TITLE 47
LEGISLATIVE RULES
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

SERIES 13
UNDERGROUND INJECTION CONTROL

§47-13-1. General.

1.1. Scope. -- These rules set forth criteria and standards for the requirements which apply to the State Underground Injection Control Program (U.I.C.). The UIC permit program regulates underground injections by five (5) classes of wells. The five (5) classes of wells are set forth in section 4 of this rule. All owners or operators of these injection wells must be authorized either by permit or rule by the Director.

1.1.a. Specific inclusions. The following wells are included among those types of injection activities which are covered by the UIC rules (this list is not intended to be exclusive but is for clarification only):

1.1.b. Any dug hole or well that is deeper than its largest surface dimension, where the principal function of the hole is emplacement of fluids.

1.1.c. Any septic tank or cesspool used by generators of hazardous waste, or by owners or operators of hazardous waste management facilities, to dispose of fluids containing hazardous waste.

1.1.d. Any septic tank, cesspool, or other well used by multiple dwelling, community, or regional system for the injection of waste.

1.1.e. Specific exclusions. The following are not covered by this rule:

1.1.e.1. Individual or single family residential waste disposal systems such as domestic cesspools or septic systems.

1.1.e.2. Any dug hole which is not used for emplacement of fluids underground.

1.1.e.3. Nonresidential cesspools, septic systems or similar waste disposal systems if such systems are used solely for the disposal of sanitary wastes and have the capacity to serve fewer than twenty (20) persons a day.

1.1.e.4. Injection wells are used for injection of hydrocarbons which are of pipeline quality and are gases at standard temperature and pressure for the purpose of storage.

NOTE: The specification of exclusions under subdivision 1.1.e of this section shall not relieve any person of any requirements imposed under the State Act and rules, other than this Series, including State permit requirements.

NOTE: Interim Status under RCRA for Class I Hazardous Waste Injection Wells. The minimum national standards which define acceptable injection of hazardous waste during the period of interim status

under RCRA are set out in the applicable provisions of 40 CFR parts 144, 146, 147, and 40 CFR section 265.430. A UIC permit does not automatically terminate upon issuance to that well of a RCRA permit-by-rule under 40 CFR section 270.60(b). Thus, until a Class I well injecting hazardous waste receives a RCRA permit or permit-by-rule, the well's interim status requirements are the applicable requirements imposed pursuant to 40 CFR parts 144, 146, 147 and 40 CFR part 265, including any requirements imposed in the UIC permit.

1.2. Authority. -- W. Va. Code §22-11-8(B)(7).

1.3. Filing Date. -- April 1, 2002

1.4. Effective Date -- June 1, 2002

§47-13-2. Definitions.

The definitions set forth in W. Va. Code §22-11-3 shall apply to this rule along with the following definitions unless the context clearly indicates otherwise:

2.1. "Abandoned well" means a well whose use 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.

2.2. "Acidizing" means the injection of acid through the borehole or "well" into a "formation" to increase permeability and porosity by dissolving the acid-soluble portion of the rock constituents.

2.3. "Application" means the State standard forms for applying for a permit or permit modification, including any additions, revisions or modifications to the forms.

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

2.5. "Area of review" means the area surrounding an injection well described according to the criteria set forth in subsection 5.2, or in the case of an area permit, the project area plus a circumscribing area the width of which is either 1/4 of a mile or a number calculated according to the criteria set forth in subsection 5.3.

2.6. "Authorized representatives of the Director " means the personnel of the Division of Water Resources and the personnel of the Office of Oil and Gas and the Commissioner.

2.7. "Casing" means a pipe or tubing of appropriate material, of varying diameter and weight, lowered into a borehole during or after drilling in order to support the sides of the hole and thus 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.

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

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

2.10. "Commissioner" means the Commissioner of the West Virginia Oil and Gas Conservation Commission.

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

2.12. "Confining zone" means a geological formation, group of formations, or part of a formation that is capable of limiting fluid movement above an injection zone.

2.13. "Contaminant" means any man induced physical, chemical, biological or radiological substance or matter in water.

2.14. "Conventional mine" means an open pit or underground excavation for the production of minerals.

2.16. "Draft permit" means a document indicating the Director's tentative decision to issue, modify, suspend, revoke, revoke and reissue, or reissue a "permit". A notice of intent to revoke a permit is a type of "draft permit". A denial of a request for modification, suspension, revocation, or revocation and reissuance, is not a "draft permit".

2.17. "Drilling mud" means a heavy suspension used in drilling an "injection well", introduced down the drill pipe and through the drill bit.

2.18. "Dry Well" means a bored, drilled, or driven shaft or a dug hole whose depth is greater than its largest surface dimension which is completed above the water table so that its bottom and sides are typically dry except when receiving fluids.

2.19. "Environmental Protection Agency" (EPA) means the United States Environmental Protection Agency.

2.20. "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 in subsection 3.1.

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

2.22. "Experimental technology" means a technology which has not been proven feasible under the conditions in which it is being tested.

2.23. "Facility or activity" means any "injection well" that is subject to rule under the UIC program.

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

2.25. "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.

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

2.27. "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.

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

2.29. "Generator" means any person, by site location, whose act or process produces hazardous waste identified or listed in 33CSR20, Hazardous Waste Management Rule, or whose act first causes a hazardous waste to become subject to this rule.

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

2.31. "Hazardous waste" means a hazardous waste as defined in 33CSR20-2.68.

2.32. "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.

2.33. "Improved Sinkhole" means a naturally occurring karst depression or other natural crevice found in volcanic terrain and other geologic settings which have been modified by man for the purposes of directing and emplacing fluids into the subsurface.

2.34. "Injection well" means a well, subsurface distribution system, or an improved sinkhole into which fluids are being injected.

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

2.36. "Large Capacity Cesspool" means a dry well that receives untreated sanitary waste containing human excreta, and which sometimes have an open bottom and/or perforated sides. Large-capacity cesspools serve multiple dwellings and community or regional establishments. Non-residential large capacity cesspools must have the capacity to serve more than 20 persons per day.

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

2.38. "Manifest" means the form used for identifying the quantity, composition and the origin, routing and destination of the hazardous waste during its transportation off-site from the point of generation to the point of disposal, treatment or storage.

2.39. "Maximum Contaminant Level (MCL)"means as defined in the Safe Drinking Water Act as "the maximum permissible level of a contaminant in water which is delivered to any user of a public water system."

2.40. "Motor Vehicle Waste Disposal Wells"mean dry wells or septic tank and leachfield combinations that receive or have received fluids from motor vehicle repair or maintenance activities, such as an auto body repair shop, automotive repair shop, new and used car dealership, speciality repair shop (e.g. transmission and muffler repair shop), or any facility that does any vehicular repair work.

2.41. "New injection well" means a "well" which began injection after the effective date of this rule.

2.42. "Owner or operator" means the owner or operator of a facility or activity subject to regulation under the UIC program.

2.43. "Packer" means a device lowered into a "well" to produce a fluid-tight seal.

2.44. "Permit" means an authorization, license, or equivalent control document issued by the State to implement the requirements of the UIC Program. "Permit" includes an area permit and a UIC Emergency Permit. "Permit" does not include UIC authorization by rule or any permit which has not yet been the subject of final agency action, such as a "draft permit".

2.45. "Plugging" means the act or process of stopping the flow of water, oil or gas into or out of a "formation" through a borehole or well penetrating that formation.

2.46. "Point of Injection" means for a Class 5 well the last accessible sampling point before the release of waste fluids into the subsurface environment. For example, the point of injection of a septic system might be the distribution box-the last accessible sampling point before the waste fluids drain into the leachfield and the underlying soils. For a dry well, it is likely to be the well bore itself.

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

2.48. "Project" means a group of "wells" in a single operation.

2.49. "Public water system" means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen (15) individuals. Such term includes (a) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, and (b) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system.

2.50. "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.

2.51. "RCRA" means the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (Pub. 1. 94-580, as amended by Pub. L. 95-609, 42 USC 6901 et seq.)

2.52. "Regional Administrator" means the Regional Administrator of Region 3 of the U.S. Environmental Protection Agency or the authorized representative of the Regional Director.

2.53. "Safe Drinking Water Act" (SDWA) means the Safe Drinking Water Act (Pub. L. 95-523 as amended by Pub. L. 95-1900; 42 USC section 3000 et seq.

2.54. "Sanitary waste" means liquid or solid waste originating solely from humans and human activities, such as wastes collected from toilets, showers, wash basins, sinks used for cleaning domestic areas, sinks used for food preparation, clothes washing operations, and sinks or washing machines where food and beverage serving dishes, glasses, and utensils are cleaned. Sources of these wastes may include single or multiple residences, hotels and motels, restaurants, bunkhouses, schools, ranger stations, crew quarters, guard stations, campgrounds, picnic grounds, day-use recreation areas, other commerical facilities, and industrial facilities provided the waste is not mixed with industrial waste.

2.55. "Schedule of compliance" means a schedule of remedial measures included in a "permit", including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the SDWA and State Act and rules.

2.56. "Septic system" means a "well" that is used to emplace sanitary waste below the surface and is typically comprised of a septic tank and subsurface fluid distribution system or disposal system.

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

2.58. "State" means the State of West Virginia.

2.59. "State Act" means the State Water Pollution Control Act, W. Va. Code §22-11-1 et seq.

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

2.61. "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.

2.62. "Subsurface distribution system" means an assemblege of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids below the surface of the ground.

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

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

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

2.66. "Underground injection" means the subsurface emplacement of fluids into a well, subsurface distribution system, or improved sinkhole..

2.67. "Underground source of drinking water" (USDW) means an "aquifer" or its portion:

2.67.a. which supplies any public water system; or

2.67.b. which contains a sufficient quantity of groundwater to supply a public water system; and

2.67.b.1. currently supplies drinking water for human consumption; or

2.67.b.2. contains fewer than 10,000 mg/1 total dissolved solids; and

2.67.c. which is not an exempted aquifer.

2.68. "Well" for the purpose of the State UIC Program, means a bored, drilled or driven shaft, or a dug hole whose depth is greater than the largest surface dimension.

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

2.70. "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.

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

2.72. "Wetlands" means those areas that are inundated and saturated by surface groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas such as sloughs, wet meadows, mudflats, sandflats and natural ponds.

§47-13-3. Criteria for Exempted Aquifer Status.

3.1. An aquifer or a portion thereof which meets the criteria for an "underground source of drinking water" in section 2 may be determined to be an exempted aquifer if it meets the following criteria:

3.1.a. It does not currently serve as a source of drinking water; and

3.1.b. It cannot now and will not in the future serve as a source of drinking water because:

3.1.b.1. It is a mineral, hydrocarbon or geothermal energy producing, or can be demonstrated by a permit applicant as part of a permit application for a Class 2 or 3 operation to contain minerals or hydrocarbons that considering their quantity and location are expected to be commercially producible;

3.1.b.2. It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical;

3.1.b.3. It is so contaminated that it would be economically or technologically impractical to render the water fit for human consumption; or

3.1.b.4. It is located over a Class 3 well mining area subject to subsidence or catastrophic collapse; or

3.1.c. The Total Dissolved Solids content of the groundwater is more than three-thousand (3,000) and less than ten-thousand (10,000) mg/1 and it is not reasonably expected to supply a public water system.

§47-13-4. Classes of Wells.

4.1. Class 1.

4.1.a. Wells used by generators of hazardous waste or owners or operators of hazardous waste management facilities to inject hazardous waste beneath the lowermost formation containing, within 1/4 mile of the well bore, an underground source of drinking water.

4.1.b. Other industrial and municipal disposal wells which inject fluids beneath the lowermost formation containing, within 1/4 mile of the well bore, an underground source of drinking water.

4.2. Class 2. Wells injecting fluids:

4.2.a. Which are brought to the surface in connection with conventional oil or natural gas production and may be commingled with waste waters 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;

4.2.b. For enhanced recovery of oil or natural gas; and

4.2.c. For storage of hydrocarbons which are liquid at standard temperature and pressure.

4.3. Class 3. Wells which inject for extraction of minerals including:

4.3.a. Mining of sulphur by the Frasch process;

4.3.b. 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 5;

4.3.c. Solution mining of salts or potash;

4.3.d. In situ combustion of fossil fuel; and

4.3.e. Recovery of geothermal energy to produce electric power.

4.4. Class 4.

a. Wells used by generators of hazardous waste or by owners or operators of hazardous waste management facilities, or by owners or operators of radioactive waste disposal sites, to dispose of hazardous wastes which cannot be classified under subdivisions 4.1.a and 4.1.b (e.g. wells used to dispose of hazardous wastes into or above a formation which contains an aquifer which has been exempted pursuant to section 3.)

4.5. Class 5. Injection wells not included in Classes 1, 2, 3, or 4. Class 5 wells include, but are not

limited to:

4.5.a. Cesspools, including multiple dwelling, community or regional 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 nor to nonresidential cesspools which receive solely sanitary wastes and have the capacity to serve fewer than twenty (20) persons a day.

4.5.b. 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.

4.5.c. Septic system wells used to inject the waste or effluent from a multiple dwelling, business establishment, community or regional business establishment septic tank. The UIC requirements do not apply to single family residential septic system wells, nor to nonresidential septic system wells which are used solely for the disposal of sanitary waste and have the capacity to serve fewer than twenty (20) persons a day.

4.5.d. Injection wells associated with the recovery of geothermal energy for heating, aquaculture and production of electric power.

4.5.e. Radioactive waste disposal wells other than Class 4.

4.5.f. Wells used for solution mining of conventional mines such as stopes leaching.

4.5.g. Injection wells used for in situ recovery of lignite, coal, tar sands, and oil shale.

4.5.h. Wells used to inject spent brine into the same formation from which it was withdrawn after extraction of halogens or their salts.

4.5.i. Injection wells used in experimental technologies.

4.5.j. Wells for waste disposal into solution cavities in carbonate formations.

4.5.k. Sinkholes used for the disposal of sewage or any other waste.

4.5.l. Air conditioning return flow wells used to return to the supply aquifer the water used for heating or cooling in a heat pump.

4.5.m. Cooling water return flow wells used to inject water previously used for cooling.

4.5.n. Drainage wells used to drain surface fluid, primarily storm runoff, into a subsurface formation.

4.5.o. Dry wells used for the injection of wastes into a subsurface formation.

4.5.p. Recharge wells used to replenish the water in an aquifer.

4.5.q. Salt water intrusion barrier wells used to inject water into the fresh water aquifer to prevent the intrusion of salt water into the fresh water.

4.5.r. 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.

§47-13-5. Area of Review.

5.1. The Director shall select the methods by which the area of review shall be established for each injection well or each field, project, or area of the State.

5.2. The area of review may be defined as either:

5.2.a. The zone of endangering influence as determined in accordance with subdivision 5.3.a; or

5.2.b. An area within a fixed radius around each injection well as determined in accordance with subdivision 5.3.c.

5.3. Zone of endangering influence. The zone of endangering influence shall be:

5.3.a. In case of application(s) for well permit(s) under subsection 13.3, that area the radius of which is the horizontal distance from the injection well in which the pressures in the injection zone may cause the migration of the injection and/or formation fluid into an underground source of drinking water; or

5.3.b. In the case of an application for an area permit under subsection 13.4, the area of the project plus a circumscribing area, the width of which is the horizontal distance for the perimeter of the project, in which the pressures in the injection zone may cause the migration of the injection and/or formation fluid into an underground source of drinking water. Computation of the zone of endangering influence should be based upon but not limited to, the parameters listed below and should be calculated for an injection time period equal to the expected life of the facility. The Thesis equation is an example of one possible objective method:

Where "r" is equal to the square root of a quantity which consists of a numerator divided by the denominator where the numerator is equal to 2.25 multiplied by "K" multiplied by "H" multiplied by "t"; and, the denominator is equal to "S" multiplied by 10 to the "x" power. And, where "x" is equal to a numerator divided by a denominator, where the numerator is equal to four multiplied by "pi" multiplied by "K" multiplied by "H" multiplied [by the quantity equal to the product of ("h(subscript w)" minus "h(subscript bo)")] multiplied by "S(subscript p)G(subscript b)"; and, the denominator is equal to 2.3 multiplied by "Q". (See Table 13.5-A at end of this rule)

5.3.b.1. Where "r" is equal to the radius of endangering influence from injection well (length):

5.3.b.1.A. "K" is equal to hydraulic conductivity of the injection zone (length/time);

5.3.b.1.B. "H" is equal to thickness of the injection zone (length);

5.3.b.1.C. "t" is equal to time of injection (time);

5.3.b.1.D. "S" is equal to storage coefficient (dimensionless);

5.3.b.1.E. "Q" is equal to injection rate (volume/time);

5.3.b.1.F. "h(subscript bo)" is equal to observed original hydrostatic head of injection zone (length) measured from the base of the lowermost underground source of drinking water;

5.3.b.1.G. "h(subscript w)" is equal to hydrostatic head of underground source of drinking water (length) measured from the base of the lowest underground source of drinking water;

5.3.b.1.H. "S(subscript p)G(sub-script b)" is equal to specific gravity of fluid in the injection zone (dimensionless);

5.3.b.1.I. "pi" is equal to 3.142 (dimensionless)

5.3.b.2. The above equation is based on the following assumptions:

5.3.b.2.A. The injection zone is homogenous and isotrophic;

5.3.b.2.B. The injection zone has infinite area extent;

5.3.b.2.C. The injection well penetrates the entire thickness of the injection zone;

5.3.b.2.D. The well diameter is infinitesimal compared to "r" when injection time is longer than a few minutes; and

5.3.b.2.E. The emplacement of fluid into the injection zone creates instantaneous increase in pressure.

5.3.c. Fixed radius:

5.3.c.1. In the case of application(s) for well permit(s), a fixed radius around the well may be used but not less than 1/4 mile.

5.3.c.2. In the case of an application for an area permit, a fixed width may be used but not less than 1/4 mile for the circumscribing area.

5.3.c.3. In determining the fixed radius, the following factors shall be taken into consideration: the chemistry of the injected and formation fluids; geology; hydrogeology; population and groundwater use and dependence; and historical practices in the area.

§47-13-6. Corrective Action and Mechanical Integrity.

6.1. Corrective Action. In determining the adequacy of corrective action proposed by the applicant and

in determining the additional steps needed to prevent fluid migration into underground sources of drinking water, the Director shall consider the following criteria and factors:

6.1.a. Nature and volume of injected fluid;

6.1.b. Nature of native fluids or by-products of injection;

6.1.c. Geology;

6.1.d. Hydrology;

6.1.e. History of the injection operation;

6.1.f. Completion and plugging reports;

6.1.g. Abandonment procedures in effect at the time the well was abandoned;

6.1.h. Hydraulic connections with the underground sources of drinking water; and

6.1.i. Potentially effected population.

6.2. Mechanical Integrity.

6.2.a. An injection well has mechanical integrity if:

6.1.a.1. There is no significant leak in the casing, tubing, or packer; and

6.1.a.2. There is no significant fluid movement into an underground source of drinking water through vertical channels adjacent to the injection well bore.

6.2.b. One of the following methods must be used to evaluate the absence of significant leaks under paragraph 6.2.b.1 of this section:

6.2.b.1. Monitoring of annulus pressure; or

6.2.b.2. Pressure test with liquid or gas.

6.2.c. The absence of significant fluid movement under paragraph 6.2.a.2 of this section may be demonstrated by:

6.2.c.1. For Class 2 wells, any requirements determined necessary under subdivision 9.1.a;

6.2.c.2. For Class 3 wells where the nature of the casing precludes the use of logging techniques prescribed at 6.2.c.3 of this section, cementing records demonstrating the presence of adequate cement to prevent such migration;

6.2.c.3. The results of a temperature or noise log;

6.2.c.4. For Class 3 wells where the Director elects to rely on cementing records to demonstrate the absence of significant fluid movement, the monitoring program prescribed by subsection 10.4 shall be designed to verify the absence of significant fluid movement; or

6.2.d. The Director may allow the use of a test to demonstrate mechanical integrity other than those listed in subdivisions 6.2.b and 6.2.c of this section with the written approval of the Director of the U.S. Environmental Protection Agency.

6.2.e. In conducting and evaluating the tests enumerated in this section or others to be allowed by the Director, the owner or operator and the Director shall apply methods and standards generally accepted in the industry. When the owner or operator reports the results of mechanical integrity tests to the Director, he shall include a description of the test(s) and the method(s) used. In making his/her evaluation, the Director shall review monitoring and other test data submitted since the previous evaluation.

§47-13-7. Requirements for Wells Injecting Hazardous Waste.

7.1. Applicability. The rules in this section and section 8 apply to all generators of hazardous waste, and to the owners or operators of all hazardous waste management facilities, using any Class 1 well to inject hazardous waste accompanied by a manifest.

7.2. Authorization. The owner or operator of any Class 1 well that is used to inject hazardous wastes accompanied by a manifest or delivery document shall apply for authorization to inject within six (6) months of the effective date of this rule.

7.3. Requirements. In addition to requiring compliance with the applicable requirements of section 8, the Director shall, for each facility meeting the requirements of subsection 7.2 require that the owner or operator comply with the following:

7.3.a. Notification. The owner or operator shall comply with the notification requirements in the Hazardous Waste Management Rule, 33CSR20-4, (W. Va. Code §22-18).

7.3.b. Identification number. The owner or operator shall comply with the requirements in the Hazardous Waste Management Rule, 33CSR20-8. (W. Va. Code §22-18).

7.3.c. Manifest system. The owner or operator shall comply with the applicable record keeping and reporting requirements for manifested wastes in the Hazardous Waste Management Rules, 33CSR20-8. (W. Va. Code §22-18).

7.3.d. Manifest discrepancies. The owner or operator shall comply with the Hazardous Waste Management Rules, 33CSR20-8. (W. Va. Code §22-18).

7.3.e. Operating record. The owner or operator shall comply with the Hazardous Waste Management Rules, 33CSR20-8. (W. Va. Code §22-18).

7.3.f. Annual report. The owner or operator shall comply with the Hazardous Waste Management

Rules, 33CSR20-8. (W. Va. Code §22-18).

7.3.g. Unmanifested waste report. The owner or operator shall comply with the Hazardous Waste Management Rules, 33CSR20-8. (W. Va. Code §22-18).

7.3.h. Personnel training. The owner or operator shall comply with the applicable personnel training requirements in the Hazardous Waste Management Rules, 33CSR20-8. (W. Va. Code §22-18).

7.3.i. Certification of closure. When abandonment is completed, the owner or operator must submit to the Director certification by the owner or operator and certification by an independent registered professional engineer that the facility has been closed in accordance with the specifications in subsection 13.7.f of this rule.

7.4. Location Standards. Owners and operators of all new hazardous waste injection wells shall comply with the following location standards:

7.4.a. Seismic Risk Zones. Wells shall not be located in Seismic Risk Zone 2 (Expected Moderate Damage). The following counties are located in Seismic Risk Zone 2: Jefferson, Berkeley, Morgan (east of Cacapon District), Hampshire (Bloomery, Capon Districts), Hardy (Capon, Lost River Districts), Pendleton (Bethel, Sugar Grove Districts), Pocahontas (south of the Green Bank District), Greenbrier, Monroe, Summers, Mercer, Raleigh (Slab Fork, Shady Spring, and Richmond Districts), McDowell and Wyoming (south of Oceana District).

7.4.b. Subsurface Mining Areas. The borehole of any hazardous waste injection well shall not pass through a cavity created by subsurface mining.

7.4.c. Carbonate Formations. The borehole of any hazardous waste injection well shall not pass through any cavity created by solution of carbonate rock above the injection zone.

7.4.d. Inundation Danger Zone. Hazardous waste injection wells shall not be located where inundation from dam failure or a 100 year flood could occur.

7.4.e. Designated Wetlands. Hazardous waste injection wells shall not be located in wetlands.

§47-13-8. Criteria and Standards Applicable to Class 1 Wells.

8.1. General. This section sets forth requirements for underground injection control programs to regulate Class 1 wells.

8.2. Construction Requirements. The Director shall prescribe requirements for the construction of Class 1 injection wells. Existing wells shall achieve compliance with such requirements according to a specific compliance schedule established by the Director as a condition of the permit. New wells shall be in compliance with construction requirements before injection operations begin. The owner or operator of a proposed injection well shall submit plans to the Director for testing, drilling, and construction and obtain the approval of the initial plans as a condition of the permit. The Director's approval of any modifications of the plan shall be obtained before incorporating them into the construction of the injection well. At a minimum, such requirements shall prescribe that:

8.2.a. Each Class 1 well shall be sited in such a fashion that it injects into a formation which is below the lowermost formation containing within 1/4 mile of the well bore, an underground source of drinking water, and which has an overlying confining bed that is free of known faults or fractures within the area of review.

8.2.b. Each Class 1 well shall be cased, and cemented to prevent the movement of fluids into or between underground sources of drinking water. The casing and cement used in the construction of each newly drilled well shall be designed for the life expectancy of the well. In determining and specifying casing and cementing requirements, the Director shall consider the following factors:

8.2.b.1. Depth to the injection zone;

8.2.b.2. Injection pressure (external pressure, internal pressure, axial loading, etc.);

8.2.b.3. Hole size;

8.2.b.4. Size and grade of all casing strings (wall thickness, diameter, nominal weight, length, joint specification, construction material, etc.);

8.2.b.5. Corrosiveness of injected fluid, formation fluids, and temperatures;

8.2.b.6. Lithology of possible injection and confining intervals; and

8.2.b.7. Type or grade of cement.

8.2.c. All Class 1 injection wells, except for those municipal wells injecting only non-corrosive wastes, shall inject fluids through tubing and packer set immediately above the injection zone. The tubing and packer shall be designed for the expected service.

8.2.c.1. The use of other alternatives to a packer may be allowed with the written approval of the Director. To obtain approval, the operator shall submit a written request to the Director, which shall set forth the proposed alternative and all technical data supporting its use. The Director shall approve the request only if the alternative method will reliably provide a comparable level of protection to underground sources of drinking water. The Director may approve an alternative method solely for an individual well or for general use.

8.2.c.2. In determining and specifying requirements for tubing and packer, the Director shall consider the following factors:

8.2.c.2.A. Depth of setting;

8.2.c.2.B. Characteristics of injection fluid (chemical content, density, etc.);

8.2.c.2.C. Injection pressure;

8.2.c.2.D. Annular pressure;

8.2.c.2.E. Rate, temperature and volume of injected fluid; and

8.2.c.2.F. Size of casing.

8.2.d. All parts of Class 1 wells which will come into contact with corrosive fluids (whether injected or in the native environment) shall be constructed of corrosion resistant material.

8.2.e. Logs and other tests shall be conducted during the drilling and construction of new Class 1 wells. A descriptive report interpreting the results of such logs and tests shall be prepared by a knowledgeable log analyst and submitted to the Director. At a minimum such logs and tests shall include:

8.2.e.1. Directional surveys conducted on all holes, including pilot holes, at sufficiently frequent intervals to assure that vertical avenues for fluid migration in the form of diverging holes are not created during drilling.

8.2.e.2. For surface casing intended to protect underground sources of drinking water:

8.2.e.2.A. Resistivity, spontaneous potential and caliper logs before the casing is installed; and

8.2.e.2.B. A cement bond, temperature, or density log after the casing is set and cemented.

8.2.e.3. For intermediate and long strings of casing intended to facilitate injection:

8.2.e.3.A. Resistivity, spontaneous potential, porosity, and gamma ray logs before the casing is installed;

8.2.e.3.B. Fracture finder logs in appropriate situations as prescribed by the Director; and

8.2.e.3.C. A cement bond, temperature, or density log after the casing is set and cemented.

8.2.f. At a minimum, the following information concerning the injection formation shall be determined for the new Class 1 wells, and submitted to the Director:

8.2.f.1. Fluid pressure;

8.2.f.2. Temperature;

8.2.f.3. Fracture pressure;

8.2.f.4. Other physical and chemical characteristics of the injection matrix;

8.2.f.5. Physical and chemical characteristics of the formation fluids; and

8.2.f.6. Compatibility of injected fluids with formation fluids.

8.2.g. Information requirements for Class I Hazardous Waste Injection Well Permits.

8.2.g.1. The following is required for each active Class I hazardous waste injection well at a facility seeking a UIC permit:

8.2.g.1.A.. Dates well was operated.

8.2.g.1.B. Specifications of all wastes which have been injected in the well, if available.

8.2.g.2. The owner or operator of any existing facility containing one or more active hazardous waste injection wells must submit all available information pertaining to any release of hazardous waste or constituents from any active hazardous waste injection well at the facility.

8.2.g.3. The owner or operator of any facility containing one or more active Class I hazardous waste injection wells must conduct preliminary site investigations as are necessary to determine whether a release is occurring, has occurred, or is likely to have occurred.

8.3. Abandonment of Class 1 Wells.

8.3.a. Class 1 wells shall be abandoned in a manner to be prescribed by the Director under subdivision 13.7.f. At a minimum, the well shall be plugged with cement in a manner which will not allow the movement of fluids either into or between underground sources of drinking water.

8.3.b. Placement of cement plugs shall be accomplished by one of the following:

8.3.b.1. The Balance Method;

8.3.b.2. The Dump Bailer Method;

8.3.b.3. The Two-Plug method; or

8.3.b.4. An alternative method approved by the Director which will reliably provide a comparable level of protection to USDW'S.

8.3.c. The well to be abandoned shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or a comparable method prescribed by the Director, prior to the placement of the cement plug(s).

8.3.d. The owner or operator shall assure, through a performance bond or other appropriate means, the availability of resources necessary for the proper abandonment of the well as required in subdivision 13.7.g.

8.4. Operating, Monitoring, and Reporting Requirements.

8.4.a. Operating Requirements: The Director shall, under subdivision 13.7.c prescribe requirements governing the operation of injection wells in the permit. Requirements for Class 1 wells shall, at a minimum, specify that:

8.4.a.1. Except during stimulation, injection pressure at the wellhead shall not exceed a maximum which shall be calculated so as to assure that the pressure in the injection zone during injection does not initiate new fractures or propagate existing fractures in the injection zone. In no case shall injection pressure initiate fractures in the confining zone or cause the movement of injection or formation fluids into an underground source of drinking water;

8.4.a.2. Injection between the outermost casing protecting underground sources of drinking water and the well bore is prohibited; and

8.4.a.3. Unless alternative to tubing and packer has been approved, the annulus between the tubing and the long string of casings shall be filled with a fluid approved by the Director and a pressure, also approved by the Director, shall be maintained on the annulus.

8.4.b. Monitoring Requirements: The Director shall prescribe requirements for the monitoring of the injection fluids, the injection well, and the underground sources of drinking water that could potentially be affected by the injection. Monitoring requirements shall, at a minimum, include:

8.4.b.1. Testing of the injected fluids with sufficient frequency to yield representative data of its characteristics;

8.4.b.2. Continuous recording devices to monitor injection pressure, flow rate and volume, and the pressure on the annulus between the tubing and the long strings of casing;

8.4.b.3. Demonstration of mechanical integrity at least every five (5) years during the life of the well;

8.4.b.4. Type, number and location of wells within the area of review to monitor any migration of fluids into and pressure in the underground sources of drinking water with the parameters to be measured and the frequency of monitoring specified; and

8.4.b.5. The maintenance of the results of required monitoring for at least three (3) years.

8.4.c. Reporting requirements: The Director shall prescribe the form, manner, content and frequency of reporting by the operator. The operator shall be required to identify the types of tests and methods used to generate the monitoring data. At a minimum, requirements shall include:

8.4.c.1. Quarterly reports to the Director on:

8.4.c.1.A. The physical, chemical, and other relevant characteristics of injection fluids;

8.4.c.1.B. Monthly average, maximum, and minimum values for injection pressure, flow rate and volume, and annular pressure; and

8.4.c.1.C. Monitoring of pressure and quality in underground sources of drinking water.

8.4.c.2. Reporting with the first quarterly report after the completion of:

8.4.c.2.A. Periodic demonstration of mechanical integrity; and

8.4.c.2.B. Any other test of injection well conducted by the permittee if required by the Director.

8.4.c.3. Written notice to the Director within thirty (30) days after any compliance schedule date whether the permittee has or has not complied with the requirements in question;

8.4.c.4. Immediate reports to the Director of any violation of a permit condition or malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water.

8.5. Information to be Considered by the Director Prior to the Issuance of a Permit.

8.5.a. Prior to the issuance of a permit for an existing or new Class 1 well, the Director shall consider the following information: For an existing Class 1 well the Director may rely on the existing State permit file for those items of information listed below which are current and accurate in the State file. For a new Class 1 well, the Director shall require the submission of all the information listed below. For both existing and new Class 1 wells, paragraphs 8.5.a.3, 8.5.a.4, and 8.5.a.6 of this section may be included in the application by reference if the reference is specific in identifying the maps in question and the maps are readily available to the Director. The following information is required:

8.5.a.1. Any increase in the amount of hazardous waste or change in the type of hazardous waste injected;

8.5.a.2. A map showing the injection well(s) for which a permit is sought and the applicable area of review. Within the area of review, the map must show the number or name, and location of all producing wells, injection wells, abandoned wells, dry holes, surface bodies of water, mines (surface and subsurface), quarries, water wells and other pertinent surface features including residences and roads. The map should also show faults, if known or suspected. Only information of public record is required to be included on this map;

8.5.a.3. A tabulation of data on all wells within the area of review which penetrate into the proposed injection zone. Such data shall include a description of each well's type, location, depth, record of plugging and/or completion, and any additional information on these wells as the may require;

8.5.a.4. Maps and cross sections indicating the general vertical and lateral limits of all underground source of drinking water within the area of review, their position relative to the injection formation and the direction of water movement, where known, in each underground source of drinking water which may be affected by the proposed injection;

8.5.a.5. Maps and cross sections detailing the geologic structure of the local area;

8.5.a.6. Generalized maps and cross sections illustrating the regional geologic setting;

8.5.a.7. Operating data:

8.5.a.7.A. The anticipated average and maximum pressure and flow rate at which the permittee will operate; and

8.5.a.7.B. Source and an analysis of the chemical, physical, radiological and biological characteristics of injection fluids;

8.5.a.8. Formation testing program to obtain analysis of the chemical, physical, and radiological characteristics of and other information on the receiving formation;

8.5.a.9. Stimulation program;

8.5.a.10. Injection procedure;

8.5.a.11. Schematic or other appropriate drawings of the surface and subsurface construction details of the well;

8.5.a.12. Contingency plans to cope with all shut-ins or well failures so as to prevent migration of contaminating fluids into any underground source of drinking water;

8.5.a.13. All available logging and testing program data on the well;

8.5.a.14. Plans for meeting the monitoring requirements;

8.5.a.15. For wells within the area of review which penetrate the injection zone but are not properly completed or plugged, the corrective action proposed to be taken under subsections 6.1 and 13.9;

8.5.a.16. Construction procedures including a cementing and casing program, logging procedures, directional survey, and a drilling, testing, and coring program;

8.5.a.17. Feasibility of monitoring permeable strata located between the injection zone and underground sources of drinking water;

8.5.a.18. Compatibility of injected waste with fluids in the injection zone and minerals in both the injection zone and the confining strata;

8.5.a.19. A certificate that the applicant has assured, through a performance bond or other appropriate means, the resources necessary to close, plug or abandon the well under subdivision 13.7.g;

8.5.a.20. A satisfactory demonstration of mechanical integrity under subdivision 13.7.h and subsection 6.2; and

8.5.a.21. Such other information as the Director may reasonably require.

8.5.b. Prior to granting approval for the plugging and abandonment of a Class 1 well the Director shall consider the following information:

8.5.b.1. The type and number of plugs to be used;

8.5.b.2. The placement of each plug including the elevation of the top and bottom;

8.5.b.3. The type and grade and quantity of cement to be used;

8.5.b.4. The method for placement of the plugs; and

8.5.b.5. The procedure to be used to meet the requirements of subsection 8.3.

§47-13-9. Criteria and Standards Applicable to Class 2 Wells.

9.1. General

9.1.a. The criteria and standards applicable to Class 2 wells shall be those which are required pursuant to W. Va. Code §22-6 et seq. and W. Va. Code §22C-9-1 et seq. and the rules thereunder, and any other requirements that the Director considers reasonably necessary to ensure that no pollution of USDW"s occurs.

9.1.b. Owners and operators of Class 2 wells shall either be authorized by rule or obtain permits in accordance with the requirements of section 13 of this rule.

§47-13-10. Criteria and Standards Applicable to Class 3 Wells.

10.1. General. This section sets forth requirements for underground injection control programs to regulate Class 3 wells.

10.2. Construction Requirements. The Director shall prescribe requirements for the construction of Class 3 injection wells. Existing wells shall achieve compliance with such requirements according to a specific compliance schedule established by the Director as a condition of the permit. New wells shall be in compliance with construction requirements before injection operations begin. The owner or operator of a proposed injection well shall submit plans for testing, drilling and construction to the Director and obtain the approval of the Director of the initial plans as a condition of the permit. The Director's approval of any modifications of the plans shall be obtained before incorporating them into the construction of the injection well. At a minimum, such requirements shall specify that:

10.2.a. All new Class 3 wells shall be cased and cemented to prevent the migration of fluids into or between underground sources of drinking water. The Director may waive the cementing requirements for new wells in existing projects or portions of existing projects where he has substantial evidence that no contamination of underground sources of drinking water would result. The casing and cement used in the construction of each newly drilled well shall be designed for the life expectancy of the well. In determining and specifying casing and cementing requirements, the Director shall consider the following factors:

10.2.a.1. Depth to the injection zone;

10.2.a.2. Injection pressure (external pressure, internal pressure, axial loading, etc.);

10.2.a.3. Hole size;

10.2.a.4. Size and grade of all casing strings (wall thickness, diameter, nominal weight, length, joint specification, construction material, etc.);

10.2.a.5. Corrosiveness of injected and formation fields;

10.2.a.6. Lithology of possible injection and confining zones; and

10.2.a.7. Type and grade of cement.

10.2.b. All parts of Class 3 wells which will come into contact with corrosive fluids (whether injected or in the native environment) shall be constructed of corrosive resistant material.

10.2.c. Appropriate logs and other tests shall be conducted during the drilling and construction of new Class 3 wells. A descriptive report interpreting the results of such logs and tests shall be prepared by a knowledgeable log analyst and submitted to the Director. The Director shall specify the logs and tests appropriate to each type of Class 3 well based on the intended function, depth, construction and other characteristics of the well, availability of similar data in the area of the drilling site and the need for additional information that may arise from time to time as the construction of the well progresses. At a minimum, such logs and tests, shall, as appropriate, include:

10.2.c.1. Deviation checks conducted on all holes where pilot holes and reaming are used, unless the hole will be cased and cemented by circulating cement to the surface. Where deviation checks are necessary they shall be conducted at sufficiently frequent intervals to assure that vertical avenues for fluid migration in the form of diverging holes are not created during drilling;

10.2.c.2. For surface casing intended to protect underground sources of drinking water:

10.2.c.2.A. Resistivity, spontaneous potential, and caliper logs before the casing is installed; and

10.2.c.2.B. A cement bond, temperature, or density log after casing is set and cemented.

10.2.c.3. For intermediate and long strings of casing intended to facilitate injection:

10.2.c.3.A. Resistivity, spontaneous potential, porosity, and gamma ray logs before the casing is installed;

10.2.c.3.B. Fracture finder logs in appropriate situations as prescribed by the Director; and

10.2.c.3.C. A cement bond, temperature, or density log after the casing is set and cemented.

10.2.d. Where the injection zone is a formation which is naturally water bearing the following information concerning the injection zone shall be determined or calculated for new Class 3 wells or projects:

10.2.d.1. Fluid pressure;

10.2.d.2. Fracture pressure;

10.2.d.3. Physical and chemical characteristics of the formation fluids; and

10.2.d.4. The nature and volume of the injected fluid, the formation water and the process by-products.

10.2.e. Where the injection formation is not a water bearing formation, the information in paragraph 10.2.d.2 of this section must be submitted.

10.2.f. Where injection is into a formation which contains water with less than ten thousand (10,000) mg/1 TDS monitoring wells shall be completed into the injection zone and into any underground sources of drinking water above the injection zone which could be affected by the mining operation. These wells shall be located in such a fashion as to detect any excursion of injection fluids, process by-products, or formation fluids outside the mining area or zone. If the operation may be affected by subsidence or catastrophic collapse the monitoring wells shall be located so that they will not be physically affected.

10.2.g. Where injection is into a formation which does not contain water with less than ten thousand(10,000) mg/1 TDS, no monitoring wells are necessary in the injection stratum.

10.2.h. Where the injection wells penetrate an USDW in an area subject to subsidence or catastrophic collapse an adequate number of monitoring wells shall be completed into the USDW to detect any movement of injected fluids, process by-products or formation fluids into the USDW. The monitoring wells shall be located outside the physical influence of the subsidence or catastrophic collapse.

10.2.i. Determining the number, location, construction and frequency of monitoring of the monitoring wells the following criteria shall be considered:

10.2.i.1. The population relying on the USDW affected or potentially affected by the injection operation;

10.2.i.2. The proximity of the injection operation to points of withdrawal of drinking water;

10.2.i.3. The local geology and hydrology;

10.2.i.4. The operating pressures and whether a negative pressure gradient is being maintained;

10.2.i.5. The nature and volume of the injected fluid, the formation water and the process by-products; and

10.2.i.6. The injection well density.

10.3. Abandonment of Class 3 Wells.

10.3.a. Class 3 wells shall be abandoned in a manner, prescribed by the Director, under subdivision 13.7.f. At a minimum the well shall be plugged with cement in a manner which will not allow movement of fluids either into or between underground sources of drinking water. The Director may allow Class 3

wells to use other plugging materials if he is satisfied that such materials will prevent movement of fluids into or between underground sources of drinking water.

10.3.b. Placement of the cement plugs shall be accomplished by one of the following:

10.3.b.1. The Balance Method;

10.3.b.2. The Dump Bailer Method;

10.3.b.3. The Two-Plug Method; or

10.3.b.4. An alternative method approved by the Director, which will reliably provide a comparable level of protection to underground sources of drinking water.

10.3.c. The well to be abandoned shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or a comparable method prescribed by the Director, prior to the placement of the cement plug(s).

10.3.d. The owners and operators shall assure, through a performance bond or other appropriate means, the availability of resources necessary for the proper abandonment of the well as required under subdivision 13.7.g.

10.3.e. The plugging and abandonment plan required in subdivision 13.7.f shall, in the case of a Class 3 project which underlies or is in an aquifer which has been exempted under section 3, also demonstrate adequate protection of USDWs. The Director shall prescribe aquifer cleanup and monitoring where he deems it necessary and feasible to insure adequate protection of USDWs.

10.4. Operating, Monitoring, and Reporting Requirements

10.4.a. Operating Requirements: The Director shall prescribe requirements governing the operation of injection wells in the permit. Requirements for Class 3 wells shall, at a minimum, include that:

10.4.a.1. Except during well stimulation the injection pressure at the wellhead shall be calculated so as to assure that the pressure in the injection zone during injection does not initiate new fractures or propagate existing fractures in the injection zone. In no case shall injection pressure initiate fractures in the confining zone or cause the migration of injection or formation fluids into an underground source of drinking water; and

10.4.a.2. Injection between the outermost casing protecting underground sources of drinking water and the well bore shall be prohibited.

10.4.b. Monitoring Requirements:

10.4.b.1. Monitoring of the nature of injected fluids with sufficient frequency to yield representative data on its characteristics. Whenever the injection fluid is modified to the extent that the analysis required by subparagraph 10.5.a.6.B is incorrect or incomplete, a new analysis shall be provided to the Director;

10.4.b.2. Monitoring of injection pressure and either flow rate or volume semi-monthly, or metering and daily recording of injected and produced fluid volumes as appropriate;

10.4.b.3. Demonstration of mechanical integrity pursuant to subsection 6.2 at least every five (5) years during the life of the well for salt solution mining;

10.4.b.4. Monitoring of the fluid level in the injection zone semi-monthly, where appropriate and monitoring of the parameters chosen to measure quality of water in the monitoring wells required by subdivision 10.2.f semi-monthly;

10.4.b.5. Quarterly monitoring of wells required by subdivision 10.2.h; and

10.4.b.6. All Class 3 wells may be monitored on a field or project basis rather than an individual well basis by manifold monitoring. Manifold monitoring may be used in cases of facilities consisting of more than one injection well, operating with a common manifold. Separate monitoring systems for each well are not required provided the owner/operator demonstrates that manifold monitoring is comparable to individual well monitoring.

10.4.c. Reporting Requirements: The Director shall prescribe the form, manner, content, and frequency of reporting by the permittee. The permittee shall be required to identify the types of tests and methods used to generate the monitoring data. At a minimum, requirements shall include:

10.4.c.1. Quarterly monitoring of wells;

10.4.c.2. Results of mechanical integrity and any other periodic test required by the Director reported with the first regular quarterly report after the completion of the test;

10.4.c.3. Written notice to the Director within thirty (30) days of any compliance schedule date of whether the permittee has or has not complied with the requirements in question; and

10.4.c.4. Immediate reports to the Director on any violation of a permit condition or malfunction of the injection system which may cause fluid migration into underground sources of drinking water.

10.5. Information to be Considered by the Director Prior to the Issuance of a Permit.

10.5.a. Prior to the issuance of a permit for an existing or new Class 3 well, the Director shall consider the following information. For an existing Class 3 injection operation the Director may rely upon the existing permit file for these items of information listed below which are current and accurate in the State file. For a new Class 3 injection well the Director shall require the submission of all the information listed below. For both existing and new Class 3 wells, paragraphs 10.5.a.2, 10.5.a.3 and 10.5.a.6 of this section may be included by reference if the maps are specifically identified and readily available to the Director:

10.5.a.1. A map showing the injection well or project area for which a permit is sought and the applicable area of review. Within the area of review, the map must show the number or name and location of all existing producing wells, injection wells, abandoned wells, and dry holes. The map may also show surface bodies of water, mines (surface and subsurface), quarries and other pertinent surface features including residence and roads, and faults if known or suspected. Only information of public record and

pertinent information known to the applicant is required to be included on this map;

10.5.a.2. Maps and cross sections indicating the vertical and lateral limits of all underground sources of drinking water within the area of review, their position relative to the injection formation, and the direction of water movement, where known, in every underground source of drinking water which may be affected by the proposed injection.;

10.5.a.3. Maps and cross sections detailing the geologic structure of the local area;

10.5.a.4. Generalized maps and cross sections illustrating the regional geologic setting;

10.5.a.5. A tabulation of data reasonably available for public records or otherwise known to the applicant on all wells within the area of review included on the map which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of plugging and completion, and any additional information the Director may require. In cases where the information may be repetitive and the wells are of similar age, type and construction the Director may elect to only require data on a representative number of wells;

10.5.a.6. Operating data:

10.5.a.6.A. The anticipated average and maximum pressure and flow rate at which the permittee will operate;

10.5.a.6.B. Qualitative analysis and ranges in concentrations of all constituents of injected fluids. The applicant may request confidentiality;

If the information is proprietary an applicant may, in lieu of the ranges in concentrations, choose to submit maximum concentrations which shall not be exceeded. In such a case the applicant shall retain records of the undisclosed concentrations and provide them upon request to the Director as part of any enforcement investigation; and

10.5.a.6.C. An analysis of the physical and chemical characteristics of the formation.

10.5.a.7. Formation testing program;

10.5.a.8. Stimulation program;

10.5.a.9. Injection procedure;

10.5.a.10. Schematic or other appropriate drawings of the surface and subsurface construction details of the well;

10.5.a.11. Plans (including maps) for meeting the monitoring requirements of subdivision 10.4.b;

10.5.a.12. Expected changes in pressure, native fluid displacement, direction of movement of injection fluid;

10.5.a.13. Contingency plans to cope with all shut-ins or well failures so as to prevent the migration of contaminating fluids into underground sources of drinking water;

10.5.a.14. All available logging and testing data on the well;

10.5.a.15. The corrective action proposed to be taken under subsection 6.1;

10.5.a.16. A certificate that the applicant has assured, through a performance bond or other appropriate means, the resources necessary to close, plug or abandon the well under subdivision 13.7.g; and

10.5.a.17. A satisfactory demonstration of mechanical integrity for all new wells and for all existing salt solution wells as required by subsection 6.2.

10.5.b. Prior to granting approval for the plugging and abandonment of a Class 3 well the Director shall consider the following information:

10.5.b.1. The type and number of plugs to be used;

10.5.b.2. The placement of each plug including the elevation of the top and bottom;

10.5.b.3. The type, grade and quantity of cement to be used;

10.5.b.4. The method of placement of the plugs; and

10.5.b.5. The procedure to be used to meet the requirements of subsection 10.3.

§47-13-11. Criteria and Standards Applicable to Class 4 Wells.

11.1. General.

11.1.a. This section sets forth criteria and standards for underground injection control programs to regulate wells, including non-residential septic system wells, used by generators of hazardous wastes or owners and operators of hazardous waste management facilities to inject into or above strata that contain an underground source of drinking water.

11.1.b. All new Class 4 wells are prohibited.

11.2. Notification by Owners and Operators. The owner or operator of an existing Class 4 well shall submit to the Director:

11.2.a. Notice of the existence of any Class 4 well under his control; and

11.2.b. Information regarding the well.

11.3. Closure of Class 4 Wells.

11.3.a. The operation of any existing Class 4 well shall be prohibited six (6) months after the effective date of this rule.

11.3.b. In determining the enforcement strategy and time allowed for closure, the Director shall consider the following criteria:

11.3.b.1. Population relying on the underground source of drinking water affected or potentially affected by the injection;

11.3.b.2. Local geology and hydrology;

11.3.b.3. Toxicity and volume of injected fluid; and

11.3.b.4. Injection well density.

11.3.c. The owners or operators of Class 4 wells shall be notified by certified mail of the time by which closure must be accomplished as decided upon by the Director and, if appropriate, of a compliance schedule leading to closure.

11.3.d. Nothing in this section is intended to limit the Director in taking immediate action necessary to protect the health of persons.

11.4. Monitoring and Reporting Requirements. The Director shall prescribe monitoring and reporting requirements for existing Class 4 wells while they are operating.

11.4.a. Monitoring requirements shall, at a minimum include:

11.4.a.1. Record keeping as required in W. Va. Code 22-18 and rules thereunder.

11.4.a.2. Weekly monitoring of existing water supply wells in the vicinity for parameters based upon the characteristics of the injection fluids.

11.4.a.3. Maintenance of the results of monitoring under subdivision 13.6.b and paragraph 13.12.j.2.

11.4.b. Reporting requirements shall prescribe the form, manner, content and frequency of reports to the Director . The permittee shall be required to identify the types of tests and methods used to generate the monitoring data. At a minimum, the requirements shall include:

11.4.b.1. Quarterly reporting of the results of monitoring required under subdivision 11.4.a of this section;

11.4.b.2. Immediate notification to the Director of any change in the concentration of any parameter measured at an existing water supply well; and

11.4.b.3. Written notification to the Director within thirty (30) days after any compliance schedule date of whether the owner or operator has or has not complied with the requirements in question.

§47-13-12. Criteria and Standards Applicable to Class 5 Injection Wells.

12.1. General. This section sets forth requirements for underground injection control programs to regulate all injection not regulated in sections 8, 9, 10 and 11. Generally, wells covered in this section inject non-hazardous fluids into strata that contain underground sources of drinking water. It includes, but is not limited to, the following types of injection wells: Waste disposal wells, such as drainage wells, cooling water return flow wells, air conditioning return flow wells, salt water barrier wells and subsidence control wells (not associated with oil and gas production). It also includes wells not covered in Class 4 that inject radioactive material listed in 10 CFR Part 20, Appendix B, Table II, Column 2.

12.1.a. All new large capacity cesspools are prohibited.

12.1.b. All existing large capacity cesspools must be closed by April 5, 2005.

12.1.c. All new motor vehicle waste disposal wells are prohibited.

12.1.d. All existing motor vehicle waste disposal wells must be closed by January 1, 2005, or operated in compliance with Section 13.1.b.and d. of this rule.

12.2. Inventory and Assessment.

12.2.a. The owner or operator of any Class 5 well shall within one (1) year of the effective date of this rule notify the Director of the existence of any well meeting the definition of Class 5 under his control, and submit a description of:

12.2.a.1. The construction features of the well;

12.2.a.2. The nature and volume of injected fluids;

12.2.a.3. The alternative means of disposal available to the operator;

12.2.a.4. The environmental and economic consequences of well disposal and its alternatives;

12.2.a.5. Facility name and location;

12.2.a.6. Name and address of legal contact;

12.2.a.7. Ownership of facility;

12.2.a.8. Nature and type of injection wells; and

12.2.a.9. Operating status of injection wells.

12.3. Requirement. If at any time the Director gains knowledge of a Class 5 well which presents a significant risk to the health of persons, he/she shall prescribe such action as necessary (including the immediate closure of the injection well) to remove such risk.

12.4. Wells Regulated by Rule and Permit.

12.4.a. All Class 5 wells shall be authorized by rule pursuant to subsection 13.2 unless the Director requires an individual permit.

12.4.b. Information to be considered by the Director prior to issuance of a permit.

12.4.b.1. (Reserved).

§47-13-13. Injection Well Permitting Program.

13.1. General Prohibition and Prohibition of Movement of Fluid into Underground Sources of Drinking Water.

13.1.a. Underground injection is prohibited unless authorized by permit or rule. The construction of any well required to have a permit is prohibited until the permit has been issued.

13.1.b. No owner or operator shall construct, operate, maintain, convert, plug, abandon or conduct any other underground injection activity in a manner which causes or allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR Part 142 or promulgated pursuant to W. Va. Code §16-1-1 et seq., or may otherwise adversely affect the health of persons. The applicant for a permit shall have the burden of showing that the requirements of this paragraph are met.

13.1.c. For Class 1, 2, and 3 wells, if any water quality monitoring of an USDW indicates the movement of any contaminant into USDW except as authorized under this rule, the Director shall prescribe such additional requirements for construction, corrective action, operation, monitoring, or reporting (including closure of the injection well) as are necessary to prevent such movement. In the case of wells authorized by permit, these additional requirements shall be imposed by modifying the permit or the permit may be revoked if cause exists, or appropriate enforcement action may be taken if the permit has been violated. In the case of wells authorized by rule, see subsection 13.2.

13.1.d. For Class 5 wells, if at any time the Director learns that a Class 5 well may cause a violation of primary drinking water rules under 40 CFR Part 142 or W. Va. Code §16-1-1 et seq., he or she shall:

13.1.d.1. Require the injector to obtain an individual permit;

13.1.d.2. Order the injector to take such actions (including where required closure of the injection well) as may be necessary to prevent the violation; or

13.1.d.3. Take enforcement action.

13.1.e. Whenever the Director learns that a Class 5 well may be otherwise adversely affecting the health of persons, he or she may prescribe such actions as may be necessary to prevent the adverse effect, including any action authorized under subdivision 13.2.d of this section.

13.1.f. Notwithstanding any other provision of this section, the Director may take emergency action

under W. Va. Code §22-11-19 upon receipt of information that a contaminant which is present in or is likely to enter a public water system may present an imminent and substantial endangerment to health of persons.

13.2. Authorization of Underground Injection by Rule.

13.2.a. Types of underground injection which may be authorized by rule. Facilities may be authorized by rule under this rule as outlined in this paragraph. Underground injections not authorized by rule or permit are prohibited:

13.2.a.1. Injection into existing Class 1, 2, and 3 wells may be authorized by rule for periods up to five (5) years from the effective date of this rule. All such wells must be issued permits within the five (5) year period or close down at its end, unless the rule is continued under paragraph 13.2.a.2;

13.2.a.2. Notwithstanding the prohibition in subdivision 13.1.a rules under paragraph 13.2.a.1 of this section authorizing Class 2 and 3 wells or projects in existing fields or projects may allow them to continue normal operations until permitted, including construction, operation, and plugging and abandonment of wells provided the owner or operator maintains compliance with all applicable requirements;

13.2.a.3. Injection into existing Class 4 wells as defined in subsection 4.4 may be authorized for a period not to exceed six (6) months after the effective date of this rule. Such rules shall apply the requirements of subsections 7.4 and 11.4; and

13.2.a.4. Injections into Class 5 wells may be authorized for a period of five (5) years, subject to the requirements of subdivision 13.2.b and 13.2.d of this section and section 12. However, the Director has authority to withdraw the authorization if required under this section.

13.2.b. Requirements of Rules. Any facility authorized by rule pursuant to this section shall meet the following requirements no later than one (1) year after authorization by such rules:

13.2.b.1. Subdivision 13.6.a. - (exemption from rule where authorized by temporary permits);

13.2.b.2. Subdivision 13.6.b. - (retention of records);

13.2.b.3. Subdivision 13.6.d. - (immediate reporting):

13.2.b.4. Subdivision 13.6.e. - (notice of abandonment);

13.2.b.5. Subdivision 13.7.f, and subsections 8.3, and 10.3. - (plugging and abandonment);

13.2.b.6. Construction requirements under subsection 8.2. (Class 1), subsection 10.2. (Class 3), and any requirements determined necessary by subdivision 9.1.a. (Class 2);

13.2.b.7. For Class 1, 2, or 3 wells corrective action under subsection 6.1;

13.2.b.8. Operating, monitoring, and reporting requirements under subsection 8.4 (Class 1), subsection 10.4 (Class 3), and any requirements determined necessary under sudivision 9.1.a (Class 2 wells);

13.2.b.9. Subdivision 13.7.g. - (financial responsibility);

13.2.b.10. Mechanical integrity requirements under subsection 6.2; and

13.2.b.11. Subsection 7.3. - (special requirements for wells injecting hazardous waste).

13.2.c. Requiring a permit.

13.2.c.1. The Director may require any Class 1, 2, 3, or 5 injection well authorized by rule to apply for and obtain an individual or area UIC permit. Cases where individual or area UIC permits may be required include, but are not limited to:

13.2.c.1.A. The injection well is not in compliance with any requirement of the rule;

(Note: Any underground injection which violates any rule under this section is subject to appropriate enforcement action).

13.2.c.1.B. The injection well is not or no longer is within the category of wells and types of well operations authorized in the rule;

13.2.c.1.C. The protection of USDWs requires that the injection operation be regulated by requirements, such as for corrective action, monitoring and reporting, or operation, which are not contained in the rule; and

13.2.c.1.D. As a part of the orderly implementation of the UIC Program during the period of authorization by rule.

13.2.c.2. Any owner or operator authorized by a rule may request to be excluded from the coverage of the rule by applying for an individual or area UIC permit. The owner or operator shall submit an application under subsection 13.3 with reasons supporting the request to the Director. The Director may grant any such request.

13.2.d. Inventory requirements. All injection wells covered by rule shall submit inventory information to the Director. Any rule under this section shall provide for the automatic termination of authorization for any well which fails to comply within the time specified in paragraph 13.2.d.3 of this section.

13.2.d.1. Contents. The Director shall require:

13.2.d.1.A. Information regarding pollutant loads and schedules for attaining compliance with water quality standards;

13.2.d.1.B. Facility name and location;

13.2.d.1.C. Name and address of legal contact;

13.2.d.1.D. Ownership of facility;

13.2.d.1.E. Nature and type of injection wells; and

13.2.d.1.F. Operating status of injection wells.

13.2.d.2. Notice. Upon approval of the State UIC Program, the Director shall notify owners or operators of injection wells of their duty to submit inventory information. The method of notification selected by the Director must assure that the owners or operators will be made aware of the inventory requirement.

13.2.d.3. Deadlines. Owners or operators of injection wells must submit inventory information no later than one (1) year after authorization by rule. The Director need not require inventory information from any facility with interim status under W. Va. Code §22-18.

13.3. Application for a Permit; Authorization by Permit.

13.3.a. Permit application. Except as provided in subsection 13.2 (authorization by rule), all underground injections into Class 1, 2, or 3 wells shall be prohibited unless authorized by permit. Those authorized by a rule under subsection 13.2 must still apply for a permit under this section unless authorization was for the life of the well or project. Rules authorizing well injections for which permit applications have been submitted shall lapse for a particular well injection or project upon the effective date of the permit or permit denial for that well injection or project.

13.3.b. Time to apply. Any person who performs or proposes an underground injection for which a permit is or will be required shall submit an application to the Director in accordance with the State UIC Program as follows:

13.3.b.1. For existing injection wells as expeditiously as practicable and in accordance with the schedule contained in the State UIC Program description, but no later than four (4) years from the effective date of this rule or as required under subsection 7.3 for wells injecting hazardous waste.

13.3.b.2. For new injection wells, except new wells in projects authorized under paragraph 13.2.a.1 or covered by an existing area permit under subdivision 13.4.c, a reasonable time before construction is expected to begin.

13.3.c. Contents of UIC application.

(Reserved)

13.4. Area Permits.

13.4.a. The Director may issue a permit on an area basis, rather than for each well individually, provided that the permit is for injection wells:

13.4.a.1. Described and identified by location in permit application(s) if they are existing wells, except that the Director may accept a single description of wells with substantially the same characteristics;

13.4.a.2. Within the same well field, facility site, reservoir project, or similar unit in the State;

13.4.a.3. Operated by a single owner or operator; and

13.4.a.4. Used to inject other than hazardous waste.

13.4.b. Area permits shall specify:

13.4.b.1. The area within which underground injections are authorized; and

13.4.b.2. The requirements for construction, monitoring, reporting, operation, and abandonment, for all wells authorized by the permit.

13.4.c. The area permit may authorize the permittee to construct and operate, convert, or plug and abandon wells within the permit area provided:

13.4.c.1. The permittee notifies the Director at such time as the permit requires;

13.4.c.2. The additional well satisfies the criteria in subdivision 13.4.a of this section and meets the requirements specified in the permit under subdivision 13.4.b of this section; and

13.4.c.3. The cumulative effects of drilling and operation of additional injection wells are considered by the Director during evaluation of the area permit application and are acceptable to the Director.

13.4.d. If the Director determines that any well constructed pursuant to subdivision 13.4.c of this section does not satisfy any of the requirements of paragraphs 13.4.c.1 and 13.4.c.2 of this section, the Director may modify the permit under subsection 13.18, revoke under subsection 13.19, or take enforcement action. If the Director determines that cumulative effects are unacceptable, the permit may be modified under subsection 13.18.

13.5. Emergency Permits.

13.5.a. Coverage. Notwithstanding any other provision of this rule, the Director may temporarily permit a specific underground injection which has not otherwise been authorized by rule or permit if:

13.5.a.1. An imminent and substantial endangerment to the health of persons will result unless a temporary emergency permit is granted; or

13.5.a.2. A substantial or irretrievable loss of oil or gas resources will occur unless a temporary emergency permit is granted to a Class 2 well; and

13.5.a.2.A. Timely application for a permit could not practicably have been made; and

13.5.a.2.B. The injection will not result in the movement of fluids into underground sources of drinking water; or

13.5.a.3. A substantial delay in production of oil or gas resources will occur unless a temporary emergency permit is granted to a new Class 2 well and the temporary authorization will not result in the movement of fluids into an underground source of drinking water.

13.5.b. Requirements for issuance.

13.5.b.1. Any temporary permit under paragraph 13.5.a.1 of this section shall be for no longer term than required to prevent the hazard.

13.5.b.2. Any temporary permit under paragraph 13.5.b.2 of this section shall be for no longer term than ninety (90) days, except that if a permit application has been submitted prior to the expiration date of the ninety (90) day period, the Director may extend the temporary permit until final action on the application.

13.5.b.3. Any temporary permit under paragraph 13.5.a.3 of this section shall be issued only after a complete permit application has been submitted and shall be effective until final action on the application.

13.5.b.4. Notice of any temporary permit under this paragraph shall be published within ten (10) days of the issuance of the permit.

13.5.b.5. The temporary permit under this section may be either oral or written. If oral, it must be followed within five (5) calendar days by a written temporary emergency permit.

13.5.b.6. The Director shall condition the temporary permit in any manner he or she determines is necessary to ensure that the injection will not result in the movement of fluids into an underground source of drinking water.

13.6. Additional Conditions Applicable to all UIC Permits. The following conditions, in addition to those set forth in subsection 13.12, apply to all UIC permits and shall be incorporated into all permits either expressly or by reference. If incorporated by reference, a specific citation to this rule must be given in the permit.

13.6.a. In addition to subdivision 13.12.a (duty to comply): the permittee need not comply with the provisions of this permit to the extent and for the duration such non-compliance is authorized in a temporary emergency permit under subsection 13.5.

13.6.b. In addition to paragraph 13.13.j.2 (monitoring and records): the permittee shall retain all records concerning the nature and composition of injected fluids until three (3) years after completion of any plugging and abandonment procedures specified under subdivision 13.7.f. The Director may require the owner or operator to deliver the records to the Director at the conclusion of the retention period.

13.6.c. In addition to paragraph 13.12.l.1 (notice of planned changes): except for all new wells authorized by an area permit under subdivision 13.4.c, a new injection well may not commence injection until construction is complete, and:

13.6.c.1. The permittee has submitted notice of completion of construction to the Director; and

13.6.c.1.A. The Director has inspected or otherwise reviewed the new injection well and finds it is in compliance with the conditions of the permit; or

13.6.c.1.B. The permittee has not received notice from the Director of his or her intent to inspect or otherwise review the new injection well within thirteen (13) days of the date of the notice in paragraph 13.12.c.1 of this section, in which case prior inspection or review is waived and the permittee may commence injection. The Director shall include in the notice a reasonable time period in which he or she shall inspect the well.

13.6.d. The following shall be included as information which must be reported immediately under paragraph 13.12.l.6:

13.6.d.1. Any monitoring or other information which indicates that any contaminant may cause an endangerment to USDWs; and

13.6.d.2. Any non-compliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between the USDWs.

13.6.e. The permittee shall notify the Director as such times as the permit requires before conversion or abandonment of the well or in the case of area permits before closure of the project.

13.7. Establishing UIC Permit Conditions. In addition to conditions required in all permits (subsections 13.6 and 13.12), the Director shall establish conditions in permits as required on a case-by-case basis, to provide for and assure compliance with all applicable requirements of the SDWA and State Act and rules. An applicable requirement is a State statutory or regulatory requirement which takes effect prior to final administrative disposition of a permit and is also any requirement which takes effect prior to the modification or revocation and reissuance of a permit. Each permit shall include conditions meeting the following requirements when applicable:

13.7.a. Construction requirements as set forth in subsections 8.2 and 10.2. Existing wells shall achieve compliance with such requirements according to a compliance schedule established as a permit condition. The owner or operator of a proposed new injection well shall submit plans for testing, drilling, and construction as part of the permit application. Except as authorized by an area permit, no construction may commence until a permit has been issued containing construction requirements. New wells shall be in compliance with these requirements prior to commencing injection operations. Changes in construction plans during construction may be approved by the Director as minor modification. No such changes may be physically incorporated into construction of the well prior to approval of the modification by the Director.

13.7.b. Corrective action as set forth in subsections 6.1 and 13.9.

13.7.c. Operation requirements as set forth in subsections 8.4 and 10.4. The permit shall establish any maximum injection volumes and/or pressure necessary to assure that fractures are not initiated in the confining zone, that injected fluids do not migrate into any underground source of drinking water, that formation fluids are not displaced into any underground source of drinking water, and to assure compliance with operation requirements.

13.7.d. Requirements for wells managing hazardous waste, as set forth in sections 7 and 11.

13.7.e. Monitoring and reporting requirements as set forth in subsections 8.4 and 10.4. The permittee shall be required to identify types of tests and methods used to generate the monitoring data.

13.7.f. Plugging and abandonment. Any Class 1, 2, or 3 permit shall include, and any Class 5 permit may include, conditions to ensure that plugging and abandonment of the well will not allow the movement of fluids either into an underground source of drinking water or from one underground source of drinking water to another. Any applicant for a UIC permit shall be required to submit a plan for plugging and abandonment. Where the plan meets the requirements of this paragraph, the Director shall incorporate it into the permit as a condition. Where the Director's review of an application indicates that the permittee's plan is inadequate, the Director shall require the applicant to revise the plan, prescribe conditions meeting the requirements of this paragraph, or deny the application. For purposes of this paragraph, temporary intermittent cessation of injection operations is not abandonment. The Director should be notified at least 45 days prior to the abandonment of any Class 5 injection well.

13.7.g. Financial responsibility. The permit shall require the permittee to maintain financial responsibility and resources to close, plug, and abandon underground injection wells in a manner prescribed by the Director. The permittee must show evidence of financial responsibility to the Director by submission of a surety bond, or other adequate assurance, such as a financial statement or other material acceptable to the Director

13.7.h. Mechanical integrity. A permit for any Class 1, 2, or 3 well or injection project which lacks mechanical integrity shall include, and for any Class 5 well may include, a condition prohibiting injection operations until the permittee shows to the satisfaction of the Director under subsection 6.2 that the well has mechanical integrity.

13.7.i. Additional conditions. The Director shall impose on a case-by-case basis such additional conditions as are necessary to prevent the migration of fluids into underground sources of drinking water.

13.8. Waiver of Requirements by the Director.

13.8.a. When injection does not occur into, through, or above an underground source of drinking water, the Director may authorize a well or project with less stringent requirements for area of review, construction, mechanical integrity, operation, monitoring, and reporting than required in section 8, 10, and subsection 13.7 to the extent that the reduction in requirements will not result in an increased risk of movement of fluids into an underground source of drinking water.

13.8.b. When injection occurs through or above an underground source of drinking water, but the radius of endangering influence when computed under subdivision 5.3.a is smaller or equal to the radius of the well, the Director may authorize a well or project with less stringent requirements for operation, monitoring, and reporting in sections 8, 10, and subsection 13.7 to the extent that the reduction in requirements will not result in an increased risk of movement of fluids into an underground source of drinking water.

13.8.c. When reducing requirements under subdivision 13.8.a or 13.8.b of this section, the Director shall explain the reason for the action by preparing a fact sheet under subsection 13.31.

13.9. Corrective Action

13.9.a. Applicants for Class 1, 2 (other than existing wells) or 3 injection well permits shall identify the location of all known wells within the injection well's area of review which penetrate the injection zone. For such wells which are improperly sealed, completed, or abandoned, the applicant shall also submit a plan

consisting of such steps or modifications as are necessary to prevent movement of fluid into underground sources of drinking water ("corrective action") under subsection 6.1. Where the plan is adequate, the Director shall incorporate it into the permit as a condition. Where the Director's review of an application indicates that the permittee's plan is inadequate, he or she shall require the applicant to revise the plan, prescribe a plan for corrective action as a condition of the permit under subdivision 13.9.b of this section, or deny the application.

13.9.b. Requirements.

13.9.b.1. Existing injection wells. Any permit issued for an existing injection well (other than Class 2) requiring corrective action shall include a compliance schedule requiring any corrective action accepted or prescribed under subdivision 13.9.a of this section to be completed as soon as possible.

13.9.b.2. New injection wells. No permit for a new injection well may authorize injection until all required corrective action has been taken.

13.9.b.3. Injection pressure limitation. The Director may require as a permit condition that pressure be so limited that pressure in the injection zone does not exceed hydrostatic pressure at the site of any improperly completed or abandoned well within the area of review. This pressure limitation shall satisfy the corrective action requirement. Alternatively, such injection pressure limitation can be part of a compliance schedule and last until all other required corrective action has been taken.

13.9.b.4. Class 3 wells only. When setting corrective action requirements the Director shall consider the overall effect of the project on the hydraulic gradient in potentially affected USDW's, and the corresponding changes in potentiometric surface(s) and flow direction(s) rather than the discrete effect of each well. If a decision is made that corrective action is not necessary based on the determinations above, the monitoring program required in subdivision 10.4.b shall be designed to verify the validity of such determinations.

13.10. Application for a Permit. This section shall apply in addition to the requirements of subsections 8.5, 10.5, and 13.3.

13.10.a. Permit application. Any person who is required to have a permit (including new applicants and permittees with expiring permits) shall complete, sign, and submit an application to the Director as described in this section. Persons currently authorized with UIC authorization by rule shall apply for permits when required by the Director.

13.10.b. Who applies? When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit.

13.10.c. Completeness. The Director shall not issue a permit under a program before receiving a complete application, except for an emergency permit. An application for a permit under a program is complete when the Director receives an application form and any supplemental information which are completed to his or her satisfaction.

13.10.d. Information requirements. All applicants for UIC permits shall provide the following information to the Director, using the application form provided by the Director:

13.10.d.1. The activities conducted by the applicant which require it to obtain permits under UIC.

13.10.d.2. Name, mailing address, and location of the facility for which the application is submitted.

13.10.d.3. Up to four (4) SIC codes which best reflect the principal products or services provided by the facility.

13.10.d.4. The operator's name, address, telephone number, ownership status, and status as Federal, State, private, public, or other entity.

13.10.d.5. A listing of all permits or construction approvals received or applied for under any of the following programs:

13.10.d.5.A. Hazardous Waste Management Program under RCRA and W.Va. Code §22-18-1 et seq.

13.10.d.5.B. NPDES program under CWA and State Act.

13.10.d.5.C. Prevention of Significant Deterioration (PSD) program under the Clean Air Act.

13.10.d.5.D. Nonattainment program under the Clean Air Act.

13.10.d.5.E. National Emission Standards for Hazardous Pollutants (NESHAPS) pre-construction approval under the Clean Air Act.

13.10.d.5.F. Dredge or fill permits under section 404 of CWA.

13.10.d.5.G. Other relevant environmental permits, including State permits.

13.10.d.6. A topographic map (or other map if topographic map is unavailable) extending one (1) mile beyond the property boundaries of the source, depicting the facility and each well where fluids from the facility are injected underground and those wells, springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant in the map area.

13.10.d.7. A brief description of the nature of the business.

13.10.e. Record keeping. Applicants shall keep records of all data used to complete permit applications and any supplemental information submitted under subsection 13.3 for a period of at least three (3) years from the date the application is signed.

13.11. Signatories to Permit Applications and Reports.

13.11.a. Applications. All permit applications, except those submitted for Class 2 wells under the UIC program, shall be signed as follows:

13.11.a.1. For a corporation: by a principal officer of at least the level of vice-president;

13.11.a.2. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

13.11.a.3. For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.

13.11.b. Reports. All reports required by permits, other information requested by the Director, and all permit applications submitted for Class 2 wells shall be signed by a person described in subdivision 13.11.a above in this section, or by a duly authorized representative of that person. A person is a duly authorized representative if:

13.11.b.1. The authorization is made in writing by a person described in subdivision 13.11.a of this section;

13.11.b.2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

13.11.b.3. The written authorization is submitted to the Director.

13.11.c. Changes to Authorization. If an authorization under subdivision 13.11.b of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of subdivision 13.11.b of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

13.11.d. Certification. Any person signing a document under subdivision 13.11.a or 13.11.b of this section shall make the following certification:

" I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

13.12. Conditions Applicable to All permits. The following conditions are applicable to all permits, and shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to this rule must be given in the permit.

13.12.a. Duty to comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the SDWA and the State Act and is grounds for enforcement action; for permit suspension or revocation, revocation and reissuance, or modification; or for denial of a permit renewal application.

13.12.b. Duty to Reapply. If the permittee wishes to continue activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

13.12.c. Duty to reduce or halt activity. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

13.12.d. Duty to mitigate. The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

13.12.e. Proper operation and maintenance. The permittee shall at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

13.12.f. Permit actions. This permit may be modified, revoked and reissued, suspended, or revoked for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, suspension or revocation, or notification of planned changes or anticipated noncompliance, does not stay any permit condition.

13.12.g. Property rights. This permit does not convey any property rights of any sort, or any exclusive privilege.

13.12.h. Duty to provide information. The permittee shall furnish to the Director within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or revoking this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

13.12.i. Inspection and entry. The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as maybe required by law, to:

13.12.i.1. Enter upon the permittees premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

13.12.i.2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

13.12.i.3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

13.12.i.4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the SDWA and State Act, any substances or parameters at any location.

13.12.j. Monitoring and records.

13.12.j.1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

13.12.j.2. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

13.12.j.3. Records of monitoring information shall include:

13.12.j.3.A. The date, exact place, and time of sampling or measurements;

13.12.j.3.B. The individual(s) who performed the sampling or measurements;

13.12.j.3.C. The date(s) analysis(es) were performed;

13.12.j.3.D. The individual(s) who performed the analyses;

13.12.j.3.E. The analytical techniques or methods used; and

13.12.j.4.F. The results of such analyses.

13.12.k. Signatory requirement. All applications, reports, or information submitted to the Director shall be signed and certified, as required under subsection 13.11.

13.12.l. Reporting requirements.

13.12.l.1. Planned changes. The permittee shall give notice to the Director as soon as possible of any planned significant physical alterations or additions to the permitted facility, or any planned significant changes in the operation of the facility.

13.12.l.2. Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with the permit requirements.

13.12.1.3. Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the SDWA and the State Act and rules. In some cases, modification or revocation and reissuance is mandatory (see subsection 13.17).

13.12.l.4. Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

13.12.l.5. Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall

be submitted no later than thirty (30) days following each schedule date.

13.12.1.6. Immediate reporting. The permittee shall report any noncompliance which may endanger health or the environment immediately after becoming aware of the circumstances by using the Water Resources Emergency Notification Number, 1-800-642-3074. Written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

13.12.1.7. Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs 13.12.1.1, 13.12.1.4, 13.12.1.5, and 13.12.1.6 of this section, at the time monitoring reports are submitted. The report shall contain the information listed in paragraph 13.12.1.6 of this section.

13.12.1.8. Other information. Where a permittee becomes aware that he/she failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, he/she shall promptly submit such facts or information.

13.13. Duration of Permits. UIC permits for Class 1, 2, 3 and Class 5 wells shall be effective for a fixed term not to exceed five (5) years.

13.13.a. The term of a permit shall not be extended by modification beyond the maximum duration specified in this section.

13.13.b. The Director may issue any permit for a duration that is less than the full allowable term under this section.

13.14. Schedules of Compliance.

13.14.a. The permit may, when appropriate, specify a schedule of compliance leading to compliance with the SDWA, the State Act and rules.

13.14.a.1. Time for compliance. Any schedules for compliance under this section shall require compliance as soon as possible.

13.14.a.2. In addition, a schedule of compliance shall require compliance no later than three (3) years after the effective date of the permit.

13.14.a.3. Interim dates. Except as provided in subparagraph 13.14.b.1.B. of this section, if a permit establishes a schedule of compliance which exceeds one (1) year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.

13.14.a.3.A. The time between interim dates shall not exceed one (1) year.

13.14.a.3.B. If the time necessary for completion of any interim requirement (such as the construction of a control facility) is more than one (1) year and is not readily divisible into stages for

completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.

13.14.a.4. Reporting. The permit shall be written to require that no later than thirty (30) days following each interim date and the final date of compliance, the permittee shall notify the Director in writing of its compliance or noncompliance with the interim or final requirements.

13.14.b. Alternative schedules of compliance. A UIC permit applicant or permittee may cease conducting regulated activities (by plugging and abandonment) rather than continue to operate and meet permit requirements as follows:

13.14.b.1. If the permittee decides to cease conducting regulated activities at a given time within the term of a permit which has already been issued:

13.14.b.1.A. The permit may be modified to contain a new or additional schedule leading to timely cessation of activities; or

13.14.b.1.B. The permittee shall cease conducting permitted activities before issuance of a permit whose term will include the termination date, the permit shall contain a schedule leading to termination which will ensure timely compliance with applicable requirements.

13.14.b.2. If the decision to cease conducting regulated activities is made before issuance of a permit whose term will include the termination date, the permit shall contain a schedule leading to termination which will ensure timely compliance with applicable requirements.

13.14.b.3. If the permittee is undecided whether to cease conducting regulated activities, the Director may issue or modify a permit to contain two schedules as follows:

13.14.b.3.A. Both schedules shall contain an identical interim deadline requiring a final decision on whether to cease conducting regulated activities no later than a date which ensures sufficient time to comply with applicable requirements in a timely manner if the decision is to continue conducting regulated activities.

13.14.b.3.B. One schedule shall lead to timely compliance with applicable requirements;

13.14.b.3.C. The second schedule shall lead to cessation of regulated activities by a date which will ensure timely compliance with applicable requirements; and

13.14.b.3.D. Each permit containing two (2) schedules shall include a requirement that after the permittee has made a final decision under subparagraph 13.14.b.1.A. of this section it shall follow the schedule leading to compliance if the decision is to continue conducting regulated activities, and follow the schedule leading to termination if the decision is to cease conducting regulated activities.

13.14.b.4. The applicant's or permittee's decision to cease conducting regulated activities shall be evidenced by a firm public commitment satisfactory to the Director, such as a resolution of the board of directors of a corporation.

13.15. Requirements for Recording and Reporting of Monitoring Results. All permits shall specify:

13.15.a. Requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);

13.15.b. Required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring; and

13.15.c. Applicable reporting requirements based upon the impact of the regulated activity and as specified elsewhere by this rule.

13.16. Effect of a Permit.

13.16.a. The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege.

13.16.b. The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or rules.

13.16.c. Except for Class 2 and 3 wells, compliance with a permit during its term constitutes compliance, for purposes of enforcement, with Part C of SDWA. However, a permit may be modified, revoked, and reissued, suspended or revoked during its term for cause as set forth in subsections 13.18 and 13.19.

13.17. Transfer of Permits.

13.17.a. Transfers by modification. Except as provided in subdivision 13.17.b of this section, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued, or a minor modification made to identify the new permittee and incorporate such other requirements as may be necessary under the SDWA and the State Act and rules.

13.17.b. Automatic transfers. As an alternative to transfers under subdivision 13.17.a of this section, any UIC permit for a well not injecting hazardous waste may be automatically transferred to a new permittee if:

13.17.b.1. The current permittee notifies the Director at least thirty (30) days in advance of the proposed transfer date in paragraph 13.17.b.2 of this section;

13.17.b.2. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility coverage, and liability between them and, in the case of UIC permits, the notice demonstrates that the financial responsibility requirements of subdivision 13.7.g will be met by new permittee; and

13.17.b.3. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify or revoke and reissue the permit. A modification under this section may also be a minor modification under subsection 13.20. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 13.17.b.2 of this section.

13.18. Modification or Revocation and Reissuance of Permits. When the Director receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit, receives a request for modification or revocation and reissuance, or conducts a review of the permit file) he or she may determine whether or not one or more of the causes listed in subdivisions 13.18.a and 13.18.b of this section for modification or revocation and reissuance or both exists. If cause exists, the Director may modify or revoke and reissue the permit accordingly, subject to the limitations of subdivision 13.18.c of this section, and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term. If cause does not exist under this section or subsection 13.20, the Director shall not modify or revoke and reissue the permit. If a permit modification satisfies the criteria in subsection 13.20 for "minor modifications" the permit may be modified without a draft permit or public review. Otherwise, a draft permit must be prepared.

13.18.a. Cause for modification. The following are causes for modification but not revocation and reissuance of permits, except for Class 2 and 3 wells in which case the following may be causes for revocation and reissuance as well as modification. The following may be causes for revocation and reissuance as well as modification when the permittee requests or agrees.

13.18.a.1. Alterations. There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.

13.18.a.2. Information. The Director has received information. Permits other than for Class 2 and 3 wells may be modified during their terms for this cause only if the information was not available at the time of permit issuance (other than revised rules, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance. For UIC area permits, this cause shall include any information indicating that cumulative effects on the environment are unacceptable.

13.18.a.3. New rules. The standards or rules on which the permit was based have been changed by promulgation of amended standards or rules or by judicial decision after the permit was issued. Permits other than for Class 2 or 3 wells may be modified during their terms for this cause only as follows:

13.18.a.3.A. For promulgation of amended standards or rules, when:

13.18.a.3.A.1. The permit condition to be modified was based on a State regulation requiring compliance with forty (40) CFR Part 146; and

13.18.a.3.A.2. The State has revised, withdrawn, or modified that portion of the regulation on which the permit condition was based.

13.18.a.3.B. For judicial decisions, a court of competent jurisdiction has remanded and stayed State promulgated rules if the remand and stay concern that portion of the rules on which the permit condition was based.

13.18.a.4. Compliance schedules. The Director determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy.

13.18.b. Cause for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and reissue a permit:

13.18.b.1. Cause exists for revocation under subsection 13.19 and the Director determines that modification or revocation and reissuance is appropriate.

13.18.b.2. The Director has received notification of a proposed transfer of the permit. A permit may also be modified to reflect a transfer after the effective date of an automatic transfer under subdivision 13.17.b but will not be revoked and reissued after the effective date of the transfer except upon the request of the new permittee.

13.18.c. Facility siting. Suitability of the facility location will not be considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance.

13.19. Revocation and Suspension of Permits.

13.19.a. The Director may revoke or suspend a permit during its term or deny a permit renewal application for the following causes:

13.19.a.1. Noncompliance by the permittee with any condition of the permit;

13.19.a.2. The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or

13.19.a.3. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or revocation.

13.20. Minor Modifications of Permits. Upon the consent of the permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section. Any permit modification not processed as a minor modification under this section must be made for cause and with a draft permit and public notice as required in subsection 13.18. Minor modifications may only:

13.20.a. Correct typographical errors;

13.20.b. Require more frequent monitoring or reporting by the permittee;

13.20.c. Change an interim compliance date in a schedule of compliance, provided the new date is not more than one hundred-twenty (120) days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;

13.20.d. Allow for a change in ownership or operational control of a facility where the Director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the Director; or

13.20.e. Allow the following:

13.20.e.1. Change quantities or types of fluids injected which are within the capacity of the facility as permitted, and in the judgement of the Director would not interfere with the operation of the facility or its ability to meet conditions prescribed in the permit, and would not change its classification;

13.20.e.2. Change construction requirements approved by the Director pursuant to subdivision 13.7.a, provided that any such alteration shall comply with the requirements of this rule; and

13.20.e.3. Amend a plugging and abandonment plan which has been updated under subdivision 13.6.e.

13.21. Confidentiality of Information.

13.21.a. Any information submitted to the State pursuant to this rule may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "CONFIDENTIAL BUSINESS INFORMATION" on each page containing such information. If no claim is made at the time of submission, the State may make the information available to the public without further notice.

13.21.b. Claims of confidentiality for the following information will be denied:

13.21.b.1. The name and address of any permit applicant or permittee.

13.21.b.2. Information which deals with the existence, absence, or level of contaminants in drinking water.

13.22. Identification of Underground Sources of Drinking Water and Exempted Aquifers.

13.22.a. The Director may identify (by narrative description, illustrations, maps, or other means) and shall protect, except where exempted under subdivision 13.22.b of this section, as an underground source of drinking water, all aquifers or parts of aquifer which meet the definition of an "underground source of drinking water" in section 2. Even if an aquifer has not been specifically identified by the Director, it is an underground source of drinking water if it meets the definition in section 2.

13.22.b. The Director may identify (by narrative description, illustrations, maps, or other means) and describe in geographic and/or geometric terms, such as vertical and lateral limits and gradient, which are clear and definite, all aquifers or parts thereof which the Director proposes to designate as exempted aquifers using the criteria in section 3.

13.22.c. No designation of an exempted aquifer submitted as a part of a UIC Program shall be final until approved by the Director of the U.S. EPA as part of the State program.

13.22.d. For Class 3 wells, the Director shall require an applicant for a permit which necessitates an aquifer exemption under paragraph 3.1.b.1 to furnish the data necessary to demonstrate that the aquifer is expected to be mineral or hydrocarbon producing. Information contained in the mining plan for the proposed project, such as a map and general description of the mining zone, general information on the mineralogy and geochemistry of the mining zone, analysis of the amenability of the mining zone to the

proposed mining method, and a time-table of planned development of the mining zone shall be considered by the Director in addition to the information required by subsection 13.3.

13.22.e. For Class 2 wells, a demonstration of commercial productibility shall be made as follows:

13.22.e.1. For a Class 2 well to be used for enhanced oil recovery processes in a field or project containing aquifers from which hydrocarbons were previously produced, commercial productibility shall be presumed by the Director upon a demonstration by the applicant of historical production having occurred in the project area or field.

13.22.e.2. For Class 2 wells not located in a field or project containing aquifers from which hydrocarbons were previously produced, information such as logs, core data, formation description, formation depth, formation thickness and formation parameters such as permeability and porosity shall be considered by the Director, to the extent such information is available.

13.23. Public Access to Information.

13.23.a. Any records, reports, or information contained under this rule and any permits, permit applications, and related documentation shall be available to the public for inspection and copying in accordance with Series 8, West Virginia Legislative Rules (Freedom of Information Act); provided, however, that upon a satisfactory showing to the Director that such records, reports, permit documentation, or information (other than that listed in subdivision 13.21.b), would, if made public, divulge methods or processes entitled to protection as trade secrets, the Director shall consider, treat and protect such records as confidential.

13.23.b. It shall be the responsibility of the person claiming information as confidential under the provisions of subdivision 13.23.a above to clearly mark each page containing such information with the word "CONFIDENTIAL" and to submit an affidavit setting forth the reasons that said person believes that such information is entitled to protection.

13.23.c. Any document submitted to the Director which contains information for which claim of confidential information is made shall be submitted in a sealed envelope marked "CONFIDENTIAL" and addressed to the Director. The document shall be submitted in two (2) separate parts. The first part shall contain all information which is not deemed by the person preparing the report as confidential and shall include appropriate cross-references to the second part which contains data, words, phrases, paragraphs, or pages and appropriate affidavits containing or relating to information which is claimed to be confidential.

13.23.d. No information shall be protected as confidential information by the Director unless it is submitted in accordance with the provisions of subdivision 13.23.c above and no information which is submitted in accordance with the provisions of subdivision 13.23.c above shall be afforded protection as confidential information unless the Director finds that such protection is necessary to protect trade secrets and that such protection will not hide from public view the characteristics of waste materials and probable effects of the introduction of such wastes or by-products into the environment. The person who submits information claimed as confidential shall receive written notice from the Director as to whether the information has been accepted as confidential or not.

13.23.e. All information which meets the tests of subdivision 3.23.d above shall be marked with the term "ACCEPTED" and shall be protected as confidential information. If said person fails to satisfactorily

demonstrate to the Director that such information in the form presented him meets the criteria of subdivision 13.23.d above, the Director shall mark the information "REJECTED" and promptly return such information to the person submitting such information.

13.23.f. Nothing contained herein shall be construed so as to restrict the release of relevant confidential information during situations declared to be emergencies by the Director or his designee.

13.23.g. Nothing in this section may be construed as limiting the disclosure of information by the Water Resources section to any officer, employee or authorized representative of the State or Federal government concerned with the State UIC program.

13.24. Public Participation in Permit Process.

13.24.a. Scope. Public notice shall be given that the following actions have occurred:

13.24.a.1. A draft permit has been prepared; or

13.24.a.2. A hearing time has been scheduled.

13.24.b. Timing.

13.24.b.1. Public notice of the preparation of the draft permit required under this section shall allow at least thirty (30) days for public comment.

13.24.b.2. Public notice of a hearing shall be given at least thirty (30) days before the hearing.

13.24.c. Methods. Public notice of activities described in this section shall be given by the following methods:

13.24.c.1. By mailing a copy of a notice to the following persons (any person otherwise entitled to receive notice under this paragraph may waive the right to receive notice for any classes and categories of permits):

13.24.c.1.A. The applicant;

13.24.c.1.B. Any other agency including EPA which the Director knows has issued or is required to issue a RCRA, PSD, NPDES permit for the same facility or activity;

13.24.c.1.C. Federal and State and interstate agencies with jurisdiction over fish and wildlife resources, public health, the State Historic Preservation Unit of the Department of Culture and History, and other appropriate government authorities, including any affected states;

13.24.c.1.D. Persons on a mailing list developed by:

13.24.c.1.D.1. Including those who request in writing to be on the list;

13.24.c.1.D.2. Soliciting persons for "area lists" from participants in past permit proceedings in that area; and

13.24.c.1.D.3. Notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press and in appropriate publications of the State.

13.24.c.1.E. By mailing a copy to each agency having authority under State law with respect to the construction or operation of such facility;

13.24.c.2. For any permit, the Director shall send the public notice to the applicant who shall be responsible for publication of a Class 1 legal advertisement by a date, and in a paper specified by the Director. Upon publication, the applicant shall send the Director a copy of the certificate of publication. The costs of publication shall be borne by the applicant; and

13.24.c.3. Any other method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other forum or medium to elicit public participation.

13.25. Contents of a Public Notice.

13.25.a. All public notices issued under this section shall contain the following minimum information:

13.25.a.1. Name and address of the office processing the permit action for which notice is being given.

13.25.a.2. Name and address of the permittee or permit applicant and, if different, of the facility or activity regulated by the permit.

13.25.a.3. A brief description of the business conducted at the facility described in the permit application or the draft permit.

13.25.a.4. The name, address, and telephone number of a person from whom interested persons may obtain further information, including copies of the draft permit or fact sheet, and the application.

13.25.a.5. A brief description of the comment procedures required by subsections 13.26 and 13.27 and the time and place of any hearing that will be held, including a statement of procedures to request a hearing unless already scheduled, and other procedures by which the public may participate in the final permit decision.

13.25.b. In addition to the general public notice described in subdivision 13.25.a, the public notice of a hearing shall contain the following information:

13.25.b.1. Reference to the date of previous public notices relating to the permit;

13.25.b.2. Date, time and place of the hearing; and

13.25.b.3. A brief description of the nature and purposes of the hearing, including the applicable rules and procedures.

13.25.c. In addition to the general public notice, all persons identified in subparagraphs 13.24.c.1.A, 13.24.c.1.B, and 13.24.c.1.C shall be mailed a copy of the fact sheet, the permit application and the draft permit.

13.26. Public Comment and Requests for Public Hearings. During the public comment period provided, any interested person may submit written comments on the draft permit and may request a public hearing if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments shall be considered in making the final decision and shall be answered as provided in subsection 13.30.

13.27. Public Hearings.

13.27.a. The Director shall hold a public hearing whenever he or she finds, on the basis of requests, a significant degree of public interest of issues relevant to the draft permit(s). The Director also may hold a public hearing at his or her discretion, whenever, for instance, such a hearing might clarify one or more issues involved in the permit decision.

13.27.b. Any person may submit oral or written statements and data concerning the draft permit. Reasonable limits may be set upon the time allowed for oral statements, and the submission of statements in writing may be required. The public comment period under paragraph 13.24.b.1 shall automatically be extended to ten (10) days after the close of any public hearing under this section.

13.27.c. A tape recording or written transcript of the hearing shall be made available to the public, upon request.

13.28. Obligation to Raise Issues and Provide Information During the Public Comment Period. All persons, including applicants, who believe any condition of a draft permit is inappropriate or that the Director tentative decision to prepare a draft permit is inappropriate, shall raise all reasonably ascertainable issues and submit all reasonably available arguments and factual grounds supporting their position, including all supporting material, by the close of the public comment period. All supporting materials shall be included in full and not be incorporated by reference, unless they are already part of the administrative record in the same proceeding, or consist of State or Federal statutes and rules, documents of general applicability, or other generally available reference materials. Submitters of comments shall make supporting material not already included in the administrative record available to the State as directed by the Director.

13.29. Reopening of the Public Comment Period.

13.29.a. If any data, information or arguments submitted during the public comment period appear to raise substantial new questions concerning a permit, the Director may take one or more of the following actions:

13.29.a.1. Prepare a new draft permit, appropriately modified;

13.29.a.2. Prepare a revised fact sheet and reopen the comment period under this section; or

13.29.a.3. Reopen or extend the comment period to give interested persons an opportunity to comment on the information or arguments submitted.

13.29.b. Comments filed during the reopened comment period shall be limited to the substantial new questions that caused its reopening. The public notice shall define the scope of the reopening.

13.30. Response to Comments.

13.30.a. Any time that any final permit is issued, the Director shall prepare a response to comments. This response shall:

13.30.a.1. Specify which provisions, if any, of the draft permit have been changed in the final permit decision, and the reasons for the change; and

13.30.a.2. Briefly describe and respond to all significant comments on the draft permit raised during the public comment period, or during any hearing.

13.30.b. The response to comments shall be available to the public.

13.31. Fact Sheet.

13.31.a. A fact sheet shall be prepared for every draft permit for a major facility or activity and for every draft permit which the Director finds is the subject of widespread public interest or raises major issues. The fact sheet shall briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit. The Director shall send this fact sheet to the applicant and, on request, to any other person and to the persons required under subparagraphs 13.24.c.1.A, 13.24.c.1.B, and 13.24.c.1.C.

13.31.b. The fact sheet shall include, when applicable:

13.31.b.1. A brief description of the type of facility or activity which is the subject of the draft permit;

13.31.b.2. The type and quantity of fluids, which are proposed to be or are being injected;

13.31.b.3. A brief summary of the basis for the draft permit conditions including references to applicable statutory or regulatory provisions;

13.31.b.4. A description of the procedures for reaching a final decision on the draft permit including:

13.31.b.4.A. The beginning and ending dates of the public comment period and the address where comments will be received;

13.31.b.4.B. Procedures for requesting a hearing and the nature of that hearing;

13.31.b.4.C. Any other procedures by which the public may participate in the final decision;

and

13.31.b.4.D. Name and telephone number of a person to contact for additional information.

13.32. Draft Permits.

13.32.a. Once an application is complete, the Director shall tentatively decide whether to prepare a draft permit or to deny the application.

13.32.b. If the Director decides to prepare a draft permit, it shall contain the following information:

13.32.b.1. All conditions under subsections 13.6, 13.7, and 13.12;

13.32.b.2. All compliance schedules; and

13.32.c.3. All monitoring requirements.

TABLE 13-5A
Zone of Endangering Influence

$$r = \sqrt{\frac{2.25KHt}{S10^{x}}}$$

where:

$$x = \frac{4\pi KH(h_w - h_{bo})S_p G_b}{2.3Q}$$