DEPARTMENT OF ENVIRONMENT AND ENERGY

TITLE 122, DEPARTMENT OF ENVIRONMENT AND ENERGY

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Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1 - DEFINITIONS

When a defined term appears in a definition, the defined term is placed within quotation marks as an aid to readers.

001 "Abandoned well" shall mean 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.

002 "Acidizing" shall mean 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.

003 "Administrator" shall mean the Administrator of the United States Environmental Protection Agency, or an authorized representative.

004 "Annular space" shall mean the space between the well casing and the well bore or the space between two or more strings of well casing.

005 "Application" shall mean the standard forms used by the "Department" for applying for a permit, including any additions, revisions or modifications to the forms.

006 "Aquifer" shall mean a geological formation, group of formations, or part of a formation that is capable of yielding a useable amount of water to a well, spring, or other point of discharge.

007 "Area of review" shall mean the area surrounding an "injection well" including the "zone of endangering influence" and the area beyond of not less than two miles in radius as described in Chapter14.

008 "Bentonite seal" shall mean a very viscous bentonite based material used as a seal or plug.

009 "Casing" shall mean a retaining structure of varying width or length, which is installed into a well to maintain the structural integrity of that well.

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

011 "Cementing" shall mean the operation whereby a cement slurry or other approved material is pumped into a drilled hole and/or forced behind the casing.

012 "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA).

013 "Cesspool" shall mean a "drywell" that receives untreated sanitary waste, and which sometimes has an open bottom and/or perforated sides.

014 ”Closed Loop Heat Pump Well” shall mean a well constructed for the purpose of installing the underground closed loop necessary to circulate fluid from a closed loop heat pump system.

015 “Community water well” shall mean a water well that is part of a public water supply system that supplies drinking water to at least fifteen (15) service connections used by year round residents or regularly supplies drinking water to twenty-five (25) year round residents.

016 "Confining bed" shall mean a body of impermeable or distinctly less permeable material stratigraphically adjacent to one or more aquifers.

017 "Confining zone" shall mean a geological formation, group of formations, or part of a formation that is capable of limiting fluid movement above or below an injection zone.

018 "Contaminant" shall mean any physical, chemical, biological, or radiological substance or matter in water.

019 "Council" shall mean the Environmental Quality Council.

020 "CWA" shall mean the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Amendments of 1972) Pub.L. 92-500, as amended by Pub.L. 95-217 and Pub.L. 95-576; 33 U.S.C. 1251 et seq.

021 "Department" is the Department of Environmental Quality.

022 "Director" is the Director of the Department of Environmental Quality or the Director’s designated representative.

023 “Domestic water well” shall mean a well providing water to any water supply system furnishing water for human consumption other than a public water supply system.

024 "Drilling mud" shall mean a fluid circulated into the borehole while drilling by rotary methods.

025 “Drywell” shall mean a well, other than a “subsurface fluid distribution system”, completed above the water table where its bottom and sides are typically dry except when receiving fluids.

026 “Dwelling” shall mean a building, structure, or place used or intended to be used for human occupancy as a single or multi-family residence and which has the capacity to generate “sanitary wastewater” flow equivalent to or less than 20 persons, or a fluid flow equal to or less than 1,000 gallons per day.

027 "Effective date" shall mean the date five days after filing with the Nebraska Secretary of State.

028 "Environmental Protection Agency (EPA)" shall mean the United States Environmental Protection Agency.

029 “Establishment” shall mean a building, structure, house, or place which has the capacity to generate “sanitary wastewater” flow for greater than 20 persons, a fluid flow greater than 1,000 gallons per day, non-domestic wastewater, or serves as a restaurant or food preparations facility.

030 "Exempted aquifer" shall mean an aquifer or its portion that meets the definition of "underground source of drinking water" which has been exempted according to Chapter 5.

031 "Existing injection well" shall mean an "injection well(s)" that is subject to regulation under the UIC program.

032 "Fault" shall mean a surface or zone of rock fracture along which there has been displacement.

033 "Flow rate" shall mean 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.

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

035 "Formation" shall mean 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.

036 "Formation fluid" shall mean "fluid" present in a "formation" under natural conditions as opposed to introduced fluids.

037 "Generator" shall mean any person, by site, whose act or process produces “hazardous waste”.

038 "Ground Water" shall mean water occurring beneath the surface of the ground that fills available openings in rock or soil materials such that they may be considered saturated.

039 "Hazardous waste" shall mean a "waste", which because of its quantity, concentration, or physical, chemical, or infectious characteristics may(a)

cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (b)

pose a substantial present or potential hazard to human or animal health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

040 "Hazardous waste management facility" ("HWM facility") shall mean all contiguous land, and structures, other appurtenances, and improvements on

the land used for treatment, storage, or disposal of hazardous waste.

041 "Injection well" shall mean a "well" into which "fluids" are injected.

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

043 “Large Capacity” shall mean having a capability to accept sanitary waste generated by greater than 20 persons, or the fluid flow of greater than 1,000 gallons per day.

044 "Lithology" shall mean the description of rocks on the basis of their physical and chemical characteristics.

045 "Log" - see Well log.

046 "Mineral production well" shall mean a well drilled to extract "mineral resources" or energy including, but not limited to, a well designed for:

046.01 Mining of sulfur by the Frasch process,

046.02 Solution mining of sodium chloride, potash, phosphate, copper, uranium, or any other mineral which can be mined by this process,

046.03 In-situ combustion of coal, tar sands, oil shale, or any other fossil fuel, or

046.04 Recovery of geothermal energy for the production of electric power.

046.05 Mineral production well shall exclude any well designed for conventional oil or gas production, for use of fluids to promote enhanced recovery of oil or natural gas, for injection of hydrocarbons for storage purposes or for environmental monitoring purposes.

047 "Mineral resource" shall mean mineral substances, except oil and gas found in the form of consolidated rock or unconsolidated material, commingled, in solution, or otherwise occurring beneath the surface or in the waters of the State from which any product useful to humans may be produced, extracted, or obtained.

048 “Motor vehicle” shall mean mechanized equipment used in agriculture, construction, industrial activities, maintenance, recreation, or transportation.

049 “Non-community water well” shall mean any water well that is part of a public water supply system that supplies drinking water to public water supply that is not a community water supply system.

050 "Owner or operator" means the owner or operator of any facility or activity subject to regulation under this title.

051 "Packer" shall mean a device lowered into a well, which can be expanded or compressed to produce a seal.

052 "Permit" shall mean a control document issued to implement the requirements of these rules and regulations.

053 "Person" shall mean any individual, partnership, association, public or private corporation, trustee, receiver, assignee, agent, municipality, or other governmental subdivision, public agency, officer, or governing or managing body of any municipality, governmental subdivision, or public agency, or any other legal entity except the Department of Environmental Quality.

054 “Pitless adaptor or unit” shall mean an underground assembly for a well which attaches directly to the casing and provides watertight subsurface connections without the use of a pit and includes the underground distributor and steel extension to the ground surface as well as an adapter which is clamped to the well casing which already extends to the ground surface.

055 "Plug or Plugging" shall mean the act or process of sealing the flow of fluid into or out of a formation through a borehole or "well" penetrating that formation.

056 "Plugging record" shall mean a written documentation of permanent or temporary abandonment of test, exploration and injection wells.

057 “Point of Injection” shall mean the last accessible sampling point prior to fluids being released into the subsurface environment.

058 "Pollution" shall mean air pollution, land pollution and water pollution as defined in the Neb. Rev. Stat. § 81-1502.

059 "Pressure" shall mean the total load or force per unit area acting on a surface.

060 "RCRA" shall mean the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (Pub.L. 94-580, as amended by Pub.L. 95-609, 42 U.S.C. 6901 et seq).

061 "Restoration" shall mean the employment, during and after an activity, of procedures reasonably designed to control, minimize, and eliminate hazards to humans, animals, and the environment, to protect the public health and welfare and air, land, water, and subsurface resources, and to return each resource to a quality of use consistent with the "uses for which the resource was suitable" prior to the activity. Restoration shall be considered not accomplished if, after subsurface operations end, an aquifer is unsuitable for any use for which it was suitable before the subsurface operations began or if the post-activity water quality is such that treatment is preferable hydrologically, as determined by the Department in the exercise of its discretion, for the conduct of any such use.

062 “Sanitary Waste” shall mean waste fluid originating solely from humans or 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 commercial facilities, and industrial facilities provided the waste is not mixed with industrial waste.

063 “Sanitary well cap” shall mean a cover fitted to the top of a well casing to seal the opening between the casing and the drop pipe to prevent the entrance of contaminants.

064 "SDWA" shall mean the Safe Drinking Water Act (Pub.L. 95-523, as amended by Pub.L. 95-190, 42 U.S.C. 300(f) et seq.)).

065 “Septic System” shall mean a “well” that is used to place waste fluid below the surface and is typically comprised of a septic tank and “subsurface fluid distribution system”.

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

067 “Sludge” shall mean the accumulated settled solids deposited from wastewater and commingled with wastewater to form a semi-liquid mass.

068 “Solid waste” shall mean any garbage, refuse, or sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, and mining operations, and from community activities, but does not include solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under Section 402 of the Federal Clean Water Act, as amended, 33 U.S.C. 1251 et seq., or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended, 68 Stat. 923.

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

070 "Subsidence" shall mean 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.

071 “Subsurface disposal” shall mean the utilization of the soil or sediments for subsequent absorption or placement of waste fluids.

072 “Subsurface fluid distribution system” shall mean an assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids below the surface of the ground.

073 "Surface casing" shall mean the string of well casing to be installed in the well to protect "USDW(s)" and structural integrity of the well.

074 “Surface completion” shall mean the construction or use of any mechanical, physical, or natural element, or any combination, used to protect a well at the surface from contaminants and/or physical damage.

075 "TDS" shall mean total dissolved solids, the concentration of all dissolved matter and is generally expressed in milligrams per liter (mg/l).

076 "Trade Secret" shall mean a formula, pattern, device or compilation of information which is used in one's business and which is one opportunity to obtain advantage over competitors who do not know or use it. A plan or process, tool, mechanism or compound known only to its owner and those of his employees to whom it is necessary to confide. A secret formula or process not patented, but known only to certain individuals using it and compounding some article of trade having a commercial value.

077 "Tubing" shall mean a pipe placed within the casing of a well through which the injected materials are placed.

078 "UIC" shall mean the State Underground Injection Control program.

079 "Underground injection" shall mean a "well injection."

080 "USDW" shall mean underground source of drinking water, an "aquifer" or its portion:

080.01 Which supplies drinking water for human consumption; or

080.02 In which the ground water contains fewer than 10,000 mg/l "total dissolved solids;" and

080.03 Which is not an "exempted aquifer."

081 “Uppermost aquifer” shall mean a geologic formation nearest the ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer.

082 "Uses for which the resource was suitable" shall mean, with respect to in situ mining, those uses of the premining resource which are or could have reasonably been developed considering established standards and the premining quality conditions.

083 "Waste" shall mean sewage, industrial waste, and all other liquid, gaseous, solid, radioactive, or other substances which may pollute or have the potential to pollute any air, land, or waters of the State.

084 "Well" shall mean a bored, drilled, driven, dug, or otherwise constructed excavation whose depth is greater than its largest surface dimension.

085 "Well injection" shall mean the subsurface placement of fluids through the use of a “well”.

086 "Well log" shall mean a record by depth of the "lithology" surrounding a well obtained from "formation" samples and/or geophysical methods.

087 "Well plug" shall mean a seal installed in a borehole or well to prevent movement of fluids.

088 "Well record" shall mean a concise statement of the available data regarding a well.

089 "Well stimulation" shall mean 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 fluids to move more readily into the formation.

090 "Well monitoring" shall mean the measurement, by on-site instruments or laboratory methods, of the quality and/or quantity of water in a well.

091 ”Zone of endangering influence” shall mean the area surrounding an “injection well as described in Chapter14 of this Title.

Legal Citation: Title 122, Ch. 1, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 2 - CLASSIFICATION OF INJECTION WELLS AND MINERAL PRODUCTION WELLS

Injection wells are classified as follows:

001 Class I. Wells which inject fluids beneath the lowermost formation containing, within one quarter mile of the well bore, an underground source of drinking water. These include, but are not limited to industrial and municipal waste disposal wells.

002 Class II. All Class II wells are regulated by the Nebraska Oil and Gas Commission and are wells which inject:

002.01 Formation fluids produced in connection with conventional oil or natural gas production;

002.02 Fluids to promote enhanced recovery of oil or natural gas; and

002.03 For storage purposes, hydrocarbons which are liquid at standard temperature and pressure.

003 Class III. Mineral production wells, and wells which inject fluids to promote extraction of mineral resources or energy, including, but not limited, to a well designed for:

003.01 Mining of sulfur by the Frasch process;

003.02 Solution mining of mineral resources which include sodium chloride, potash, phosphate, copper, uranium and any other mineral which can be mined by this process;

003.03 In-situ combustion of fossil fuel; fossil fuels include coal, tar sands, oil shale and any other fossil fuel which can be mined by this process; and

003.04 Recovery of geothermal energy to produce electric power; Class III wells do not include wells used in geothermal heating or aquaculture which fall under Class V.

004 Class IV. Wells used by generators of hazardous wastes or of radioactive wastes, by owners or operators of hazardous waste management facilities, or by owners or operators of radioactive waste disposal sites to dispose of hazardous wastes or radioactive wastes into or above an underground source of drinking water.

005 Class V. Injection wells not included in Class I, II, III, or IV. Class V wells include, but are not limited to:

005.01 Air conditioning return flow wells used to return to the supply aquifer the water used for heating or cooling in a heat pump;

005.02 Cesspools or other devices that receive wastes, which have an open bottom and sometimes have perforated sides.

005.03 Cooling water return flow wells used to inject water previously used for cooling;

005.04 Drainage wells used to drain surface fluid, primarily storm runoff, into a subsurface formation;

005.05 Dry wells used for the injection of wastes into a subsurface formation;

005.06 Recharge wells used to replenish the water in an aquifer;

005.07 Saltwater intrusion barrier wells used to inject water into a fresh water aquifer to prevent the intrusion of salt water into the fresh water;

005.08 Sand backfill wells used to inject a mixture of water and sand, mill tailings or other solids into mined out portions of subsurface mines;

005.09 Septic system wells used:

005.09A To inject sanitary waste from a dwelling, at a flow greater than 1,000 gallons per day; or

005.09B For an establishment, business, or community or regional system which generates sanitary waste and has the capacity to serve 20 persons or more; or

005.09C For dwellings, establishments, businesses, or community or regional systems that generate wastes other than sanitary wastes.

005.10 Subsidence control wells (not used for the purpose of oil or natural gas production) used to inject fluids into a non-oil or gas producing zone to reduce or eliminate subsidence associated with the overdraft of fresh water;

005.11 Injection wells associated with the recovery of geothermal energy for heating, aquaculture and production of electric power;

005.12 Wells used for solution mining of conventional mines such as stopes leaching;

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

005.14 Injection wells used in experimental technologies;

005.15 Injection wells used for in-situ recovery of lignite, coal, tar sands, and oil shale; and

005.16 Motor vehicle waste disposal wells that receive or have received fluids from motor vehicle repair or maintenance activities.

005.17 Class V wells are classified by the following groups, code numbers, and descriptions:

005.17A DRAINAGE WELLS

5D2 Storm Water Drainage Wells

5D3 Improved Sinkholes

5D4 Industrial Drainage

5G30 Special Drainage

005.17B GEOTHERMAL REINJECTION WELLS

5A5 Electric Power Reinjection Wells

5A6 Direct Heat Reinjection Wells

5A7 Heat Pump/Air Conditioning Return Flow Wells (open loop)

5A8 Ground Water Aquaculture Return Flow Wells

005.17C DOMESTIC WASTEWATER DISPOSAL WELLS

5W11 Septic System (undifferentiated disposal method), with a capacity for greater than 20 persons

5W31 Septic System (well disposal method), with a capacity for greater than 20 persons

5W32 Septic System (drainfield disposal method), with a capacity for greater than 20 persons

5W12 Domestic Wastewater Treatment Plant Effluent Disposal Wells

005.17D MINERAL AND FOSSIL FUEL RECOVERY RELATED WELLS

5X13 Mining, sand or other backfill wells

5X14 Solution Mining Wells

5X15 In-situ Fossil Fuel Recovery Wells

5X16 Spent-Brine Return Flow Wells, after extraction of halogens

005.17E OIL FIELD PRODUCTION WASTE DISPOSAL WELLS

5X17 Air Scrubbed Waste Disposal Wells

5X18 Water Softener Regeneration Brine Disposal Wells

005.17F INDUSTRIAL/COMMERCIAL/UTILITY DISPOSAL WELLS

5A19 Cooling Water Return Flow Wells

5W20 Industrial Process Water and Waste Disposal

005.17G RECHARGE WELLS

5R21 Aquifer Recharge Wells

5B22 Saline Water Intrusion Barrier Wells

5S23 Subsidence Control Wells

005.17H MISCELLANEOUS WELLS

5X25 Experimental Technology Wells

5X26 Aquifer Remediation Related Wells

5X27 Other Wells (well type/purpose and injection fluid must be specified)

005.17I PROHIBITED INJECTION WELLS

5F1 Agricultural Drainage Wells

5W9 Untreated Sewage Waste Disposal Wells

5W10 Cesspools

5N24 Radioactive Waste Disposal Wells

5X28 Motor Vehicle Waste Disposal Wells

5X29 Abandoned Drinking Water Wells used for Disposal of Waste

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(13); 81-1505(1)(9)

Legal Citation: Title 122, Ch. 2, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 3 - PROHIBITION OF UNAUTHORIZED INJECTION AND CONSTRUCTION

001 Any injection or mineral production well not authorized or permitted under this title is prohibited.

002 Any injection or mineral production well required to have a permit under this title is prohibited until the permit has been issued with final construction design as approved by the Director.

003 The construction of any Class IV well is prohibited. Any existing Class IV well must be closed and comply with the plugging and abandonment requirements of Chapter 35 of this Title.

004 The construction of any Class V agricultural drainage well (5F1) is prohibited. Any existing Class V agricultural drainage well (5F1) must be closed and comply with the plugging and abandonment requirements of Chapter 35 of this Title.

005 The construction of any Class V untreated sewage waste disposal well (5W9) is prohibited. Any existing Class V untreated sewage waste disposal well (5W9) must be closed and comply with the plugging and abandonment requirements of Chapter 35 of this Title.

006 The construction of any Class V cesspool (5W10) is prohibited. Any existing Class V cesspool (5W10) must be closed and comply with the plugging and abandonment requirements of Chapter 35 of this Title.

007 The construction of any Class V radioactive waste disposal well (5N24) is prohibited. Any existing Class V radioactive waste disposal well (5N24) must be closed and comply with the plugging and abandonment requirements of Chapter 35 of this Title.

008 The construction of any Class V motor vehicle waste disposal well (5X28) is prohibited. Any existing Class V motor vehicle waste disposal well (5X28) must be closed and comply with the plugging and abandonment requirements of Chapter 35 of this Title.

009 The construction or conversion of any Class V abandoned drinking water well used for disposal of waste (5X29) is prohibited. Any existing Class V abandoned drinking water well used for disposal of waste (5X29) must be closed and comply with the plugging and abandonment requirements of Chapter 35 of this Title.

010 The injection of hazardous waste into a Class I, Class III, Class IV, or Class V well as defined in Chapter 2 of this Title is prohibited.

011 The injection of contaminated ground water that may cause a violation of Nebraska Title 118 - Ground Water Quality Standards and Use Classification is not prohibited provided:

011.01 The ground water is being treated prior to injection,

011.02 The ground water is being injected into the formation from which it was extracted,

011.03 The Department has approved the contaminant levels being injected prior to injection,

011.04 The contaminant levels are not classified as a hazardous waste,

011.05 The injection activities are associated with a clean-up approved by the Department,

011.06 An individual permit is obtained from the Department prior to injection,

011.07 The permittee must demonstrate hydraulic control at the site, and

011.08 The injection does not adversely affect the health and safety of persons.

012 The injection of fluids that may cause a violation of Title 118 - Ground Water Quality Standards and Use Classification is not prohibited provided:

012.01 The Department has approved the contaminant levels being injected prior to injection,

012.02 The contaminant levels are not classified as a hazardous waste,

012.03 The injection activities are associated with a clean-up approved by the Department,

012.04 An individual permit is obtained from the Department prior to injection,

012.05 The permittee must demonstrate hydraulic control at the site, and

012.06 The injection does not adversely affect the health and safety of persons.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(11)(13)(20); 81-1505(9); 81-1506(1)(b)(2)(b)

Legal Citation: Title 122, Chapter 3, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 4 - PROHIBITION OF MOVEMENT OF FLUIDS INTO UNDERGROUND SOURCES OF DRINKING WATER

001 No owner or operator shall construct, operate, maintain, convert, plug or abandon, any injection well or mineral production well or conduct any other injection activity in a manner that 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 or Nebraska Title 118 - Ground Water Quality Standards and Use Classification except as authorized by this Title, or may otherwise adversely affect the health and safety of persons. The owner, operator, or applicant for an authorization or permit shall have the burden of showing that the requirements of this section are met.

002 For Class I and III injection wells and mineral production wells, if any water quality monitoring of an underground source of drinking water indicates the movement of any contaminant into the underground source of drinking water, except as authorized under this title, the Director shall prescribe such additional requirements for construction, corrective action, operation, monitoring, or reporting (including closure of the injection well and/or mineral production well) as are necessary to prevent such movement. In the case of wells authorized by individual permit, these additional requirements shall be imposed by modifying the permit in accordance with Chapter 30 of this Title, or the permit may be terminated under Chapter 31 of this Title if cause exists, or appropriate enforcement action may be taken if the permit has been violated.

003 For Class V wells, if at any time the Director learns that a Class V well may cause a violation of primary drinking water regulations or Nebraska Title 118 - Ground Water Standards and Use Classification, the Director may:

003.01 Require the owner or operator to obtain an individual permit;

003.02 Order the owner or operator to take such actions (including, where required, closure of the injection well) as may be necessary to prevent the violation; or

003.03 Take enforcement action.

004 Whenever the Director learns that a Class V well may be otherwise adversely affecting the health and safety of persons, he or she may prescribe such actions as may be necessary to prevent the adverse effect, including any action authorized under 003 of this Chapter.

005 Notwithstanding any other provision of this section, the Director will take emergency action upon receipt of information that a contaminant which is present in or is likely to enter an underground source of drinking water may present an imminent and substantial endangerment to the utility of the underground source of drinking water.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(7)(11)(13)(15)(20); 81-1505(1)(9)(16); 81-1506(2)(b)(d)(e); 81-1507(1)(4)

Legal Citation: Title 122, Ch. 4, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 5 - IDENTIFICATION OF UNDERGROUND SOURCES OF DRINKING WATER AND EXEMPTED AQUIFERS

001 The Director may identify (by narrative description, illustrations, maps, or other means) and shall protect, as underground sources of drinking water, all aquifers or parts of aquifers which meet the definition of an underground source of drinking water. 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.

002 Upon petition by a permit applicant and after public notice and opportunity for a public hearing, the Director may designate an aquifer or a portion thereof as an exempted aquifer.

003 The petitioner must 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, an aquifer or parts thereof which he or she proposes the Director designate an exempted aquifer and effects of exemption of the aquifer from Nebraska Title 118 - Ground Water Standards and Use Classification. Petition can be made only after the permit application has been submitted and the information required in Chapter 11 of this Title is completed.

004 An aquifer or a portion of an aquifer which meets the criteria for an underground source of drinking water may be designated as an exempted aquifer if the following criteria are met:

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

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

004.02A It is mineral, hydrocarbon or geothermal energy bearing with production capability;

004.02B It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical;

004.02C It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or

004.02D It is located above a Class III well mining area subject to subsidence or catastrophic collapse.

005 The Department will require an individual permit for injection into an exempted aquifer in order to protect underground sources of drinking water outside the exempted aquifer which may be subject to pollution caused by the injection.

006 After public notice and opportunity for public hearing, the designation of an exempted aquifer may be removed by the Director thereby eliminating the exempt status, provided required restoration has been accomplished.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(9)(13); 81-1505(1)(9)(16)

Legal Citation: Title 122, Ch. 5, Nebraska Department of Environmental Quality

Title 122 – NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 6 – AUTHORIZATION OF CLASS V INJECTION WELLS

001 No person shall construct or operate any Class V injection well in the State, without authorization from the Department.

002 Any person who plans to construct or operate a Class V shall complete, sign, and submit to the Department an application for each well as required in accordance to Chapter 10 of this Title.

003 A Class V well shall not endanger the health and safety of persons or cause pollution of the environment.

004 A Class V well will not be authorized if it is prohibited in Chapter 3 of this Title.

005 A Class V Authorization will be issued for a period not to exceed ten (10) years.

006 The person authorized shall retain all records concerning the nature and composition of the injected fluids until five years after completion of any plugging and abandonment procedures governed by the criteria of Chapter 35 of this Title.

007 The person authorized shall report any noncompliance which may endanger the health and safety of persons or cause pollution of the environment. Any information shall be provided orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances. A 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:

007.01 A description of the noncompliance and its cause;

007.02 The period of noncompliance, including the exact date of noncompliance and the date it was corrected;

007.03 If the noncompliance has not been corrected, the anticipated time needed to correct the noncompliance;

007.04 Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance;

007.05 Any monitoring or other information which indicates that any contaminant may cause an endangerment to a USDW; and

007.06 Any malfunction of the injection system which may cause fluid migration into or between USDWs or to the surface.

008 The owner or operator of a Class V well shall notify the Department before conversion or abandonment of the well.

009 The owner or operator of a Class V well must be able to demonstrate its mechanical integrity (where applicable) as defined in Chapter 18 of this Title.

010 The Director may require the owner or operator of any Class V injection well to submit additional information as outlined in Chapter 11 of this Title for the purpose of applying for and obtaining an individual or area UIC permit as outlined in Chapter 16 of this Title for one of the following reasons:

010.01 The injection well is not in compliance with one or more requirements outlined in this Chapter.

010.02 The injection well is not within the category of well and types of well operations authorized by this Chapter;

010.03 The protection of USDWs requires that the injection operation be regulated by requirements, such as corrective action, monitoring and reporting, or operation, as outlined in Chapters 19, 20, 21, and 34 of this Title; or

010.04 The injection well may cause a violation of primary drinking water standards or Nebraska Title 118 – Ground Water Quality Standards and Use Classification.

011 Any owner or operator may be excluded from the provisions of this Chapter by applying for an individual or area UIC permit. The owner or operator shall submit an application under Chapter 11 of this Title with reasons supporting the request, to the Director.

012 Nothing in this Chapter shall take precedence over more stringent requirements of local subdivisions of government.

013 Any underground injection operation authorized by this Chapter which endangers the health and safety of persons or causes pollution of the environment is subject to appropriate enforcement action including withdrawal of the authorization by the Director. Withdrawal of the authorization shall constitute a final order and be subject to appeal pursuant to Neb. Rev. Stat. §81-1509.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(9)(a)(10)(11)(13)(15)(20); 81-1505(9)(14); 811510(2); 81-1521.04

Legal Citation: Title 122, Ch. 6, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 7 - AUTHORIZATION OF UNDERGROUND INJECTION WELLS AND MINERAL PRODUCTION WELLS BY PERMIT; WHEN REQUIRED

001 No person shall construct or operate any Class I or III injection well in the State, without authorization by a permit from the Department. Owners and operators of Class II wells must secure authorization to inject from the Nebraska Oil and Gas Conservation Commission. Class V wells shall not be constructed or operated without authorization by the Department. The Director may require the owner or operator of a Class V well to obtain a permit for the reasons outlined in Chapter 6 of this Title.

002 No person shall construct or operate any mineral production well in this State, without authorization by a permit from the Department.

003 Any person not authorized or permitted to construct or operate any injection well or mineral production well shall be subject to penalty provisions of §81-1508 of the Nebraska Environmental Protection Act and shall conduct restoration as required by the Director.

004 Any person who requires a permit for construction or operation of an injection well or mineral production well shall complete, sign, and submit to the Director an application as required in accordance with Chapter 11 of this Title.

005 The Director shall not begin the processing of a permit until the applicant has fully complied with the application requirements for that permit. Permit applications must comply with the signature and certification requirements in accordance with Chapter15 of this Title.

006 A permit may be issued by the Department in technical consultation with the Conservation and Survey Division, University of Nebraska, and the Nebraska Oil and Gas Conservation Commission. Permit conditions shall be designed to carry out the purposes of the Nebraska Environmental Protection Act, Chapter 81, Article 15, Reissue Revised Statutes of Nebraska, l943, as amended, Title 117 - Nebraska Surface Water Quality Standards and Title 118 - Ground Water Quality Standards and Use Classification adopted thereunder. Such permit shall be issued with proper public notice (Chapter 32 of this Title) and, if necessary, pursuant to a public hearing (Chapter 33 of this Title).

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(9)(a)(10)(11)(13) (20); 81-1505(9)

Legal Citation: Title 122, Ch.7, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 8 - AREA PERMITS

001 The Director may issue an area permit on an area basis rather than for each well individually, provided that the area permit is for injection wells and/or mineral production wells:

001.01 Described and identified by location in permit application(s), if they are existing wells;

001.02 Within the same well field, facility site, reservoir, project, or similar unit in the same State;

001.03 Of similar construction;

001.04 Of the same class as determined under Chapter 2 of this Title; and

001.05 Operated by a single owner or operator.

002 Area permits shall specify:

002.01 The area within which underground injections are authorized;

002.02 The requirements for construction, monitoring, reporting, operation, and abandonment, for all wells authorized by the area permit; and

002.03 The requirements for aquifer restoration.

003 The area permit may authorize the permittee to construct and operate new injection wells and/or mineral production wells within the permit area provided:

003.01 The permittee notifies the Director no later than the date on which monitoring reports are required to be submitted under Chapter 20 of this Title, pursuant to a procedure which shall be specified in the area permit, when and where the new well will be drilled;

003.02 Plans and specifications are submitted with notification and approved by the Department;

003.03 The additional well satisfies the criteria in section 001 of this Chapter and meets the requirements specified in the area permit under section 002 of this Chapter; and

003.04. The cumulative effects of drilling and operation of additional injection wells and/or mineral production wells are considered by the Director during evaluation of the area permit application and are acceptable to the Director.

004 If the Director determines that any well constructed pursuant to section 003 of this Chapter does not satisfy all of the requirements of sections 003.01, 003.02 and 003.03 of this Chapter the Director may modify the area permit

under Chapter 30 of this Title, terminate the area permit under Chapter 31 of this Title, or take enforcement action. If the Director determines that cumulative effects are unacceptable, the area permit may be modified under Chapter 30 of this Title.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(11)(13)(15); 81-1505(1); 81-1507(1); 81-1510(2)

Legal Citation: Title 122, Ch. 8, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 9 - EMERGENCY PERMITS

001 Notwithstanding any other provision of these regulations, the Director may temporarily permit a specific underground injection which has not otherwise been authorized or permitted if an imminent and substantial endangerment to the health and safety of persons will result unless an emergency permit is granted.

002 Any emergency permit shall be for no longer term than required to prevent the hazard or 90 days, whichever is less.

003 Notice of any emergency permit under this Chapter shall be made public within ten days of the issuance of the emergency permit.

004 The Director shall condition the emergency permit to ensure that the injection will not result in the movement of fluids into an underground source of drinking water.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(11)(13)(20); 81-1505(9); 81-1507(4)

Legal Citation: Title 122, Ch. 9, Nebraska Department of Environmental Quality

Title 122 – NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 10 – CLASS V INJECTION WELL AUTHORIZATION APPLICATION; INFORMATION REQUIREMENTS

001 Any person who proposes or operates a Class V underground injection well, which meets the requirements in Chapter 6 of this Title, shall submit an application to the Director. For new injection wells, the application shall be filed at least 180 days before the construction is planned to begin, including plans for testing, drilling and construction.

002 When a facility or activity is owned by one person but is operated by another person, it is the operator's responsibility to obtain authorization.

003 The Director shall not issue an authorization before receiving a complete application.

004 An application for authorization is complete when the Director receives the application and any supplemental information, which are completed to the Director's satisfaction. The completeness of any application for authorization shall be judged independently of the status of any other authorization application or authorization for the same facility or activity.

005 No construction may commence until an authorization has been issued that approves the design, siting and construction of the Class V well as outlined in Chapter 17 of this Title.

006 Applicants shall provide at a minimum the following information to the Department:

006.01 The specific type of Class V well as defined in Chapter 2 of this Title;

006.02 The operator's name(s), address(es), telephone number(s), ownership status, and status as Federal, State, private, or other entity;

006.03 The owner's name(s), address(es), telephone number(s), ownership status, and status as Federal, State, private, or other entity;

006.04 The county and legal location of the well;

006.05 A detailed description of the fluid that will be injected including laboratory data if available;

006.06 The volume of fluid to be injected in a specific period of time (i.e. gallons/day);

006.07 A description of the nature of the business or activity that generates the waste;

006.08 The status of the well (i.e. planned, under construction, in use, abandoned);

006.09 A scaled map of the entire property on which the injection is proposed including:

006.09A The injection well(s) being authorized,

006.09B Any other injection well(s) located on the property, including but not limited to septic systems and heat pump return flow wells,

006.09C All major structural features on the property including but not limited to buildings, houses, streets, roads, underground sewer and water lines, property lines,

006.09D All water wells located on the property including but not limited to private drinking water wells, irrigation wells and fire wells,

006.10 A scaled map or aerial photograph locating all water wells within a one half (1/2) mile radius of the injection well;

006.11 The design or construction details of the injection well as outlined in Chapter 17 of this Title;

006.12 A confirmation that all siting distances have been met as outlined in Chapter 17 of this Title;

006.13 The static water level or seasonal high water level at the site and the resource from which the data was obtained;

006.14 A description of the geologic material into which the injection is planned;

006.15 The name, telephone number and signature of the person completing the application; and

006.16 The name, address, telephone number, and signature of the owner of the Class V injection well.

007 The owner may be required to submit additional data in order to evaluate the application. An applicant may furnish, upon his/her own initiative or when requested by the Department, an opinion of independent experts, satisfactory to the Department in respect to the accuracy and completeness of any information or data furnished by the applicant and on any aspect of the applicant’s injection system or the contemplated operation or effects thereof.

008 In addition to these requirements, the Director may establish other requirements on a case-by-case basis.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(11)(13)(20); 81-1505(1)(2)(9); 81-1506(3)(b)

Legal Citation: Title 122, Ch. 10, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 11 - PERMIT APPLICATION; INFORMATION REQUIREMENTS

001 Any person who proposes or operates an underground injection well for which a permit is or will be required shall submit an application to the Director. For new injection wells, the application shall be filed at least 180 days before construction is planned to begin, including plans for testing, drilling and construction.

002 When a facility or activity is owned by one person but is operated by another person, it is the operator's responsibility to obtain a permit.

003 The Director shall not issue a permit before receiving a complete application for a permit, except for an emergency permit.

004 An application for a permit is complete when the Director receives the application, appropriate fees, and any supplemental information which are completed to the Director’s satisfaction. The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility or activity.

005 Except as authorized by an area permit, no construction may commence until a permit has been issued containing construction requirements (Chapter 17 of this Title).

006 Applicants shall provide the following information to the Director:

006.01 The activities conducted by the applicant which require a permit and a brief description of the nature of the business;

006.02 Up to four Standard Industrial Classification (SIC) codes which best reflect the principal products or services provided by the facility;

006.03 The operator'(s) name(s), address (is), telephone number(s), ownership status, and status as Federal, State, private, public, or other entity;

006.04 The owner'(s) names(s), address(es), telephone number(s), ownership status, and status as Federal, State, private, public, or other entity;

006.05 A detailed description of the operator's technological expertise to construct and operate the facility and to conduct necessary well closure, plugging, or abandonment, reclamation, and aquifer restoration;

006.06 A description of all related underground injection projects, other than that for which a permit is being applied for, in which the operator is or has been involved as an operator. Such description shall include for each the name of the project; location of project by county, state and country; nature of project; full listing of all permits and construction approvals or denials received or applied for, including complete name and address of permitting

agency; date construction commenced and was completed; size of project by acreage and annual production units; copies of any citations and notices of violation issued with respect to regulatory compliance; copies of the complaint filed for each lawsuit concerning the project in which the operator was a party; and the disposition of all such citations, notices of violation, and lawsuits. Any citation, notice of violation, and/or lawsuit filed subsequent to date of application shall be reported to the Director within 30 days of filing. Failure to report any of the foregoing shall be grounds for denial of an application or transfer of a permit.

006.07 Whether the facility is located on Indian lands, historic and/or archaeological sites;

006.08 A listing of all environmental permits, construction approvals, or any other relevant permit, received or applied for from the Department or any other federal, state, or local regulatory agency.

006.09 A map showing the injection well or facility for which a permit is sought and the applicable area of review. Within the area of review (as outlined in Chapter 14 of this Title), the map must show the number, or name, and location of all existing producing wells, injection wells, abandoned wells, dry holes, surface bodies of water, springs, mines (surface and subsurface), quarries, water wells and other pertinent surface features including farmsteads, ranches, political subdivisions, and roads. The map must also show faults, if known or suspected. All information of public record is required to be included on this map and verified by a surface inspection conducted by the applicant;

006.10 A tabulation of available 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, construction, date drilled, location, depth, water level, record of plugging and/or completion, and any additional information the Director may require;

006.11 Maps and cross sections indicating the general vertical and lateral limits of all water resources within the area of review, available and/or substantiating background water quality data for any USDW within the area of review, the available amounts and potential uses, the position of all underground sources of drinking water relative to the injection formation, and the direction of groundwater movement;

006.12 Maps and cross sections detailing the geologic structure of the local area including faults if known or suspected;

006.13 Generalized maps and cross sections illustrating the regional geologic setting;

006.14 A narrative evaluating the geologic and hydrologic conditions of the well site and area which may be reasonably expected to be affected by the proposed injection project;

006.15 A narrative describing local topography, industry, agriculture, population densities, culture, wildlife, and fish and other aquatic life within the area of review and the existing economic activities of the region including, but not limited to, agriculture, recreation, tourism and industry with a projection as to the probable effects of the system;

006.16 Proposed operating data:

006.16A Average and maximum daily rate and volume of the fluid to be injected or withdrawn;

006.16B Average and maximum injection pressure; and

006.16C Source and an analysis of the chemical, physical, radiological and biological characteristics of injection fluids;

006.17 Proposed formation testing program to obtain an analysis of the chemical, physical, and radiological characteristics of and other information on the receiving formation and formation fluids;

006.18 Proposed stimulation program;

006.19 Proposed injection procedure;

006.20 Engineering drawings of the surface and subsurface construction details of the system;

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

006.22 Plans (including maps) for meeting the monitoring requirements in Chapter 20 of this Title;

006.23 Expected changes in pressure, native fluid displacement, direction of movement of injection fluid;

006.24 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 Chapter 34 of this Title;

006.25 Construction procedures as specified in Chapter 17 of this Title including a cementing and casing program, logging procedures, deviation checks, and a drilling, testing, and coring program;

006.26 A plugging and abandonment plan demonstrating the resources necessary to close, plug or abandon the well (as required by Chapter 35 of this Title) and to conduct restoration of the affected aquifer and of the affected surface resources.

006.27 A determination of the zone of endangering influence as defined in Chapter 14 of this Title and, if calculated, specific calculations used in the determination of the zone of endangering influence, and all assumptions

used in the calculations; and

006.28 Supply additional data that the Department may reasonably request. An applicant may furnish, upon his/her own initiative or when requested by the Department, an opinion of independent experts, satisfactory to the Department in respect to the accuracy and completeness of any information or data furnished by the applicant and on any aspect of the applicant's injection or production system or the contemplated operation or effects thereof.

007 In addition to these requirements, the Director may establish other requirements on a case-by-case basis.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(11)(13)(20); 81-1505(1)(2)(9); 81-1506(3)(b)

Legal Citation: Title 122, Ch. 11, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 12 - FEES

001 Permit Processing and Issuance Fees

001.01 A fee shall be assessed to the permit applicants to, issue, modify or reissue permits. A permit shall not be issued to any applicant until the fees, assessed by the Department, have been paid.

001.01A The fees will be used for the direct costs associated with permit evaluation, processing, and monitoring, including application review, meetings and correspondence with the permit applicant, permit research and drafting time, necessary travel, technical and administrative review of the drafted permit, clerical preparation of the permit and related tasks, advertising costs for public notice, review of public comments on the draft permit, hearing costs, if applicable, permit processing fee billing, and final permit issuance.

001.02 Permit processing fees shall apply without regard to whether a permit is issued, denied or requested to be inactivated, prior to issuance or thereafter.

001.03 Each application for a new or reissued permit shall be accompanied by the appropriate filing fee as set forth below:

001.03A $25,000 - Class I or III well(s);

001.03B $500.00 - Class V well(s) that have been required to obtain a permit as outlined in Chapter 6 of this Title.

001.03C There is no fee for Class V wells obtaining an authorization.

001.04 All permit application fees shall be made payable to the State of Nebraska and shall accompany the submittal of the application, or in the case of a Class V well, after it has been determined a permit is required as determined in Chapter 6 of this Title.

002 Permit Administration Fees

002.01 A permit administration fee may be assessed to permittees based upon direct and indirect costs.

002.02 In determining the fees, the Department shall calculate the cost of monitoring the permitted facility, inspections of the facility or other site visits, reviewing the compliance of facilities with the associated permit conditions, general legal costs incurred by the Department, permit modification or other tasks related to administering the permit program.

002.03 The Department shall maintain itemized records of staff time and costs incurred in the administration of a permit.

002.04 Permittees shall be billed quarterly. All fees shall be made payable to the State of Nebraska and shall be paid within thirty days of receipt of the Department's billing statement. Fees not received on the due date shall be subject to a late charge of $25.00 and an additional ten percent per month. All fees shall be collected by the Department. Failure of a permittee to pay the fee by the end of the fiscal year (June 30) is a violation of the permit and may result in the revocation of such permit.

003 The fees subject to this Chapter shall be applicable upon the effective date of these regulations.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1505(9)(b); 81-1505.01

Legal Citation: Title 122, Ch.12, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 13 - FINANCIAL RESPONSIBILITY

001 General Requirements

001.01 Each application for a permit or a renewal shall be accompanied by a written estimate of the costs to undertake environmental protection measures necessary to prevent contamination of ground water having 10,000 mg/l or less TDS during and after the cessation of operations. These measures shall include, but are not limited to:

001.01A The proper closing, plugging, and abandonment of a well(s);

001.01B The proper disassembly, decontamination, and restoration of the aquifer site;

001.01C The probable difficulty of completing the requirements of 001.01A and 001.01B above, due to such factors as topography, geology of the site, and hydrology;

001.01D Any post-operational monitoring as may be required by the Environmental Protection Act, the regulations of this title, and/or the permit; and

001.01E Additional estimated costs to the State which may arise from applicable public contracting requirements or the need to bring personnel and equipment to the permit area to complete the restoration after its abandonment by the permittee.

001.02 After the submission of the estimate and as a prerequisite to commencing operations, the Department shall require the applicant to provide evidence, to its satisfaction, of financial responsibility that moneys are available in an amount estimated by the Director to be sufficient to undertake the measures specified in Section 001.01 above.

001.03 In determining the amount of financial assurance, in addition to the requirements of Sections 001.01 and 001.02 of this Chapter, the Director shall consider the prior history of environmental activities of the applicant as submitted pursuant to Chapter 11, Sections 006.06 and 006.08.

001.04 Each owner or operator shall keep its evidence of financial responsibility on file with the Department current and accurate. Any change in the form or nature of an owner's or operator's method of maintaining the financial responsibility required shall be filed with and approved by the Department prior to any such change.

001.05 Evidence of financial responsibility does not operate to any extent as a limitation upon the obligation of the owner or operator to comply with its permit or complete any restoration.

001.06 Failure of the permit applicant to provide evidence of financial responsibility shall be sufficient cause for withholding issuance of a permit or the revocation of an existing permit.

001.07 Class V wells authorized in Chapter 6 of this Title may not be required to fulfill the requirements of this Chapter.

002 Methods of Providing Financial Responsibility

002.01 The applicant shall choose among the following options in establishing financial responsibility:

002.01A An Environmental Protection Trust. An owner or operator may satisfy the requirements of this Chapter by establishing an Environmental Protection Trust. This stand-by trust shall be sufficient to compensate for all the environmental protection costs as specified in section 001 of this Chapter. An Environmental Protection Trust must fulfill the requirements in Section 004 of this Chapter;

002.01B A surety bond guaranteeing payment into an Environmental Protection Trust. This bond must be worded as in Appendix II of this Title and would work in tandem with the stand-by Trust provided for in Section 002.01A of this Chapter. A surety bond must comply with the requirements in Section 005 of this Chapter;

002.01C A collateral bond, in which case the applicant shall deposit, with a bank acceptable to the Department, cash, negotiable bonds issued by the United States or the State; or negotiable certificates of deposit; or deliver to the Department an irrevocable letter of credit of any banks or other savings institution organized or transacting business in the United States. The bank shall receive and hold any collateral bond in the name of the State, in trust, for the purposes for which the deposit is posted. The applicant shall pay all costs of the trust, and shall be paid all interest accruing to the account of the trust. A collateral bond must fulfill the requirements in Section 006 of this Chapter;

002.01D An established escrow account;

002.01E A bond of the applicant without separate surety upon a satisfactory demonstration to the Director that such applicant has the financial means sufficient to self-bond pursuant to bonding requirements specified in Section 009 of this Chapter; or

002.01F Any combination of the above.

003 Replacement of Financial Assurance

003.01 The Director may allow the owner or operator to replace approved financial assurance with another type of financial assurance described in 002 above, if the liability which has accrued against the owner or operator on the permit, is transferred to such replacement.

003.02 The Director shall not release existing financial assurance until the owner or operator has submitted and the Director has approved an acceptable replacement.

004 The Environmental Protection Trust.

004.01 An owner or operator of a underground injection well, except for Class II and V, may submit an originally signed trust agreement to the Director with the permit application. The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

004.02 The wording of the trust agreement shall be identical to the wording specified in Appendix I and accompanied by a formal certification of acknowledgment as illustrated in said Appendix. Schedule A of the trust agreement shall be updated within 60 days of a change in the amount of the environmental protection measures cost (EPMC), covered by the agreement.

004.03 Payments into the trust fund shall be made annually by the owner or operator over the term of the initial permit or over the remaining life of the mineral injection well(s) as stated in the Environmental Protection Measures Costs (EPMC) estimate (See Section 001.01 of this Chapter), whichever period is shorter. This period is hereafter referred to as the "pay-in period". The payments into the Environmental Protection Trust Fund shall be made as follows:

004.03A For a new well(s), the first payment shall be made before the initial injection into the well(s). A receipt from the trustee for this payment shall be submitted by the owner or operator to the Director before the first injections are made. The first payment shall be at least equal to the estimate of EPMC, divided by the number of years in the pay-in period. Subsequent payments shall be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment shall be determined by this formula:

$$\text{Next Payment} = \frac{EPM - CV}{Y}$$

where EPM is the current EPMC estimate, CV is the current value of the trust fund and Y is the number of years remaining in the pay-in period.

004.03B If an owner or operator establishes a trust fund as specified in Section 004.01 of this Chapter, and the value of that trust fund is less than the current EPMC estimate when a permit is awarded for the injection well(s), the amount of the cost estimate still to be paid into the trust fund shall be paid in over the pay-in period, as defined in Section 004.03A above.

004.04 The owner or operator may accelerate payments into the trust fund or he or she may deposit the full amount of the current EPMC estimate at the time the fund is established. However, he or she shall maintain the value of the fund at no less than the value that the fund would have if annual payments were made as required by Section 004.03A above.

004.05 If the owner or operator establishes an Environmental Protection Trust Fund after having used one or more alternate mechanisms for financial assurance specified in Section 002 of this Chapter, his or her first payment shall be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to the specifications of Section 004.03A above.

004.06 After the pay-in period is completed, or whenever the EPMC estimate changes, the owner or operator shall compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, shall either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current EPMC estimate, or obtain other financial assurance as specified in Section 002 of this Chapter to cover the difference.

004.07 If the value of the trust fund is greater than the total amount of the current EPMC estimate, the owner or operator may submit a written request to the Director for release of the amount in excess of the current EPMC estimate.

004.08 If an owner or operator substitutes other financial assurance as specified in this section for all or a part of the trust fund, the owner or operator may submit a written request to the Director for release of the amount, if any, in excess of the current EPMC estimate covered by the trust fund.

004.09 Within 60 days after receiving a request from the owner or operator as specified in Sections 004.07 and 004.08 of this Chapter, the Director will instruct the trustee to release to the owner or operator such funds as the Director specifies in writing.

004.10 After beginning final operations for the environmental protection measures specified in Sections 001.01A to 001.01D of this Chapter an owner or operator or any other person authorized to perform such acts may request reimbursement for expenditures for such acts by submitting itemized bills to the Director. Within 60 days after receiving bills for any of such items, the Director will determine whether the expenditures are in accordance with the permit or otherwise justified, and if so, he or she will instruct the trustee to make reimbursements in such amounts as the Director specifies in writing. If the Director has reason to believe that the cost of such measures will be significantly greater than the value of the trust fund, he or she may withhold reimbursement of such amounts as he or she deems prudent until he or she determines in accordance with Section 004.11 below, that the owner or operator is no longer required to maintain

financial assurance for environmental protection measures as specified in Sections 001.01A to 001.01E of this Chapter.

004.11 The Director will agree to termination of the trust when:

004.11A An owner or operator substitutes alternate financial assurance as specified in this Chapter; or

004.11B Within 60 days from receiving certifications from the owner or operator and independent registered professional engineer that the measures specified in Sections 001.01A to 001.01D of this Chapter have been accomplished in accordance with the permit, the Director notifies the owner or operator in writing that financial assurance is no longer required to be maintained unless the Director has reason to believe that the environmental protection measures have not been in accordance with the permit.

005 Surety Bond Guaranteeing Payment Into An Environmental Protection Trust Fund.

005.01 An owner or operator shall satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this section and submitting the bond to the Director with the application for a permit or for approval to operate under rule. The bond must be effective prior to injection. The surety company shall, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

005.02 The wording of the surety bond shall be identical to the wording in Appendix II.

005.03 The owner or operator who uses a surety bond to satisfy the requirements of this section shall also establish a standby Environmental Protection Trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Director. This standby trust fund shall meet the requirements specified in Section 004 of this Chapter, except that:

005.03A An originally signed duplicate of the trust agreement shall be submitted to the Director with the surety bond; and

005.03B Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required:

005.03B1. Payments into the trust as specified in Section 004.03 of this Chapter;

005.03B2. Updating of Schedule A of the Trust Agreement to show current EPMC estimates;

005.03B3. Annual valuations as required by the trust agreement; and

005.03B4 Notices of nonpayment as required by the trust agreement.

005.04 The bond shall guarantee that the owner or operator will:

005.04A Fund the standby trust fund in an amount equal to the penal sum of the bond before beginning the environmental protection measures enumerated in Section 001.01 of this Chapter;

005.04B Fund the standby trust fund in an amount equal to the penal sum within 15 days after an order to begin section 001.01 environmental protection measures is issued by the Director or a district court of competent jurisdiction; or

005.04C Provide alternate financial assurance as specified in this Chapter, and obtain the Director's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Director of a notice of cancellation of the bond from the surety.

005.05 Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

005.06 The penal sum of the bond shall be in an amount at least equal to the current EPMC estimate.

005.07 Whenever the current EPMC estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, shall either cause the penal sum to be increased to an amount at least equal to the current EPMC estimate and submit evidence of such increase to the Director, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current EPMC estimate decreases, the penal sum may be reduced to the amount of the current EPMC estimate following written approval by the Director.

005.08 The bond may be subject to cancellation by the surety company; provided that, no such cancellation, nor release of the surety company’s liability under the bond, shall be effective sooner than one hundred twenty days following receipt by the Department and the permittee of written notice of cancellation sent by certified mail, return receipt requested. Such one hundred twenty day period shall be measured from the later of either the receipt by the Department or permittee of such notice. In the event of cancellation, the permittee must provide evidence of a replacement bond no later than forty-five days prior to the effective date of cancellation specified in the notice. The effective date of the replacement bond shall be no later than the effective date of cancellation. Failure of the permittee to obtain a replacement bond shall result in forfeiture of its bond.

005.09 The owner or operator may cancel the bond if the Director has given prior written consent based on his or her receipt of evidence of alternate financial assurance as specified in this section.

006 Collateral bonds, except for letters of credit, shall be subject to the following conditions:

006.01 The Director shall value collateral at its current market value, not face value.

006.02 The Director shall only accept certificates of deposit which are automatically renewable.

007 Irrevocable standby letters of credit shall be subject to the following conditions:

007.01 The letter shall be payable to the State of Nebraska in part or in full upon demand and receipt from the Director of a notice of forfeiture pursuant to section 011 of this Chapter.

007.02 The letter shall contain terms which authorize the Director to draw upon the letter, in full, to obtain cash collateral in the event the owner or operator has failed to furnish replacement financial assurance at least 30 days prior to the expiration of the letter, and shall be worded as specified in Appendix III.

007.03 The total amount of letters of credit that will be accepted from any bank for any owner or operator, on all permits held by the owner or operator, shall not exceed the bank's maximum legal lending limit as required by the Nebraska Department of Banking or Federal banking regulatory agency.

007.04 The bank shall give prompt notice to the owner or operator and the Director of any notice received or action filed alleging the insolvency or bankruptcy of the bank, or alleging any violations of regulatory requirements which could result in suspension or revocation of the bank's charter or license to do business;

007.05 In the event the bank becomes unable to fulfill its obligations under the letter of credit for any reason, notice shall be given immediately to the owner or operator and the Director.

007.06 Upon the incapacity of a bank by reason of bankruptcy, insolvency, or suspension or revocation of its charter or license, the owner or operator shall obtain a replacement financial assurance within 45 days. Failure of the owner or operator to obtain replacement financial assurance shall result in revocation of its permit.

008 Established escrow accounts shall be subject to the following conditions:

008.01 The escrow account shall be drawn solely in favor of the State of Nebraska with a bank or lending company chartered by or licensed to operate in the State of Nebraska as escrow agent and in an amount to reimburse the State of Nebraska in the event of abandonment, default, or other inability of the owner or operator to meet the conditions imposed in Section 001.01 of this Chapter.

008.02 The escrow account shall be drawn containing terms which authorize the Director to draw upon the account partially or in full, to obtain cash collateral for the purposes of Section 007.01 of this Chapter.

008.03 The total amount of the escrow account shall remain intact and free of any other encumbrance by the owner or operator or the escrow agent holding the same for the benefit of the State of Nebraska.

008.04 Upon the incapacity of the escrow agent by reason of bankruptcy, insolvency or suspension or revocation of its charter or license, the owner or operator shall obtain replacement financial assurance within 45 days. Failure of the owner or operator to obtain replacement financial assurance shall result in revocation of its permit.

009 Owner or operator's bond without separate surety shall be subject to the following conditions:

009.01 The owner or operator may satisfy the requirements of this section by demonstrating that it passes the financial test as specified in this paragraph. To pass this test the permittee shall meet the criteria of either 009.01A or 009.01B of this Section:

009.01A The owner or operator shall have:

009.01A1. Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0 ; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5;

009.01A2. Net working capital and tangible net worth each at least six times the sum of the current EPMC estimate;

009.01A3. Tangible net worth of at least $10 million; and

009.01A4. Assets in the United States amounting to at least 90 percent of its total assets or at least six times the sum of the current EPMC estimate.

009.01B The owner or operator shall have:

009.01B1. A current rating for its most recent bond issuance of at least AAA, AA, A or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's;

009.01B2. Tangible net worth at least six times the sum of the current EPMC estimate;

009.01B3. Tangible net worth of at least $10 million; and

009.01B4. Assets located in the United States amounting to at least 90 percent of its total assets or at least six times the sum of the current EPMC estimates.

009.02 The phrase "EPMC estimate" as used in this section refers to the cost estimate required to be shown in Appendix IV (the letter to the Director from the owner or operator's chief financial officer).

009.03 To demonstrate that it meets this test, the owner or operator shall submit the following items to the Director:

009.03A A letter signed by the owner or operator's chief financial officer and worded as specified in Appendix IV;

009.03B A copy of an independent certified public accountant's report on examination of the owner or operator's financial statements for the latest completed fiscal year;

009.03C A special report from the owner or operator's independent certified public accountant to the owner or operator that:

009.03C1. He or she has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

009.03C2. In connection with that procedure, no matters came to his or her attention, which caused him or her to believe that the specified data should be adjusted.

009.04 An applicant for a permit for a new injection well shall submit the items specified in 009.03 of this Section to the Director within 90 days after the close of each succeeding fiscal year.

009.05 After the initial submission of items specified in 009.03 of this Section, the owner or operator shall send updated information to the Director within 90 days after the close of each succeeding fiscal year. The information shall consist of all three items specified in 009.03 of this Section.

009.06 If the owner or operator no longer meets the requirements of 009.01 of this Section, he or she shall send notice to the Director of intent to establish alternate financial assurance as specified in Section 004 through 008 of this Chapter. The notice shall be sent by certified mail within 90 days after the end of the fiscal year for which the year-end data show that the owner or operator no longer meets the requirements. The owner or operator

shall provide alternate financial assurance within 45 days after the end of such fiscal year.

009.07 The Director may, based upon a reasonable belief that the owner or operator may no longer meet the requirements of 009.01 of this Section, require reports of financial condition at any time from the owner or operator in addition to those specified in 009.03 of this Section. If the Director finds on the basis of such reports or other information, that the owner or operator no longer meets the requirements of 009.01 of this Section, the owner or operator shall provide alternate financial assurance within 45 days after notification of such a finding.

009.08 The Director may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on the owner or operator's financial statement (See 009.03B of this Section). An adverse or disclaimer of opinion will be cause for disallowance. The Director will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this Chapter within 45 days after notification of the disallowance.

009.09 The owner or operator is no longer required to submit the items specified in 009.03 of this Section when:

009.09A The owner or operator substitutes alternate financial assurance as specified in this Chapter; or

009.09B The Director releases the owner or operator from the requirements of this Section in accordance with Section 010 of this Chapter.

010 Release of Financial Assurance

The owner or operator may file a request with the Director for the release of all or part of its financial assurance. Following public notice, the Director shall release its financial assurance, in whole or in part, when he or she is satisfied any restoration covered by the financial assurance or portion thereof has been accomplished as required by these regulations.

011 Forfeiture of Financial Assurance

011.01 The Director shall declare all or any appropriate part of financial assurance for any permit as forfeited if he or she determines that:

011.01A The owner or operator has violated any of the terms or conditions of its permit and/or financial assurance and has failed to take adequate corrective action; or

011.01B The owner or operator has failed to conduct its operations in accordance with the Nebraska Environmental Protection Act, these regulations and the permit within the time required, and that it is necessary, in order to fulfill the requirements of the permit and any

restoration, plugging or abandonment, to have someone other than the owner or operator correct or complete such work.

011.02 The Director may withhold declaration of forfeiture if the owner or operator and surety, escrow agent, or other person responsible for financial assurance agree to a compliance schedule to comply with the violations of the financial assurance or permit conditions.

011.03 In the event a determination to forfeit financial assurance is made, the Director shall:

011.03A Send written notification by certified mail, return receipt requested, to the owner or operator and the surety, escrow agent, or other person responsible for financial assurance of the Director's determination to forfeit all or part of the financial assurance and the reasons for the forfeiture, including a finding of the amount to be forfeited;

011.03B The owner or operator may request a hearing on the issue of whether the financial assurance, or part thereof, shall be forfeited in accordance with the procedures specified in Neb. Rev. Stat. §§ 81-1507(1)(2) and Title 115 of the Department's Rules of Practice and Procedure.

011.03C An appeal from a final decision of the Director shall be in accordance with Neb. Rev. Stat. §§ 81-1509.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1505(9)(c), (21)(a)(b) and (c)

Legal Citation: Title 122, Ch., Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 14 - ZONE OF ENDANGERING INFLUENCE AND AREA OF REVIEW

001 The zone of endangering influence for each injection well or each field, project or area of the State shall be determined according to either Section 001.01 or 001.02 of this Chapter. The zone of endangering influence shall be that area the radius of which is the lateral distance from an injection well, field or 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 or into an improperly constructed, plugged or abandoned well or test hole.

001.01 The radius of the zone should be calculated by using a mathematical model (e.g., modified Theis equation) and should be calculated for an injection time period at least equal to the expected life of the injection well or field. The owner or operator must demonstrate to the Director that the mathematical model used and the calculated zone of endangering influence are appropriate for the known hydrologic properties of the underlying formations.

001.02 A fixed radius around the well, or the perimeter of the field or project of not less than one-fourth mile may be used. In determining the fixed radius, the following factors shall be taken into consideration: Chemistry of injected and formation fluids; hydrogeology; population and ground water use and dependence; and historical practices in the area.

001.03 If the zone of endangering influence is determined by a mathematical model pursuant to Section 001.01 of this Chapter, the permissible radius is the result of such calculation even if it is less than one-fourth mile.

002 The area of review for each injection well or each field, project or area of the State shall include the zone of endangering influence and that area at least two miles in radius extending beyond the zone of endangering influence.

002.01 For Class V wells authorized in Chapter 6 of this Title, the area of review for each injection well or each field shall be a radius of at least one half (1/2) mile from the point of injection.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(13);81-1505(9)

Legal Citation: Title 122, Ch.14, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 15 - SIGNATORIES; PERMIT APPLICATIONS AND REPORTS

001 All permit applications shall be signed as follows:

001.01 For a corporation: by a principal executive officer of at least the level of vice-president;

001.02 For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

001.03 For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.

002 All reports required by permits and other information requested by the Director, shall be signed by a person described in Section 001 of this Chapter, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

002.01 The authorization is made in writing by a person described in Section 001 of this Chapter;

002.02 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

002.03 The written authorization is submitted to the Director.

003 If an authorization under Section 002 of this Chapter 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 Section 002 of this Chapter must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

004 Any person signing a document under Sections 001 or 002 of this Chapter shall make certification under penalty of law that he or she has personally examined and is familiar with the information submitted in the document and all attachments and that, based on inquiry of those individuals immediately responsible for obtaining the information, he or she believes that the information is true, accurate, and complete. Further, he or she shall certify awareness that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(11)(13)(15)(20); 81-1505(9)(15)

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 16 - PERMIT CONDITIONS; GENERAL

The following conditions apply to all underground injection well and mineral production well permits.

001 The permittee must comply with all conditions of the permit. Any permit noncompliance constitutes a violation of Nebraska Environmental Protection Act, as amended and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal.

002 If the permittee wishes to continue an activity regulated by the permit after the expiration date of the permit, the permittee must apply for and obtain a new permit prior to the expiration date of the permit in effect. Any application for a new permit must occur at least 180 days prior to expiration date of the permit.

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

004 The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with the permit.

005 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 the permit. Proper operation and maintenance includes effective performance.

006 The permit may be modified, revoked and reissued, or terminated for cause by the Department (Chapters 30 and31) or upon filing of a request by the permittee.

007 The permittee shall furnish to the Director, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by the permit.

008 The permittee shall maintain financial responsibility (Chapter13 of this Title) to close, plug, and abandon the underground injection wells and/or mineral production wells and to restore the affected resources in accordance with the plan submitted under Chapter 35 (of this Title) requirements in a manner which has been approved by the Director. The permittee must show evidence of financial responsibility to the Director by the submission of a surety bond (or other adequate assurance, in accordance with Chapter 13 of this Title, acceptable to the Director) in an amount set by the Director.

009 When any injection well or mineral production well is no longer in use or it is deemed necessary by the Director, the permittee shall close, plug, and

abandon the well(s) in accordance with Chapter 35 of the Title.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(11)(12)(13)(20); 81-1505(6)(14); 81-1506(3)(b)

Legal Citation: Title 122, Ch.16, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 17 - CONSTRUCTION AND SITING REQUIREMENTS; CLASS I, III, and V INJECTION WELLS AND MINERAL PRODUCTION WELLS

001 General Requirements

Existing wells shall achieve compliance with requirements set forth in Section 002 of this Chapter according to a compliance schedule established as a permit condition. New wells shall be in compliance with this Chapter prior to commencing injection operations and contingent upon final Department approval of construction design. Changes in construction plans during construction may be approved by the Director as minor modifications (Chapter 30 of this Title). No such changes may be physically incorporated into construction of the well prior to approval of the modification by the Director. All wells constructed into ground water, must be constructed by a licensed/certified water well contractor as defined by Nebraska Health and Human Services System, Water Well Standards and Licensing Act, Article 46.

002 Specific Requirements for Class I Injection Wells

002.01 All Class I well designs shall be submitted by a professional engineer.

002.02 All Class I wells shall be sited in such a fashion that they inject into a formation which is beneath the lowermost formation containing an underground source of drinking water that is located within one quarter mile of the injection well bore.

002.03 All Class I wells 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 following factors shall be considered:

002.03A. Depth to the injection zone;

002.03B. Injection pressure, external pressure, internal pressure, and axial loading;

002.03C. Whole size;

002.03D. Size and grade of all casing strings (wall thickness, diameter, nominal weight, length, joint specification, and construction material);

002.03E. Corrosiveness of injected fluid, formation fluids, and temperatures;

002.03F. Lithology of injection and confining intervals; and

002.03G. Type and grade of cement.

002.04 All Class I injection wells shall inject fluids through tubing with a packer set immediately above the injection zone, or tubing with an approved fluid seal as an alternative. The tubing, packer, and fluid seal shall be designed for the expected service.

002.04A. 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 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.

002.04B. In determining and specifying requirements for tubing, packer, or alternatives the following factors shall be considered:

002.04B1 Depth of setting;

002.04B2 Characteristics of injection fluid (chemical content, corrosiveness, and density);

002.04B3 Injection pressure;

002.04B4 Annular pressure;

002.04B5 Temperature and volume of injected fluid;

002.04B6 Rate of fluid injection; and

002.04B7 Size, composition and specifications of casing.

002.04C Each Class I well utilizing a positive displacement pump shall be equipped with both high and low pressure safety switches which will shut down the pump in case of pressure increase over the authorized pressure or sudden pressure loss.

002.04D Appropriate logs and other tests shall be conducted during the drilling and construction of new Class I wells. A descriptive report interpreting the results of such logs and tests shall be prepared by a qualified log analyst and submitted to the Director. At a minimum, such logs and tests shall include:

002.04D1. Deviation checks on all holes constructed by first drilling a pilot hole, and then enlarging the pilot hole by reaming or another method. Such checks shall be at sufficiently frequent intervals to assure that vertical avenues for fluid migration in the form of diverging holes are not created during drilling;

002.04D2. Such other logs and tests as may be needed after taking into account the availability of similar data in the area of the drilling

site, the construction plan, and the need for additional information that may arise from time to time as the construction of the well progresses. In determining which logs and tests shall be required, the following logs shall be considered for use in the following situations:

002.04D2(a) For surface casing intended to protect underground sources of drinking water:

002.04D2(a)(1) Resistivity, spontaneous potential, and caliper logs before the casing is installed; and

002.04D2(a)(2) A cement bond, temperature, or density log after the casing is set and cemented.

002.04D2(b) For intermediate and long strings of casing intended to facilitate injection:

002.04D2(b)(1) Resistivity, spontaneous potential, porosity, and gamma ray logs before the casing is installed;

002.04D2(b(2)) Fracture finder logs; and

002.04D2(b)(3) A cement bond, temperature, or density log after the casing is set and cemented.

002.04E At a minimum, the following information concerning the injection formation shall be determined or calculated for new Class I wells:

002.04E1. Fluid pressure;

002.04E2. Temperature;

002.04E3. Fracture pressure;

002.04E4. Other physical and chemical characteristics of the injection zone; and

002.04E5. Physical and chemical characteristics of the formation fluids.

003 Specific Requirements for Class III Injection Wells

003.01 All Class III well designs shall be submitted by a professional engineer.

003.02 All new Class III wells shall be cased and cemented to prevent the migration of fluids into or between underground sources of drinking water. The casing and cement used in 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 following factors shall be considered:

003.02A. Depth to the injection zone;

003.02B. Injection pressure, external pressure, internal pressure, axial loading, etc;

003.02C. Hole size;

003.02D. Size and grade of all casing strings (wall thickness, diameter, nominal weight, length, joint specification, and construction material);

003.02E. Corrosiveness of injected fluids and formation fluids;

003.02F. Lithology of injection and confining zones; and

003.02G. Type and grade of cement.

003.03 Each Class III well or group of wells utilizing a positive displacement pump shall be equipped with both high and low pressure safety switches which will shut down the pump in case of pressure increase over the authorized pressure or sudden pressure loss.

003.04 Appropriate logs and other tests shall be conducted during the drilling and construction of new Class III wells. A descriptive report interpreting the results of such logs and tests shall be prepared by a qualified log analyst and submitted to the Director. The logs and tests appropriate to each type of Class III well shall be determined 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 include deviation checks conducted on all holes where pilot holes and reaming are used, at sufficiently frequent intervals to assure that vertical avenues for fluid migration in the form of diverging holes are not created during drilling.

003.05 Where the injection zone is a water bearing formation, the following information concerning the injection zone shall be determined or calculated for new Class III wells:

003.05A. Fluid pressure;

003.05B. Temperature;

003.05C. Fracture pressure;

003.05D. Other physical and chemical characteristics of the injection zone;

003.05E. Physical and chemical characteristics of the formation fluids; and

003.05F. Compatibility of injected fluids with formation fluids.

003.06 Where the injection formation is not a water bearing formation, the information in Section 002.02D3 of this Chapter must be submitted.

003.07 Where injection is into a formation which contains water with less than 10,000 mg/l 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 migration 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.

003.08 Where injection is into a formation which does not contain water with less than 10,000 mg/l TDS, no monitoring wells are necessary in the injection stratum.

003.09 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.

003.10 In determining the number, location, construction and frequency of monitoring of the monitoring wells the following criteria shall be considered:

003.10A. The population relying on the USDW affected or potentially affected by the injection operation;

003.10B. The proximity of the injection operation to points of withdrawal of drinking water;

003.10C. The local geology and hydrology;

003.10D. The operating pressures and whether a negative pressure gradient is being maintained;

003.10E. The toxicity and volume of the injected fluid, the formation water, and the process by-products; and

003.10F. The injection well density.

004 Specific Requirements for Mineral Production Wells

004.01 All mineral production well designs shall be submitted by a professional engineer.

004.02 All new mineral production wells shall be cased and cemented to prevent the migration of fluids into or between underground sources of

drinking water. The casing and cement used in 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 following factors shall be considered:

004.02A. Depth to the production zone;

004.02B. External pressure, internal pressure, axial loading, etc.;

004.02C. Hole size;

004.02D. Size and grade of all casing strings (wall thickness, diameter, nominal weight, length, joint specification, and construction material);

004.02E. Corrosiveness of production fluids and formation fluids or combination thereof;

004.02F. Lithology of production and confining zones; and

004.02G. Type and grade of cement.

004.03 Each mineral production well or group of wells utilizing a positive displacement pump shall be equipped with both high and low safety switches which will shut down the pump in case of pressure increase over the authorized pressure or sudden pressure loss.

004.03A Appropriate logs and other tests shall be conducted during the drilling and construction of new mineral production wells. A descriptive report interpreting the results of such logs and tests shall be prepared by a qualified log analyst and submitted to the Director. The logs and tests appropriate to each type of mineral production well shall be determined 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 include deviation checks conducted on all holes where pilot holes and reaming are used, at sufficiently frequent intervals to assure that vertical avenues for fluid migration in the form of diverging holes are not created during drilling.

005 Specific Requirements for Class V Injection Wells

005.01 All Class V well designs shall be submitted to the Department for approval prior to their construction. Minimum setback distances outlined in this Section are for guidance; the Department will review each Class V well siting on a case-by-case basis.

005.02 Designs for domestic wastewater disposal wells as defined in Chapter 2, 005.17C shall be submitted by a professional engineer and designed, sited and constructed according to Title 124 – Rules and Regulations for the Design, Operation, and Maintenance of On-Site Wastewater Treatment Systems. Minimum setback distances are outlined in

Table 17.1 below; a more detailed table of setback distances can be found in Title 124, Chapter 5, Table 5.1.

TABLE 17.1 – Setbacks for Class V Domestic Wastewater Disposal Wells

Receptor	Minimum Setback Distance
Domestic Water Well	100 feet
Community Water Well	1,000 feet
All Other Water Wells	100 feet
Water Lines	25 – 100 feet (depending on type of line)
Property Lines	5 feet
Foundations	10 – 40 feet (depending on type of foundation)
Surface Water	50 feet

005.03 All Class V wells, with the exception of those specified in 005.02 of this Chapter, that are constructed above and do not inject into the uppermost aquifer shall be designed, sited and constructed using the following criteria:

005.03A Wells must be cased with a material that will have the integrity to keep the formation from collapsing for the life of the well and be compatible with the fluid to be injected;

005.03B Wells that have the potential to accept fluids from areas that may generate waste from vehicles (i.e. parking lots) must be equipped with an integral oil/water separator.

005.03C The casing may be open at the bottom or perforated to allow for the injected fluids to be released;

005.03D The surface completion must incorporate a grate or perforated cover to prevent endangerment to persons and/or livestock. The examples illustrated below are only a few variations, other designs may be acceptable;

005.03E The surface completion must be designed to accept only the fluids for which the well is authorized or permitted to accept;

005.03F The total depth of the well must not exceed 20 feet and maintain a minimum separation distance of four (4) feet between the bottom of the casing and the static water level, the seasonal high ground water and/or any confining bed. This four (4) feet separation distance may need to be increased based on the characteristics of the injection fluids;

005.03G All Class V wells that are constructed above and do not inject into the uppermost aquifer with exception of those specified in 005.02 of this Chapter must be sited using the minimum setback distances outlined in Table 17.2 below:

TABLE 17.2 – Setbacks for Class V wells constructed above the water table with the exception of those specified in 005.02

Receptor	Minimum Setback Distance
Domestic Water Well	100 feet
Community Water Well	1,000 feet
Non-community Water Well	500 feet
All Other Water Wells	100 feet
Sewer Lines	25 feet
Pressure Water Lines	25 feet

Suction Water Lines	100 feet
Property Lines	5 feet
Basements/Footings	30 feet
Class V Wells Specified in 005.02	100 feet
Class V Wells Specified in 005.03	25 feet
Class V Wells Specified in 005.04	25 feet
Septic Tanks	50 feet
Surface Water	50 feet

005.04 All Class V wells that inject into or are constructed through the uppermost aquifer shall be designed, sited and constructed using the following criteria:

005.04A The well shall only inject into one aquifer and be constructed in a manner that does not allow movement of the injected fluids into another aquifer.

005.04B If the well penetrates more than one aquifer, the aquifer(s) being penetrated must be sealed with cement or surface casing in a manner that will not allow the injected fluids to migrate.

005.04C Well casing must be composed of new manufactured material compatible with the fluid to be injected and the formation water in which it is placed,

005.04C1 The well casing must be watertight and be pressure rated using the following formula but no less than 160 pounds per square inch (psi):

(((d1 – d2) x 0.434) + pt) x 1.20 = minimum pressure rating

d_1 = depth of well bore measured from the ground surface in feet
d_2 = depth of static water measured from ground surface in feet
p_t = total pressure produced by injection activities in psi (i.e. combined head of piping + transfer pump pressure capabilities)

005.04D2 The casing shall be centered in the bore hole in areas of the bentonite seal and cement/bentonite such that there is a uniform annular space of a minimum of two (2) inches in width.

005.04E Wells must utilize a new screen, manufactured with a material compatible with the fluid to be injected,

005.04E1 The screen must be placed a minimum distance below the seasonal low water table to allow for a minimum two (2) foot bentonite seal.

005.04F Prior to placing the bentonite seal, filter pack shall be placed around the screen either manually through the annulus or naturally and

allowed to stabilize to a point two and one-half (2.5) times the casing diameter above the screen apertures.

005.04F1 Filter pack shall be designed to prevent the formation materials and the filter pack itself from entering the screen upon development of the well.

005.04G A cement/bentonite grout shall be placed in the annulus after the bentonite seal to a point four (4) feet below the ground surface and consist of a mixture of cement and bentonite in the following proportion:

005.04G1 Seven and one-half (7.5) gallons of fresh water and two and one-half (2.5) pounds of powdered or pulverized bentonite per ninety four (94) pounds of Type II portland cement. No curing additives shall be added to the grout.

005.04G2 The cement/bentonite grout shall be placed by tremie or by pressure. In no case shall the concrete/bentonite grout be allowed to drop free-fall more than ten (10) feet.

005.04H The well shall be located or the site graded so that surface drainage is away from the well. Surface completions shall be constructed using one of the following:

005.04H1 Connections made below the ground surface must utilize a pitless adapter which must extend at least twelve (12) inches above the ground surface.

005.04H2 Connections made above the ground require a sanitary well cap and a well house over the connections to prevent tampering. The well casing must extend at least twelve (12) inches above the ground surface.

005.04I All Class V wells that inject into or are constructed through the uppermost aquifer must be sited using the minimum setback distances outlined in Table 17.3 below.:

TABLE 17.3 – Setbacks for Class V wells constructed into the water table

Receptor	Minimum Setback Distance
Domestic Water Well	100 feet
Community Water Well	1,000 feet
Non-community Wells	500 feet
All Other Water Wells	25 feet
Sewer Lines	25 feet
Pressure Water Lines	25 feet
Suction Water Lines	50 feet
Property Lines	5 feet
Basements/Footings	10 feet

Class V Wells Specified in 005.02	100 feet
Class V Wells Specified in 005.03	25 feet
Class V Wells Specified in 005.04	25 feet
Septic Tanks	50 feet
Surface Water	50 feet

005.04J Injection fluids shall be placed into the well via drop tubing. The drop tubing shall be selected using the following criteria:

005.04J1 The tubing shall be composed of a manufactured material compatible with the fluid to be injected and the formation water in which it is placed,

005.04J2 The tubing shall be placed into the well through a sanitary seal or pitless adapter.

005.04J3 The tubing must be pressure rated using the formula described in 005.04D1 of this Chapter but with a minimum rating of 160 psi.

005.04J4 The tubing must be open ended (not screened) and must extend a minimum of five (5) feet into the static water in the well.

005.04K A mechanical or inflatable packer may be used in conjunction with the tubing. The packer should be placed no greater than ten (10) feet above the top of the screen.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(10)(13); 81-1505(9)(15); 81-1506(e)

Legal Citation: Title 122, Ch. 17, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 18 - MECHANICAL INTEGRITY

001 Any Class I, and III injection or mineral production well must be capable of demonstrating mechanical integrity before a permit is issued. Class V wells may be required to demonstrate mechanical integrity before being authorized or permitted.

002 An injection and/or mineral production well has mechanical integrity if:

002.01 There is no significant leak in the casing, tubing or packer; and

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

003 One of the following tests must be used to evaluate the absence of significant leaks under Section 002.01 of this Chapter.

003.01 Monitoring of annulus pressure; or

003.02 Pressure test with liquid or gas.

004 One of the following methods must be used to determine the absence of significant fluid movement under Section 002.01 of this Chapter:

004.01 Well records demonstrating the presence of adequate cement to prevent such migration; or

004.02 The results of a temperature log, noise log, or cement bond log/variable density log.

005 The Director may allow the use of a test to demonstrate mechanical integrity other than those listed in Sections 003 and 004.02 of this Chapter providing it will reliably demonstrate the mechanical integrity of the well(s) for which it is proposed.

006 In conducting and evaluating the tests enumerated in this Chapter or other tests 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.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(13)(15)(24); 81-1505(9)

Legal Citation: Title 122, Ch.18, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 19 - OPERATING REQUIREMENTS

001 General Requirements

001.01 The permit shall establish any maximum injection volumes and/or pressures 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 specific requirements of Section

002 of this Chapter. 002 Specific Requirements

002.01 Operating requirements for Class I injection wells shall, at a minimum, specify that:

002.01A 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, initiate fractures in the confining zone or cause the movement of injection or formation fluids into an underground source of drinking water;

002.01B Injection between the outermost casing protecting underground sources of drinking water and the well bore is prohibited; and

002.01C Unless an alternative to a packer has been approved under Chapter 17 of this Title, 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.

002.02 Operating requirements for Class III injection wells shall, at a minimum, specify that:

002.02A 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, initiate fractures in the confining zone or cause the migration of injection or formation fluids into an underground source of drinking water; and

002.02B Injection between the outermost casing protecting underground sources of drinking water and the well bore is prohibited.

002.03 Operating requirements for Class V injection wells authorized by permit shall, at a minimum, specify that:

002.03A 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, initiate fractures in the confining zone or cause the migration of injection or formation fluids into another underground source of drinking water; and

002.03B Injection between the outermost casing protecting an underground source of drinking water and the well bore is prohibited.

002.03C Injection fluid concentrations may not exceed Nebraska Title 118 - Ground Water Quality Standards and Use Classification, except as outlined in Chapter 3 of this Title.

003 Restoration and Financial Responsibility Requirements During Operation Any person conducting Class III injection and/or mineral production activities shall comply with the restoration plan as approved by the Director (Chapter 16, 008 of this Title) and maintain financial responsibility as per Chapter 13 of this Title.

004 Notice of Intent to Operate Prior to operation of a Class I or III injection well(s) and/or mineral production well(s), the permittee must submit a notice of completion construction to the Director and provide the following information as required by the permit to obtain approval to operate:

004.01 All available logging and testing program data on the well(s);

004.02 A demonstration of mechanical integrity pursuant to Chapter 18 of this Title;

004.03 The results of the formation testing program;

004.04 The compatibility of injected materials with fluids in the injection zone and minerals in both the injection zone and the confining zone; and

004.05 The status of corrective action on defective wells in the area of review.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(12)(13); 81-1505(1)(2)(9)

Legal Citation: Title 122, Ch.19, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 20 - MONITORING REQUIREMENTS

001 General

001.01 Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

001.02 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 the permit, and records of all data used to complete the application for the permit, for a period of at least five (5) years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

001.03 The permittee shall retain all records concerning the nature and composition of injected fluids until five (5) years after completion of any plugging and abandonment procedures specified.

001.04 The owner or operator is required to deliver the records upon request by the Director at the conclusion of the five (5) year retention period.

001.05 Records of monitoring information shall include:

001.05A The date, exact place, and time of sampling or measurements;

001.05B The individual(s) who performed the sampling or measurements;

001.05C The date(s) analyses were performed;

001.05D The individual(s) who performed the analyses;

001.05E The analytical techniques or methods used;

001.05F The results of such analyses; and

001.05G A copy of the sampler’s Quality Assurance/Quality Control plan, including but not limited to results and information from analyses of field blanks, trip blanks, and duplicate samples.

002 For Class I Injection Wells, monitoring requirements shall, at a minimum, include:

002.01 The analysis of the injected fluids with sufficient frequency to yield representative data of their characteristics; and the result of this analysis shall be transmitted to the Department as directed;

002.02 Continuous recording devices to monitor injection pressure, flow rate and volume, and the pressure on the annulus between the tubing and the long string of casing shall be installed, monitored, and the information submitted as directed;

002.03 The injection pressure at the wellhead plus the hydrostatic pressure shall not exceed the fracture pressure of the injection zone which shall be determined utilizing a method approved by the Director.

002.04 Mechanical integrity (Chapter 18 of this Title) must be demonstrated at least once every two years during the life of the well;

002.05 The Department will require and approve the type, number and location of wells within the area of review to be used to monitor any migration of fluids into and pressure in the underground sources of drinking water, the parameters to be measured and the frequency of monitoring; and

002.06 The permit may be suspended or revoked at any time by the Department if it determines that the injection well is being operated in violation of law, order, regulation or conditions of the permit. The Department shall have the right to make periodic visits to the installation for the purpose of inspecting the injection system.

003 For Class III Injection Wells, monitoring requirements shall, at a minimum, include:

003.01 The analysis of the physical and chemical characteristics of the injected fluid with sufficient frequency to yield representative data on its characteristics;

003.02 Installation and use of devices to monitor the injection pressure, flow rate and volume as specified by the Department;

003.03 Demonstration of mechanical integrity pursuant to Chapter 18 of this Title at least once every five years during the life of the well;

003.04 Monitoring of fluid level and the parameters chosen to measure water quality in the injection zone as specified by the Department;

003.05 Monitoring of wells adjacent to the injection site to detect any migration from the injection zone into an USDW as specified by the Department; and

003.06 All Class III 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.

004 For Class V Injection Wells authorized by permit, monitoring requirements shall, at a minimum, include:

004.01 The analysis of the physical and chemical characteristics of the injected fluid with sufficient frequency to yield representative data on its characteristics;

004.02 Installation and use of devices to monitor the injection pressure, flow rate and volume as specified by the Department;

004.03 Demonstration of mechanical integrity pursuant to Chapter 18 of this Title at least once every five years during the life of the well;

004.04 Monitoring of fluid level and the parameters chosen to measure water quality in the injection zone as specified by the Department; and

004.05 Monitoring of wells adjacent to the injection site to detect any migration from the injection zone into an USDW as specified by the Department.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(11)(12)(13)(15)(21) (24); 81-1509(9)(15)

Legal Citation: Title 122, Ch.20, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 21 - REPORTING REQUIREMENTS

001 General

001.01 The permittee shall give advance notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility.

001.02 A new injection well may not commence injection, and a new mineral production well may not commence production until construction is complete or as specified in an area permit (Chapter 8 of this Title), and the following requirements are fulfilled:

001.02A The permittee has submitted notice of completion of construction to the Director; and

001.02B The Director has inspected or otherwise reviewed the new injection and/or mineral production well and finds it is in compliance with the conditions of the permit.

001.02C Within thirty (30) days from the receipt of the notice of completion of construction, the Director shall give written approval or state such steps necessary to receive approval.

001.03 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 permit requirements.

001.04 Monitoring results shall be reported at the intervals specified in the permit.

001.05 Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than fourteen days following each schedule date.

001.06 The permittee shall report any noncompliance which may endanger the health and safety of persons or cause pollution of the environment, such as fluid migration into or between USDWs. Any information shall be provided orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five 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 steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

001.06A If the noncompliance results in a violation of Nebraska Title 118 - Water Quality Standards and Use Classification, the permittee may

be required to perform ground water monitoring or investigation.

001.07 Where the permittee becomes aware that it 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, it shall promptly submit such facts or information. Failure to do so may result in revocation of the permit, depending on the nature of the information withheld.

001.08 The permittee shall notify the Director at least 180 days before conversion or abandonment of the well except as provided in an area permit (Chapter 8 of this Title). With the notice, the permittee shall submit a revised plugging and abandonment plan updated as appropriate.

002 For Class I injection wells, reporting requirements shall, at a minimum, include:

002.01 Reports to the Director at a frequency specified in the permit on:

002.01A The physical, chemical and other relevant characteristics of injection fluids;

002.01B Average, maximum and minimum values for injection pressure, flow rate and volume, and annular pressure at a frequency specified in the permit; and

002.01C The results of monitoring prescribed in Chapter 19 of this Title.

002.02 Reporting test results with the first required report after the completion of:

002.02A Tests of mechanical integrity; and

002.02B Any well work over.

003 For Class III injection wells and/or mineral production wells, reporting requirements shall, at a minimum, include:

003.01 Reporting to the Director on required monitoring at a frequency specified in the permit;

003.02 Results of mechanical integrity reported with the first regular report after the completion of the test; and

003.03 Monitoring may be reported on a project or field basis rather than individual well basis where manifold monitoring is used.

004 For Class V injection wells authorized by permit, reporting requirements shall, at a minimum, include:

004.01 Reporting to the Director on required monitoring at a frequency specified in the permit; and

004.02 Results of mechanical integrity reported with the first regular report after the completion of the test.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(13)(25); 81-1505(9)(16); 81-1506(2)(e)(3); 81-1510(2)

Legal Citation: Title 122, Ch.21, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 22 - AMBIENT MONITORING REQUIREMENTS FOR CLASS I WELLS

001 Based on a site specific assessment of the potential for fluid movement from the well or injection zone and on the potential value of monitoring wells to detect such movement, the Director shall require the owner or operator of a Class I well to develop a monitoring program. At a minimum, the Director shall require annual monitoring of the pressure buildup in the injection zone including at a minimum, a shut down of the well for a time sufficient to conduct a valid observation of the pressure fall-off curve.

002 When prescribing a monitoring system, the Director may also require:

002.01 Continuous monitoring for pressure changes in the first aquifer overlying the confining zone. When such a well is installed, the owner or operator shall, on a quarterly basis, sample the aquifer and analyze for constituents specified by the Director;

002.02 The use of indirect, geophysical techniques to determine the position of the waste front, the water quality in a formation designated by the Director, or to provide other site specific data;

002.03 Periodic monitoring of the ground water quality in the first aquifer overlying the injection zone;

002.04 Periodic monitoring of the ground water quality in the lowermost USDW; and

002.05 Any additional monitoring necessary to determine whether fluids are moving into or between USDWs.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(11)(12)(13)(15)(17) (21)(24) (25); 81-1505(9); 81-1506

Legal Citation: Title 122, Ch.22, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 23 - DRAFT PERMIT

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

002 If the Director tentatively decides to deny the permit application, a notice of intent to deny will be public noticed according to Chapter 32 of this Title. A notice of intent to deny the permit application shall be accompanied by a fact sheet (Chapter 24 of this Title). If the Director's final decision is that the tentative decision to deny the permit application was incorrect, the Department shall withdraw the notice of intent to deny and proceed to prepare a draft permit.

003 If the Director decides to prepare a draft permit, the Department shall prepare a draft permit that contains the following information:

003.01 All conditions under Chapter 11 of this Title;

003.02 All compliance schedules under Chapter 26 of this Title;

003.03 All monitoring requirements under Chapter 20 of this Title; and

003.04 All permit conditions under Chapters 16, 17, 19, 20, and 21 of this Title.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(11)(13)(20); 81-1505(9)

Legal Citation: Title 122, Ch.23, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 24 - FACT SHEET

001 A fact sheet on a draft permit or an intent to deny the permit application shall be prepared. The fact sheet shall briefly set forth the principal facts and the significant factual, legal, methodological, and policy questions considered. The Director shall send this fact sheet to the applicant and, on request, to any other person.

002 The fact sheet shall include, when applicable:

002.01 A brief description of the type of facility or activity which is the subject of the draft permit;

002.02 The type and quantity of wastes, fluids, or pollutants which are proposed to be or are being stored, disposed of or injected;

002.03 A brief summary of the basis for the draft permit conditions including references to applicable statutory or regulatory provisions.

002.04 Reasons why any requested variances or alternatives to required standards do or do not appear justified;

002.05 A description of the procedures for reaching a final decision on the draft permit including:

002.05A The beginning and ending dates of the comment period under Chapters 32 and 33 of this Title and the address where comments will be received;

002.05B Procedures for requesting a hearing and the nature of that hearing; and

002.05C Any other procedures by which the public may participate in the final decision;

002.06 Name and telephone number of a person to contact for additional information.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(11)(13)(20); 81-1505(9)

Legal Citation: Title 122, Ch.24, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 25 - PERMIT DURATION

001 Permits for Class I and Class V wells shall be effective for a fixed term not to exceed ten years. Permits for Class III injection wells and mineral production wells shall be issued for a period up to the operating life of the facility. The Director shall review each issued Class III injection well and mineral production well permit at least once every five years to determine whether it should be modified, revoked and reissued, terminated, or a minor modification made as provided in Chapters 30 and 31 of this Title.

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

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

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(11)(13)(20); 81-1505(9)

Legal Citation: Title 122, Ch. 25, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 26 - SCHEDULES OF COMPLIANCE

001 A permit may, when appropriate, specify a schedule of compliance leading to compliance with these regulations.

002 Schedules of compliance shall require compliance as soon as possible but not later than two years after the effective date of the permit.

003 If a permit establishes a schedule of compliance which exceeds one year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.

004 No later than fourteen 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, or submit progress reports.

005 A permit applicant or permittee may cease conducting regulated activities (by plugging and abandonment for wells and conducting restoration) rather than continue to operate and meet permit requirements as follows:

005.01 If the permittee decides to cease conducting regulated activities at a given time within the term of a permit which has been issued;

005.01A The permit may be modified to contain a new or additional schedule leading to timely cessation of activities; or

005.01B The permittee shall cease conducting permitted activities before noncompliance with any interim or final compliance schedule requirement already specified in the permit;

005.01C 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;

005.02 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:

005.02A Both schedules shall contain an identical interim deadline requiring a final decision on whether to cease conducting regulated activities or comply with applicable requirements;

005.02B One schedule shall lead to timely compliance with applicable requirements; and

005.02C The second schedule shall lead to cessation of regulated activities by a date which will ensure timely compliance with applicable requirements.

005.03 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.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(13)(25); 81-1505(9)

Legal Citation: Title 122, Ch.26, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 27 - RIGHT OF ENTRY

001 The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

001.01 Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;

001.02 Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

001.03 Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the permit; and

001.04 Sample or monitor at reasonable times, for the purpose of assuring permit compliance, any substances or parameters at any location.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(13)(15)(21)(24); 81-1510(2)

Legal Citation: Title 122, Ch.27, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 28 - CONFIDENTIAL INFORMATION

001 Claims of confidentiality for the following information will be denied:

001.01 The name and address of any permit applicant or permittee; and

001.02 Information which deals with the existence, absence, or level of contaminants in ground water.

002 Any records or other information certified by the owner or operator and furnished to or obtained by the Department concerning air, water or land contaminant sources, and determined by the Director to relate to methods or processes entitled to protection as trade secrets of such owner or operator, shall be only for the confidential use of the Department.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(13); 81-1527

Legal Citation: Title 122, Ch.28, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 29 - PERMIT TRANSFER

001 In the case of Class I and III injection and mineral production wells, 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, to identify the new permittee and incorporate such other requirements as the Director determines necessary. The following shall also apply:

001.01 The request for transfer includes a written agreement between the existing and proposed new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them, and is received at least 90 days before the proposed transfer;

001.02 The request for transfer specifies the method by which the proposed new transferee shall meet the financial responsibility requirements of Chapter 13 of this Title;

001.03 The Director re-examines the amount constituting financial responsibility in view of the change of circumstances arising from the proposed transfer and requires compliance with modifications in the amount and/or form of financial responsibility as a condition to granting the requested transfer;

001.04 The proposed new permittee furnishes to the Director the information required in Chapter 11, Sections 006.05 and 006.06 of this Title; and

001.05 Transfer shall be effectuated by modification of the permit to reflect the new permittee including any changes made by the Director in light of Sections 001.01 through 001.04 in this Chapter.

002 Class V wells authorized or permitted may be transferred if:

002.01 The current permittee notifies the Director at least 30 days in advance of the proposed transfer date and provides the information required in Section 002.02 of this Chapter;

002.02 The notice includes a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them and the notice demonstrates that the financial responsibility requirements will be met by the new permittee.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(11)(13)(20); 81-1505(9);

Legal Citation: Title 122, Ch.29, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 30 - PERMIT MODIFICATION; REVOCATION AND REISSUANCE

001 Any permit under this title, after public notice and opportunity for a public hearing according to Chapters 32 and 33 of this Title, may be modified or revoked and reissued (either upon request of any interested person, including the permittee, or upon the Director's initiative) in whole or in part during its term for cause, including, but not limited to:

001.01 Cause exists for termination under Chapter 31 of this Title, and the Director determines that modification or revocation and reissuance is appropriate;

001.02 The Director has received notification of a proposed transfer of a permit in accordance with Chapter 29 of this Title;

001.03 New information or standards indicate that location and operation of the permitted facility endangers the health and safety of persons or causes pollution of the environment;

001.04 Upon request by the permittee, provided such request does not create a violation of any existing applicable standards, laws, or rules and regulations; and

001.05 For Class III injection wells and mineral productions wells, causes for modification stated in section 002 below may be causes for revocation and reissuance as well as modification.

002 In addition to the above, causes for modification but not revocation and reissuance include, but are not limited to:

002.01 Material and substantial alterations or additions to the permitted facility or activity occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit;

002.02 The Director has received information regarding:

002.02A Factor(s) arising after final permit issuance which would have justified the use of limitations or other requirements different from those required by applicable standards or limitations; and

002.02B For UIC area permits, factors which indicate that cumulative effects on the environment are unacceptable.

002.03 The standards and/or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued. Permits may be modified during their terms for this cause as follows:

002.03A For promulgation of amended standards or regulations, when:

002.03A1. The permit condition requested to be modified was based on a regulation under this title;

002.03A2. The Council has revised, withdrawn, or modified that portion of the regulation on which the permit condition was based, or has approved action with regard to a water quality standard on which the permit condition was based after consultation with the Regional Administrator; and

002.03A3. A permittee requests modification within ninety days after department or federal notice of the action on which the request is based;

002.03B For judicial decisions, a court of competent jurisdiction has remanded and stayed state or federally promulgated regulations if the remand and stay concern that portion of the regulations or guidelines on which the permit condition was based and a request is filed by the permittee within ninety days of judicial remand.

002.04 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.

003 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 minor modification under this section must be made for cause and with draft permit and public notice as required. Minor modifications may only:

003.01 Correct typographical errors;

003.02 Require more frequent monitoring or reporting by the permittee;

003.03 Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;

003.04 Allow for a change in ownership 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;

003.05 Change quantities or types of fluids injected which are within the capacity of the facility as permitted and, in the judgment of the Director, after reviewing information required, would not interfere with the operation of the facility or its ability to meet conditions prescribed in the permit, and would not change the classification of the facility's injection well(s);

003.06 Change construction requirements approved by the Director, provided that any such alteration shall comply with the requirements of these regulations; or

003.07 Amend a plugging and abandonment plan which has been updated.

004 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.

005 If cause does not exist, the Director shall not modify or revoke and reissue the permit; and he or she shall send the requester a brief written response giving a reason for the decision. Denials of requests for modification, revocation and reissuance, or termination are not subject to public notice, comment, or hearings, but constitute a "final order" subject to appeal pursuant to Section 81-1509.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(11)(13)(20); 81-1505(9)

Legal Citation: Title 122, Ch.30, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 31 - PERMIT TERMINATION AND DENIAL

001 The following are causes for terminating a permit during its term, or for denying a permit renewal:

001.01 Noncompliance by the permittee with any condition of the permit;

001.02 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

001.03 A determination that the permitted activity endangers the health and safety of persons or causes pollution of the environment and can only be regulated to acceptable levels by permit modification or termination.

002 The permittee has the right to request a hearing within 30 days after notification of permit termination or denial of permit renewal.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(11)(13)(20); 81-1505(9)

Legal Citation: Title 122, Ch.31, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 32 - PUBLIC NOTICE

001 General

001.01 The Director shall give public notice that the following actions have occurred:

001.01A A permit application has been tentatively denied;

001.01B A draft permit has been prepared;

001.01C A hearing has been scheduled; or

001.01D A petition has been made for designation of an exempted aquifer.

001.02 No public notice is required when a request for permit modification, revocation and reissuance, or termination is denied. Written notice of that denial shall be given to the requester and to the permittee. Such denial shall be considered a "final order" by the Director and subject to appeal pursuant to Neb. Rev. Stat. § 81-1509

001.03 No public notice is required for Class V wells authorized in Chapter 6 of this Title except when deemed necessary by the Director. The Director shall consider the potential effect to endanger the health and safety of persons or cause pollution of the environment when deciding if a public notice is necessary.

001.04 Public notices may describe more than one permit or permit action.

002 Timing

002.01 Public notice of the preparation of a draft permit (including a notice of intent to deny a permit application) or petition for designation of an exempted aquifer required under Section 001 of this Chapter shall allow at least 30 days for public comment.

002.02 Public notice of a public hearing shall be given at least 30 days before the hearing. (Public notice of the hearing may be given at the same time as public notice of the draft permit and/or aquifer exemption petition and the notices may be combined.)

003 Public notice of activities described in Section 001.01 of this Chapter shall be given by the following methods:

003.01 By mailing a copy of a notice to the following persons (any person otherwise entitled to receive notice under this section may waive his or her rights to receive notice for any classes and categories of permits):

003.01A The applicant;

003.01B Adjacent land owners; and

003.01C Any other person or group either upon request or on a Departmental mailing list to receive UIC public notices under this title.

003.02 By publication of a notice in a daily or weekly newspaper within the area affected by the facility or activity; and

003.03 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.

004 Contents

004.01 All public notices issued under this Chapter shall contain the following minimum information:

004.01A Name and address of the office processing the action under Section 001.01 of this Chapter for which notice is being given;

004.01B Name and address of the permittee or permit applicant and/or the petitioner for aquifer exemption, if different, of the facility or activity regulated by the permit;

004.01C A brief description of the business conducted at the facility or activity which is described in the permit application or the draft permit or which requires an aquifer exemption;

004.01D Name, address and telephone number of a person from whom interested persons may obtain further information;

004.01E A brief description of the comment procedures and the time and place of any hearing that will be held, including a statement of procedures to request a hearing (unless a hearing has already been scheduled) and other procedures by which the public may participate in the final permit decision; and

004.01F Any additional information considered necessary or proper.

004.02 In addition to the general public notice described in Section 004.01 of this Chapter, the public notice of a hearing shall contain the following information:

004.02A Reference to the date of previous public notices relating to the permit;

004.02B Date, time, and place of the hearing; and

004.02C A brief description of the nature and purpose of the hearing, including the applicable rules and procedures.

004.03 In addition to the general public notice described in Section 004.01 of this Chapter, upon request all interested persons shall be mailed a copy of the fact sheet, the permit application (if any), the draft permit (if any), and the petition for aquifer exemption.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(3)(6)(9)(a)(11) (13)(17)(20); 81-1507(1)(3)(5); 81-1509(1).

Legal Citation: Title 122, Ch.32, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 33 - PUBLIC COMMENTS, PUBLIC HEARINGS, RESPONSE TO COMMENTS

001 During the public comment period, any interested person may submit written comments on actions specified in Chapter 32, 001.01 of this Title, 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 relevant comments shall be considered in making the final decision and shall be answered in writing. .

002 The Director shall hold a public hearing on the basis of a significant degree of public interest in actions as specified in Chapter 32, 001.01 of this Title. The Director also may hold a public hearing to clarify one or more issues involved in the permit and/or aquifer exemption decision. Public notice of the hearing shall be given as specified in Chapter 32 of this Title.

003 During a public hearing, any person may submit oral or written statements and data concerning actions as specified in Chapter 32, 001.01 of this Title.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(3)(6)(9)(a)(11) (13)(17)(20)

Legal Citation: Title 122, Ch.33, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 34 - CORRECTIVE ACTION

001 Applicants for Class I or III injection well and/or mineral production well permits shall identify the location of all wells which penetrate the injection and/or production zone within the facility's area of review. 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"). 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 applicant's plan is inadequate, the Director shall require the applicant to revise the plan, prescribe a plan for corrective action as a condition of the permit under Section 002 of this Chapter, or deny the application.

002 In determining the adequacy of corrective action proposed by the applicant and in determining the additional steps needed to prevent fluid movement into or above underground sources of drinking water, the following criteria and factors shall at a minimum be considered by the Director:

002.01 Toxicity and volume of the injected and/or produced fluid;

002.02 Toxicity of native fluids or by-products of injection and/or production;

002.03 Potentially affected population;

002.04 Geology;

002.05 Hydrology;

002.06 History of the injection and/or production operation;

002.07 Completion and plugging records;

002.08 Abandonment procedures in effect at the time the well was abandoned; and

002.09 Hydraulic connections with underground sources of drinking water.

003 Any permit issued for an existing injection well and/or mineral production well requiring corrective action shall include a compliance schedule requiring any corrective action accepted or prescribed under Section 001 of this Chapter to be completed as soon as possible.

004 No permit for a new injection well and or production well may authorize injection until all required corrective action has been taken.

005 The Director may require as a permit condition that injection 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 remain until all other required corrective action has been taken.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(11)(13)(20)(25); 81-1505(9)

Legal Citation: Title 122, Ch.34, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 35 – PLUGGING, ABANDONMENT, AND RESTORATION

001 Prior to plugging, abandonment, or restoration activities for any Class I, III, IV, V injection well, or mineral production well, the permittee shall submit a written abandonment plan to the Director for approval. No injection well or mineral production well shall be plugged and/or abandoned until the procedures outlined in the submitted abandonment plan has been approved by the Director. No restoration activities shall be initiated until the submitted abandonment plan has been approved by the Director.

002 A plug shall be used when the injection well or mineral production well intercepts more than one aquifer or the geology/hydrogeology of the area in which the well is located constitutes plugging as determined by the Director.

003 A plug shall consist of cement, permanent mechanical bridge plug, or, use of other plugging materials, in a manner approved by the Director which shall not allow the movement of fluids either into or between underground sources of drinking water.

004 The well to be plugged and/or abandoned shall be in a state of static equilibrium with the fluid weight equalized top to bottom, either by circulating the fluid in the well at least once or by a comparable method approved by the Director, prior to the placement of the plug(s) and/or surface restoration.

005 Restoration activities may include surface and/or aquifer restoration.

006 In the case of a Class III well field that underlies or is in an aquifer which has been exempted, the abandonment plan shall address the restoration of the aquifer (Chapter 16, 008 and Chapter 11, 006.26).

007 The abandonment plan may include the plugging, abandonment, and restoration procedures as outlined in the sections below.

007.01 Method and materials used to stabilize the well.

007.02 Plugging information shall include but not be limited to:

007.02A The type and number of plugs to be used;

007.02B The method for placement of the plugs by one of the following:

007.02B1 The Balance Method;

007.02B2 The Dump Bailer Method;

007.02B3 The Two Plug Method; or

007.02B4 An alternative method approved by the Director.

007.02C The placement of each plug including the elevation of the top and bottom; and

007.02D The type, grade, and quantity of plugging material to be used.

007.03 Abandonment information shall include but not be limited to:

007.03A The type, grade, and quantity of the abandonment fluid to be used;

007.03B The method for placement of the abandonment fluid; and

007.03C The method and type of surface completion.

007.04 Restoration information shall include but not be limited to:

007.04A The type of restoration to be completed;

007.04B The surface area to be restored; and

007.04C The process for restoration.

008 After completion of the plugging, abandonment, or restoration procedures, an affidavit, setting forth in detail the significant data in connection with the well (including well details) and the procedure used in plugging, abandonment, or restoration, signed by a qualified witness to the plugging, abandonment, or restoration procedures and duly notarized, shall be filed with the Department, within ninety days after plugging, abandonment, or restoration is completed. The Department reserves the right to require the operator to replug and/or abandon any well where it can be determined that the plugging and/or abandonment procedure was not effective due to failure of plugging and abandonment materials or other difficulty. The Department also reserves the right to require the permittee to restore areas (including aquifers) that were not restored properly or to standards outlined in the approved abandonment plan.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(2)(13); 81-1505(9)(15)

Legal Citation: Title 122, Ch.35, Nebraska Department of Environmental Quality

Title 122 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 36 - General Provisions

001 Failure to comply with the requirements of these regulations may be grounds for administrative enforcement by the Department pursuant State law.

002 If any clause, paragraph, subsection or section of these regulations shall be held invalid, it shall be conclusively presumed that the Environmental Quality Council would have enacted the remainder of these regulations not directly related to such, clause, paragraph, subsection or section.

Enabling Legislation: Neb. Rev. Stat. §§ 81-1504(13); 81-1505; 81-1507; 81-1508 (Reissue 1981); 81-1509; 84-901 through 84-919.

Legal Citation: Title 122, Ch. 36, Nebraska Department of Environmental Quality