



COMPARISON OF FEDERAL AND LOUISIANA REGULATIONS FOR CLASS VI INJECTION WELLS

The following is intended only as a general overview of notable differences between EPA and Louisiana rules for Class VI wells and does not include all administrative or procedural differences. This list should not be taken as comprehensive or be used in lieu of application instructions, Office of Conservation guidance, LAC 43:XVII.Chapter 36, or other relevant parts of state or federal law.

Federal Citation	CFR Text	LA Citation	LA Rule Text	Difference
N/A	N/A	§3603.H.2 and 3603.H.3	<p>2. All applications, reports, plans, requests, maps, cross-sections, drawings, opinions, recommendations, calculations, evaluations, or other submittals including or comprising geoscientific work as defined by La. R.S. 37:711.1 et seq. must be prepared, sealed, signed, and dated by a licensed Professional Geoscientist (P.G.) authorized to practice by and in good standing with the Louisiana Board of Professional Geoscientists.</p> <p>3. All applications, reports, plans, requests, specifications, details, calculations, drawings, opinions, recommendations, evaluations or other submittals including or comprising the practice of engineering as defined by La. R.S. 37:.681 et seq. must be prepared, sealed, signed, and dated by a licensed Professional Engineer (P.E.) authorized to practice by and in good standing with the Louisiana Professional Engineering and Land Surveying Board.</p>	No federal equivalent.
40 CFR 144.5 (b) (See also 145.11(a)(1))	Claims of confidentiality for the following information will be denied: (1) The name and address of any permit applicant or permittee; (2) Information which deals with the existence, absence, or level of contaminants in drinking water.	§3603.I through 3603.I.2	<p>1. the name and address of any permit applicant or permittee; and</p> <p>2. information which deals with the existence, absence, or level of contaminants in drinking water or zones other than the approved injection zone.</p>	This language is more restrictive than the federal equivalent as it refers to the presence of contaminants in any formation outside of the approved injection zone rather than just the USDW or in the drinking water.

Federal Citation	CFR Text	LA Citation	LA Rule Text	Difference
40 CFR 144.7(d)(2)(iv) (See also 145.11(a)(3))	Any information submitted to support a waiver request made by the owner or operator under § 146.95, if appropriate.	N/A	N/A	Waivers of the injection depth requirements for Class VI wells will not be granted.
40 CFR 144.22(b) (See also 145.11(a)(9))	Duration of well authorization by rule. Well authorization under this section expires upon the effective date of a permit issued pursuant to § 144.19, § 144.25, § 144.31, § 144.33 or § 144.34; after plugging and abandonment in accordance with an approved plugging and abandonment plan pursuant to §§ 144.28(c) and 146.10 of this chapter; and upon submission of a plugging and abandonment report pursuant to § 144.28(k); or upon conversion in compliance with § 144.28(j).	§3603.E.1.a	1. Class VI wells cannot be authorized by rule to inject carbon dioxide. Owners or operators of Class VI wells must obtain a permit. a. Any authorization by rule for an existing Class II enhanced recovery or hydrocarbon storage well shall expire upon the effective date of a Class VI permit issued pursuant to §3603.G, or well plug and abandonment according to an approved plug and abandonment plan, or upon well conversion.	Authorization by rule for Class VI wells will be prohibited.
40 CFR 144.33(a) (See also 145.11(a)(12))	The Director may issue a permit on an area basis, rather than for each well individually, provided that the permit is for injection wells:	§3605.B	B. The commissioner cannot issue a permit on an area basis for a Class VI well or permit.	Area permits will not be allowed for Class VI wells.
N/A	N/A	N/A	N/A	Emergency permits will not be granted for Class VI wells.
40 CFR 144.31(e)(6) (See also 145.11(a)(10))	A listing of all permits or construction approvals received or applied for under any of the following programs:	§3607.B.9	9. a listing of all permits or construction approvals that the applicant has received or applied for under any of the following programs or which specifically affect the legal or technical ability of the applicant to undertake the activity or activities to be conducted by the applicant under the permit being sought:	
40 CFR 144.31(e)(9) (See also 145.11(a)(10))	For EPA-administered programs, the applicant shall identify and submit on a list with the permit application the names and addresses of all owners of record of land within one-quarter mile of the facility boundary.	§3607.B.12	12. names and addresses of all property owners within the area of review of the Class VI well or project.	State rule specifies the area of review rather than property within one-quarter mile of the facility boundary.

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40 CFR 144.32(a)(1) through 144.32(a)(1)(ii)	For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means;	§3605.E.1 through 3605.E.4	1. Corporations ... c. the written authorization is submitted to the Office of Conservation.	Provides different definitions of responsible corporate officers or duly authorized representative. See state rule for full details.
N/A	N/A	§3611.I.3	3. Approval or the granting of a permit to construct a Class VI well shall be valid for a period of one year and if not begun in that time, the permit shall be null and void. The permittee may request an extension of this one-year requirement; however, the commissioner shall approve the request for extenuating circumstances only.	
40 CFR 144.38(a) (See also 145.11(a)(16))	Transfers by modification. Except as provided in paragraph (b) of this section, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under § 144.39(b)(2)), or a minor modification made (under § 144.41(d)), to identify the new permittee and incorporate such other requirements as may be necessary under the Safe Drinking Water Act.	§3613.C.2 through 3613.C.2	2. Causes for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and reissue a permit: a. cause exists for termination under §3613.E, and the commissioner determines that modification or revocation and reissuance is appropriate; or b. the commissioner has received notification of a proposed transfer of the permit and the transfer is determined not to be a minor modification (see §3613.D.4). A permit may be modified to reflect a transfer after the effective date (§3613.F.2.b) but will not be revoked and reissued after the effective date except upon the request of the new permittee; or c. a determination that the waste being injected is a hazardous waste as defined in §3601 either because the definition has been revised, or because a previous determination has been changed; or d. to incorporate such other requirements as may be necessary under the Safe Drinking Water Act	

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40 CFR 144.38(b) (See also 145.11(a)(16))	Automatic transfers. As an alternative to transfers under paragraph (a) of this section, any UIC permit for a well not injecting hazardous waste or injecting carbon dioxide for geologic sequestration may be automatically transferred to a new permittee if:	N/A	N/A	Automatic transfer of permits for Class VI wells will be prohibited.
40 CFR 144.39 (See also 145.11(a)(17))	When the Director receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit (see § 144.51 of this chapter), receives a request for modification or revocation and reissuance under § 124.5, or conducts a review of the permit file) he or she may determine whether or not one or more of the causes listed in paragraphs (a) and (b) of this section for modification or revocation and reissuance or both exist. If cause exists, the Director may modify or revoke and reissue the permit accordingly, subject to the limitations of paragraph (c) of this section, and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term. See § 124.5(c)(2) of this chapter. If cause does not exist under this section or § 144.41 of this chapter, the Director shall not modify or revoke and reissue the permit. If a permit modification satisfies the criteria in § 144.41 for “minor modifications” the permit may be modified without a draft permit or public review. Otherwise, a draft permit must be prepared and other procedures in part 124 must be followed.	§3613.B through 3613.B.5	<p>B. Permit Actions</p> <p>1. The permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.</p> <p>...</p> <p>5. If the commissioner decides to modify or revoke and reissue a permit under §§3613.C, D, and E, he shall prepare a draft permit under §3611.C incorporating the proposed changes. When a permit is modified, the entire permit is reopened and is subject to revision. The commissioner may request additional information and, in the case of a modified permit, may require the submission of an updated permit application. In the case of revoked and reissued permits, the commissioner shall require, if necessary, the submission of a new application.</p>	See state rule for full detail regarding procedural differences but note that the entire permit may be reopened and modified whenever a permit is modified.

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40 CFR 144.39(a)(2) (See also 145.11(a)(17))	Information. The Director has received information. Permits other than for Class II and III wells may be modified during their terms for this cause only if the information was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance. For UIC area permits (§ 144.33), this cause shall include any information indicating that cumulative effects on the environment are unacceptable.	§3613.C.1.b	b. Information. The commissioner has received information pertinent to the permit that would have justified the application of different permit conditions at the time of issuance.	State rule does not account for whether or not the information was available at the time of permit issuance.
40 CFR 144.51(d) (See also 145.11(a)(19))	Duty to mitigate. The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.	§609.G	G. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment such as the contamination of underground sources of drinking water resulting from noncompliance with this permit.	Added language: "such as the contamination of underground sources of drinking water resulting..."
40 CFR 144.51(l)(1) (See also 145.11(a)(19))	Reporting requirements. (1) Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility.	§3609.L.1	1. Planned Changes. The permittee shall give notice to the commissioner as soon as possible of any planned physical alterations or additions to the permitted facility	State rule requires reporting of any changes, regardless of whether they may require a modification.

Federal Citation	CFR Text	LA Citation	LA Rule Text	Difference
40 CFR 144.51(q)(1) (See also 145.11(a)(19))	Duty to establish and maintain mechanical integrity. The owner or operator of a Class I, II, III or VI well permitted under this part shall establish mechanical integrity prior to commencing injection or on a schedule determined by the Director. Thereafter the owner or operator of Class I, II, and III wells must maintain mechanical integrity as defined in §146.8 of this chapter and the owner or operator of Class VI wells must maintain mechanical integrity as defined in §146.89 of this chapter.	§3609.P	P. Duty to Establish and Maintain Mechanical Integrity. The permittee of a Class VI injection well shall establish mechanical integrity prior to commencing injection and on a schedule determined by these rules or the commissioner. Thereafter, Class VI injection wells must maintain mechanical integrity as defined in §3627. The Class VI injection well owner or operator shall give notice to the commissioner when it is determined the injection well is lacking mechanical integrity. Upon receiving such notice, the operator shall immediately cease injection into the well. The well shall remain out of injection service until such time as well mechanical integrity is restored to the satisfaction of the commissioner. The owner or operator may resume injection upon written notification from the commissioner that the owner or operator has demonstrated mechanical integrity pursuant to §3627.	The state rule includes more stringent requirements the operator shall immediately cease injection into the well upon receipt of written notice from the commissioner. The well shall remain out of injection service until such time as well mechanical integrity is restored to the satisfaction of the commissioner. While the potential courses of action in the federal language are not explicitly enumerated in §3609.P, the commissioner has authority to require whatever remedial actions are deemed necessary until mechanical integrity is restored to the satisfaction of the commissioner.
40 CFR 144.51(l)(5) (See also 145.11(a)(19))	Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 30 days following each schedule date.	§3609.L.5	5. Compliance Schedules. Report of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule in these regulations shall be submitted to the commissioner no later than 14 days following each schedule date.	State rules includes more stringent requirements compared to the federal rule, specifically implementing at 14 day period in lieu of the 30 day period in 40 CFR 144.51(l)(5).

Federal Citation	CFR Text	LA Citation	LA Rule Text	Difference
40 CFR 144.51(q)(2) (See also 145.11(a)(19))	When the Director determines that a Class I, II, III or VI well lacks mechanical integrity pursuant to §§146.8 or 146.89 of this chapter for Class VI of this chapter, he/she shall give written notice of his/her determination to the owner or operator. Unless the Director requires immediate cessation, the owner or operator shall cease injection into the well within 48 hours of receipt of the Director's determination. The Director may allow plugging of the well pursuant to the requirements of §146.10 of this chapter or require the permittee to perform such additional construction, operation, monitoring, reporting and corrective action as is necessary to prevent the movement of fluid into or between USDWs caused by the lack of mechanical integrity. The owner or operator may resume injection upon written notification from the Director that the owner or operator has demonstrated mechanical integrity pursuant to §146.8 of this chapter.	§3609.P	See above.	See above.
40 CFR 146.81(b)	This subpart applies to any wells used to inject carbon dioxide specifically for the purpose of geologic sequestration, i.e., the long-term containment of a gaseous, liquid, or supercritical carbon dioxide stream in subsurface geologic formations.	§3603.A.2	2. The provisions of this Chapter only apply to geologic sequestration of carbon dioxide in underground reservoirs as defined in §3601 above. The geologic sequestration of carbon dioxide is not permitted in solution-mined salt caverns under these provisions.	Added language: "the geologic sequestration of carbon dioxide is not permitted in solution-mined salt caverns under these provisions."

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40 CFR 146.82(a)(2)	A map showing the injection well for which a permit is sought and the applicable area of review consistent with 40 CFR 146.84. Within the area of review, the map must show the number or name, and location of all injection wells, producing wells, abandoned wells, plugged wells or dry holes, deep stratigraphic boreholes, State- or EPA-approved subsurface cleanup sites, surface bodies of water, springs, mines (surface and subsurface), quarries, water wells, other pertinent surface features including structures intended for human occupancy, State, Tribal, and Territory boundaries, and roads. The map should also show faults, if known or suspected. Only information of public record is required to be included on this map;	§3607.C.1.a.i through 3607.C.1.v	1. Maps and Related Information a. map(s) showing property boundaries of the facility, the location of the proposed Class VI well, and the applicable area of review consistent with §§3615.B and 3615.C . USGS topographic maps with a scale of 1:24,000 may be used. The map boundaries must extend at least two miles beyond the area of review and include as applicable: ... v. the protocol followed to identify, locate, and ascertain the condition of all wells within the area of review that penetrate the injection or confining zone.	See state rule for full detail of additional specific map requirements.
40 CFR 146.82(a)(3)(vi)	Geologic and topographic maps and cross sections illustrating regional geology, hydrogeology, and the geologic structure of the local area.	§3607.C.1.b.i through 3607.C.1.b.ii	i. geologic and topographic maps and cross-sections illustrating regional geology, geologic structure, and hydrology. ii. maps and cross-sections to a scale needed to detail the local geology, geologic structure, and hydrology. The maps and cross-sections must extend at least two miles beyond the area of review	More detailed requirement for geologic mapping.
40 CFR 146.82(a)(4)	A tabulation of all wells within the area of review which penetrate the injection or confining zone(s). Such data must include a description of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the Director may require;	§3607.C.2.d	d. a tabulation of all wells within the area of review that penetrate the base of the USDW. Such data must include a description of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any other information the commissioner may require;	Added requirement that all wells penetrating the base of the USDW be included in the tabulation.

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40 CFR 146.84(b)(2)(iv)	How corrective action will be conducted to meet the requirements of paragraph (d) of this section, including what corrective action will be performed prior to injection and what, if any, portions of the area of review will have corrective action addressed on a phased basis and how the phasing will be determined; how corrective action will be adjusted if there are changes in the area of review; and how site access will be guaranteed for future corrective action.	§3615.B.2.b.iv	iv. how corrective action will be conducted to meet the requirements of §3615.C, including what corrective action will be performed prior to injection and what, if any, portions of the area of review the operator proposes to have corrective action addressed on a phased basis and how the phasing will be determined; how corrective action will be adjusted if there are changes in the area of review; and how site access will be guaranteed for future corrective action.	A phased approach to corrective action will be considered on a case-by-case basis.
40 CFR 146.85(a)(1)(iv)	Insurance	N/A	N/A	Insurance, self insurance, and escrow accounts will not be accepted as a form of financial surety for the activities detailed at §3609.C.1 and 3609.C.2. This is separate from the §3609.C.4.iv requirement that the owner/operator must maintain insurance to respond to any emergency or to perform any remedial action.
40 CFR 146.85(a)(1)(v)	Self Insurance (i.e., Financial Test and Corporate Guarantee)	N/A	N/A	
40 CFR 146.85(a)(1)(vi)	Escrow Account	N/A	N/A	
40 CFR 146.85(a)(2)(iv)	Emergency and remedial response (that meets the requirements of 40 CFR 146.94).	§3609.C.4.a.iv	iv. emergency and remedial response of §3623. The owner/operator shall maintain third party insurance at a sufficient level to respond to any emergency or to perform any remedial action that meets the requirements of §3623.	Clarification that insurance for emergency/remedial response must be third party insurance.

Federal Citation	CFR Text	LA Citation	LA Rule Text	Difference
40 CFR 146.85(a)(6)(i)	In the event that the owner or operator combines more than one instrument for a specific geologic sequestration phase (e.g., well plugging), such combination must be limited to instruments that are not based on financial strength or performance (i.e., self insurance or performance bond), for example trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, escrow account, and insurance. In this case, it is the combination of mechanisms, rather than the single mechanism, which must provide financial responsibility for an amount at least equal to the current cost estimate.	§3609.C.4.e.i	i. In the event that the owner or operator combines more than one instrument for a specific geologic sequestration phase (e.g., well plugging), such combination must be limited to instruments that are not based on financial strength or performance, for example certificates of deposit, surety bonds, and letters of credit guaranteeing payment to the Louisiana Office of Conservation upon failure of the Operator to meet permit conditions or obligations under this Chapter. In this case, it is the combination of mechanisms, rather than the single mechanism, which must provide financial responsibility for an amount at least equal to the current cost estimate.	As stated above, self insurance, escrow accounts, and insurance will not be allowed as financial instruments. Also, the state language requires that instruments of financial responsibility be issued in sole favor of the Office of Conservation, thereby averting the need to establish a standby trust for third party instruments.
40 CFR 146.85(a)(6)(ii)	When using a third-party instrument to demonstrate financial responsibility, the owner or operator must provide a proof that the third-party providers either have passed financial strength requirements based on credit ratings; or has met a minimum rating, minimum capitalization, and ability to pass the bond rating when applicable.	§3609.C.3	3. Any financial instrument filed in satisfaction of the financial responsibility requirements shall be issued by and drawn on a bank or other financial institution authorized under state or federal law to operate in the State of Louisiana.	Clarifies demonstration of proof of financial responsibilities for third-party providers.
40 CFR 146.85(a)(6)(iii)	An owner or operator using certain types of third party instruments must establish a standby trust to enable EPA to be party to the financial responsibility agreement without EPA being the beneficiary of any funds. The standby trust fund must be used along with other financial responsibility instruments (e.g., surety bonds, letters of credit, or escrow accounts) to provide a location to place funds if needed.	N/A	N/A	As stated above, §3609.C.4.e.i requires that instruments of financial responsibility be issued in sole favor of the Office of Conservation, thereby averting the need to establish a standby trust for third party instruments.

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40 CFR 146.85(a)(6)(iv)	An owner or operator may deposit money to an escrow account to cover financial responsibility requirements; this account must segregate funds sufficient to cover estimated costs for Class VI (geologic sequestration) financial responsibility from other accounts and uses.	N/A	N/A	As stated above, escrow will not be an accepted form of financial assurance for the activities detailed at §3609.C.1 and 3609.C.2. However, the owner/operator may establish a site specific trust account as detailed at §609.C.1.d to be held in the Carbon Dioxide Geologic Storage Trust Fund as detailed at La. R.S. 30:1110.A.1 through 1110.B.6.
40 CFR 146.86(a)	General. The owner or operator must ensure that all Class VI wells are constructed and completed to:	§3617.A.1	1. General. All phases of Class VI well construction shall be supervised by a person knowledgeable and experienced in practical drilling engineering and is familiar with the special conditions and requirements of injection well construction. All materials and equipment used in the construction of the well and related appurtenances shall be designed and manufactured to exceed the operating requirements of the specific project, including flow induced vibrations. The owner or operator must ensure that all wells are constructed and completed to:	State rule requirements includes requirements regarding work experience for the construction supervisor and design requirements for construction materials.
40 CFR 146.86(b)(2)	Surface casing must extend through the base of the lowermost USDW and be cemented to the surface through the use of a single or multiple strings of casing and cement.	§3617.A.2.b	b. The surface casing of any Class VI well must extend into a confining bed—such as a shale—below the base of the deepest formation containing a USDW. The casing shall be cemented with a sufficient volume of cement to circulate cement from the casing shoe to the surface. The commissioner will not grant an exception or variance to the surface casing setting depth.	State rule includes text requiring the surface casing shoe be set below the USDW into a confining bed and states that variances to surface casing depth will not be granted.

Federal Citation	CFR Text	LA Citation	LA Rule Text	Difference
40 CFR 146.86(b)(4)	Circulation of cement may be accomplished by staging. The Director may approve an alternative method of cementing in cases where the cement cannot be recirculated to the surface, provided the owner or operator can demonstrate by using logs that the cement does not allow fluid movement behind the well bore.	§3617.A.2.d through 3617.A.2.d.ii	d. Circulation of cement may be accomplished by staging. ... ii. Remedial cementing shall be done before proceeding with further well construction, completion, or conversion if adequate cement isolation of the USDW or the injection zone within the casing-formation annulus cannot be demonstrated.	See state rule for full detail of additional specific cement requirements
40 CFR 146.86(b)(4)	Circulation of cement may be accomplished by staging. The Director may approve an alternative method of cementing in cases where the cement cannot be recirculated to the surface, provided the owner or operator can demonstrate by using logs that the cement does not allow fluid movement behind the well bore.	§3617.A.2.d through 3617.A.2.d.ii	d. Circulation of cement may be accomplished by staging. ... ii. Remedial cementing shall be done before proceeding with further well construction, completion, or conversion if adequate cement isolation of the USDW or the injection zone within the casing-formation annulus cannot be demonstrated.	See state rule for full detail of additional specific requirements for cement.
N/A	N/A	§3617.A.3 through 3617.A.3.b.i	3. Casing and Casing Seat Tests. ... i. Casing seat test pressures shall never exceed the known or calculated fracture gradient of the appropriate subsurface formation.	See state rule for full detail of additional specific requirements for casing and casing seat tests.
40 CFR 146.87(a)(2)(i)	Resistivity, spontaneous potential, and caliper logs before the casing is installed; and	§3617.B.1.b.i	i. resistivity, gamma-ray, spontaneous potential, and caliper logs before the casing is installed; and	State rule requires that gamma-ray logs be run prior to casing installation.
40 CFR 146.87(a)(3)	Before and upon installation of the long string casing:	§3617.B.1.c	c. before and upon installation intermediate and long string casing:	State rule requires logs detailed in the following subsections be conducted also be conducted before and upon installation of the intermediate casing.

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40 CFR 146.87(f)	The owner or operator must provide the Director with the opportunity to witness all logging and testing by this subpart. The owner or operator must submit a schedule of such activities to the Director 30 days prior to conducting the first test and submit any changes to the schedule 30 days prior to the next scheduled test.	§3617.B.6	6. The owner or operator must notify the Office of Conservation at least 72 hours before conducting any wireline logs, well tests, or reservoir tests.	State rule requires 72 hour notice rather than 30 days.
40 CFR 146.88(c)	The owner or operator must fill the annulus between the tubing and the long string casing with a non-corrosive fluid approved by the Director. The owner or operator must maintain on the annulus a pressure that exceeds the operating injection pressure, unless the Director determines that such requirement might harm the integrity of the well or endanger USDWs.	§3621.A.3 through 3621.A.4	3. The owner or operator must fill the annulus between the tubing and the long string casing with a non-corrosive fluid approved by the commissioner or a fluid containing a corrosion inhibitor approved by the commissioner. 4. Annulus Pressure. The owner or operator shall maintain a tubing-casing annulus pressure that exceeds the operating injection pressure, unless the commissioner determines that such requirement might harm the integrity of the well or endanger a USDW. A request to operate the well at a reduced annulus pressure must be in writing and approved by the commissioner.	State rule includes additional requirements regarding operating a well at reduced annulus pressure.
40 CFR 146.88(e)(1)	Continuous recording devices to monitor: the injection pressure; the rate, volume and/or mass, and temperature of the carbon dioxide stream; and the pressure on the annulus between the tubing and the long string casing and annulus fluid volume; and	§3621.A.6 through 3621.6.b	6. Continuous recording devices shall be installed, used, and maintained in proper working order for each well. a. continuous recording devices shall monitor: i. surface injection or bottom-hole pressure; ii. flow rate, volume and/or mass, and temperature of the carbon dioxide stream; iii. tubing-casing annulus pressure and annulus fluid volume; iv. any other data specified by the commissioner. b. continuous recordings shall consist of digital recordings. Instruments shall be weatherproof or housed in weatherproof enclosures when located in areas exposed to climatic conditions.	State rules allows for the monitoring of surface injection or bottom-hole pressure. It also requires that continuous records consist of digital recording and includes specific requirements.

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N/A	N/A	§621.A.7.a.iii	iii. all alarms must be integrated with any automatic shutdown system.	Specifies additional state regulations regarding alarms: all alarms must be integrated with any automatic shutdown system.
N/A	N/A	§3621.A.7.c	c. All emergency shutdown systems shall be fail-safe. The operator shall function-test all critical systems of control and safety at least once every six months. This includes testing of alarms, test tripping of emergency shutdown valves ensuring their closure times are within design specifications, and ensuring the integrity of all electrical, pneumatic, and hydraulic circuits. Test dates and results shall be documented and be available for inspection by an agent of the Office of Conservation.	Specifies additional state regulations regarding testing for components of emergency shutdown systems.
N/A	N/A	§3621.A.8 through 621.A.8.b	8. Wellhead Identification and Protection a. A protective barrier shall be installed and maintained around the wellheads, piping, and above ground structures that may be vulnerable to physical or accidental damage by mobile equipment or trespassers. b. An identifying sign shall be placed at the wellhead of each injection well and shall include at a minimum the operator's name, well name and number, well serial number, section-township-range, and any other information required by the commissioner. The sign shall be of durable construction with all lettering kept in a legible condition.	

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N/A	N/A	§3621.A.9	9. Well Workovers. No well remedial work, well maintenance or repair, well or injection formation stimulation, well plug and abandonment or temporary abandonment, any other test of the injection well conducted by the permittee, or well work of any kind, shall be done without prior written authorization from the commissioner. The operator shall submit a work permit request form (Form UIC-17 or successor) to seek well work authorization.	
N/A	N/A	§3621.A.10	10. Pressure gauges that show pressure on the injection tubing and tubing-casing annulus shall be installed at each wellhead. Gauges shall be designed to read in increments of 10 PSIG. All gauges shall be properly calibrated and be maintained in good working order. The pressure valves onto which the pressure gauges are affixed shall have one-half inch female fittings.	
40 CFR 146.89(b)	To evaluate the absence of significant leaks under paragraph (a)(1) of this section, owners or operators must, following an initial annulus pressure test, continuously monitor injection pressure, rate, injected volumes; pressure on the annulus between tubing and long-string casing; and annulus fluid volume as specified in 40 CFR 146.88 (e);	§3627.A.2 through 3627.A.2.b	2. To evaluate the absence of significant leaks, owners or operators must: a. perform an annulus pressure test: i. after initial well construction or conversion as part of the pre-operating requirements; ii. at least once every 12 months witnessed by an agent of the Office of Conservation; and iii. after performing any well remedial work that involves unseating the tubing or packer. b. continuously monitor injection pressure, rate, injected volumes; pressure on the annulus between tubing and long-string casing; and annulus fluid volume as specified in §3621.A.6.	State rule details actions that would trigger an annulus performance test.
N/A	N/A	§3629.A.1.h	h. the raw operating data from the continuous recording devices prescribed by §3621.A.6 submitted in digital format.	Requires the submission of raw operating data from continuous monitoring devices with each semi-annual report.

Federal Citation	CFR Text	LA Citation	LA Rule Text	Difference
40 CFR 146.91(d)	Owners or operators must notify the Director in writing 30 days in advance of:	§3629.A.4	4. Owners or operators must notify the commissioner in writing in advance of doing any well work or formation testing as required in §3621.A.9.	State rule does not require 30 day notice.
N/A	N/A	§3629.B	B. Recordkeeping. Owners or operators of Class VI wells shall retain records as specified in §§3615.C.4, 3629.A.6, 3631.A.5, 3633.A.6, and 3633.A.8.	Requires the retention of records related to AOR modeling inputs and data used to support area of review reevaluations; data and reports enumerated in the previous subsection (§3629.A.6); well closure; site closure; and any records gathered during the post-injection site care period for at least 10 years following site closure.
40 CFR 146.92(b)	Well Plugging Plan. The owner or operator of a Class VI well must prepare, maintain, and comply with a plan that is acceptable to the Director. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. The well plugging plan must be submitted as part of the permit application and must include the following information:	§3631.A.3	3. Well Plugging Plan. The owner or operator of a Class VI well must prepare, maintain, and comply with a plan acceptable to the commissioner. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. The well plugging plan must be submitted as part of the permit application, must be designed in a way that will prevent the movement of fluids into or between USDWs or outside the injection zone, and must include the following minimum information:	Adds the require that design must prevent the movement of fluids into or between USDWs or outside the injection zone.

Federal Citation	CFR Text	LA Citation	LA Rule Text	Difference
40 CFR 146.92(c)	Notice of intent to plug. The owner or operator must notify the Director in writing pursuant to 40 CFR 146.91(e), at least 60 days before plugging of a well. At this time, if any changes have been made to the original well plugging plan, the owner or operator must also provide the revised well plugging plan. The Director may allow for a shorter notice period. Any amendments to the injection well plugging plan must be approved by the Director, must be incorporated into the permit, and are subject to the permit modification requirements at 40 CFR 144.39 or 144.41, as appropriate.	§3631.A.4	4. Notice of Intent to Plug. The owner or operator must submit the Form UIC-17, or successor form, to the commissioner and receive written approval from the commissioner before beginning actual well plugging operations. The form must contain information on the procedures to be used in the field to plug and abandon the well.	State rule does not require 60 day notice.
40 CFR 146.92(d)	Plugging report. Within 60 days after plugging, the owner or operator must submit, pursuant to 40 CFR 146.91(e), a plugging report to the Director. The report must be certified as accurate by the owner or operator and by the person who performed the plugging operation (if other than the owner or operator.) The owner or operator shall retain the well plugging report for 10 years following site closure.	§3631.A.5	5. Well Closure Report. The owner or operator shall submit a closure report to the commissioner within 30 days after well plug and abandonment. The report shall be certified as accurate by the owner or operator and by the person charged with overseeing the closure operation (if other than the owner or operator). The owner or operator shall retain the well closure report at least 10 years following site closure. The report shall contain the following information:	Added state requirement that a closure report must be submitted within 30 days after P&A.
N/A	N/A	§3633.B	B. Certificate of Completion . The commissioner shall not issue a certificate of completion pursuant to R.S. 1109 unless the operator has sufficient financial surety with the Office of Conservation to adequately close the facility, plug all existing wells, and provide for post-injection site care and site closure.	

Federal Citation	CFR Text	LA Citation	LA Rule Text	Difference
N/A	N/A	N/A	<p>The owner or operator will be required to conduct an environmental justice review of communities located within the project AOR. The results of this review will be used to determine if an enhanced public comment period will be required for the application. An enhanced public comment period may extend the public comment period for the application, may require a more inclusive public participation process, including targeted public outreach and creation of better visual tools and approachable language, or may be supplemented in other ways recommended by the reviewer.</p> <p>In addition to the site location questions considered in the Environmental Justice review, a weighing of siting, environmental effects, and a cost benefit analysis is required in the application as a result of Save Ourselves, Inc., et al vs. the Louisiana Environmental Control Commission, et al¹. The five required question responses, colloquially known as the “Louisiana Constitutional Considerations,” the “IT Question Responses,” or the “Save Ourselves Questions,” are hereafter the “SOS Decision Questions”, and are presented in Appendix II. Answers to these questions must provide adequate detail with sufficient justification and supporting data to enable LOC to conduct a balanced review of environmental, social, economic and other factors as required by the Louisiana Constitution.</p>	No federal equivalent.