shall construct, install, or operate a Class IV well as defined in Section 5(D) hereof, and no permit for a Class IV well shall be issued by the Department.
- (C) No person shall construct, install, alter, modify or operate any underground injection facility contrary to the terms and conditions of a permit or of any provision of this Code or the Arkansas Water and Air Pollution Control Act, as amended (the Act).
- (D) No person shall violate any other provision of this Code or of the Act.
- (E) Any person who violates any provision of this Code or the Act shall be subject to the penalties as provided in Section 9(a), (b), and (c), Part I, of this Act (§82-1909(a), (b), and (c), Ark. Stats. Ann.).

Section 5. CLASSIFICATION OF INJECTION WELLS

(A) Class I.

- (1) Wells used by generators of hazardous wastes or owners or operators of hazardous waste management facilities to inject hazardous waste beneath the lowermost formation containing, within one-quarter mile of the well bore, an underground source of drinking water.
- (2) Other industrial and municipal disposal wells which inject fluids beneath the lowermost formation containing, within one-quarter mile of the well bore, an underground source of drinking water.

(B) Class II. Wells which inject fluids:

- (1) Which are brought to the surface in connection with conventional oil or natural gas production and may be commingled with wastewaters from gas plants which are an integral part of production operations, unless those waters are classified as a hazardous waste at the time of injection.
- (2) For enhanced recovery of oil and natural gas; and
- (3) For storage of hydrocarbons which are liquid at standard temperature and pressure.

(C) Class III. Wells which inject for extraction of minerals including:

- (1) Mining of sulfur by the Frasch process.

- (2) In situ production of uranium or other metals. This category includes only in situ production from ore bodies which have not been conventionally mined. Solution mining of conventional mines such as stopes leaching is included in Class V (146.5 (c)(2) revised by 46 FR 43160, August 27, 1981).
- (3) Solution mining of salts or potash.
- (New 146.05(c)(3) added and former (3), (4) redesignated as (4), (5) by 46 FR 43160, August 27, 1981)
- (4) In situ combustion of fossil fuel.
- Note - Fossil fuel includes coal, tar sands, oil shale and any other fossil fuel which can be mined by this process.
- (5) Recovery of geothermal energy to produce electric power.
- Note - Class III wells include the recovery of geothermal energy to produce electric power but do not include wells used in heating or aquaculture which fall under Class V.
- (D) Class IV. Wells used by generators of hazardous wastes or of radioactive wastes, by owners or operators of hazardous waste management facilities, or by owners or operators of radioactive waste disposal sites to dispose of hazardous wastes or radioactive wastes into or above a formation which, within one-quarter mile of the well bore, contains an underground source of drinking water.
- (E) Class V. Injection wells not included in Class I, II, III, or IV.
- Note - Class V wells include:
- (1) Air conditioning return flow wells used to return to the supply aquifer the water used for heating or cooling in a heat pump;
 - (2) Cesspools or other devices that receive wastes, which have an open bottom and sometimes have perforated sides (the UIC requirements do not apply to single family residential cesspools);
 - (3) Cooling water return flow wells used to inject water previously used for cooling;
 - (4) Drainage wells used to drain surface fluid, primarily storm runoff, into a subsurface formation;

- (5) Dry wells used for the injection of wastes into a subsurface formation;
 - (6) Recharge wells used to replenish the water in an aquifer;
 - (7) Salt water intrusion barrier wells used to inject water into a fresh water aquifer to prevent the intrusion of salt water into the fresh water;
 - (8) Sand backfill and other backfill wells used to inject a mixture of water and sand, mill tailings or other solids into mined out portions of subsurface mines whether what is injected is a radioactive waste or not (146.05(e)(8) amended by 46 FR 43160, August 27, 1981);
 - (9) Septic system wells used:
 - (i) to inject the waste or effluent from a multiple dwelling, business establishment, community or regional business establishment septic tank; or
 - (ii) for multiple dwelling, community or regional cesspool. The UIC requirements do not apply to single family residential waste disposal systems.
 - (10) Subsidence control wells (not used for the purpose of oil or natural gas production) used to inject fluids into a non-oil or gas producing zone to reduce or eliminate subsidence associated with the overdraft of fresh water;
 - (11) Radioactive waste disposal wells other than Class IV (146.05(e)(11) revised by 46 FR 43160, August 27, 1981);
 - (12) Injection wells associated with the recovery of geothermal energy for heating, aquaculture and production of electric power;
 - (13) Wells used for solution mining of conventional mines such as stopes leaching (146.05(e)(14) and (15) added by 46 FR 43160, August 27, 1981);
 - (14) Wells used to inject spent brine into the same formation from which it was withdrawn after extraction of halogens or their salts.
 - (15) Injection wells used in experimental technologies.
- (F) Well classes currently operating in Arkansas include Class I wells used by owners of industrial facilities to inject hazardous/non-hazardous waste in disposal wells which inject beneath the lowermost formation containing, within one-quarter mile of the well bore, an USDW.

Class II wells which inject fluids which are brought to the surface in connection with conventional oil or natural gas production or for enhanced recovery of oil or natural gas.

Class V wells that are used to inject spent brine into the same formation from which it was withdrawn after extraction of halogens of their salts.

Section 6. SEVERABILITY

If any provision of this Code or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of this Code which can be given effect without the invalid provision or application, and to this end provisions of this Code are declared to be severable.

Section 7. EFFECTIVE DATE

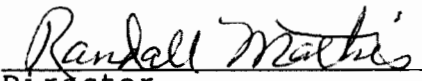
This Code shall be in full force and effect as of the date of its promulgation.

Promulgated the 24th day of March, 1989.
By ORDER OF THE COMMISSION ON POLLUTION CONTROL AND ECOLOGY



Chairman

Attest:



acting Director

Approved:



Bill Clinton, Governor
State of Arkansas