

<b>OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY</b>  <b>LAND PROTECTION DIVISION</b>  <b>UNDERGROUND INJECTION CONTROL PROGRAM</b>  <b>PERMIT APPLICATION REVIEW CHECKLIST FOR</b>  <b>CLASS I INJECTION WELL NONHAZARDOUS</b>	Facility Name: _____ EPA ID No: _____ ODEQ Permit No: _____ Application Type: _____ Date: _____	40 CFR 144 & 146 and OAC 252-652
	Administrative Reviewer: _____ Start Date: _____ Completion Date: _____ Technical Reviewer: _____ Start Date: _____ Completion Date: _____	ODEQ Form Number XXX-XXX  Shaded areas for DEQ use only

ITEM #	40 CFR	OAC 252:652	GENERAL DESCRIPTION	INFO LOCATION	ADMIN. COMPLETE	TECH COMPLETE	REMARKS
					YES/NO/ NA	YES/NO/ NA	
S3-0		<b>3</b>	<b>Exclusionary siting criteria:</b>				
S3-1		3-1	Siting Criteria				
S3-2		3-1(1)	Groundwater resources and recharge areas				
S3-3		3-1(2)	Water wells within one quarter mile				
S3-4		3-1(3)	Flood Plain				
S3-5		3-1(4)	Surface Water				
AP-0	<b>144.31</b>	<b>1-3</b>	<b>Authorization by permit:</b>				
AP-1	144.31(a)	“	Permit Application				
AP-2	144.31(b)	“	Who applies				

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					YES/NO/ NA	YES/NO/ NA	
AP-3	144.31(c)	“	Time to apply				
AP-4	144.31(e)	“	Information Requirements:				
AP-5	144.31(e)(1)	“	Activities conducted				
AP-6	144.31(e)(2)	“	Facility Name, Address and location				
AP-7	144.31(e)(3)	“	SIC codes				
AP-8	144.31(e)(4)	“	Operator’s name, address, telephone number, and ownership status; public or private entity				
AP-9	144.31(e)(5)	“	Indian land				
AP-10	144.31(e)(6)	“	Other permits or construction approvals				
AP-11	144.31(e)(7)	“	Topographic map				
AP-12	144.31(e)(8)	“	Nature of business				
AP-13	144.31(f)	“	Recordkeeping				
AP-14	<b>144.32</b>	<b>1-3</b>	<b>Signatories to permit applications and reports:</b>				
AP-15	144.32(a)	“	Applications				
Ap-16	144.32(b)	“	Reports				
AP-17	144.32(d)	“	Certification				
CA-0	<b>144.55 and 146.7</b>	<b>1-3</b>	<b>Corrective action</b>				
AR-0	<b>146.6</b>	<b>1-3</b>	<b>Area of review</b>				

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					YES/NO/ NA	YES/NO/ NA	
AR-1	146.6(a)	“	Zone of endangering influence				
AR-2	146.6(b)	“	Fixed radius				
AR-3	146.6(c)	“	Determination by modeling				
CS-0	<b>Subpart B Part 146.11</b>	<b>1-3</b>	<b>Criteria and Standards Applicable to Class I Wells</b>				
CS-1	<b>146.12</b>	“	<b>Construction requirements</b>				
CS-2	146.12(a)	“	Injection formation below USDW				
CS-3	146.12(b)	“	Cased and cemented to prevent movement of fluids				
CS-4	146.12(c)	“	Injection through tubing with packer & specs				
CS-5	146.12(d)	“	Logs and tests to be run during drilling of new wells				
CS-6	146.12(d)(1)	“	Deviation checks				

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					YES/NO/ NA	YES/NO/ NA	
CS-7	146.12(d)(2)	“	Other logs (i) For surface casing intended to protect underground sources of drinking water: (A) Resistivity, spontaneous potential, and caliper logs before casing is installed (B) Cement bond, temperature, ore density log after casing is set and cemented (ii) For intermediate and long strings of casing intended to facilitate injection: (A) Resistivity, spontaneous potential, porosity, and gamma ray logs before the casing is installed (B) Fracture finder logs (C) Cement bond, temperature, or density log after the casing is set and cemented				
CS-8	146.12(e)	“	Injection formation information for new wells				
CS-9	146.12(e)(1)	“	Fluid pressure;				
CS-10	146.12(e)(2)	“	Temperature;				
CS-11	146.12(e)(3)	“	Fracture pressure;				
CS-12	146.12(e)(4)	“	Other physical and chemical characteristics of the injection matrix; and				
CS-13	146.12(e)(5)	“	Physical and chemical characteristics of the formation fluids				
S7-0		<b>7</b>	<b>Construction Requirements</b>				
S7-1		7-1	Class I injection well facilities				

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					YES/NO/ NA	YES/NO/ NA	
S7-2		7-1(1)	Annulus pressure and fluid				
S7-3		7-1(1)(A)	Sensors/measuring devices				
S7-4		7-1(1)(B)	Displayed design pressure and test pressure ratings				
S7-5		7-1(1)(C)	Bursting discs/ Relief valves				
S7-6		7-1(2)	Monitoring Taps				
S7-7		7-1(3)	Surface casing (50 ft below USDW)				
S7-8		7-1(4)	Ambient monitoring				
S7-9		7-1(4)(A)	Monitor lowest USDW				
S7-10		7-1(4)(B)	Monitor well(s) hydraulically down gradient from site				
OP-0	<b>146.13</b>	<b>1-3</b>	<b>Operating, monitoring, and reporting requirements:</b>				
OP-1	146.13(a)	“	Operating requirements:				
OP-2	146.13(a)(1)	“	Pressure at wellhead not to exceed fracture pressure				
OP-3	146.13(a)(2)	“	Injection through annulus prohibited				
OP-4	146.13(a)(3)	“	Annulus filled with fluid				
OP-5	146.13(b)	1-3	Monitoring requirements:				
OP-6	146.13(b)(1)	“	Injectate analysis				
OP-7	146.13(b)(2)	“	Continuous recording devices to monitor injection pressure, flow rate and volume, and the annulus pressure				
OP-8	146.13(b)(3) and 146.8	“	Five year MIT				

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					YES/NO/ NA	YES/NO/ NA	
OP-9	146.13(b)(4)	“	Type, number, and location of monitor well(s)				
OP-10	146.13(c)	1-3	Reporting Requirements:				
OP-11	146.13(c)(1)	“	Quarterly reports on  (i) Physical, chemical and other relevant characteristics of injection fluids;  (ii) Monthly average, maximum and minimum values for injection pressure, flow rate and volume, and annular pressure  (iii) Any well work over.				
OP-12	146.13(c)(2)	“	Reporting of test results				
OP-13	146.13(d)	“	Ambient monitoring				
OP-14	146.13(d)(1)	“	Monitoring program developed				
S9-0		<b>9</b>	<b>Additional Operating Requirements</b>				
S9-1		9-1	Class I injection well facilities				
S9-2	*	9-1(1)	Permitted maximum injection pressure may be adjusted to account for pressure loss due to friction in piping or tubing.				
S9-3	*	9-1(1)(A)	Overburden pressure gradient established				
S9-4	*	9-1(1)(B)	Overburden pressure gradient not established				
S9-5	*	9-1(2)	Annulus pressure				

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					YES/NO/ NA	YES/NO/ NA	
S9-6	*	9-1(2)(A)	Annulus fluid shall be maintained at a minimum positive pressure of 10 pounds per square inch gauge at the well head.				
S9-7		9-1(3)	Groundwater tests				
S9-8	*	9-1(4)	Semi-annual pressure test				
S9-9	*	9-1(5)	Solids or sludge tests				
ID-0	<b>146.14</b>	<b>1-3</b>	<b>Information to be considered by Director</b>				
ID-1	146.14(a)(1)	“	Part 144.31 and 144.31(g)				
ID-2	146.14(a)(2)	“	Map of the area of review (AOR)				
ID-3	146.14(a)(3)	“	Tabulation of data on AOR wells				
ID-4	146.14(a)(4)	“	Maps and cross sections of USDW's in AOR				
ID-5	146.14(a)(5)	“	Maps and cross sections of structure of local area				
ID-6	146.14(a)(6)	“	Maps and cross sections of regional geology				
ID-7	146.14(a)(7)	“	Proposed operating data:  (i) Average, maximum daily rate and volume injected  (ii) Average and maximum injection pressure  (iii) Source and analysis of chemical, physical, radiological, and biological characteristics of fluids				
ID-8	146.14(a)(8)	“	Proposed formation testing program				

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					YES/NO/ NA	YES/NO/ NA	
ID-9	146.14(a)(9)	“	Proposed stimulation program				
ID-10	146.14(a)(10)	“	Proposed injection procedure				
ID-11	146.14(a)(11)	“	Schematic of the well				
ID-12	146.14(a)(12)	“	Contingency plans for shut-ins and well failures				
ID-13	146.14(a)(13)	“	Plans for meeting monitoring requirements				
ID-14	146.14(a)(14)	“	Proposed corrective action for undocumented wells				
ID-15	146.14(a)(15)	“	Construction procedures				
ID-16	146.14(a)(16)	“	Financial requirements				
ID-17	146.14(b)	“	Prior to granting approval for operation consider the following information:				
ID-18	146.14(b)(1)	“	All available logging and testing data on well				
ID-19	146.14(b)(2)	“	Demonstration of mechanical integrity				
ID-20	146.14(b)(3)	“	Anticipated maximum pressure and flow rate				
ID-21	146.14(b)(4)	“	Results of the formation testing program				
ID-22	146.14(b)(5)	“	Actual injection procedure				
ID-23	146.14(b)(6)	“	Injectate compatibility with injection and confining zones				
ID-24	146.14(b)(7)	“	Status of corrective action on defective wells in AOR				

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					YES/NO/ NA	YES/NO/ NA	
ID-25	146.14(c)	“	Plugging and abandonment procedure				
S5-0	*	<b>5</b>	<b>Application Content Requirements</b>				
S5-1	*	5-1	The following shall be included in an application for a permit for any Class I injection well facility:				
S5-2	*	5-1(1)	Map				
S5-3	*	5-1(2)	Tabulation of wells in the area of review				
S5-4	*	5-1(3)	Injection and confining zone description				
S5-5	*	5-1(3)(A)	Isopach and structural maps of the injection and confining zone				
S5-6	*	5-1(3)(B)	A discussion of known or potential fluid flow directions and fluid distributions within the injection zone(s)				
S5-7	*	5-1(3)(C)	Information on the confining zone				
S5-8	*	5-1(4)	Drawings				
S5-9	*	5-1(5)	Plugging and abandonment plan				
S5-10	*	5-1(5)(A)	Plugging to be a series of continuous cement plugs from the total depth of the well to ground level				
S5-11	*	5-1(5)(B)	Top of any plugged well shall clearly show the well permit number and date of plugging by permanent marking on a steel plate welded to the surface casing				
S5-12	*	5-1(5)(C)	Updated plan submitted 180 days prior to cessation of operations				
S5-13	*	5-1(5)(D)	The approved plugging and abandonment plan shall be				

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					YES/NO/ NA	YES/NO/ NA	
			implemented and completed within six months				
S5-14	*	5-1(5)(E)	Notify Department of the exact time when plugging operations will take place				
S5-15	*	5-1(5)(F)	File plugging record within 30 days after well has been plugged				
S5-16	*	5-1(6)	Cost estimate				
S5-17	*	5-1(7)	Financial assurance				
S6-0	*	<b>1-6</b>	<b>Fees</b>				
S6-1	*	1-6(a)	Class I injection well facilities				
S6-2	*	1-6(a)(1)	Permit application - \$2000				
S6-3	*	1-6(a)(2)	Permit renewal - \$500				
S6-4	*	1-6(a)(3)	Facility monitoring - \$250/year				

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