

1 CHAPTER 24

2  
3 **Class VI Injection Wells and Facilities**  
4 **Underground Injection Control Program**  
5

6 **Section 1. Authority ~~and Purpose.~~**  
7

8 These regulations are promulgated pursuant to Wyoming Statutes (W.S.) §§ 35-11-101 through  
9 2005, specifically § 313, ~~and no person shall sequester carbon dioxide unless authorized by an~~  
10 ~~Underground Injection Control (UIC) permit issued by the Department of Environmental Quality~~  
11 ~~(DEQ). The injection of carbon dioxide for purposes of a project for enhanced recovery of oil or~~  
12 ~~other minerals approved by the Wyoming Oil and Gas Conservation Commission shall not be~~  
13 ~~subject to the provisions of this regulation unless the operator converts to geologic sequestration~~  
14 ~~upon the cessation of oil and gas recovery operations or as otherwise required by the~~  
15 ~~Commission or Director.~~

16  
17 ~~These rules and regulations also provide financial assurance for the purposes specified in § 35-~~  
18 ~~11-313.~~

19  
20 **Section 2. Definitions.** The following definitions supplement ~~those~~ the definitions  
21 contained in Section § 35-11-103 of the Wyoming Environmental Quality Act.  
22

23 (a) “Abandoned well” means a well whose use has been permanently discontinued or  
24 that is in a state of disrepair such that it cannot be used for its intended purpose or for  
25 observation purposes. Temporary or intermittent cessation of injection operations is not  
26 abandonment.  
27

28 (b) "Aquifer" means a zone, stratum, or group of strata that can store and transmit  
29 water in sufficient quantities for a specific use.  
30

31 (c) “Area of review” means the subsurface three-dimensional extent of the carbon  
32 dioxide plume, associated pressure front, and displaced fluids, as well as the overlying  
33 formations, and surface area above that delineated region. ~~The area of review is based on~~  
34 ~~available site characterization, monitoring, and operational data as set forth in Section 8 of this~~  
35 ~~chapter.~~  
36

37 (d) "Background" means the constituents or parameters and the concentrations or  
38 measurements that describe water quality and water quality variability prior to the ~~subsurface~~  
39 ~~discharge~~ underground injection.  
40

41 (e) “Bore/casing annulus” means the space between the wellbore and the well casing.  
42

43 (f) “Carbon dioxide plume” means the underground extent, in three dimensions, of  
44 an injected carbon dioxide stream.  
45

46 (g) “Carbon dioxide stream” means carbon dioxide, plus associated substances  
47 derived from the source materials and any processing, and any substances added to the stream to  
48 enable or improve the injection process. Within this Chapter, the term “carbon dioxide stream”  
49 ~~This chapter~~ does not ~~apply to~~ include any carbon dioxide stream that meets the definition of a  
50 hazardous waste under 40 C.F.R. ~~Part §~~ 261.3.

51  
52 (h) “Casing” means a pipe or tubing of appropriate material, of varying diameter and  
53 weight, lowered into a borehole during or after drilling ~~in order~~ to support the sides of the hole  
54 ~~and thus~~ to prevent the walls from caving, to prevent loss of drilling mud into porous ground, or  
55 to prevent water, gas, or other fluid from entering or leaving the hole.

56  
57 (i) “Casing/tubing annulus” means the space between the well casing and the tubing.

58  
59 (j) “Cementing” means ~~to seal~~ sealing the annular space around the outside of a  
60 casing string using a specially formulated mixture to hold the casing in place and prevent any  
61 movement of fluid in this annular space. Cementing also includes operations to seal the well at  
62 the time of abandonment.

63  
64 (k) “Class I well” means a well used to inject hazardous or non-hazardous industrial,  
65 commercial, or municipal waste beneath the lowermost formation containing, within one- quarter  
66 (1/4) mile of the well bore, an underground source of drinking water.

67  
68 ~~(k)(l)~~ “(l)” “Class II ~~W~~well” ~~shall means~~ any commercial or non-commercial well used to  
69 dispose of water ~~and/or~~ fluids directly associated with the production of oil ~~and/or~~ gas, any well  
70 used to inject fluids or gas for enhanced oil recovery, or any well used for the storage of liquid  
71 hydrocarbons. ~~Non-hazardous gas plant wastes may be disposed of in a Class II well pending~~  
72 ~~Environmental Protection Agency co-approval, as defined in Wyoming Oil and Gas~~  
73 ~~Conservation Commission Rules and Regulations, Chapter 1, Section 2.~~

74  
75 ~~(m)~~ (m) “Class V facility” means any property that contains an injection well, drywell, or  
76 subsurface fluid distribution system that is not defined as a Class I, II, III, IV, or VI well in ~~this~~  
77 ~~chapter~~ these Regulations. ~~The~~ A Class V facility includes all systems of collection, treatment,  
78 and control that are associated with the ~~subsurface disposal~~ underground injection. ~~Class V~~  
79 ~~injection wells are described in Water Quality Rules and Regulations Chapter 27.~~

80  
81 ~~(m)(n)~~ (n) “Class VI well” means a well ~~injecting a carbon dioxide stream for geologic~~  
82 ~~sequestration, beneath the lowermost formation containing a USDW; or a well used for geologic~~  
83 ~~sequestration of carbon dioxide that has been granted a waiver of the injection depth~~  
84 ~~requirements pursuant to requirements of Section 10 of this chapter; or, a well used for geologic~~  
85 ~~sequestration of carbon dioxide that has received an expansion to the areal extent of an existing~~  
86 ~~Class II enhanced oil recovery or enhanced gas recovery aquifer exemption pursuant to Section 5~~  
87 ~~of this chapter. Class VI wells are regulated under this chapter. that is used for injecting a~~  
88 carbon dioxide stream for geologic sequestration that:

90 (i) Is not experimental in nature and injects a carbon dioxide stream for  
91 geologic sequestration, beneath the lowermost formation containing an underground source of  
92 drinking water;

94 (ii) Has been granted a waiver of the injection depth requirements pursuant to  
95 requirements of Section 15 of this Chapter; or

96  
97 (iii) Has received an expansion to the areal extent of an existing Class II  
98 enhanced oil recovery or enhanced gas recovery aquifer exemption pursuant to Section 16 of this  
99 Chapter.

100  
101 ~~(n)~~(o) “Confining zone” means a geological formation, group of formations, or part of a  
102 formation stratigraphically overlying the injection zone(s) that act(s) as a barrier to fluid  
103 movement. For Class VI wells operating under an injection depth waiver, confining zone means  
104 a geologic formation, group of formations, or part of a formation stratigraphically overlying and  
105 underlying the injection zone(s) that acts as a barrier to fluid movement.

106  
107 ~~(e)~~(p) “Contaminant” means any pollution; wastes; or physical, chemical, biological, or  
108 radiological substance or matter in water.

109  
110 ~~(p)~~(q) “Corrective action” means the use of Administrator-approved methods to ensure  
111 that wells within the area of review do not serve as conduits for the movement of fluids into  
112 geologic formations other than those ~~to be~~ authorized under the permit.

113  
114 ~~(q) "Draft permit" means a document indicating the tentative decision by the~~  
115 ~~Department to issue or deny, modify, revoke and reissue, or terminate a permit. A notice of~~  
116 ~~intent to terminate a permit and a notice of intent to deny a permit are types of draft permits. A~~  
117 ~~denial of a request for modification, revocation and reissuance, or termination is not a draft~~  
118 ~~permit. A draft permit for issuance shall contain all conditions and content, compliance sched-~~  
119 ~~ules and monitoring requirements required by this chapter.~~

120  
121 (r) “Duly authorized representative” means a specific individual or a position having  
122 responsibility for the overall operation of the regulated facility or activity. The authorization  
123 shall be made in writing by a responsible corporate officer and shall be submitted to the  
124 Administrator.

125  
126 (s) “Endanger~~ment~~” means exposure to expose to actions or activities that could  
127 pollute an Underground Ssource of Ddrinking Wwater (USDW).

128  
129 (t) “Exempted aquifer” means an ~~“aquifer”~~ or a portion thereof that meets the criteria  
130 in the definition of ~~“underground source of drinking water”~~ but that has been exempted  
131 according to the procedures in Section ~~5(e)~~ 16 of this ~~e~~Chapter.

132  
133 ~~(u) “Experimental technology” means a technology that has not been proven feasible~~  
134 ~~under the conditions in which it is being tested.~~

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~~(v)(u)~~ “Fact sheet” means a document briefly setting forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. ~~Fact sheets for Class VI wells are incorporated into the public notice.~~

~~(w)~~—“Fault” means a surface or zone of rock fracture along which there has been displacement.

~~(x)~~—“Flow rate” means the volume per time unit given to the flow of gases or other fluid substance that emerges from an orifice, pump, turbine or passes along a conduit or channel.

~~(y)~~—“Fluid” means any material that flows or moves, whether semisolid, liquid, sludge, gas or any other form or state.

~~(z)~~—“Formation” means a body of consolidated or unconsolidated rock characterized by a degree of lithologic homogeneity that is prevailingly, but not necessarily, tabular and is mappable on the earth’s surface or traceable in the subsurface.

~~(aa)~~—“Formation fluid” means fluid present in a formation under natural conditions as opposed to introduced fluids, such as drilling mud.

~~(bb)(v)~~ “Geologic sequestration project” means an injection well or wells used to emplace a carbon dioxide stream into an injection zone for geologic sequestration. It includes the subsurface three-dimensional extent of the carbon dioxide plume, associated pressure front, and displaced fluid, as well as the surface area above that delineated region. ~~(Reference Section 35-11-103(e) of the Wyoming Environmental Quality Act for definitions of geologic sequestration, geologic sequestration site, and geologic sequestration facilities.)~~

~~(ee)(w)~~ “Groundwater” means subsurface water that fills available openings in rock or soil materials such that they may be considered water saturated under hydrostatic pressure.

~~(dd)(x)~~ “Groundwaters of the State” are all bodies of underground water that are wholly or partially within the boundaries of the State.

~~(ee)(y)~~ “Hazardous waste” means a hazardous waste as defined in 40 C.F.R. § 261.3.

(z) “Indian lands” and “Indian country” means:

(i) All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation;

(ii) All dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state; and

182 (iii) All Indian allotments, the Indian titles to which have not been  
183 extinguished, including rights-of-way running through the same.

184  
185 ~~(ff) —“Individual permit” means a permit issued for a specific facility operated by an~~  
186 ~~individual operator, company, municipality, or agency. An individual permit may be established~~  
187 ~~as an area permit and include multiple points of discharge that are all operated by the same~~  
188 ~~person.~~

189  
190 ~~(gg)(aa)~~ “Injectate” means the material injected through any underground injection  
191 facility ~~after it has received whatever pretreatment is done.~~

192  
193 ~~(hh)(bb)~~ “Injection zone” means a geologic formation, group of formations, or part  
194 of a formation that is of sufficient areal extent, thickness, porosity, and permeability to receive  
195 carbon dioxide through a well or wells associated with a geologic sequestration project.

196  
197 ~~(ii) —“Lithology” means the description of rocks on the basis of their physical and~~  
198 ~~chemical characteristics.~~

199  
200 ~~(jj)(cc)~~ “Log” means ~~to make~~ a written record progressively describing the strata and  
201 geologic and hydrologic character thereof to include electrical, radioactivity, radioactive tracer,  
202 temperature, cement bond and similar surveys, a lithologic description of all cores, and test data.

203  
204 ~~(kk)(dd)~~ “Long string casing” means a casing that is continuous from at least the  
205 top of the injection interval to the surface and that is cemented in place.

206  
207 ~~(ll) —“Long term stewardship” means after release of financial assurance, upon site~~  
208 ~~closure, where the sequestration site may require periodic monitoring, measurement, or~~  
209 ~~verification of plume stabilization over an indefinite period of time.~~

210  
211 ~~(mm) —“Mechanical integrity” means the sound and unimpaired condition of all~~  
212 ~~components of the well or facility or system for control of a subsurface discharge and associated~~  
213 ~~activities.~~

214  
215 ~~(nn) —“Owner or operator” means the owner or operator of any facility or activity~~  
216 ~~subject to regulation under the Resource Conservation Recovery Act (RCRA) or an approved~~  
217 ~~state program; the Safe Drinking Water Act Underground Injection Control (UIC) program~~  
218 ~~administered by the US EPA or a state; the National Pollutant Discharge Elimination System~~  
219 ~~(NPDES) or an authorized state program; or the Clean Water Act Section 404 Dredge and Fill~~  
220 ~~permit program.~~

221  
222 ~~(oo)(ee)~~ “Packer” means a device lowered into a well to produce a fluid-tight seal.

223  
224 ~~(pp) —“Permit” means a Wyoming Underground Injection Control permit, unless~~  
225 ~~otherwise specified.~~

226  
227 ~~(qq) —“Permittee” means the named permit holder.~~

228  
229       ~~(ff)~~(ff) “Plugging” means the act or process of stopping the flow of water, oil, or gas into  
230 or out of a formation through a borehole or well penetrating that formation.

231  
232       ~~(gg)~~(gg) “Plugging record” means a systematic listing of permanent or temporary  
233 abandonment of water, oil, gas, test, exploration, and waste injection wells, ~~and~~ A plugging  
234 record may contain a well log, description of amounts and types of plugging material used, the  
235 method employed for plugging, a description of formations that are sealed, and a graphic log of  
236 the well showing formation location, formation thickness, and location of plugging structures.

237  
238       ~~(hh)~~(hh) “Plume stabilization” ~~means~~ has been achieved when the carbon dioxide stream  
239 that has been injected subsurface essentially no longer expands vertically or horizontally and  
240 poses no threat to USDWs underground sources of drinking water, human health, safety, or the  
241 environment, as demonstrated by a minimum of three (3) consecutive years of monitoring data.

242  
243       ~~(ii)~~ —“Point of compliance” ~~means a point at which the permittee shall meet all permit~~  
244 ~~and regulatory requirements.~~

245  
246       ~~(jj)~~ —“Point of injection” ~~means the last accessible sampling point prior to a fluid being~~  
247 ~~released into the subsurface environment through a Class VI injection well.~~

248  
249       ~~(kk)~~(ii) “Post-injection site care” means the monitoring, measurement,  
250 verification, and other actions (including corrective action) needed to ensure that USDW’s  
251 underground sources of drinking water are not endangered, following the ~~closure~~ cessation of  
252 injection, and plugging and abandonment of injection wells until plume stabilization has been  
253 achieved and certified by the Administrator, as required under Section ~~17~~ 24 of this ~~e~~Chapter.

254  
255       ~~(ll)~~ —“Pressure” ~~means the total load or force per unit area acting on a surface.~~

256  
257       ~~(mm)~~(jj) “Pressure front” means the zone of elevated pressure that is created by the  
258 injection of the carbon dioxide stream into the subsurface. The pressure front of a carbon dioxide  
259 plume refers to a zone where there is a pressure differential sufficient to cause movement of  
260 injected fluids or formation fluid if a migration pathway or conduit ~~were to exist~~ed.

261  
262       ~~(nn)~~ —“Public hearing” ~~means a non-adversary hearing held by the Administrator or~~  
263 ~~Director of the Department. The hearing is conducted pursuant to Chapter 9 of the Wyoming~~  
264 ~~Department of Environmental Quality Rules of Practice and Procedure.~~

265  
266       ~~(oo)~~(kk) “Radioactive waste” means any waste that contains radioactive material in  
267 concentrations that exceed those listed in 10 C.F.R. Part 20, Appendix B, Table II, Column 2 ~~as~~  
268 ~~of March 27, 2006.~~

269  
270       ~~(pp)~~(ll) “Receiver” means any zone, interval, formation, or unit in the subsurface  
271 into which a carbon dioxide stream is injected.

272

273 ~~(eee)~~(mm) “Responsible corporate officer” means a president, secretary, treasurer, or  
274 vice president of the corporation in charge of a principal business function, or any other person  
275 who performs similar policy- or decision-making functions for the corporation.  
276

277 ~~(formerly located at Section 5(h)(i))(i)~~ For a corporation, a “responsible  
278 corporate officer” means:  
279

280 ~~(formerly located at Section 5(h)(i)(A))(A)~~ A president, secretary,  
281 treasurer, or vice president of the corporation in charge of a principal business function, or any  
282 other person who performs similar policy\_ or decision\_making functions for the corporation; or  
283

284 ~~(formerly located at Section 5(h)(i)(B))(B)~~ The manager of one (1) or  
285 more manufacturing, production, or operating facilities employing more than 250 persons or  
286 having gross annual sales or expenditures exceeding \$25 million (in second quarter 1980  
287 dollars), if authority to sign documents has been assigned or delegated to the manager in  
288 accordance with corporate procedures.  
289

290 ~~(formerly located at Section 5(h)(ii))(ii)~~ For a partnership ~~or sole~~  
291 ~~proprietorship~~, “responsible corporate officer” – by a means a general partner, or the proprietor,  
292 ~~respectively;~~  
293

294 ~~(formerly located at Section 5(h)(ii))(iii)~~ For a ~~partnership or~~ sole  
295 proprietorship ~~–~~, “responsible corporate officer” means by a general partner or the proprietor,  
296 ~~respectively;~~  
297

298 ~~(formerly located at Section 5(h)(iii))(iv)~~ For a municipality, state, federal or  
299 other public agency~~–~~, “responsible corporate officer” means by either the principal executive  
300 officer or ranking elected official. For the purposes of this ~~section~~ definition, a principal  
301 executive officer of a ~~F~~federal agency includes:  
302

303 ~~(formerly located at Section 5(h)(iii)(A))(A)~~ The chief executive officer of  
304 the agency; or  
305

306 ~~(formerly located at Section 5(h)(iii)(B))(B)~~ A senior executive officer  
307 having responsibility for the overall operations of a principal geographic unit of the agency ~~(e.g.,~~  
308 ~~Regional Administrators of EPA), such as a Regional Administrator.~~  
309

310 ~~(ddd)~~(nn) “Secondarily affected aquifer” means ~~any~~ an aquifer affected by migration  
311 of fluids from an injection facility, ~~when the aquifer is not directly discharged into~~ that does not  
312 directly discharge into the secondarily affected aquifer.  
313

314 ~~(eee)~~(oo) “Site closure” ~~means the point/time, as certified by the Administrator~~  
315 ~~following the requirements of Section 17 of this chapter, at which time the owner or operator of~~  
316 occurs when a geologic sequestration project is released from post-injection site care  
317 responsibilities and the Administrator certifies site closure pursuant to Section 24(b)(iii) of this  
318 Chapter.

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

~~(ggg) “Subsurface discharge” means a discharge into a receiver.~~

~~(hhh)(pp) “Surface casing” means the first string of well casing to be installed in the well.~~

~~(iii) “Transmissive fault or fracture” means a fault or fracture that has sufficient permeability and vertical extent to allow fluids to move beyond the confining zone.~~

(jjj)(qq) “Underground injection” means a well injection, a subsurface discharge, a discharge into a receiver, or the subsurface emplacement of fluids through a well.

~~(kkk)(rr) “USDW” or “Underground source of drinking water” or “USDW” means those an aquifers or portions thereof that meet the definition at 40 CFR 144.3 as of November 15, 1984. is not an exempted aquifer and:~~

(i) Supplies any public water system; or

(ii) Contains a sufficient quantity of groundwater to supply a public water system, and

(A) Currently supplies drinking water for human consumption; or

(B) Contains fewer than 10,000 mg/L total dissolved solids.

~~(III) “US EPA Administrator” means the Administrator of US EPA in Washington, D.C.~~

~~(mmm) “Vadose Zone” means the unsaturated zone in the earth, between the land surface and the top of the first saturated aquifer. The vadose zone contains water at less than saturated conditions.~~

(nnn)(ss) “Water quality management area” means the area delineated for the protection of water quality under a Department-approved plan developed under Sections 303, 208, and/or 201 of the Federal Clean Water Act, 33 U.S.C. § 1251 et seq. as amended.

~~(ooo)(tt) “Well” means an opening, excavation, shaft, or hole in the ground allowing or used for an underground injection, or for monitoring, or an improved sinkhole; or a subsurface fluid distribution system.;~~

(i) An opening, excavation, shaft, or hole in the ground allowing or used for underground injection or monitoring;



365 (ii) An improved sinkhole; or

366  
367 (iii) A subsurface fluid distribution system.

368  
369 ~~(ppp) “Well injection” means the subsurface emplacement of fluids through a well.~~

370  
371 ~~(qqq)(uu)~~ “Well plug” means a watertight and gastight seal installed in a borehole or  
372 well to prevent movement of fluids.

373  
374 ~~(rrr)(vv)~~ “Well stimulation” means ~~several~~ any processes used to clean the  
375 wellbore, enlarge channels, ~~and~~ or increase pore space in the interval to be injected and includes  
376 surging, jetting, blasting, acidizing, and hydraulic fracturing.

377  
378 ~~(sss) “Well monitoring” means the measurement by on-site instruments or laboratory~~  
379 ~~methods, of the quality of water in a well.~~

380  
381 ~~(ttt)(ww)~~ “Workover” means to pull the tubing, packer, or any downhole hardware  
382 from the well and inspect, replace, or refurbish it prior to placing that hardware back in service,  
383 or to enter the hole with any drilling tool.

384  
385 ~~(uuu)(xx)~~ “Wellhead protection area” means the area delineated for the protection of  
386 a public water supply utilizing a groundwater source under a Department-approved plan  
387 developed pursuant to Section ~~1528~~ 1428 of the ~~federal~~ Safe Drinking Water Act, 42 U.S.C. §  
388 300h-7, or Section 1453 of the Safe Drinking Water Act, 42 U.S.C. § 300j-13.

389  
390 **Section 3. Applicability.**

391  
392 ~~(formerly located at Section 4(a)(ii))(a)~~ Construction, installation, operation,  
393 monitoring, testing, plugging, post-injection site care, and modification ~~to, or~~ of; any Class VI  
394 well shall be allowed only in accordance with ~~these regulations~~ this Chapter.

395  
396 ~~(a)(b) These regulations shall apply~~ This chapter applies to all Class VI wells ~~used to~~  
397 ~~inject carbon dioxide streams for the purpose of geologic sequestration.~~

398  
399 (i) This Chapter applies to owners, operators, and permittees of Class VI  
400 wells.

401  
402 ~~(b)(ii) In addition, these regulations shall apply to owners and operators of~~ This  
403 Chapter applies to any Class I industrial, Class II, or Class V experimental or demonstration  
404 carbon dioxide injection projects ~~who seek to apply for a Class VI geologic sequestration permit~~  
405 ~~for their well or wells, that is converted to a Class VI well. A permitted Class I, Class II, or Class~~  
406 V injection well may be converted to a Class VI well by obtaining a Class VI permit pursuant to  
407 this Chapter.

408

409 ~~(i)(A) Owners and/or operators of~~ To convert a permitted Class I, Class  
410 II, or Class V injection well ~~(s) seeking to convert their well(s) to a Class VI well,~~ the applicant  
411 shall:

412  
413 ~~(i)(I) a~~ Apply for a Class VI permit; ~~and~~

414  
415 ~~(i)(II) shall d~~ Demonstrate to the Administrator that the well(s)  
416 ~~was/were~~ engineered and constructed to meet the requirements ~~outlined in Section 9(a) of~~  
417 Section 14(a) of ~~of these regulations~~ this Chapter; and

418  
419 ~~(i)(III) ensure protection of USDWs, In~~ lieu of meeting the  
420 requirements of Section ~~9(b) 14(b) and Section 11(a) 17(a) of this e~~ Chapter, demonstrate to the  
421 Administrator that the well will ensure protection of USDWs and will not endanger any USDW.

422  
423 ~~(i)(B) By~~ After December 10, 2011, owners or operators of ~~either~~ either Class I  
424 wells previously permitted for the purpose of geologic sequestration ~~or and~~ and Class V experimental  
425 technology wells no longer being used for experimental purposes that will continue injection of  
426 carbon dioxide for the purpose of geologic sequestration ~~must~~ shall apply for obtain a Class VI  
427 permit.

428  
429 ~~(ii)(C) If the Administrator determines that~~ a converted Class I, Class II,  
430 or Class V injection well will not endanger any USDWs ~~will not be endangered, such wells are~~  
431 ~~exempt, at the Administrator's discretion,~~ may exempt the well from the requirements of Section  
432 914(b)(i) through - (vii) and Section 1117(a)(i) through - (v) of this eChapter.

433  
434 ~~(formerly located at Section 1)(c)~~ (c) The injection of carbon dioxide for purposes of a  
435 project for enhanced recovery of oil or other minerals approved by the Wyoming Oil and Gas  
436 Conservation Commission ~~shall is not be~~ is not subject to the provisions of this ~~regulation~~ Chapter  
437 unless the operator converts to geologic sequestration upon the cessation of oil and gas recovery  
438 operations or as otherwise required by the Commission or Director.

439  
440 ~~(e)(d)~~ (d) For owners ~~and or~~ and or operators of Class II ~~operations~~ wells described in W.S. § 35-  
441 11-313(c):

442  
443 (i) The Director's determination of primary purpose and increased risk to a  
444 USDW shall include, at a minimum, an evaluation of the following criteria:

445  
446 (A) Increase in reservoir pressure within the injection zone(s).

447  
448 (B) Increase in carbon dioxide injection rates.

449  
450 (C) Decrease in reservoir production rates.

451  
452 (D) Distance between the injection zone(s) and USDWs.

453  
454 (E) Suitability of the Class II area of review delineation.

- 455  
456 (F) Quality of abandoned well plugs within the area of review.  
457  
458 (G) The owner's and/or operator's plan for recovery of carbon dioxide  
459 at the cessation of injection.  
460  
461 (H) The source and properties of the injected carbon dioxide.  
462  
463 (I) Any additional site-specific factors as determined by the  
464 Administrator.

465  
466 (ii) An owner ~~and~~/or operator may apply for a Class VI permit upon  
467 recommendation by the Oil and Gas Conservation Commission supervisor, or by the  
468 Commission, that regulation of a Class II enhanced recovery operation be transferred to the  
469 Department.

470  
471 (iii) An owner ~~and~~/or operator of a Class II enhanced recovery operation shall  
472 apply for a Class VI permit within thirty (30) days of receipt of written notice from the Director  
473 that a Class VI permit is required.

474  
475 ~~(d) — These regulations do not apply to the injection of any carbon dioxide stream that~~  
476 ~~meets the definition of a hazardous waste.~~

477  
478 ~~(e) — Compliance with a permit during its term constitutes compliance, for purposes of~~  
479 ~~enforcement, with Part C of the SDWA. However, a permit may be modified, revoked and~~  
480 ~~reissued, or terminated during its term for cause as set forth in Section 4 of this chapter.~~

481  
482 ~~(f)~~(e) The requirements to maintain and implement approved plans, and maintain  
483 adequate financial responsibility, are directly enforceable regardless of whether the requirements  
484 are conditions of the permit.

485  
486 **Section 4. ~~Permits Required; Processing of Permits; Requirements Applicable to~~**  
487 **~~All Permits.~~**

488  
489 ~~(a) — Permits required.~~

490  
491 ~~(i) — Owners or operators of Class VI wells must obtain a permit in accordance~~  
492 ~~with these regulations. Class VI wells are not authorized by rule to inject.~~

493  
494 ~~(ii) — Construction, installation, operation, monitoring, testing, plugging, post-~~  
495 ~~injection site care, and modification to, or of, any Class VI well shall be allowed only in~~  
496 ~~accordance with these regulations.~~

497  
498 ~~(iii) — Injections from Class VI wells shall be restricted to those receivers~~  
499 ~~defined as Class V (Hydrocarbon Commercial) or Class VI groundwaters by the Department~~  
500 ~~pursuant to Water Quality Rules and Regulations Chapter 8.~~

501  
502 ~~—————(iv)———— A separate permit to construct is not required under Water Quality Rules~~  
503 ~~and Regulations Chapter 3 for any Class VI facility.~~

504  
505 ~~—————(v)———— Permits for Class VI wells shall be issued for the operating life of the~~  
506 ~~facility and extend through the post injection site care period until the geologic sequestration~~  
507 ~~project is closed in accordance with Department rules and regulations.~~

508  
509 ~~—————(vi)———— Permits may be issued for individual Class VI wells and shall not be~~  
510 ~~issued on an area basis for multiple points of discharge operated by the same person.~~

511  
512 ~~—————(vii)———— Each permit shall be reviewed by the Department at least once every five~~  
513 ~~(5) years to determine whether it should be modified, revoked and reissued, terminated or a~~  
514 ~~minor modification made pursuant to this chapter.~~

515  
516 ~~—————(viii)———— Sections of permit applications filed under this chapter that represent~~  
517 ~~engineering work shall be sealed, signed, and dated by a licensed professional engineer as~~  
518 ~~required by W.S. § 33-29-601.~~

519  
520 ~~—————(ix)———— Sections of permit applications filed under this chapter that represent~~  
521 ~~geologic work shall be sealed, signed, and dated by a licensed professional geologist as required~~  
522 ~~by W.S. § 33-41-115.~~

523  
524 ~~(b)(a)~~ The following Ppermit processing procedures are applicable to all Class VI  
525 ~~facilities, individual, and general~~ permits:

526  
527 ~~(b)(i)(i)~~ (i) The applicant shall submit the permit application to the Division in  
528 a format required by the Administrator.

529  
530 ~~(b)(ii)(ii)~~ (ii) Within sixty (60) days of submission of ~~the~~ an application, the  
531 Administrator shall make an initial determination of completeness. An application shall be  
532 determined complete when the Administrator receives an application and any supplemental  
533 information necessary to determine compliance with ~~these regulations~~ this Chapter. The  
534 completeness of any application for a permit shall be judged independently of the status of any  
535 other permit application or permit for the same facility or activity.

536  
537 ~~(b)(iii)(iii)~~ (iii) Re-submittal of information by an applicant for an incomplete  
538 application will ~~begin~~ restart the process described in this ~~s~~SSection.

539  
540 ~~(b)(iv)(iv)~~ (iv) At the end of any 60-day review period where an application is  
541 determined complete, the Administrator shall ~~prepare a fact sheet on the proposed operation and~~  
542 ~~provide public notice pursuant to Section of this chapter.;~~

543  
544 ~~(b)(iv)(A)~~ (A) Pprepare a draft permit for issuance or denial.;

545  
546 ~~(b)(iv)(B)~~ (B) Pprepare a fact sheet on the proposed operation.; ~~and~~

547  
548 (b)(iv)(C) Provide public notice pursuant to Section 20-27 of this  
549 Chapter; and

550 (formerly (b)(xxxiv))(D) Notify in writing, A list of the contacts,  
551 submitted to the Administrator, for those any states or Tribes identified to be within the area of  
552 review of the geologic sequestration project based on information provided in subparagraphs  
553 (b)(vii), (b)(vii)(A), (b)(vii)(B) of this section pursuant to Section 10(b)(xxxvi) of this Chapter;  
554 and.

555  
556 (A) ~~If the Administrator tentatively decides to deny the permit~~  
557 ~~application, he or she shall issue a notice of intent to deny. A notice of intent to deny the permit~~  
558 ~~application is a type of draft permit that follows the same procedures as any draft permit~~  
559 ~~prepared under this section.~~

560  
561 (B) ~~If the Administrator's final decision is that the tentative decision to~~  
562 ~~deny the permit application was incorrect, he or she shall withdraw the notice of intent to deny~~  
563 ~~and proceed to prepare a draft permit under Section 20(b) of this chapter.~~

564  
565 (v) ~~The Administrator may deny an individual permit for any of the following~~  
566 ~~reasons:~~

567  
568 ~~(A) The application is incomplete;~~

569  
570 ~~(B) The project, if constructed and/or operated, will violate applicable~~  
571 ~~state surface or groundwater standards;~~

572  
573 ~~(C) The application proposes the construction or operation of a project~~  
574 ~~that does not meet the requirements of this chapter;~~

575  
576 ~~(D) The permitted facility would be in conflict with or is in conflict~~  
577 ~~with a State approved local wellhead protection plan, State approved local source water~~  
578 ~~protection plan, or State approved water quality management plan; or~~

579  
580 ~~(E) Other justifiable reasons necessary to carry out the provisions of~~  
581 ~~the Wyoming Environmental Quality Act.~~

582  
583 (vi) ~~Permits may be modified, revoked and reissued, or terminated either in~~  
584 ~~response to a petition from any interested person (including the permittee) or upon the~~  
585 ~~Administrator's initiative. However, permits may only be modified, revoked and reissued, or~~  
586 ~~terminated for the reasons specified in Section 4(b) of this chapter. All requests shall be in~~  
587 ~~writing and shall contain facts or reasons supporting the request.~~

588  
589 ~~(A) If the Administrator decides the petition is not justified, the~~  
590 ~~petitioner shall be sent a brief written response giving the reason for the decision. A request for~~  
591 ~~modification, revocation and reissuance, or termination shall be considered denied if the~~  
592 ~~Administrator takes no action within sixty (60) days after receiving the written request. Denials~~

593 ~~of requests for modification, revocation and reissuance, or termination are not subject to public~~  
594 ~~notice and comment. Denials by the Administrator may be appealed for hearing to the~~  
595 ~~Environmental Quality Council by a letter briefly setting forth the relevant facts.~~

596  
597 ~~(vii) The Administrator may modify a permit when:~~

598  
599 ~~\_\_\_\_\_ (A) Any material or substantial alterations or additions to the facility~~  
600 ~~occur after permitting or licensing that justify the application of permit conditions that are~~  
601 ~~different or absent in the existing permit;~~

602  
603 ~~\_\_\_\_\_ (B) Any modification in the operation of the facility is capable of~~  
604 ~~causing or increasing pollution in excess of applicable standards or permit conditions;~~

605  
606 ~~\_\_\_\_\_ (C) Information warranting modification is discovered after the~~  
607 ~~operation has begun that would have justified the application of different permit conditions at the~~  
608 ~~time of permit issuance;~~

609  
610 ~~\_\_\_\_\_ (D) Regulations or standards upon which the permit was based have~~  
611 ~~changed by promulgation of amended standards or regulations or by judicial decision after the~~  
612 ~~permit was issued;~~

613  
614 ~~\_\_\_\_\_ (E) Cause exists for termination, as described in this section, but the~~  
615 ~~Department determines that modification is appropriate; or~~

616  
617 ~~\_\_\_\_\_ (F) Modification is necessary to comply with applicable statutes,~~  
618 ~~standards, or regulations.~~

619  
620 ~~(viii) The Administrator may modify a permit whenever the Administrator~~  
621 ~~determines that permit changes are necessary based on:~~

622  
623 ~~\_\_\_\_\_ (A) Area of review reevaluations under Section 8(d)(i) of this chapter;~~

624  
625 ~~\_\_\_\_\_ (B) Any amendments to the testing and monitoring plan under Section~~  
626 ~~14(b)(xii) of this chapter;~~

627  
628 ~~\_\_\_\_\_ (C) Any amendments to the injection well plugging plan under Section~~  
629 ~~16(e) of this chapter;~~

630  
631 ~~\_\_\_\_\_ (D) Any amendments to the post-injection site care and site closure~~  
632 ~~plan under Section 17(a)(iv) of this chapter;~~

633  
634 ~~\_\_\_\_\_ (E) Any amendments to the emergency and remedial response plan~~  
635 ~~under Section 18(a)(i) of this chapter;~~

636  
637 ~~\_\_\_\_\_ (F) A review of monitoring and/or testing results conducted in~~  
638 ~~accordance with permit requirements; or~~

- 639  
640 ~~————— (G) — A determination that the injectate is a hazardous waste as defined~~  
641 ~~in 40 CFR § 261.3 either because the definition has been revised, or because a previous~~  
642 ~~determination has been changed.~~  
643  
644 ~~————— (ix) — Suitability of the facility location will not be considered at the time of~~  
645 ~~permit modification or revocation and reissuance unless new information or standards indicate~~  
646 ~~that a threat to human health or the environment exists that was unknown at the time of permit~~  
647 ~~issuance.~~  
648  
649 ~~————— (x) — Minor modifications of permits may occur with the consent of the~~  
650 ~~permittee without following the public notice requirements. Minor modifications will become~~  
651 ~~final twenty (20) days from the date of receipt of such notice. For the purposes of this chapter,~~  
652 ~~minor modifications may only:~~  
653  
654 ~~————— (A) — Correct typographical errors;~~  
655  
656 ~~————— (B) — Require more frequent monitoring or reporting by the permittee;~~  
657  
658 ~~————— (C) — Change an interim compliance date in a schedule of compliance,~~  
659 ~~provided the new date is not more than 120 days after the date specified in the existing permit~~  
660 ~~and does not interfere with attainment of the final compliance date requirement;~~  
661  
662 ~~————— (D) — Allow for a change in ownership or operational control of a facility~~  
663 ~~where the Administrator determines that no other change in the permit is necessary, provided~~  
664 ~~that a written agreement containing a specific date for transfer of permit responsibility, coverage,~~  
665 ~~and liability between the current and new permittees have been submitted to the Administrator;~~  
666  
667 ~~————— (E) — Change quantities or types of fluids injected that are within the~~  
668 ~~capacity of the facility as permitted and, in the judgment of the Administrator, would not~~  
669 ~~interfere with the operation of the facility or its ability to meet conditions described in the permit~~  
670 ~~and would not change its classification;~~  
671  
672 ~~————— (F) — Change construction requirements approved by the Administrator~~  
673 ~~pursuant to subparagraphs (c)(i)(BB)(I) through (III) of this section provided that any such~~  
674 ~~alteration shall comply with the requirements of this chapter;~~  
675  
676 ~~————— (G) — Amend a plugging and abandonment plan that has been updated~~  
677 ~~under Section 16 of this chapter; or~~  
678  
679 ~~————— (H) — Amend a Class VI injection well testing and monitoring plan,~~  
680 ~~plugging plan, post injection site care and site closure plan, or emergency and remedial response~~  
681 ~~plan where the modifications merely clarify or correct the plan, as determined by the~~  
682 ~~Administrator.~~  
683

684 ~~\_\_\_\_\_ (xi) The Administrator may revoke and reissue or terminate a permit for any of~~  
685 ~~the following reasons:~~

686  
687 ~~\_\_\_\_\_ (A) Noncompliance with terms and conditions of the permit;~~

688  
689 ~~\_\_\_\_\_ (B) Failure in the application or during the issuance process to disclose~~  
690 ~~fully all relevant facts, or misrepresentation of any relevant facts at any time; or~~

691  
692 ~~\_\_\_\_\_ (C) A determination that the activity endangers human health or the~~  
693 ~~environment and can only be regulated to acceptable levels by a permit modification or~~  
694 ~~termination.~~

695  
696 ~~\_\_\_\_\_ (xii) The Administrator may modify a permit to resolve issues that could lead~~  
697 ~~to the revocation of the permit under Section 4(b) of this chapter. The Administrator, as part of~~  
698 ~~any notification of intent to terminate a permit, shall order the permittee to proceed with~~  
699 ~~reclamation on a reasonable time period.~~

700  
701 ~~\_\_\_\_\_ (xiii) If the Administrator tentatively decides to modify or revoke and reissue a~~  
702 ~~permit, a draft permit incorporating the proposed changes shall be prepared. The Administrator~~  
703 ~~may request additional information and, in the case of a modified permit, may require the~~  
704 ~~submission of an updated application. In the case of revoked and reissued permits, the~~  
705 ~~Administrator shall require the submission of a new application.~~

706  
707 ~~\_\_\_\_\_ (xiv) In a permit modification under Section 4(b) of this chapter, only those~~  
708 ~~conditions to be modified shall be reopened when a new draft permit is prepared. All other~~  
709 ~~aspects of the existing permit shall remain in effect for the duration of the unmodified permit and~~  
710 ~~the modified permit shall expire on the date when the original permit would have expired. When~~  
711 ~~a permit is revoked and reissued under this section, the entire permit is reopened as if the permit~~  
712 ~~has expired and is being reissued. During any revocation and reissuance proceeding, the~~  
713 ~~permittee shall comply with all conditions of the existing permit until a new final permit is~~  
714 ~~issued.~~

715  
716 ~~\_\_\_\_\_ (xv) Permit modifications, revocations, or terminations shall be developed as a~~  
717 ~~draft permit and are subject to the public notice and hearing requirements outlined in Section 20~~  
718 ~~of this chapter.~~

719  
720 ~~\_\_\_\_\_ (xvi) Transfer of a permit is allowed only upon approval by the Administrator.~~  
721 ~~When a permit transfer occurs pursuant to this section, the permit rights of the previous permittee~~  
722 ~~will automatically terminate.~~

723  
724 ~~\_\_\_\_\_ (A) The proposed permit holder shall apply in writing as though that~~  
725 ~~person was the original applicant for the permit and shall further agree to be bound by all of the~~  
726 ~~terms and conditions of the permit.~~

727



728 ~~—————(B)—— Transfer will not be allowed if the permittee is in noncompliance~~  
729 ~~with any term and conditions of the permit, unless the transferee agrees to bring the facility back~~  
730 ~~into compliance with the permit.~~

731  
732 ~~—————(C)—— When a permit transfer occurs, the Administrator may modify a~~  
733 ~~permit pursuant to this section. The Administrator shall provide public notice pursuant to Section~~  
734 ~~20 of this chapter for any modification other than a minor modification defined by this section.~~

735  
736 ~~—————(D)—— A permit may be transferred by the permittee to a new owner or~~  
737 ~~operator only if the permit has been modified or revoked and reissued (under paragraph (xiii) of~~  
738 ~~this subsection), or a minor modification made (under paragraph (xii) of this subsection), to~~  
739 ~~identify the new permittee and incorporate such other requirements as may be necessary under~~  
740 ~~the Safe Drinking Water Act.~~

741  
742 ~~(formerly Section 4(b)(iv))~~(b) ~~At the end of any 60-day review period where an~~  
743 ~~application is determined complete, If the Administrator Director intends to modify, terminate,~~  
744 ~~revoke, or reissue a permit, the Administrator shall prepare a draft permit ~~for issuance or denial,~~~~  
745 ~~prepare a fact sheet on the proposed operation, incorporating the proposed changes and provide~~  
746 ~~public notice pursuant to Section ~~20~~ 27 of this ~~e~~Chapter.~~

747  
748 ~~(A)—— If the Administrator tentatively decides to deny the permit~~  
749 ~~application, he or she shall issue a notice of intent to deny. A notice of intent to deny the permit~~  
750 ~~application is a type of draft permit that follows the same procedures as any draft permit~~  
751 ~~prepared under this section.~~

752  
753 ~~—————(B)—— If the Administrator’s final decision is that the tentative decision to~~  
754 ~~deny the permit application was incorrect, he or she shall withdraw the notice of intent to deny~~  
755 ~~and proceed to prepare a draft permit under Section ~~20(b)~~ of this chapter.~~

756  
757 ~~(formerly Section 5(e))~~(c) ~~Prior to ~~granting approval for the operation of~~ issuing a~~  
758 ~~permit for a Class VI well, the ~~Administrator~~ Director shall consider ~~the following information:~~~~

759  
760 ~~(formerly Section 5(e)(i))~~(i) ~~The final area of review based on modeling, using~~  
761 ~~data obtained during logging and testing of the well and the formation as required by~~  
762 ~~subparagraphs ~~(b)(xv), (b)(xxiii), (b)(xxiv), and (e)(iii) of this section~~ (b)(xviii), (b)(xix),~~  
763 ~~(b)(xxvii), and (b)(xxviii) of Section 10 of this Chapter;~~

764  
765 ~~(formerly Section 5(e)(ii))~~(ii) ~~Any relevant updates, based on data obtained~~  
766 ~~during logging and testing of the well and the formation as required by subparagraphs ~~(b)(xv),~~~~  
767 ~~~~(b)(xxiii), (b)(xxiv), and (e)(iii) of this section,~~ (b)(xviii), (b)(xix), (b)(xxvii), and (b)(xxviii) of~~  
768 ~~Section 10 of this Chapter, to the information on the geologic structure and hydrogeologic~~  
769 ~~properties of the proposed storage site and overlying formations, submitted to satisfy the~~  
770 ~~requirements of subparagraph ~~(b)(ix) of this section~~ (b)(xi) of Section 10 of this Chapter;~~

771

772 ~~(formerly Section 5(e))(iii)(iii)~~ (iii) The results of the formation testing program  
773 required by ~~paragraph (b)(xvii) of this section~~ subparagraph (b)(xix) of Section 10 of this  
774 Chapter;

775  
776 ~~(formerly Section 5(e))(iv)(iv)~~ (iv) Final injection well construction procedures  
777 that meet the requirements of Section ~~9~~ 14 of this ~~e~~Chapter;

778  
779 ~~(formerly Section 5(e))(v)(v)~~ (v) Any updates to the proposed area of review and  
780 corrective action plan, testing and monitoring plan, injection well-plugging plan, post-injection  
781 site care and site closure plan, or the emergency and remedial response plan submitted under  
782 ~~paragraph (b)(xxx) of this section~~ Section 10(b) of this chapter, which that are necessary to  
783 address new information collected during logging and testing of the well and the formation as  
784 required by ~~all paragraphs of this section; and~~ Section 10 of this Chapter.

785  
786 ~~(formerly Section 4(b)(vi))(d)~~ (d) Permits may be modified, revoked and reissued, or  
787 terminated either in response to a petition from any interested person (including the permittee) or  
788 upon the Administrator 's initiative. ~~However, permits may only be modified, revoked and~~  
789 ~~reissued, or terminated for the reasons specified in Section 4(b) of this chapter.~~

790  
791 ~~(formerly Section 4(b)(vi))(i)~~ (i) All ~~requests~~ petitions to modify, revoke and reissue,  
792 or terminate a permit shall be in writing and shall contain facts or reasons supporting the request.

793  
794 ~~(formerly Section 4(b)(vi)(A))(ii)~~ (ii) If the Administrator decides ~~the a~~ a petition to  
795 modify, revoke and reissue, or terminate a permit is not justified, the Administrator shall send the  
796 petitioner ~~shall be sent~~ a brief written response giving the reason for the decision. A ~~request~~  
797 petition for modification, revocation and reissuance, or termination shall be considered denied if  
798 the Administrator takes no action within sixty (60) days after receiving the written request.

799  
800 ~~(formerly Section 4(b)(vi)(A))(iii)~~ (iii) Denials of ~~requests~~ petitions for  
801 modification, revocation and reissuance, or termination are not subject to public notice and  
802 comment. ~~Denials by the Administrator may be appealed for hearing to the Environmental~~  
803 ~~Quality Council by a letter briefly setting forth the relevant facts.~~

804  
805 ~~(formerly Section 4(a)(vii))(e)~~ (e) ~~Each permit shall be reviewed by t~~The Department  
806 Administrator shall review each permit at least once every five (5) years to determine whether it  
807 should be modified, revoked and reissued, or terminated ~~or a minor modification made pursuant~~  
808 ~~to this chapter.~~

809  
810 ~~(e)~~ (e) ~~Permit conditions:~~

811  
812 ~~(i)~~ (i) ~~Permit conditions shall be incorporated either expressly or by reference. If~~  
813 ~~incorporated by reference, a specific citation to the incorporated conditions must be given in the~~  
814 ~~permit. All individual permits issued under this chapter shall contain the following conditions:~~

815  
816 ~~(A)~~ (A) ~~A requirement that the permittee comply with all conditions of the~~  
817 ~~permit, and any permit noncompliance constitutes a violation of these regulations and is grounds~~

818 ~~for enforcement action, permit termination, revocation and reissuance, or modification, or for~~  
819 ~~denial of a permit renewal application;~~

820  
821 ~~\_\_\_\_\_ (B) — A requirement that if the permittee wishes to continue injection~~  
822 ~~activity after the expiration date of the permit, the permittee must apply to the Administrator for,~~  
823 ~~and obtain, a new permit prior to expiration of the existing permit;~~

824  
825 ~~\_\_\_\_\_ (C) — A stipulation that it shall not be a defense for a permittee in an~~  
826 ~~enforcement action that it would have been necessary to halt or reduce the permitted activity in~~  
827 ~~order to maintain compliance with the conditions of this permit;~~

828  
829 ~~\_\_\_\_\_ (D) — A requirement that the permittee shall take all reasonable steps to~~  
830 ~~minimize or correct any adverse impact on the environment resulting from noncompliance with~~  
831 ~~this permit;~~

832  
833 ~~\_\_\_\_\_ (E) — A requirement that the permittee properly operate and maintain all~~  
834 ~~facilities and systems of treatment and control, and related appurtenances, that are installed or~~  
835 ~~used by the permittee to achieve compliance with the conditions of this permit. Proper operation~~  
836 ~~and maintenance includes effective performance, adequate funding and operator staffing and~~  
837 ~~training, and adequate laboratory and process controls including appropriate quality assurance~~  
838 ~~procedures. This provision requires the operation of back up or auxiliary facilities or similar~~  
839 ~~systems only when necessary to achieve compliance with the conditions of the permit;~~

840  
841 ~~\_\_\_\_\_ (F) — A stipulation that the filing of a request by the permittee, or at the~~  
842 ~~instigation of the Administrator, for a permit modification, revocation, termination, or~~  
843 ~~notification of planned changes or anticipated non-compliance, shall not stay any permit~~  
844 ~~condition;~~

845  
846 ~~\_\_\_\_\_ (G) — A stipulation that this permit does not convey any property rights~~  
847 ~~of any sort, or any exclusive privilege;~~

848  
849 ~~\_\_\_\_\_ (H) — A stipulation that the permittee shall furnish to the Administrator,~~  
850 ~~within a specified time, any information that the Administrator may request to determine whether~~  
851 ~~cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine~~  
852 ~~compliance with the permit. The permittee shall also furnish to the Administrator, upon request,~~  
853 ~~copies of records required to be kept by the permit;~~

854  
855 ~~\_\_\_\_\_ (I) — A requirement that the permittee shall allow the Administrator, or~~  
856 ~~an authorized representative of the Administrator, upon the presentation of credentials, during~~  
857 ~~normal working hours, to enter the premises where a regulated facility is located, or where~~  
858 ~~records are kept under the conditions of this permit, and~~

859  
860 ~~\_\_\_\_\_ (I) — Inspect the discharge and related facilities, practices, or~~  
861 ~~operations regulated or required under this permit;~~

862

- 863 ~~\_\_\_\_\_ (H) Review and copy reports and records required by the~~  
864 ~~permit;~~  
865
- 866 ~~\_\_\_\_\_ (III) Collect fluid samples for analysis for the purposes of~~  
867 ~~assuring permit compliance or as otherwise authorized by the SDWA, any substances or~~  
868 ~~parameters at any location;~~  
869
- 870 ~~\_\_\_\_\_ (IV) Measure and record water levels; and~~  
871
- 872 ~~\_\_\_\_\_ (V) Perform any other function authorized by law or regulation.~~  
873
- 874 ~~\_\_\_\_\_ (J) A requirement that the permittee furnish any information necessary~~  
875 ~~to establish a monitoring program pursuant to Section 14 of this chapter. Conditions shall~~  
876 ~~specify:~~  
877
- 878 ~~\_\_\_\_\_ (I) Required monitoring including type, intervals, and~~  
879 ~~frequency sufficient to yield data that are representative of the monitored activity including when~~  
880 ~~appropriate, continuous monitoring;~~  
881
- 882 ~~\_\_\_\_\_ (II) Requirements concerning the proper use, maintenance, and~~  
883 ~~installation, when appropriate, of monitoring equipment or methods, including biological~~  
884 ~~monitoring methods when appropriate; and~~  
885
- 886 ~~\_\_\_\_\_ (III) Applicable reporting requirements based upon the impact~~  
887 ~~of the regulated activity and as specified in Section 15 of this chapter. Reporting shall be no less~~  
888 ~~frequent than specified in the above regulations.~~  
889
- 890 ~~\_\_\_\_\_ (K) A requirement that all samples and measurements taken for the~~  
891 ~~purpose of monitoring shall be representative of the monitored activity and records of all~~  
892 ~~monitoring information be retained by the permittee. The monitoring information to be retained~~  
893 ~~shall be that information stipulated in the monitoring program established pursuant to the criteria~~  
894 ~~in Section 14 of this chapter;~~  
895
- 896 ~~\_\_\_\_\_ (L) A requirement that all applications, reports, and other information~~  
897 ~~submitted to the Administrator contain certifications as required in Section 5(i) of this chapter,~~  
898 ~~and be signed by a person who meets the requirements to sign permit applications found in~~  
899 ~~Section 5(h), or for routine reports, a duly authorized representative;~~  
900
- 901 ~~\_\_\_\_\_ (M) A requirement that the permittee give advance notice to the~~  
902 ~~Administrator as soon as possible of any planned physical alteration or additions, other than~~  
903 ~~authorized operation and maintenance, to the permitted facility and receive authorization prior to~~  
904 ~~implementing the proposed alteration or addition;~~  
905
- 906 ~~\_\_\_\_\_ (N) A requirement that any modification that may result in a violation~~  
907 ~~of a permit condition shall be reported to the Administrator, and any modification that will result~~

908 ~~in a violation of a permit condition shall be reported to the Administrator through the submission~~  
909 ~~of a new or amended permit application;~~

910  
911 ~~\_\_\_\_\_ (O) \_\_\_\_\_ A requirement that any transfer of a permit must first be approved~~  
912 ~~by the Administrator, and that no transfer will be approved if the facility is not in compliance~~  
913 ~~with the existing permit unless the proposed permittee agrees to bring the facility into~~  
914 ~~compliance;~~

915  
916 ~~\_\_\_\_\_ (P) \_\_\_\_\_ A requirement that monitoring results shall be reported at the~~  
917 ~~intervals specified elsewhere in the permit;~~

918  
919 ~~\_\_\_\_\_ (Q) \_\_\_\_\_ A requirement that reports of compliance or non-compliance, or~~  
920 ~~any progress reports on interim and final requirements contained in any compliance schedule, if~~  
921 ~~one is required by the Administrator, shall be submitted no later than thirty (30) days following~~  
922 ~~each schedule date;~~

923  
924 ~~\_\_\_\_\_ (R) \_\_\_\_\_ A requirement that the permittee shall report:~~

925  
926 ~~\_\_\_\_\_ (I) \_\_\_\_\_ Any monitoring or other information that indicates that any~~  
927 ~~contaminant may cause an endangerment to a USDW or indicates that the injected carbon~~  
928 ~~dioxide stream, displaced formation fluids, or associated pressure front may endanger a USDW~~  
929 ~~or threaten human health, safety, or the environment. In addition, the owner or operator shall:~~

930  
931 ~~\_\_\_\_\_ (1.) \_\_\_\_\_ Immediately cease injection;~~

932  
933 ~~\_\_\_\_\_ (2.) \_\_\_\_\_ Take all steps reasonably necessary to identify and~~  
934 ~~characterize any release; and~~

935  
936 ~~\_\_\_\_\_ (3.) \_\_\_\_\_ Notify the Administrator within twenty four (24)~~  
937 ~~hours.~~

938  
939 ~~\_\_\_\_\_ (II) \_\_\_\_\_ Any noncompliance with a permit condition or malfunction~~  
940 ~~of the injection system that may cause fluid migration into or between USDWs or if an excursion~~  
941 ~~is discovered. It shall be orally reported to the Administrator within twenty four (24) hours from~~  
942 ~~the time the permittee becomes aware of the circumstances, and a written submission shall be~~  
943 ~~provided within five (5) days of the time the permittee becomes aware of any excursion or~~  
944 ~~indication that a contaminant may cause an endangerment to a USDW. The written submission~~  
945 ~~shall contain:~~

946  
947 ~~\_\_\_\_\_ (1.) \_\_\_\_\_ A description of the noncompliance and its cause;~~

948  
949 ~~\_\_\_\_\_ (2.) \_\_\_\_\_ The period of noncompliance, including exact dates~~  
950 ~~and times, and, if the noncompliance has not been controlled, the anticipated time it is expected~~  
951 ~~to continue; and~~

952

953 ~~\_\_\_\_\_ (3.) Steps taken or planned to reduce, eliminate, and~~  
954 ~~prevent reoccurrence of the noncompliance.~~

955 ~~:~~  
956 ~~\_\_\_\_\_ (III) In addition, if an excursion is discovered the owner or~~  
957 ~~operator shall provide written notice to all surface owners, mineral claimants, mineral owners,~~  
958 ~~lessees and other owners of record of subsurface interests within thirty (30) days of discovery.~~

959 ~~\_\_\_\_\_ (S) A requirement that the permittee report all instances of~~  
960 ~~noncompliance not already required to be reported under paragraphs (c)(i)(Q) through (R) of this~~  
961 ~~section, at the time monitoring reports are submitted. The reports shall contain the information~~  
962 ~~listed in paragraph (c)(i)(R) of this section;~~

963 ~~\_\_\_\_\_ (T) A requirement that if the permittee becomes aware that it failed to~~  
964 ~~submit any relevant facts in a permit application, or submitted incorrect information in a permit~~  
965 ~~application or in any report to the Administrator, the permittee shall promptly submit such facts~~  
966 ~~or information;~~

967 ~~\_\_\_\_\_ (U) A requirement that the injection facility meet construction~~  
968 ~~requirements outlined in Section 9 of this chapter, and that the permittee submit a notice of~~  
969 ~~completion of construction to the Administrator; and allow for inspection of the facility upon~~  
970 ~~completion of construction, prior to commencing any injection activity;~~

971 ~~\_\_\_\_\_ (V) A requirement that the permittee notify the Administrator at such~~  
972 ~~times as the permit requires before conversion or abandonment of the facility;~~

973 ~~\_\_\_\_\_ (W) A requirement that injection may not commence until construction~~  
974 ~~is complete. Construction is complete when:~~

975 ~~\_\_\_\_\_ (I) The permittee has submitted a notice of completion of~~  
976 ~~construction to the Administrator; and~~

977 ~~\_\_\_\_\_ (II) The Administrator has inspected or otherwise reviewed the~~  
978 ~~injection well and finds it is in compliance with the conditions of the permit, or the permittee has~~  
979 ~~not received notice from the Administrator of their intent to inspect or otherwise review the~~  
980 ~~injection well within thirteen (13) days of the date of the notice in subparagraph (U) of this~~  
981 ~~paragraph, in which case prior inspection or review is waived and the permittee may commence~~  
982 ~~injection. The Administrator shall include in his notice a reasonable time period in which they~~  
983 ~~shall inspect the well.~~

984 ~~\_\_\_\_\_ (X) A requirement that the owner or operator of a Class VI well~~  
985 ~~permitted under this part shall establish mechanical integrity prior to commencing injection or on~~  
986 ~~a schedule determined by the Administrator. Thereafter, the owner or operator of Class VI wells~~  
987 ~~must maintain mechanical integrity as defined in Section 13 of this chapter;~~

988

997 ~~\_\_\_\_\_ (Y) A requirement that when the Administrator determines that a Class~~  
998 ~~VI well lacks mechanical integrity pursuant to Section 13 of this chapter, he/she shall give~~  
999 ~~written notice of his/her determination to the owner or operator.~~

1000  
1001 ~~\_\_\_\_\_ (I) Unless the Administrator requires immediate cessation, the~~  
1002 ~~owner or operator shall cease injection into the well within forty eight (48) hours of receipt of~~  
1003 ~~the Administrator's determination.~~

1004  
1005  
1006 ~~\_\_\_\_\_ (II) The Administrator may allow plugging of the well pursuant~~  
1007 ~~to the requirements of Section 16 of this chapter or require the permittee to perform such~~  
1008 ~~additional construction, operation, monitoring, reporting, and corrective action as is necessary to~~  
1009 ~~prevent the movement of fluid into or between USDWs caused by the lack of mechanical~~  
1010 ~~integrity. The owner or operator may resume injection upon written notification from the~~  
1011 ~~Administrator that the owner or operator has demonstrated mechanical integrity pursuant to~~  
1012 ~~Section 13 of this chapter.~~

1013  
1014 ~~\_\_\_\_\_ (Z) A requirement that, for any Class VI well that lacks mechanical~~  
1015 ~~integrity, injection operations are prohibited until the permittee shows to the satisfaction of the~~  
1016 ~~Administrator under Section 13 of this chapter that the well has mechanical integrity.~~

1017  
1018 ~~\_\_\_\_\_ (AA) A Class VI permit shall include conditions that meet the~~  
1019 ~~requirements set forth in Section 16 of this chapter. Where the plan meets the requirements of~~  
1020 ~~Section 16 of this chapter, the Administrator shall incorporate it into the permit as a permit~~  
1021 ~~condition. Temporary or intermittent cessation of injection operations is not abandonment.~~

1022  
1023 ~~\_\_\_\_\_ (BB) Class VI injection well permits shall include conditions meeting~~  
1024 ~~the requirements of Section 9 of this chapter. Permits shall contain the following requirements~~  
1025 ~~when applicable:~~

1026  
1027 ~~\_\_\_\_\_ (I) All wells shall achieve compliance with such requirements~~  
1028 ~~according to a compliance schedule established as a permit condition. The owner or operator of a~~  
1029 ~~proposed new injection well shall submit plans for testing, drilling, and construction as part of~~  
1030 ~~the permit application.~~

1031  
1032 ~~\_\_\_\_\_ (II) No construction may commence until a permit has been~~  
1033 ~~issued containing construction requirements.~~

1034  
1035 ~~\_\_\_\_\_ (III) All wells shall be in compliance with these requirements~~  
1036 ~~prior to commencing injection operations. Changes in construction plans during construction~~  
1037 ~~may be approved by the Administrator as minor modifications. No such changes may be~~  
1038 ~~physically incorporated into construction of the well prior to approval of the modification by the~~  
1039 ~~Administrator.~~

1040  
1041 ~~\_\_\_\_\_ (IV) Corrective action as set forth in Section 8 of this chapter.~~  
1042

1043 ~~\_\_\_\_\_ (V) Operation requirements as set forth in Section 9 of this~~  
1044 ~~chapter; the permit shall establish any maximum injection volumes and/or pressures necessary to~~  
1045 ~~ensure that fractures are not initiated in the confining zone, that injected fluids do not migrate~~  
1046 ~~into any underground source of drinking water, that formation fluids are not displaced into any~~  
1047 ~~underground source of drinking water, and to ensure compliance with the operating~~  
1048 ~~requirements.~~

1049  
1050 ~~\_\_\_\_\_ (VI) Monitoring and reporting requirements as set forth in~~  
1051 ~~Sections 14 and 15 of this chapter. The permittee shall be required to identify types of tests and~~  
1052 ~~methods used to generate the monitoring data.~~

1053  
1054 ~~\_\_\_\_\_ (VII) The owner or operator of a Class VI well must comply with~~  
1055 ~~the financial responsibility requirements set forth in Section 19 of this chapter.~~

1056  
1057 ~~\_\_\_\_\_ (CC) The permit may, when appropriate, specify a schedule of~~  
1058 ~~compliance leading to compliance with the SDWA and 40 CFR Parts 144, 145, 146, and 124.~~

1059  
1060 ~~\_\_\_\_\_ (I) Any schedules of compliance shall require compliance as~~  
1061 ~~soon as possible, and in no case later than three (3) years after the effective date of the permit.~~

1062  
1063 ~~\_\_\_\_\_ (II) If a permit establishes a schedule of compliance that~~  
1064 ~~exceeds one (1) year from the date of permit issuance, the schedule shall set forth interim~~  
1065 ~~requirements and the dates for their achievement.~~

1066  
1067 ~~\_\_\_\_\_ (1.) The time between interim dates shall not exceed one~~  
1068 ~~(1) year unless;~~

1069  
1070 ~~\_\_\_\_\_ (2.) The time necessary for completion of any interim~~  
1071 ~~requirement is more than one (1) year and is not readily divisible into stages for completion, the~~  
1072 ~~permit shall specify interim dates for the submission of reports of progress toward completion of~~  
1073 ~~the interim requirements and indicate a projected completion date.~~

1074  
1075 ~~\_\_\_\_\_ (III) The permit shall be written to require that if paragraph~~  
1076 ~~(e)(i)(CC)(I) of this section is applicable, progress reports be submitted no later than thirty (30)~~  
1077 ~~days following each interim date and the final date of compliance.~~

1078  
1079 ~~\_\_\_\_\_ (ii) In addition to the conditions required of all permits, the Administrator~~  
1080 ~~shall establish, on a case-by-case basis, conditions as required for monitoring, schedules of~~  
1081 ~~compliance, and such additional conditions as are necessary to prevent the migration of fluids~~  
1082 ~~into underground sources of drinking water. In the case of wells authorized by permit, these~~  
1083 ~~additional requirements shall be imposed by modifying the permit in accordance with this~~  
1084 ~~section, or the permit may be terminated under this section if cause exists, or appropriate~~  
1085 ~~enforcement action may be taken if the permit has been violated.~~

1086  
1087 ~~\_\_\_\_\_ (iii) In addition to conditions required in all permits the Administrator shall~~  
1088 ~~establish conditions in permits as required on a case-by-case basis, to provide for and ensure~~



1089 ~~compliance with all applicable requirements of the SDWA and 40 CFR Parts 144, 145, 146, and~~  
1090 ~~124.~~

1091  
1092 ~~————— (iv) — New permits, and to the extent allowed under Section 4 modified or~~  
1093 ~~revoked and reissued permits, shall incorporate each of the applicable requirements referenced in~~  
1094 ~~this section. An applicable requirement is a State statutory or regulatory requirement that takes~~  
1095 ~~effect prior to final administrative disposition of the permit. An applicable requirement is also~~  
1096 ~~any requirement that takes effect prior to the modification or revocation and reissuance of a~~  
1097 ~~permit, to the extent allowed in Section 4.~~

1098  
1099 ~~————— (d) — The issuance of a permit does not authorize any injury to persons or property or~~  
1100 ~~invasion of other private rights, or any infringement of State or local law or regulations.~~

1101  
1102 **Section 5. ~~Permit Application.~~ Denying Permits.**

1103  
1104 ~~————— (a) — It is the operator's responsibility to make application for and obtain a permit in~~  
1105 ~~accordance with these regulations. Each application must be submitted with all supporting data.~~

1106  
1107 ~~————— (b) — A complete application for a Class VI well shall include:~~

1108  
1109 ~~————— (i) — A brief description of the nature of the business and the activities to be~~  
1110 ~~conducted that require the applicant to obtain a permit under this chapter.~~

1111  
1112 ~~————— (ii) — The name, address and telephone number of the operator, and the~~  
1113 ~~operator's ownership status and status as a Federal, State, private, public, or other entity.~~

1114  
1115 ~~————— (iii) — Up to four SIC (Standard Industrial Classification) codes that best reflect~~  
1116 ~~the principal products or services provided by the facility.~~

1117  
1118 ~~————— (iv) — The name, address, and telephone number of the facility. Additionally, the~~  
1119 ~~location of the geologic sequestration project shall be identified by section, township, range and~~  
1120 ~~county, noting which, if any, sections include Indian lands.~~

1121  
1122 ~~————— (v) — Within the area of review, a listing and status of all permits or construction~~  
1123 ~~approvals associated with the geologic sequestration project received or applied for by the~~  
1124 ~~applicant under any of the following programs:~~

1125  
1126 ~~————— (A) — Hazardous Waste Management under the Resource Conservation~~  
1127 ~~and Recovery Act (RCRA).~~

1128  
1129 ~~————— (B) — UIC Program under the Safe Drinking Water Act.~~

1130  
1131 ~~————— (C) — National Pollutant Discharge Elimination System (NPDES) under~~  
1132 ~~the Clean Water Act.~~

1133

- 1134 ~~\_\_\_\_\_ (D) \_\_\_\_\_ Prevention of Significant Deterioration (PSD) program under the~~  
1135 ~~Clean Air Act.~~
- 1136
- 1137 ~~\_\_\_\_\_ (E) \_\_\_\_\_ Nonattainment program under the Clean Air Act.~~
- 1138
- 1139 ~~\_\_\_\_\_ (F) \_\_\_\_\_ National Emissions Standards for Hazardous Air Pollutants~~  
1140 ~~(NESHAPs) pre-construction approval under the Clean Air Act.~~
- 1141
- 1142 ~~\_\_\_\_\_ (G) \_\_\_\_\_ Dredge and fill permitting program under section 404 of~~  
1143 ~~the Clean Water Act.~~
- 1144
- 1145 ~~\_\_\_\_\_ (vi) \_\_\_\_\_ Within the area of review, a list of other relevant permits, whether federal~~  
1146 ~~or state, associated with the geologic sequestration project that the applicant has been required to~~  
1147 ~~obtain, such as construction permits. This includes a statement as to whether or not the facility is~~  
1148 ~~within a state approved water quality management plan area, a state approved wellhead~~  
1149 ~~protection area or a state approved source water protection area.~~
- 1150
- 1151 ~~\_\_\_\_\_ (vii) \_\_\_\_\_ A map showing the injection well(s) for which a permit is sought and the~~  
1152 ~~applicable area of review, consistent with Section 8 of this chapter.~~
- 1153
- 1154 ~~\_\_\_\_\_ (A) \_\_\_\_\_ Within the area of review, the map must show the number, or name~~  
1155 ~~and location of all known injection wells, producing wells, abandoned wells, plugged wells or~~  
1156 ~~dry holes, deep stratigraphic boreholes, state or EPA approved subsurface cleanup sites, public~~  
1157 ~~drinking water supply wellhead or source water protection areas, surface bodies of water,~~  
1158 ~~springs, mines (surface and subsurface), quarries, water wells and other pertinent surface features~~  
1159 ~~including structures intended for human occupancy, state, tribal, and territory boundaries, and~~  
1160 ~~roads.~~
- 1161
- 1162 ~~\_\_\_\_\_ (B) \_\_\_\_\_ Only information of public record is required to be included on this~~  
1163 ~~map.~~
- 1164
- 1165 ~~\_\_\_\_\_ (C) \_\_\_\_\_ The map should also show faults, if known or suspected.~~
- 1166
- 1167 ~~\_\_\_\_\_ (viii) \_\_\_\_\_ A map delineating the area of review based upon modeling, using all~~  
1168 ~~available data including data available from any logging and testing of wells within and adjacent~~  
1169 ~~(within one (1) mile) to the area of review;~~
- 1170
- 1171 ~~\_\_\_\_\_ (A) \_\_\_\_\_ A Class VI area of review shall never be less than the area of~~  
1172 ~~potentially affected groundwater.~~
- 1173
- 1174 ~~\_\_\_\_\_ (B) \_\_\_\_\_ All areas of review shall be legally described by township, range,~~  
1175 ~~and section to the nearest ten (10) acres as described under the general land survey system.~~
- 1176
- 1177 ~~\_\_\_\_\_ (ix) \_\_\_\_\_ A description of the general geology of the area to be affected by the~~  
1178 ~~injection of carbon dioxide including geochemistry, structure and faulting, fracturing and seals,~~  
1179 ~~and stratigraphy and lithology including petrophysical attributes. The description shall also~~

1180 ~~include sufficient information on the geologic structure and reservoir properties of the proposed~~  
1181 ~~storage site and overlying formations, including:~~

1182  
1183 ~~\_\_\_\_\_ (A) \_\_\_\_\_ Isopach maps of the proposed injection and confining zone(s), a~~  
1184 ~~structural contour map aligned with the top of the proposed injection zone, and at least two (2)~~  
1185 ~~geologic cross-sections of the area of review reasonably perpendicular to each other and showing~~  
1186 ~~the geologic formations from the surface to total depth;~~

1187  
1188 ~~\_\_\_\_\_ (B) \_\_\_\_\_ Location, orientation, and properties of known or suspected faults~~  
1189 ~~and fractures that may transect the confining zone(s) in the area of review and a determination~~  
1190 ~~that they would not interfere with containment;~~

1191  
1192 ~~\_\_\_\_\_ (C) \_\_\_\_\_ Information on seismic history that have affected the proposed area~~  
1193 ~~of review including knowledge of previous seismic events and history of these events, the presence~~  
1194 ~~and depth of seismic sources, and a determination that the seismicity would not compromise~~  
1195 ~~containment;~~

1196  
1197 ~~\_\_\_\_\_ (D) \_\_\_\_\_ Data sufficient to demonstrate the effectiveness of the injection and~~  
1198 ~~confining zone(s), including data on the depth, areal extent, thickness, mineralogy, porosity,~~  
1199 ~~vertical permeability, and capillary pressure of the injection and confining zone(s) within the area~~  
1200 ~~of review, and geologic changes based on field data that may include geologic cores, outcrop data,~~  
1201 ~~seismic surveys, well logs, and names and lithologic descriptions;~~

1202  
1203 ~~\_\_\_\_\_ (E) \_\_\_\_\_ Geomechanical information on fractures, stress, ductility, rock~~  
1204 ~~strength, and in situ fluid pressures within the confining zone; and~~

1205  
1206 ~~\_\_\_\_\_ (F) \_\_\_\_\_ Geologic and topographic maps and cross-sections illustrating~~  
1207 ~~regional geology, hydrogeology, and the geologic structure of the local area.~~

1208  
1209 ~~\_\_\_\_\_ (x) \_\_\_\_\_ A compilation of all wells and other drill holes within, and adjacent~~  
1210 ~~(within one (1) mile) to the area of review. Such data must include a description of each well and~~  
1211 ~~drill hole type, construction, date drilled, location, depth, record of plugging and/or completion,~~  
1212 ~~and any additional information the Administrator may require.~~

1213  
1214 ~~\_\_\_\_\_ (A) \_\_\_\_\_ Applicants shall also identify the location of all known wells~~  
1215 ~~within, and adjacent (within one (1) mile) to the area of review that penetrate the confining or~~  
1216 ~~injection zone.~~

1217  
1218 ~~\_\_\_\_\_ (B) \_\_\_\_\_ Applicants shall perform mapping with sufficient resolution as to~~  
1219 ~~make a comprehensive effort to identify wells that are not in the public record using aerial~~  
1220 ~~photography, aerial survey, physical traverse, or other methods acceptable to the Administrator.~~

1221  
1222 ~~\_\_\_\_\_ (C) \_\_\_\_\_ Applicants shall perform corrective action as specified in Section 8~~  
1223 ~~of this chapter.~~

1224

- 1225 ~~—————(xi)—— Maps and stratigraphic cross sections indicating the general vertical and~~  
1226 ~~lateral limits of all USDWs, the location of water wells and springs within the area of review,~~  
1227 ~~their positions relative to the injection zone(s), and the direction of water movement, where~~  
1228 ~~known;~~  
1229
- 1230 ~~—————(xii)—— A characterization of the injection zone and aquifers above and below the~~  
1231 ~~injection zone that may be affected, including applicable pressure and fluid chemistry data to~~  
1232 ~~describe the projected effects of injection activities, and background water quality data that will~~  
1233 ~~facilitate the classification of any groundwaters that may be affected by the proposed discharge.~~  
1234 ~~This must include information necessary for the Division to classify the receiver and any~~  
1235 ~~secondarily affected aquifers under Water Quality Rules and Regulations Chapter 8;~~  
1236
- 1237 ~~—————(xiii)—— Baseline geochemical data on subsurface formations, including all~~  
1238 ~~USDWs in the area of review;~~  
1239
- 1240 ~~—————(xiv)—— Proposed operating data:~~  
1241
- 1242 ~~—————(A)—— Average and maximum daily rate and volume and/or mass and~~  
1243 ~~total anticipated volume and/or mass of the carbon dioxide stream;~~  
1244
- 1245 ~~—————(B)—— Average and maximum surface injection pressure;~~  
1246
- 1247 ~~—————(C)—— The source of the carbon dioxide stream; and~~  
1248
- 1249 ~~—————(D)—— An analysis of the chemical and physical characteristics of the~~  
1250 ~~carbon dioxide stream and any other substance(s) proposed for inclusion in the injectate stream;~~  
1251 ~~and~~  
1252
- 1253 ~~—————(E)—— Anticipated duration of the proposed injection period(s).~~  
1254
- 1255 ~~—————(xv)—— The compatibility of the carbon dioxide stream with fluids in the injection~~  
1256 ~~zone and minerals in both the injection and the confining zone(s), based on the results of the~~  
1257 ~~formation testing program, and with the materials used to construct the well;~~  
1258
- 1259 ~~—————(xvi)—— An assessment of the impact to fluid resources, on subsurface structures~~  
1260 ~~and the surface of lands that may reasonably be expected to be impacted, and the measures~~  
1261 ~~required to mitigate such impacts;~~  
1262
- 1263 ~~—————(xvii)—— Proposed formation testing program to obtain an analysis of the chemical~~  
1264 ~~and physical characteristics of the injection zone and confining zone and that meets the~~  
1265 ~~requirements of Section 11 of this chapter;~~  
1266
- 1267 ~~—————(xviii)—— Proposed stimulation program, a description of stimulation fluids to be~~  
1268 ~~used, and a determination that stimulation will not compromise containment. All stimulation~~  
1269 ~~programs must be approved by the Administrator as part of the permit application and~~  
1270 ~~incorporated into the permit;~~

- 1271  
1272 ~~—————(xix) Proposed procedure that outlines steps to conduct injection operation;~~  
1273  
1274 ~~—————(xx) A wellbore schematic of the subsurface construction details and surface~~  
1275 ~~wellhead construction of the injection and monitoring wells;~~  
1276  
1277 ~~—————(xxi) Injection well design and construction procedures that meet the~~  
1278 ~~requirements of Section 9 of this chapter;~~  
1279  
1280 ~~—————(xxii) Proposed area of review and corrective action plan that meets the~~  
1281 ~~requirements under Section 8 of this chapter;~~  
1282  
1283 ~~—————(xxiii) The status of corrective action on wells in the area of review;~~  
1284  
1285 ~~—————(xxiv) All available logging and testing program data on the well(s) required by~~  
1286 ~~Section 11 of this chapter;~~  
1287  
1288 ~~—————(xxv) A demonstration of mechanical integrity pursuant to Section 13 of this~~  
1289 ~~chapter;~~  
1290  
1291 ~~—————(xxvi) A demonstration, satisfactory to the Administrator, that the applicant has~~  
1292 ~~met the financial responsibility requirements under Section 19 of this chapter;~~  
1293  
1294 ~~—————(xxvii) Proposed testing and monitoring plan required by Section 14 of this~~  
1295 ~~chapter;~~  
1296  
1297 ~~—————(xxviii) Proposed injection and monitoring well(s) plugging plan required by~~  
1298 ~~Section 16(b) of this chapter; where the plan meets the requirements of Section 16(b) of this~~  
1299 ~~chapter, the Administrator shall incorporate it into the permit as a permit condition.~~  
1300  
1301 ~~—————(xxix) Proposed post injection site care plan required by Section 17(a) of this~~  
1302 ~~chapter;~~  
1303  
1304 ~~—————(xxx) Proposed emergency and remedial response plan required by Section 18 of~~  
1305 ~~this chapter;~~  
1306  
1307 ~~—————(xxxii) A site and facilities description, including a description of the proposed~~  
1308 ~~geologic sequestration facilities;~~  
1309  
1310 ~~—————(xxxiii) Documentation sufficient to demonstrate that the applicant has all legal~~  
1311 ~~rights, including but not limited to the right to surface use, necessary to sequester carbon dioxide~~  
1312 ~~and associated constituents;~~  
1313  
1314 ~~—————(xxxiii) Proof of notice to surface owners, mineral claimants, mineral owners,~~  
1315 ~~lessees, and other owners of record of subsurface interests as to the contents of such notice.~~  
1316 ~~Notice requirements shall at a minimum require:~~

1317  
1318 ~~\_\_\_\_\_ (A) The publishing of notice of the application in a newspaper~~  
1319 ~~of general circulation in each county of the proposed operation at weekly intervals for four (4)~~  
1320 ~~consecutive weeks; and~~

1321  
1322 ~~\_\_\_\_\_ (B) A copy of the notice shall also be mailed to all surface~~  
1323 ~~owners, mineral claimants, mineral owners, lessees and other owners of record of subsurface~~  
1324 ~~interests that are located within one (1) mile of the proposed boundary of the geologic~~  
1325 ~~sequestration site as defined by W.S. § 35-11-103(e)(xxi).~~

1326  
1327 ~~\_\_\_\_\_ (xxxiv) A list of contacts, submitted to the Administrator, for those Tribes~~  
1328 ~~identified to be within the area of review of the geologic sequestration project based on~~  
1329 ~~information provided in subparagraphs (b)(vii), (b)(vii)(A), (b)(vii)(B) of this section; and~~

1330  
1331 ~~\_\_\_\_\_ (xxxv) Any other information requested by the Administrator.~~

1332  
1333 ~~\_\_\_\_\_ (c) Expansion to the Areal Extent of Existing Class II Aquifer Exemptions for Class~~  
1334 ~~VI Wells.~~

1335  
1336 ~~\_\_\_\_\_ (i) The Administrator may consider a request from owners and/or operators~~  
1337 ~~of permitted Class II injection well(s) that are seeking to convert their well(s) to a Class VI well~~  
1338 ~~and are seeking an expansion to the areal extent of an existing Class II enhanced oil recovery or~~  
1339 ~~enhanced gas recovery aquifer exemption for the exclusive purpose of Class VI injection for~~  
1340 ~~geologic sequestration if the existing aquifer exemption and the affected wells meet the~~  
1341 ~~following conditions:~~

1342  
1343 ~~\_\_\_\_\_ (A) It does not currently serve as a source of drinking water; and~~

1344  
1345 ~~\_\_\_\_\_ (B) The total dissolved solids content of the groundwater is more than~~  
1346 ~~3,000 mg/L and less than 10,000 mg/L; and~~

1347  
1348 ~~\_\_\_\_\_ (C) It is not reasonably expected to supply a public water system.~~

1349  
1350 ~~\_\_\_\_\_ (ii) Such requests will not be final until the Administrator submits the request~~  
1351 ~~as a revision to the applicable Federal UIC program under 40 CFR Part 147 or as a substantial~~  
1352 ~~program revision to an approved State UIC program under 40 CFR § 145.32 and EPA approves~~  
1353 ~~the request.~~

1354  
1355 ~~\_\_\_\_\_ (A) The owner or operator of a Class II enhanced oil recovery or~~  
1356 ~~enhanced gas recovery well that requests an expansion of the areal extent of an existing aquifer~~  
1357 ~~exemption for the exclusive purpose of Class VI injection for geologic sequestration must define~~  
1358 ~~(by narrative description, illustrations, maps, or other means) and describe in geographic and/or~~  
1359 ~~geometric terms (such as vertical and lateral limits and gradient) that are clear and definite, all~~  
1360 ~~aquifers or parts thereof that are requested to be designated as exempted using the criteria in~~  
1361 ~~subparagraphs (d)(i)(A-C) of this section.~~

1362

1363 ~~\_\_\_\_\_ (B) In evaluating a request to expand the areal extent of an aquifer~~  
1364 ~~exemption of a Class II enhanced oil recovery or enhanced gas recovery well for the purpose of~~  
1365 ~~Class VI injection, the Administrator must determine that the request meets the criteria for~~  
1366 ~~exemptions in subparagraphs (d)(i)(A-C) of this section. In making the determination, the~~  
1367 ~~Administrator shall consider:—~~

1368  
1369 ~~\_\_\_\_\_ (I) Current and potential future use of the USDWs to be~~  
1370 ~~exempted as drinking water resources;~~

1371  
1372 ~~\_\_\_\_\_ (II) The predicted extent of the injected carbon dioxide plume,~~  
1373 ~~and any mobilized fluids that may result in degradation of water quality, over the lifetime of the~~  
1374 ~~geologic sequestration project, as informed by computational modeling performed pursuant to~~  
1375 ~~Section 8(e)(i) of this chapter, in order to ensure that the proposed injection operation will not at~~  
1376 ~~any time endanger USDWs including non-exempted portions of the injection formation;~~

1377  
1378 ~~\_\_\_\_\_ (III) Whether the areal extent of the expanded aquifer exemption~~  
1379 ~~is of sufficient size to account for any possible revisions to the computational model during~~  
1380 ~~reevaluation of the area of review, pursuant to Section 8(d) of this chapter; and~~

1381  
1382 ~~\_\_\_\_\_ (IV) Any information submitted to support a waiver request~~  
1383 ~~made by the owner or operator under Section 10 of this chapter, if appropriate.~~

1384  
1385 ~~\_\_\_\_\_ (d) The Administrator shall notify, in writing, any Tribes within the area of review of~~  
1386 ~~the geologic sequestration project based on information provided in subparagraphs (b)(vii),~~  
1387 ~~(b)(vii)(A), (b)(vii)(B), and (b)(xxxiv) of this section.~~

1388  
1389 ~~\_\_\_\_\_ (e) Prior to granting approval for the operation of a Class VI well, the Administrator~~  
1390 ~~shall consider the following information:~~

1391  
1392 ~~\_\_\_\_\_ (i) The final area of review based on modeling, using data obtained during~~  
1393 ~~logging and testing of the well and the formation as required by subparagraphs (b)(xv), (b)(xxiii),~~  
1394 ~~(b)(xxiv), and (e)(iii) of this section;~~

1395  
1396 ~~\_\_\_\_\_ (ii) Any relevant updates, based on data obtained during logging and testing of~~  
1397 ~~the well and the formation as required by subparagraphs (b)(xv), (b)(xxiii), (b)(xxiv), and (e)(iii)~~  
1398 ~~of this section, to the information on the geologic structure and hydrogeologic properties of the~~  
1399 ~~proposed storage site and overlying formations, submitted to satisfy the requirements of~~  
1400 ~~subparagraph (b)(ix) of this section;~~

1401  
1402 ~~\_\_\_\_\_ (iii) The results of the formation testing program as required in paragraph~~  
1403 ~~(b)(xvii) of this section;~~

1404  
1405 ~~\_\_\_\_\_ (iv) Final injection well construction procedures that meet the requirements of~~  
1406 ~~Section 9 of this chapter;~~

1407

1408 ~~————— (v) — Any updates to the proposed area of review and corrective action plan,~~  
1409 ~~testing and monitoring plan, injection well plugging plan, post-injection site care and site closure~~  
1410 ~~plan, or the emergency and remedial response plan submitted under paragraph (b)(xxx) of this~~  
1411 ~~sSection, which are necessary to address new information collected during logging and testing of~~  
1412 ~~the well and the formation as required by all paragraphs of this section; and~~  
1413

1414 ~~————— (f) — Owners or operators seeking a waiver of the requirement to inject below the~~  
1415 ~~lowermost USDW must also refer to Section 10 of this chapter and submit a supplemental report,~~  
1416 ~~as required at Section 10(a). The supplemental report is not part of the permit application.~~  
1417

1418 ~~————— (g) — An applicant applying for a Class VI well permit must obtain public liability~~  
1419 ~~insurance to cover the geologic sequestration activities for which a permit is sought.~~  
1420

1421 ~~————— (i) — The public liability insurance shall be in addition to the financial~~  
1422 ~~assurance required in Section 19 of this chapter.~~  
1423

1424 ~~————— (ii) — The insurance policy shall provide for personal injury and property~~  
1425 ~~damage protection and shall be in place until a completion and release certificate has been~~  
1426 ~~obtained from the Administrator certifying that plume stabilization has been achieved.~~  
1427

1428 ~~————— (iii) — The minimum insurance coverage for public liability insurance as required~~  
1429 ~~by W.S. § 35-11-313(f)(ii)(O) shall be five hundred thousand dollars (\$500,000) for each~~  
1430 ~~occurrence of bodily injury or property damage, and one million dollars (\$1,000,000) aggregate.~~  
1431

1432 ~~————— (iv) The public liability insurance shall include a rider requiring that the insurer~~  
1433 ~~notify the Administrator whenever substantive changes are made to the policy, including any~~  
1434 ~~termination or failure to renew.~~  
1435

1436 ~~————— (v) — Self-insurance in lieu of public liability insurance must meet state or~~  
1437 ~~federal requirements and be approved by the Administrator.~~  
1438

1439 ~~————— (h) — All applications for permits, reports, or information to be submitted to the~~  
1440 ~~Administrator shall be signed by a responsible officer as follows:~~  
1441

1442 ~~————— (i) — For a corporation — a responsible corporate officer means:~~  
1443

1444 ~~————— (A) — A president, secretary, treasurer, or vice president of the~~  
1445 ~~corporation in charge of a principal business function, or any other person who performs similar~~  
1446 ~~policy or decision making functions for the corporation; or~~  
1447

1448 ~~————— (B) — The manager of one (1) or more manufacturing, production, or~~  
1449 ~~operating facilities employing more than 250 persons or having gross annual sales or expendi-~~  
1450 ~~tures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has~~  
1451 ~~been assigned or delegated to the manager in accordance with corporate procedures.~~  
1452



1453 ~~\_\_\_\_\_ (ii) \_\_\_\_\_ For a partnership or sole proprietorship \_\_\_\_\_ by a general partner or the~~  
1454 ~~proprietor, respectively;~~  
1455  
1456 ~~\_\_\_\_\_ (iii) \_\_\_\_\_ For a municipality, state, federal or other public agency \_\_\_\_\_ by either the~~  
1457 ~~principal executive officer or ranking elected official. For the purposes of this section, a principal~~  
1458 ~~executive officer of a Federal agency includes:~~  
1459  
1460 ~~\_\_\_\_\_ (A) \_\_\_\_\_ The chief executive officer of the agency, or~~  
1461  
1462 ~~\_\_\_\_\_ (B) \_\_\_\_\_ A senior executive officer having responsibility for the overall~~  
1463 ~~operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).~~  
1464  
1465 ~~\_\_\_\_\_ (iv) \_\_\_\_\_ A person is authorized as a responsible officer only if:~~  
1466  
1467 ~~\_\_\_\_\_ (A) \_\_\_\_\_ The authorization is made in writing by a person described in~~  
1468 ~~paragraphs (i) through (iii) in this subsection;~~  
1469  
1470 ~~\_\_\_\_\_ (B) \_\_\_\_\_ The authorization specifies either an individual or a position~~  
1471 ~~having responsibility for the overall operation of the regulated facility or activity, such as the~~  
1472 ~~position of plant manager, operator of a well or a well field, superintendent, or position of~~  
1473 ~~equivalent responsibility. (A duly authorized representative may thus be either a named~~  
1474 ~~individual or any individual occupying a named position); and~~  
1475  
1476 ~~\_\_\_\_\_ (C) \_\_\_\_\_ The written authorization is submitted to the Administrator.~~  
1477  
1478 ~~\_\_\_\_\_ (v) \_\_\_\_\_ If an authorization under paragraph (iv) of this subsection is no longer~~  
1479 ~~accurate because a different individual or position has responsibility for the overall operation of~~  
1480 ~~the facility, a new authorization satisfying the requirements of paragraph (iv) of this subsection~~  
1481 ~~must be submitted to the Administrator prior to or together with any reports, information, or~~  
1482 ~~applications to be signed by an authorized representative.~~  
1483  
1484 ~~\_\_\_\_\_ (i) \_\_\_\_\_ The application shall contain the following certification by the person signing the~~  
1485 ~~application:~~  
1486  
1487 ~~\_\_\_\_\_ “I certify under penalty of law that this document and all attachments were prepared~~  
1488 ~~under my direction or supervision in accordance with a system designed to ensure that qualified~~  
1489 ~~personnel properly gather and evaluate the information submitted. Based on my inquiry of the~~  
1490 ~~person or persons who manage the system, or those persons directly responsible for gathering the~~  
1491 ~~information, the information submitted is, to the best of my knowledge and belief, true, accurate,~~  
1492 ~~and complete. I am aware that there are significant penalties for submitting false information,~~  
1493 ~~including the possibility of fine and imprisonment for knowing violations.”~~  
1494  
1495 ~~\_\_\_\_\_ (j) \_\_\_\_\_ All data used to complete permit applications shall be kept by the applicant for the~~  
1496 ~~life of the geologic sequestration project and for ten (10) years following site closure.~~  
1497

1498 ~~(formerly Section 4(b)(v))(a)~~ The ~~Administrator~~ Director may deny an ~~individual~~ permit  
1499 for any of the following reasons:

1500  
1501 ~~(formerly Section 4(b)(v)(A))(i)~~ The application is incomplete;

1502  
1503 ~~(formerly Section 4(b)(v)(B))(ii)~~ The project, if constructed or operated, will  
1504 violate applicable state surface or groundwater standards;

1505  
1506 ~~(formerly Section 4(b)(v)(C))(iii)~~ The application proposes the construction or  
1507 operation of a project that does not meet the requirements of this ~~e~~Chapter;

1508  
1509 ~~(formerly Section 4(b)(v)(a)(D))(iv)~~ The permitted facility would be in conflict  
1510 with or is in conflict with a State-approved local wellhead protection plan, State-approved local  
1511 source water protection plan, or State-approved water quality management plan; or

1512  
1513 ~~(formerly Section 4(b)(v)(a)(E)(v))~~ Other justifiable reasons necessary to carry  
1514 out the provisions of the Wyoming Environmental Quality Act.

1515  
1516 **Section 6. ~~Prohibitions.~~ Modifying Permits.**

1517  
1518 ~~(a) — In addition to the requirements in W.S. § 35-11-301(a), no person shall:~~

1519  
1520 ~~————— (i) — Discharge into, construct, operate, or modify any Class VI well unless~~  
1521 ~~permitted pursuant to this chapter;~~

1522  
1523 ~~————— (ii) — Discharge to any zone except the authorized discharge zone as described~~  
1524 ~~in the permit;~~

1525  
1526 ~~————— (iii) — Conduct any authorized injection activity in a manner that results in a~~  
1527 ~~violation of any permit condition, representations made in the application, or the request for~~  
1528 ~~coverage under the individual permit. A permit condition supersedes any application content.~~

1529  
1530 ~~————— (iv) — Construct, operate, maintain, convert, plug, abandon, or conduct any other~~  
1531 ~~injection activity in a manner that allows the movement of fluid containing any contaminant into~~  
1532 ~~underground sources of drinking water, if the presence of that contaminant may cause a violation~~  
1533 ~~of any primary drinking water regulation under 40 CFR Part 141 or may otherwise adversely~~  
1534 ~~affect the health of persons. The applicant for a permit shall have the burden of showing that the~~  
1535 ~~requirements of this paragraph are met.~~

1536  
1537 ~~————— (b) — If any water quality monitoring of an underground source of drinking water~~  
1538 ~~indicates the movement of any contaminant into the underground source of drinking water,~~  
1539 ~~except as authorized under this chapter, the Administrator shall prescribe such additional~~  
1540 ~~requirements for construction, corrective action, operation, monitoring, or reporting (including~~  
1541 ~~closure of the injection well) as are necessary to prevent such movement. In the case of wells~~  
1542 ~~authorized by permit, these additional requirements shall be imposed by modifying the permit in~~  
1543 ~~accordance with Section 4 of this chapter, or the permit may be terminated under Section 4 of~~

1544 ~~this chapter if cause exists, or appropriate enforcement action may be taken if the permit has~~  
1545 ~~been violated.~~

1546  
1547 ~~———— (e) ——— No person shall inject any hazardous waste that has been banned from land~~  
1548 ~~disposal pursuant to Wyoming Hazardous Waste Rules Chapter 1.~~

1549  
1550 ~~———— (d) ——— The construction of new, or operation or maintenance of any existing Class V~~  
1551 ~~wells for non-experimental geologic sequestration is prohibited.~~

1552  
1553 ~~———— (e) ——— The Administrator may identify (by narrative description, illustrations, maps, or~~  
1554 ~~other means) and shall protect as underground sources of drinking water, all aquifers and parts of~~  
1555 ~~aquifers that meet the definition of “underground source of drinking water” in Section 2, except~~  
1556 ~~to the extent there is expansion to the areal extent of an existing Class II enhanced oil recovery or~~  
1557 ~~enhanced gas recovery aquifer exemption for the exclusive purpose of Class VI injection for~~  
1558 ~~geologic sequestration under Section 5(c) of this chapter. Other than EPA approved aquifer~~  
1559 ~~exemption expansions that meet the criteria set forth in Section 5(c) of this chapter, new aquifer~~  
1560 ~~exemptions shall not be issued for Class VI injection wells. Even if an aquifer has not been~~  
1561 ~~specifically identified by the Administrator, it is an underground source of drinking water if it~~  
1562 ~~meets the definition in Section 2 of this chapter.~~

1563  
1564 ~~(formerly Section 4(b)(vii))(a)~~ The ~~Administrator~~ Director may modify a permit  
1565 when:

1566  
1567 ~~(formerly Section 4(b)(vii)(A)(i)~~ Any material or substantial  
1568 alterations or additions to the facility occur after permitting ~~or licensing~~ that justify the  
1569 application of different permit conditions ~~that are different or absent in the existing permit;~~

1570  
1571 ~~(formerly Section 4(b)(vii)(B)(ii)~~ Any modification in the operation of  
1572 the facility is capable of causing or increasing pollution in excess of applicable standards or  
1573 permit conditions;

1574  
1575 ~~(formerly Section 4(b)(vii)(C)(iii)~~ Information warranting modification  
1576 is discovered after the operation has begun that would have justified the application of different  
1577 permit conditions at the time of permit issuance;

1578  
1579 ~~(formerly Section 4(b)(vii)(D)(iv)~~ Regulations or standards upon which  
1580 the permit was based ~~have changed by promulgation of amended standards or regulations or by~~  
1581 ~~judicial decision~~ after the permit was issued;

1582  
1583 ~~(formerly Section 4(b)(vii)(E)(v)~~ Cause exists for termination, as  
1584 described in this ~~s~~Section, but the Department determines that modification is appropriate; ~~or~~

1585  
1586 ~~(formerly Section 4(b)(vii)(F)(vi)~~ Modification is necessary to comply  
1587 with applicable statutes, standards, or regulations;  
1588

1589 ~~(formerly Section 4(b)(xvi))(vii)~~ (vii) Transfer of a permit is allowed only upon  
1590 approval by the Administrator. When a permit transfer occurs pursuant to this section, the permit  
1591 rights of the previous permittee will automatically terminate. The permit is transferred; or  
1592

1593 ~~(formerly Section 4(b)(viii))(viii)~~ The Administrator ~~may modify a permit~~  
1594 ~~whenever the Administrator~~ determines that permit changes are necessary based on:

1595  
1596 ~~(formerly Section 4(b)(viii)(A))(A)~~ (A) Area of review reevaluations under  
1597 Section ~~8(d)(i)~~ 13(c)(i) of this ~~e~~Chapter;

1598  
1599 ~~(formerly Section 4(b)(viii)(B))(B)~~ (B) ~~Any a~~A amendments to the testing and  
1600 monitoring plan under Section ~~14(b)(xii)~~ 20(b)(xi) of this ~~e~~Chapter;

1601  
1602 ~~(formerly Section 4(b)(viii)(C))(C)~~ (C) ~~Any a~~A amendments to the injection  
1603 well-plugging plan under Section ~~16(e)~~ 23(c) of this ~~e~~Chapter;

1604  
1605 ~~(formerly Section 4(b)(viii)(D))(D)~~ (D) ~~Any a~~A amendments to the post-  
1606 injection site care and site closure plan under Section ~~17(a)(iv)~~ 24(a)(iv) of this ~~e~~Chapter;

1607  
1608 ~~(formerly Section 4(b)(viii)(E))(E)~~ (E) ~~Any a~~A amendments to the emergency  
1609 and remedial response plan under Section ~~18(a)(i)~~ 25(a) of this ~~e~~Chapter;

1610  
1611 ~~(formerly Section 4(b)(viii)(F))(F)~~ (F) A review of monitoring ~~and/or~~  
1612 testing results ~~conducted in accordance with permit requirements~~; or

1613  
1614 ~~(formerly Section 4(b)(viii)(G))(G)~~ (G) A determination that the injectate is a  
1615 hazardous waste as defined in 40 CFR § 261.3 ~~either because the definition has been revised, or~~  
1616 ~~because a previous determination has been changed.~~

1617  
1618 ~~formerly Section 4(b)(x)(b)~~ (b) The Administrator may make ~~M~~Minor modifications ~~of to~~  
1619 permits ~~may occur~~ with the consent of the permittee, ~~without following the public notice~~  
1620 ~~requirements.~~ The Administrator shall notify the permittee of Minor modifications to its  
1621 permit, and the modifications will shall become final twenty (20) days from the date of receipt of  
1622 such notice. ~~For the purposes of this chapter, m~~Minor modifications may only:

1623  
1624 ~~formerly Section 4(b)(x)(A)(i)~~ (i) Correct typographical errors;

1625  
1626 ~~formerly Section 4(b)(x)(B)(ii)~~ (ii) Require more frequent monitoring or  
1627 reporting by the permittee;

1628  
1629 ~~formerly Section 4(b)(x)(C)(iii)~~ (iii) Change an interim compliance date in a  
1630 schedule of compliance, provided the new date is not more than 120 days after the date specified  
1631 in the existing permit and does not interfere with attainment of the final compliance date  
1632 requirement;

1633

1634 ~~formerly Section 4(b)(x)(D)(iv)~~ Allow for a permit transfer and change in  
1635 ownership or operational control of a facility where the Administrator determines that no other  
1636 change in the permit is necessary, provided that a written agreement containing a specific date  
1637 for transfer of permit responsibility, coverage, and liability between the current and new  
1638 permittees have has been submitted to the Administrator;

1640 ~~formerly Section 4(b)(x)(E)(v)~~ Change quantities or types of fluids injected  
1641 that are within the capacity of the facility as permitted and, in the judgment of the Administrator,  
1642 would not interfere with the operation of the facility or its ability to meet conditions described in  
1643 the permit and would not change its classification;

1645 ~~formerly Section 4(b)(x)(F)(vi)~~ Change construction requirements approved  
1646 by the Administrator pursuant to ~~subparagraphs (e)(i)(BB)(I) through (H) of this section~~ Section  
1647 9(b)(xxix)(A)-(C) of this Chapter, provided that ~~any such~~ the alteration ~~shall~~ complies with the  
1648 requirements of this eChapter;

1650 ~~formerly Section 4(b)(x)(G)(vii)~~ Amend a well-plugging ~~and abandonment~~  
1651 plan that has been updated under Section ~~16~~ 23 of this eChapter; or

1653 ~~formerly Section 4(b)(x)(H)(ix)~~ Amend a Class VI injection well testing and  
1654 monitoring plan, well-plugging plan, post-injection site care and site closure plan, or emergency  
1655 and remedial response plan where the modifications merely clarify or correct the plan, ~~as~~  
1656 ~~determined by the Administrator.~~

1658 ~~formerly Section 4(b)(xii)(c)~~ The ~~Administrator~~ Director may modify a permit to resolve  
1659 issues that could lead to the revocation or termination of the permit under Section ~~4(b) 7(a)~~ 7(a) of  
1660 this eChapter. ~~The Administrator, as part of any notification of intent to terminate a permit, shall~~  
1661 ~~order the permittee to proceed with reclamation on a reasonable time period.~~

1663 ~~(formerly Section 4(b)(xiv)(d)~~ When the Administrator Director modifies a permit,  
1664 ~~In a permit modification under Section 4(b) of this chapter,~~ only ~~those~~ the conditions ~~to be that~~  
1665 are being modified shall be reopened when a new draft permit is prepared. All other aspects of  
1666 the existing, unmodified permit shall remain in effect for the duration of the ~~un~~modified permit  
1667 and the modified permit shall expire on the date when the original permit would have expired.  
1668 ~~When a permit is revoked and reissued under this section, the entire permit is reopened as if the~~  
1669 ~~permit has expired and is being reissued. During any revocation and reissuance proceeding, the~~  
1670 ~~permittee shall comply with all conditions of the existing permit until a new final permit is~~  
1671 ~~issued. (formerly Section 4(b)(ix))~~ Suitability of the facility location ~~will~~ shall not be considered  
1672 ~~at the time of permit modification or revocation and reissuance~~ unless new information or  
1673 standards indicate that a threat to human health, safety, or the environment exists that was  
1674 unknown at the time of permit issuance.

1676 ~~formerly Section (4)(b)(xiii)(e)~~ ~~If the Administrator tentatively decides to modify or~~  
1677 ~~revoke and reissue a permit, a draft permit incorporating the proposed changes shall be prepared.~~  
1678 The Administrator ~~may request additional information and, in the case of a modified permit,~~ may  
1679 require the submission of ~~an updated~~ a new application to modify a permit. ~~In the case of~~

1680 ~~revoked and reissued permits, the Administrator shall require the submission of a new~~  
1681 ~~application.~~

1682  
1683 **Section 7. ~~Minimum Criteria for Siting Class VI Wells.~~ Terminating, Revoking,**  
1684 **and Reissuing Permits.**

1685  
1686 (a) ~~— Owners or operators of Class VI wells must demonstrate to the satisfaction of the~~  
1687 ~~Administrator that the wells will be sited in areas with a suitable geologic system. The geologic~~  
1688 ~~system must be comprised of:~~

1689  
1690 (i) ~~— An injection zone of sufficient areal extent, thickness, porosity, and~~  
1691 ~~permeability to receive the total anticipated volume of the carbon dioxide stream; and~~

1692  
1693 (ii) ~~— A confining zone(s) that is free of transmissive faults or fractures and of~~  
1694 ~~sufficient areal extent and integrity to contain the injected carbon dioxide stream and displaced~~  
1695 ~~formation fluids and allow injection at proposed maximum pressures and volumes without~~  
1696 ~~initiating or propagating fractures in the confining zone(s) or causing non-transmissive faults to~~  
1697 ~~become transmissive.~~

1698  
1699 (b) ~~— Owners or operators of Class VI wells must identify and characterize additional~~  
1700 ~~zones, if they exist, that will impede vertical fluid movement, allow for pressure dissipation, and~~  
1701 ~~provide additional opportunities for monitoring, mitigation, and remediation. Vertical faults and~~  
1702 ~~fractures that transect these zones must be identified.~~

1703  
1704 (formerly Section 4(b)(xi)(a)) (a) The ~~Administrator~~ Director may terminate a permit or  
1705 ~~revoke and reissue~~ or terminate a permit for any of the following reasons:

1706  
1707 (formerly Section 4(b)(xi)(A)(i)) (i) Noncompliance with terms and conditions  
1708 of the permit;

1709  
1710 (formerly Section 4(b)(xi)(B)(ii)) (ii) Failure in the application or during the  
1711 issuance process to disclose fully all relevant facts, or misrepresentation of any relevant facts at  
1712 any time; or

1713  
1714 (formerly Section 4(b)(xi)(C)(iii)) (iii) A determination that the activity ~~endangers~~  
1715 threatens human health, safety, or the environment and can only be regulated to acceptable levels  
1716 by a permit modification or termination.

1717  
1718 (formerly Section 4(b)(xii)(b)) (b) ~~The Administrator may modify a permit to resolve issues~~  
1719 ~~that could lead to the revocation of the permit under Section 4(b) of this chapter. The~~  
1720 ~~Administrator, a~~ As part of any ~~notification~~ notice of intent to terminate a permit, the Director  
1721 shall order the permittee to proceed with reclamation ~~on~~ within a reasonable time period.

1722  
1723 (formerly Section 4(b)(xiii)(c)) (c) ~~If the Administrator tentatively decides to modify or~~  
1724 ~~revoke and reissue a permit, a draft permit incorporating the proposed changes shall be prepared.~~  
1725 ~~The Administrator may request additional information and, in the case of a modified permit, may~~

1726 ~~require the submission of an updated application. In the case of revoked and reissued permits, the~~  
1727 ~~Administrator shall require the submission of~~ A revoked permit may be reissued only if a new  
1728 application is submitted.

1729  
1730 ~~(formerly Section 4(b)(xiv))~~(d) In a permit modification under Section 4(b) of this  
1731 ~~eChapter, only those conditions to be modified shall be reopened when a new draft permit is~~  
1732 ~~prepared. All other aspects of the existing permit shall remain in effect for the duration of the~~  
1733 ~~unmodified permit and the modified permit shall expire on the date when the original permit~~  
1734 ~~would have expired.~~ When a permit is revoked and reissued ~~under this section~~, the entire permit  
1735 is reopened as if the permit has expired and is being reissued, except that suitability of the  
1736 facility location shall not be considered unless new information or standards indicate that a threat  
1737 to human health, safety, or the environment exists that was unknown at the time of permit  
1738 issuance. During any revocation and reissuance proceeding, the permittee shall comply with all  
1739 conditions of the existing permit until a new final permit is issued.

1740  
1741 **Section 8. ~~Area of Review Delineation and Corrective Action.~~ Transferring**  
1742 **Permits.**

1743  
1744 (a) ~~—The area of review is based on computational modeling that accounts for the~~  
1745 ~~physical and chemical properties of all phases of the injected carbon dioxide stream. The owner~~  
1746 ~~or operator will re-evaluate the area of review at least every two (2) years during the operational~~  
1747 ~~life of the facility, and then no less frequently than every five (5) years through the post-injection~~  
1748 ~~site care period until the geologic sequestration project is closed in accordance with department~~  
1749 ~~rules and regulations.~~

1750  
1751 (b) ~~—The owner or operator of a Class VI well must prepare, maintain, and comply~~  
1752 ~~with a plan to delineate the area of review for a proposed geologic sequestration project, re-~~  
1753 ~~evaluate the delineation, and perform corrective action that meets the requirements of this section~~  
1754 ~~and is acceptable to the Administrator. As a part of the permit application for approval by the~~  
1755 ~~Administrator, the owner or operator must submit an area of review and corrective action plan~~  
1756 ~~that includes the following information:~~

1757  
1758 (i) ~~—The method for delineating the area of review that meets the requirements~~  
1759 ~~of paragraph (c) of this section, including the name, version and availability of the model to be~~  
1760 ~~used, assumptions that will be made, and the site characterization data on which the model will~~  
1761 ~~be based;~~

1762  
1763 (ii) ~~—A description of:~~

1764  
1765 (A) ~~—The monitoring and operational conditions that would warrant a re-~~  
1766 ~~evaluation of the area of review prior to the next scheduled re-evaluation as determined by the~~  
1767 ~~minimum fixed frequency established in paragraph (a) of this section.~~

1768  
1769 (B) ~~—How monitoring and operational data (e.g., injection rate and~~  
1770 ~~pressure) will be used to evaluate the area of review; and~~

1771

1772 ~~(C) — How corrective action will be conducted to meet the requirements~~  
1773 ~~of paragraph (c)(v) of this section, including:~~

1774  
1775 ~~(I) — What corrective action will be performed prior to injection;~~

1776  
1777 ~~(II) — What, if any, portions of the area of review will have~~  
1778 ~~corrective action addressed on a phased basis, and how the phasing will be determined;~~

1779  
1780 ~~(III) — How corrective action will be adjusted if there are changes~~  
1781 ~~in the area of review; and~~

1782  
1783 ~~(IV) — How site access will be ensured for future corrective action.~~

1784  
1785 ~~(c) — Owners or operators of Class VI wells must perform the following actions to~~  
1786 ~~delineate the area of review, identify all wells that require corrective action, and perform~~  
1787 ~~corrective action on those wells:~~

1788  
1789 ~~(i) — Predict, using existing computational modeling:~~

1790  
1791 ~~(A) — The projected lateral and vertical migration of the carbon dioxide~~  
1792 ~~plume and formation fluids in the subsurface from the commencement of injection activities until~~  
1793 ~~the plume movement ceases;~~

1794  
1795 ~~(B) — The pressure differentials, and demonstrate that pressure~~  
1796 ~~differentials sufficient to cause the movement of injected fluids or formation fluids into a USDW~~  
1797 ~~or to otherwise threaten human health, safety, or the environment will not be present (or for a~~  
1798 ~~fixed time period as determined by the Administrator);~~

1799  
1800 ~~(C) — The potential need for brine removal, and;~~

1801  
1802 ~~(D) — The long term effects of pressure buildup if brine is not removed.~~

1803  
1804 ~~(ii) — The modeling must:~~

1805  
1806 ~~(A) — Be based on:~~

1807  
1808 ~~(I) — Detailed geologic data available or collected to characterize~~  
1809 ~~the injection zone, confining zone and any additional zones; and~~

1810  
1811 ~~(II) — Anticipated operating data, including injection pressures,~~  
1812 ~~rates and total volumes over the proposed operational life of the facility.~~

1813  
1814 ~~(B) — Take into account any relevant geologic heterogeneities, other~~  
1815 ~~discontinuities, data quality, and their possible impact on model predictions; and~~

1816



1817 ~~(C) — Consider potential migration through faults, fractures, and artificial~~  
1818 ~~penetrations.~~

1819  
1820 ~~(iii) — Using methods approved by the Administrator, identify all penetrations,~~  
1821 ~~including active and abandoned wells and underground mines, in the area of review that may~~  
1822 ~~penetrate the confining zone. Provide a description of each well's type, construction, date drilled,~~  
1823 ~~location, depth, record of plugging and/or completion, and any additional information the~~  
1824 ~~Administrator may require; and~~

1825  
1826 ~~(iv) — Determine which abandoned wells in the area of review have been~~  
1827 ~~plugged in a manner that prevents the movement of:~~

1828  
1829 ~~(A) — Carbon dioxide that may endanger USDWs or otherwise threaten~~  
1830 ~~human health, safety, or the environment; or~~

1831  
1832 ~~(B) — Displaced formation fluids, or other fluids, including the use of~~  
1833 ~~materials compatible with the carbon dioxide stream, that may endanger USDWs or otherwise~~  
1834 ~~threaten human health, safety, or the environment.~~

1835  
1836 ~~(v) — Owners or operators of Class VI wells that are determined to need~~  
1837 ~~corrective action using methods that are approved by the Administrator, must perform corrective~~  
1838 ~~action on all wells in the area of review to prevent the movement of fluid into or between~~  
1839 ~~USDWs including use of materials compatible with the carbon dioxide stream, where~~  
1840 ~~appropriate.~~

1841  
1842 ~~(d) — At a fixed frequency, not to exceed two (2) years during the operational life of the~~  
1843 ~~facility, or five (5) years during the post-injection site care period (until site closure) as specified~~  
1844 ~~in the area of review and corrective action plan, or when monitoring and operational conditions~~  
1845 ~~warrant, owners or operators must:~~

1846  
1847 ~~(i) — Re-evaluate the area of review in the same manner specified in paragraph~~  
1848 ~~(c)(i) of this section;~~

1849  
1850 ~~(ii) — Identify all wells in the re-evaluated area of review that require corrective~~  
1851 ~~action in the same manner specified in paragraph (c)(iv) of this section;~~

1852  
1853 ~~(iii) — Perform corrective action on wells requiring corrective action in the~~  
1854 ~~reevaluated area of review in the same manner specified in paragraph (c)(v) of this section; and~~

1855  
1856 ~~(iv) — Submit an amended area of review and corrective action plan or~~  
1857 ~~demonstrate to the Administrator through monitoring data and modeling results that no change to~~  
1858 ~~the area of review and corrective action plan is needed.~~

1859  
1860 ~~(A) — Any amendments to the area of review and corrective action plan~~  
1861 ~~must be approved by the Administrator;~~

1862

1863 (B) ~~Any amendments to the area of review must be incorporated into~~  
1864 ~~the permit; and~~

1865  
1866 (C) ~~Any amendments to the area of review are subject to the permit~~  
1867 ~~modification requirements of Section 4 of this chapter, as appropriate.~~  
1868

1869 (e) ~~The emergency and remedial response plan (as required by Section 18 of this~~  
1870 ~~chapter) and a demonstration of financial responsibility (as described by Section 19 of this~~  
1871 ~~chapter) must account for the entire area of review (as modified), regardless of whether or not~~  
1872 ~~corrective action in the area of review is phased.~~

1873  
1874 (f) ~~All modeling inputs and data used to support area of review reevaluations under~~  
1875 ~~paragraph (d) of this section shall be retained for ten (10) years.~~

1876  
1877 (a) To transfer a permit:

1878  
1879 ~~(formerly Section 4(b)(xvi))(A)(i)~~ The proposed permit ~~holder~~ transferee shall  
1880 apply in writing as though that person ~~was~~ were the original applicant for the permit; and

1881  
1882 ~~(formerly Section 4(b)(xvi))(A)(ii)~~ The proposed permit transferee shall ~~further~~  
1883 agree to be bound by all of the terms and conditions of the permit.

1884  
1885 ~~(formerly Section 4(b)(xvi))(b)~~ Transfer of a permit is allowed only upon approval  
1886 by the ~~Administrator~~ Director.

1887  
1888 ~~(formerly Section 4(b)(xvi))(c)~~ When a permit transfer occurs pursuant to this  
1889 section, the permit rights of the previous permittee ~~will~~ automatically terminate.

1890  
1891 ~~(formerly Section 4(b)(xvi))(B)(d)~~ Transfer ~~will~~ shall not be allowed if the permittee is  
1892 in noncompliance with any term and conditions of the permit; unless the transferee agrees to  
1893 bring the facility back into compliance with the permit.

1894  
1895 ~~(formerly Section 4(b)(xvi))(D)(e)~~ A permit may be transferred by modifying the  
1896 permit or by revoking and reissuing the permit ~~the permittee to a new owner or operator only if~~  
1897 ~~the permit has been modified or revoked and reissued (under paragraph (xiii) of this subsection),~~  
1898 ~~or a minor modification made (under paragraph (xii) of this subsection),~~ to identify the new  
1899 permittee and incorporate ~~such other requirements as may be necessary under the Safe Drinking~~  
1900 ~~Water Act~~ the requirements of this Chapter and the Wyoming Environmental Quality Act, W.S.  
1901 § 35-11-101 et seq.

1902  
1903 **Section 9. ~~Construction and Operation Standards for Class VI Wells.~~ Permit**  
1904 **Conditions.**

1905  
1906 (a) ~~The owner or operator must ensure that all Class VI wells are designed, at a~~  
1907 ~~minimum, to the construction standards set forth by the Department and the Wyoming Oil and~~  
1908 ~~Gas Conservation Commission, as applicable, and constructed and completed to:~~

- 1909  
1910 (i) ~~Prevent the movement of fluids into or between USDWs or into any~~  
1911 ~~unauthorized zones;~~  
1912  
1913 (ii) ~~Permit the use of appropriate testing devices and workover tools; and~~  
1914  
1915 (iii) ~~Permit continuous monitoring of the annulus space between the injection~~  
1916 ~~tubing and long string casing.~~  
1917  
1918 (b) ~~Casing and cement or other materials used in the construction of each Class VI~~  
1919 ~~well must have sufficient structural strength and be designed for the life of the well.~~  
1920  
1921 (i) ~~All well materials must be compatible with fluids with which the materials~~  
1922 ~~may be expected to come into contact, and meet or exceed standards developed for such~~  
1923 ~~materials by the American Petroleum Institute, ASTM International, or comparable standards~~  
1924 ~~acceptable to the Administrator.~~  
1925  
1926 (ii) ~~The casing and cementing program must be designed to prevent the~~  
1927 ~~movement of fluids into or between USDWs.~~  
1928  
1929 (iii) ~~In order to allow the Administrator to determine and specify casing and~~  
1930 ~~cementing requirements, the owner or operator must provide the following information:~~  
1931  
1932 (A) ~~Depth to the injection zone;~~  
1933  
1934 (B) ~~Injection pressure, external pressure, internal pressure, and axial~~  
1935 ~~loading;~~  
1936  
1937 (C) ~~Hole size;~~  
1938  
1939 (D) ~~Size and grade of all casing strings (wall thickness, external~~  
1940 ~~diameter, nominal weight, length, joint specification and construction material), including~~  
1941 ~~whether the casing is new, or used;~~  
1942  
1943 (E) ~~Corrosiveness of the carbon dioxide stream and formation fluids;~~  
1944  
1945 (F) ~~Down hole temperatures and pressures;~~  
1946  
1947 (G) ~~Lithology of injection and confining zones;~~  
1948  
1949 (H) ~~Type or grade of cement and additives; and~~  
1950  
1951 (I) ~~Quantity, chemical composition, and temperature of the carbon~~  
1952 ~~dioxide stream.~~  
1953

1954                   (iv) ~~—Casing must extend through the base of the lowermost USDW above the~~  
1955 ~~injection zone and be cemented to the surface through the use of a single or multiple strings of~~  
1956 ~~casing and cement.~~

1957  
1958                   (v) ~~—At least one (1) long string casing, using a sufficient number of~~  
1959 ~~centralizers, must be set in a manner so as to create a cement bond through the overlying and/or~~  
1960 ~~underlying confining zones(s). The long string casing must extend to the injection zone, must be~~  
1961 ~~cemented by circulating cement to the surface in one (1) or more stages, and must be isolated by~~  
1962 ~~placing cement and/or other isolation techniques as necessary to provide adequate isolation of~~  
1963 ~~the injection zone and provide for protection of USDWs, human health, safety, and the~~  
1964 ~~environment.~~

1965  
1966                   (A) ~~—Circulation of cement may be accomplished by staging. The~~  
1967 ~~Administrator may approve an alternative method of cementing in cases where the cement~~  
1968 ~~cannot be recirculated to the surface, provided the owner or operator can demonstrate by using~~  
1969 ~~logs that the cement does not allow fluid movement behind the wellbore.~~

1970  
1971 ~~—(vi) —Cement and cement additives must be suitable for use with the carbon~~  
1972 ~~dioxide stream and formation fluids and of sufficient quality and quantity to maintain integrity~~  
1973 ~~over the operating life of the well.~~

1974  
1975                   (vii) ~~—The integrity and location of the cement shall be verified using technology~~  
1976 ~~capable of evaluating cement quality radially with sufficient resolution to identify the location of~~  
1977 ~~channels, voids, or other areas of missing cement to ensure that USDWs are not endangered and~~  
1978 ~~that human health, safety, and the environment are protected.~~

1979  
1980                   (e) ~~—All owners and operators of Class VI wells must inject fluids through tubing with~~  
1981 ~~a packer set at a depth opposite a cemented interval at the location approved by the~~  
1982 ~~Administrator.~~

1983  
1984                   (i) ~~—Tubing and packer materials used in the construction of each Class VI~~  
1985 ~~well must be compatible with fluids with which the materials may be expected to come into~~  
1986 ~~contact and must meet or exceed standards developed for such materials by the American~~  
1987 ~~Petroleum Institute, ASTM International, or comparable standards acceptable to the~~  
1988 ~~Administrator.~~

1989  
1990                   (ii) ~~—In order for the Administrator to determine and specify requirements for~~  
1991 ~~tubing and packer, the owner or operator must submit the following information:~~

1992  
1993                   (A) ~~—Depth of setting;~~

1994  
1995                   (B) ~~—Characteristics of the carbon dioxide stream (e.g., chemical~~  
1996 ~~content, corrosiveness, temperature, and density) and formation fluids;~~

1997  
1998                   (C) ~~—Maximum proposed injection pressure;~~

1999

2000 ~~(D) — Maximum proposed annular pressure;~~

2001  
2002 ~~(E) — Maximum proposed injection rate (intermittent or continuous) and~~  
2003 ~~volume of the carbon dioxide stream;~~

2004  
2005 ~~(F) — Size of tubing and casing; and~~

2006  
2007 ~~(G) — Tubing tensile, burst, and collapse strengths.~~

2008  
2009 ~~(formerly Section 4(e)(i))~~(a) Permit conditions shall be incorporated either expressly or  
2010 by reference. If incorporated by reference, a specific citation to the incorporated conditions ~~must~~  
2011 shall be given in the permit.

2012  
2013 ~~(formerly Section 4(e)(i))~~(b) All ~~individual~~ permits issued under this ~~e~~Chapter shall  
2014 contain the following conditions:

2015  
2016 ~~(formerly Section 4(e)(i)(A))~~(i) A requirement that the permittee ~~comply~~  
2017 complies with all conditions of the permit, and a statement that any permit noncompliance  
2018 constitutes a violation of these regulations and is grounds for enforcement action, permit  
2019 termination, revocation and reissuance, or modification, or for denial of a permit renewal  
2020 application;

2021  
2022 ~~(formerly Section 4(e)(i)(B))~~ A requirement that if the permittee wishes to  
2023 ~~continue injection activity after the expiration date of the permit, the permittee must apply to the~~  
2024 ~~Administrator for, and obtain, a new permit prior to expiration of the existing permit;~~

2025  
2026 ~~(formerly Section 4(e)(i)(C))~~(ii) A stipulation that it shall not be a defense  
2027 for a permittee in an enforcement action that it would have been necessary to halt or reduce the  
2028 permitted activity in order to maintain compliance with the conditions of this permit;

2029  
2030 ~~(formerly Section 4(e)(i)(D))~~(iii) A requirement that the permittee shall take  
2031 all reasonable steps to minimize or correct any adverse impact on the environment resulting from  
2032 noncompliance with this permit;

2033  
2034 ~~(formerly Section 4(e)(i)(E))~~(iv) A requirement that the permittee properly  
2035 operates and maintains all facilities and systems of treatment and control, and related  
2036 appurtenances, that are installed or used by the permittee to achieve compliance with the  
2037 conditions of this permit. Proper operation and maintenance includes effective performance,  
2038 adequate funding and operator staffing and training, and adequate laboratory and process  
2039 controls including appropriate quality assurance procedures. This provision requires the  
2040 operation of back-up or auxiliary facilities or similar systems only when necessary to achieve  
2041 compliance with the conditions of the permit;

2042  
2043 ~~(formerly Section 4(e)(i)(F))~~(v) A stipulation that the filing of a request by  
2044 the permittee, or at the instigation of the Administrator, for a permit modification, revocation,

2045 termination, or notification of planned changes or anticipated non-compliance, shall not stay any  
2046 permit condition;

2047  
2048 ~~(formerly Section 4(e)(i)(G))~~(vi) A stipulation that ~~this~~ the permit does not  
2049 convey any property rights of any sort, or any exclusive privilege;

2050  
2051 ~~(formerly Section 4(e)(i)(H))~~(vii) A stipulation that the permittee shall furnish  
2052 to the Administrator, within a specified time, any information that the Administrator ~~may~~  
2053 requests to determine whether cause exists for modifying, revoking and reissuing, or terminating  
2054 the permit, or to determine compliance with the permit. The permittee shall also furnish to the  
2055 Administrator, upon request, copies of records required to be kept by the permit;

2056  
2057 ~~(formerly Section 4(e)(i)(I))~~(viii) A requirement that the permittee shall allow  
2058 the Administrator, or an authorized representative of the Administrator, upon the presentation of  
2059 credentials, during normal working hours, to enter the premises where a regulated facility is  
2060 located, or where records are kept under the conditions of this permit, and;

2061  
2062 ~~(formerly Section 4(e)(i)(I)(I))~~(A) Inspect the discharge and related  
2063 facilities, practices, or operations regulated or required under this permit;

2064  
2065 ~~(formerly Section 4(e)(i)(I)(II))~~(B) Review and copy reports and records  
2066 required by the permit;

2067  
2068 ~~(formerly Section 4(e)(i)(I)(III))~~(C) Collect fluid samples for analysis for  
2069 the purposes of ~~assuring~~ ensuring permit compliance or as otherwise authorized by the ~~SDWA,~~  
2070 Wyoming Environmental Quality Act of any substances or parameters at any location;

2071  
2072 ~~(formerly Section 4(e)(i)(I)(IV))~~(D) Measure and record water levels; ~~and~~

2073  
2074 (E) Collect resource data as defined by W.S. § 6-3-414; and

2075  
2076 ~~(formerly Section 4(e)(i)(I)(V))~~(F) Perform any other function  
2077 authorized by law or regulation.

2078  
2079 (ix) A requirement that:

2080  
2081 (A) If the facility is located on property not owned by the permittee,  
2082 the permittee shall also secure from the landowner upon whose property the facility is located  
2083 permission for Department personnel and their invitees to enter the premises where the facility is  
2084 located, or where records are kept under the conditions of this permit, and collect resource data  
2085 as defined by W.S. § 6-3-414, inspect and photograph the facility, collect samples for analysis,  
2086 review records, and perform any other function authorized by law or regulation. The permittee  
2087 shall secure and maintain such access for the duration of the permit and the post-injection site  
2088 care and site closure period; and

2089

2090 (B) If the facility cannot be directly accessed using public roads, the  
2091 permittee shall also secure permission for Department personnel and their invitees to enter and  
2092 cross all properties necessary to access the facility. The permittee shall secure and maintain such  
2093 access for the duration of the permit and the post-injection site care and site closure period;  
2094

2095 ~~(formerly Section 4(e)(i)(J))(x)~~ A requirement that the permittee furnishes  
2096 any information necessary to establish a testing and monitoring ~~program~~ pursuant to Section ~~14~~  
2097 20 of this eChapter. Conditions shall specify:

2098  
2099 ~~(formerly Section 4(e)(i)(J)(I))(A)~~ Required monitoring including type,  
2100 intervals, and frequency sufficient to yield data that are representative of the monitored activity  
2101 including when appropriate, continuous monitoring;

2102  
2103 ~~(formerly Section 4(e)(i)(J)(H))(B)~~ Requirements concerning the proper  
2104 use, maintenance, and installation, ~~when appropriate,~~ of monitoring equipment or methods,  
2105 including biological monitoring methods ~~when appropriate;~~ and

2106  
2107 ~~(formerly Section 4(e)(i)(J)(H))(C)~~ Applicable rReporting and notice  
2108 requirements based upon the impact of the regulated activity and as specified in Section ~~15~~ 22 of  
2109 this eChapter. Reporting shall be no less frequent than specified in ~~the above regulations.~~ Section  
2110 22 of this Chapter;

2111  
2112 ~~(formerly Section 4(e)(i)(K))(xi)~~ A requirement that all samples and  
2113 measurements taken for the purpose of monitoring shall be representative of the monitored  
2114 activity and that records of all monitoring information be retained by the permittee. ~~The~~  
2115 ~~monitoring information to be retained shall be that information stipulated in the monitoring~~  
2116 ~~program established pursuant to the criteria in Section 14 of this chapter;~~

2117  
2118 ~~(formerly Section 4(e)(i)(L))(xii)~~ A requirement that all applications, reports,  
2119 and other information submitted to the Administrator contain the certifications ~~as~~ required in  
2120 Section ~~5(i)~~ 10(d) of this eChapter ~~by a responsible corporate officer, and be signed by a person~~  
2121 ~~who meets the requirements to sign permit applications found in Section 5(h), or for routine~~  
2122 ~~reports, a duly authorized representative;~~

2123  
2124 (A) A responsible corporate officer, as defined in Section 2(mm) of  
2125 this Chapter, may authorize an individual or a position that does not meet the requirements of  
2126 subparagraphs (i), (ii), (iii), or (iv) of Section 2(mm) to act as a “duly authorized representative.”  
2127 ~~(formerly located at Section 5(h)(iv)) A person is authorized~~ To authorize as a responsible officer  
2128 duly authorized representative only if:

2129  
2130 ~~(formerly located at Section 5(h)(iv)(A))(I)~~ The authorization is  
2131 ~~made in writing by a person described in paragraphs (i) through (iii) in this subsection~~ A person  
2132 who meets the requirements of subparagraph (i), (ii), (iii), or (iv) of Section 2(mm) shall  
2133 authorize the duly authorized representative in writing;

2134

2135 ~~(formerly located at Section 5(h)(iv)(B))~~(II) The authorization  
2136 ~~shall specifies specify either~~ an individual or a position having responsibility for the overall  
2137 operation of the regulated facility or activity, such as the position of plant manager, operator of a  
2138 well or a well field, superintendent, or position of equivalent responsibility. ~~(A duly authorized~~  
2139 ~~representative may thus be either a named individual or any individual occupying a named~~  
2140 ~~position);~~ and

2141  
2142 ~~(formerly located at Section 5(h)(iv)(B))~~(III) \_\_\_\_\_ The  
2143 ~~responsible corporate officer shall submit the~~ written authorization ~~is submitted~~ to the  
2144 Administrator.

2145  
2146 ~~(formerly located at Section 5(h)(v))~~(B) \_\_\_\_\_ If an authorization under  
2147 ~~paragraph (iv) of this subsection~~ subparagraph (A) of this subparagraph is no longer accurate  
2148 because a different individual or position has responsibility for the overall operation of the  
2149 facility, ~~a new authorization satisfying the requirements of paragraph (iv) of this subsection must~~  
2150 ~~be submitted to the responsible corporate official shall notify~~ the Administrator that the  
2151 authorization is no longer accurate or shall submit to the Administrator a new authorization  
2152 satisfying the requirements of subparagraph (A) of this subparagraph prior to or together with  
2153 any reports, or information, ~~or applications~~ to be signed by ~~an~~ duly authorized representative.

2154  
2155 ~~(formerly Section 4(e)(i)(M))~~(xiii) A requirement that the permittee give  
2156 advance notice to the Administrator as soon as possible of any planned physical alteration or  
2157 additions, other than authorized operation and maintenance, to the permitted facility and receive  
2158 authorization from the Administrator prior to implementing the proposed alteration or addition;

2159  
2160 ~~(formerly Section 4(e)(i)(N))~~(xiv) A requirement that any modification that  
2161 may result in a violation of a permit condition shall be reported to the Administrator, and any  
2162 modification that will result in a violation of a permit condition shall be reported to the  
2163 Administrator through the submission of a new or amended permit application;

2164  
2165 ~~(formerly Section 4(e)(i)(O))~~(xv) A requirement that any transfer of a permit  
2166 ~~must shall~~ first be approved by the ~~Administrator~~ Director, and that no transfer will be approved  
2167 if the facility is not in compliance with the existing permit unless the proposed permittee agrees  
2168 to bring the facility into compliance;

2169  
2170 ~~(formerly Section 4(e)(i)(P))~~(xvi) A requirement that monitoring results shall  
2171 be reported at the intervals specified ~~elsewhere~~ in the permit;

2172  
2173 ~~(formerly Section 4(e)(i)(Q))~~(xvii) A requirement that reports of compliance or  
2174 non-compliance, or any progress reports on interim and final requirements contained in any  
2175 compliance schedule, ~~(if one is required by the Administrator,)~~ shall be submitted no later than  
2176 thirty (30) days following each schedule date;

2177  
2178 ~~(formerly Section 4(e)(i)(R))~~(xviii) ~~A requirement that the permittee shall report~~  
2179 The following reporting and mitigation requirements:

2180



2181 ~~(formerly Section 4(e)(i)(R)(I))(A)~~ If Any monitoring or other  
2182 information ~~that~~ indicates that any contaminant ~~may cause an endangerment to a USDW or~~  
2183 ~~indicates that~~ the injected carbon dioxide stream, displaced formation fluids, or associated  
2184 pressure front may endanger a USDW or threaten human health, safety, or the environment. ~~In~~  
2185 ~~addition,~~ the ~~owner or operator~~ permittee shall:

2186  
2187 ~~(formerly Section 4(e)(i)(R)(I)(1.))~~(I) Immediately cease injection;

2188  
2189 ~~(formerly Section 4(e)(i)(R)(I)(2.))~~(II) Take all steps  
2190 reasonably necessary to identify and characterize any release; ~~and~~

2191  
2192 ~~(formerly Section 4(e)(i)(R)(I)(3.))~~(III) Orally Notify the  
2193 Administrator within twenty-four (24) hours: of discovering the condition; and

2194  
2195 ~~formerly Section 4(e)(i)(R)(II))~~(IV) Provide a written submission  
2196 report shall be provided to the Administrator within five (5) days of ~~the time the permittee~~  
2197 ~~becomes aware of discovering any excursion or indication that a contaminant may cause an~~  
2198 ~~endangerment to a USDW~~ the condition. The written submission report shall contain:

2199  
2200 ~~formerly Section 4(e)(i)(R)(II)(1.))~~(1.) \_\_\_\_\_ A description  
2201 of the ~~noncompliance~~ endangerment and its cause;

2202  
2203 ~~formerly Section 4(e)(i)(R)(II)(2.))~~(2.) \_\_\_\_\_ The period of  
2204 ~~noncompliance~~ endangerment, including exact dates and times, and, if the ~~noncompliance~~  
2205 endangerment has not been controlled, the anticipated time it is expected to continue; and

2206  
2207 ~~formerly Section 4(e)(i)(R)(II)(3.))~~(3.) \_\_\_\_\_ The Steps taken or  
2208 planned to reduce, eliminate, and prevent reoccurrence of the ~~noncompliance~~ endangerment;

2209  
2210 ~~formerly Section 4(e)(i)(R)(II))(B)~~ If the permittee discovers Any  
2211 noncompliance with a permit condition or a requirement of this Chapter that may cause fluid  
2212 migration into or between USDWs, or any malfunction of the injection system that may cause  
2213 fluid migration into or between USDWs, ~~or if any excursion, is discovered~~ the permittee shall:

2214  
2215 ~~formerly Section 4(e)(i)(R)(II))(I)~~ It shall be oOrally reported to  
2216 notify the Administrator within twenty-four (24) hours ~~from the time the permittee becomes~~  
2217 ~~aware of the circumstances,~~ of discovering the condition;

2218  
2219 ~~formerly Section 4(e)(i)(R)(II))(II)~~ and Provide a written  
2220 submission report to the Administrator shall be provided within five (5) days of ~~the time the~~  
2221 ~~permittee becomes aware of any excursion or indication that a contaminant may cause an~~  
2222 ~~endangerment to a USDW.~~ discovering the condition, which ~~The written submission~~ shall  
2223 contain:

2224  
2225 ~~formerly Section 4(e)(i)(R)(II)(1.))~~(1.) \_\_\_\_\_ A description of the  
2226 noncompliance, malfunction, or excursion and its cause;

2227  
2228 ~~formerly Section 4(e)(i)(R)(II)(2.))(2.)~~ The period of  
2229 noncompliance, malfunction, or excursion, including exact dates and times, and, if the  
2230 noncompliance, malfunction, or excursion has not been controlled, the anticipated time it is  
2231 expected to continue; and

2232  
2233 ~~formerly Section 4(e)(i)(R)(II)(3.))(3.)~~ The Ssteps taken or  
2234 planned to reduce, eliminate, and prevent reoccurrence of the noncompliance, malfunction, or  
2235 excursion.

2236 .  
2237 ~~formerly Section 4(e)(i)(R)(III))(III)~~ In addition, if an excursion is  
2238 discovered, ~~the owner or operator shall~~ provide written notice to all surface owners, mineral  
2239 claimants, mineral owners, lessees, and other owners of record of subsurface interests within  
2240 thirty (30) days of ~~discovery~~ discovering the excursion; and

2241  
2242 ~~formerly Section 18(b)(v))(IV)~~ Implement the emergency and  
2243 remedial response plan approved by the Administrator;

2244  
2245 ~~(formerly Section 4(e)(i)(S))(xix)~~ A requirement that the permittee report all  
2246 instances of noncompliance not already required to be reported under ~~paragraphs (e)(i)(Q)~~  
2247 ~~through (R) subparagraph (b)(xix)(B)~~ of this ~~s~~Section, at the time monitoring reports are  
2248 submitted. The reports shall contain the information listed in ~~paragraph (e)(i)(R) subparagraph~~  
2249 ~~(b)(xix)(B)(II)~~ of this ~~s~~Section;

2250  
2251 ~~(formerly Section 4(e)(i)(T))(xx)~~ A requirement that if the permittee becomes  
2252 aware that it failed to submit any relevant facts in a permit application, or submitted incorrect  
2253 information in a permit application or in any report to the Administrator, the permittee shall  
2254 promptly submit such facts or information;

2255  
2256 ~~(formerly Section 4(e)(i)(U))(xxi)~~ A requirement that the injection facility  
2257 meet construction requirements outlined in Section 9 14 of this ~~e~~Chapter, ~~and~~ that the permittee  
2258 submit a notice of completion of construction to the Administrator; ~~and~~ that the permittee allows  
2259 ~~for the Administrator to~~ inspection of the facility upon completion of construction; ~~and~~ prior to  
2260 commencing any underground injection activity;

2261  
2262 ~~(formerly Section 4(e)(i)(V))(xxii)~~ A requirement that the permittee ~~notify~~  
2263 notifies the Administrator ~~at such times as the permit requires~~ before ~~conversion or~~ abandonment  
2264 of the facility;

2265  
2266 ~~(formerly Section 4(e)(i)(W))(xxiii)~~ A requirement that injection ~~may~~ shall not  
2267 commence until construction is complete. ~~, and that~~ Construction is complete when:

2268  
2269 ~~(formerly Section 4(e)(i)(W)(I))(A)~~ The permittee has submitted a notice  
2270 of completion of construction to the Administrator; and

2271

2272 ~~(formerly Section 4(e)(i)(W)(H))(B)~~ The Administrator has inspected or  
2273 otherwise reviewed the injection well and ~~finds~~ found it is in compliance with the conditions of  
2274 the permit.;

2275  
2276 ~~(formerly Section 4(e)(i)(W)(H))(I)~~ Within thirteen (13) days of  
2277 the date of the notice in subparagraph (xxii) of this paragraph, the Administrator shall provide  
2278 notice to the permittee of the ~~or the permittee has not received notice from the Administrator of~~  
2279 ~~their~~ intent to inspect or otherwise review the injection well. ~~within thirteen (13) days of the date~~  
2280 ~~of the notice in subparagraph (U) of this paragraph.~~ The notice shall include a reasonable time  
2281 period in which the Administrator shall inspect or review the well; but

2282  
2283 ~~(formerly Section 4(e)(i)(W)(H))(II)~~ If the Administrator does not  
2284 provide the notice required by subparagraph (I) of this subparagraph, the requirement for ~~in~~  
2285 ~~which case~~ prior inspection or review is waived, and the permittee may commence injection.;

2286 ~~The Administrator shall include in his notice a reasonable time period in which they shall inspect~~  
2287 ~~the well.~~

2288  
2289 ~~(formerly Section 4(e)(i)(X))(xxiv)~~ A requirement that the ~~owner or~~  
2290 ~~operator of a Class VI well permitted under this part~~ permittee shall establish mechanical  
2291 integrity prior to commencing injection or on a schedule determined by the Administrator. and  
2292 that ~~T~~ thereafter, the ~~owner or operator of a Class VI wells~~ permittee must shall maintain  
2293 mechanical integrity as defined in Section ~~13~~ 19 of this ~~e~~Chapter;

2294  
2295 ~~(formerly Section 4(e)(i)(Y))(xxv)~~ A requirement that ~~when if~~ the  
2296 Administrator determines that a Class VI well lacks mechanical integrity ~~pursuant to Section 13~~  
2297 ~~of this chapter, he/she shall~~ and gives written notice of ~~his/her~~ the determination to the ~~owner or~~  
2298 ~~operator. permittee, the permittee shall:~~

2299  
2300 ~~(formerly Section 4(e)(i)(Y)(I)(A)~~ Unless the Administrator  
2301 ~~requires immediate cessation, the owner or operator shall e~~ Cease injection into the well within  
2302 forty-eight (48) hours of receipt of the Administrator's determination. ~~unless the Administrator~~  
2303 requires immediate cessation;

2304  
2305 ~~(formerly Section 4(e)(i)(Y)(H)(B)~~ The Administrator may allow  
2306 plugging of the well pursuant to the requirements of Section 16 of this chapter or require the  
2307 permittee to pPerform ~~such additional~~ any construction, operation, monitoring, reporting, and  
2308 corrective action ~~as is necessary that the Administrator requires~~ to prevent the movement of fluid  
2309 into or between USDWs caused by the lack of mechanical integrity. ~~or plug the well pursuant to~~  
2310 the requirements of Section 23 of this Chapter if allowed by the Administrator; and

2311  
2312 ~~(formerly Section 4(e)(i)(Y)(H)(C)~~ The owner or operator may  
2313 resume injection upon written notification from the Administrator ~~Not resume injection into the~~  
2314 well until the Administrator provides written notice that the ~~owner or operator permittee~~ has  
2315 demonstrated mechanical integrity pursuant to Section ~~13~~ 19 of this ~~e~~Chapter.

2316

2317 ~~(formerly Section 4(e)(i)(Z))(xxvi)~~ A requirement that, for any Class VI  
2318 well that lacks mechanical integrity, injection operations are prohibited until the permittee shows  
2319 to the satisfaction of the Administrator under Section ~~13~~ 19 of this ~~e~~Chapter that the well has  
2320 mechanical integrity;

2321  
2322 ~~(formerly Section 4(e)(i)(AA))(xxvii)~~ A Class VI permit shall  
2323 ~~include conditions that meet the requirements set forth in Section 16 of this chapter. Where the~~  
2324 ~~plan meets the requirements of Section 16 of this chapter, A requirement that the permittee~~  
2325 ~~comply with a well-plugging plan that meets the requirements of Section 23 of this Chapter,~~  
2326 ~~which the Administrator shall be incorporated it into the permit as a permit condition; and~~  
2327 ~~Temporary or intermittent cessation of injection operations is not abandonment.~~

2328  
2329 ~~(formerly Section 4(e)(i)(BB))(xxviii)~~ Class VI injection well  
2330 ~~permits shall include e~~Conditions meeting that implement the requirements of Section ~~9~~ 14 of  
2331 this ~~e~~Chapter. ~~Permits shall contain the following requirements when applicable~~ The conditions  
2332 shall:

2333  
2334 ~~(formerly Section 4(e)(i)(BB)(I))(A)~~ Require A all wells ~~shall to~~  
2335 achieve compliance with ~~such~~ the requirements of Section 14 of this Chapter according to a  
2336 compliance schedule established as a permit condition; ~~The owner or operator of a proposed~~  
2337 ~~new injection well shall submit plans for testing, drilling, and construction as part of the permit~~  
2338 ~~application.~~

2339  
2340 ~~(formerly Section 4(e)(i)(BB)(II))(B)~~ Prohibit No construction ~~may~~  
2341 from commenceing until a permit has been issued containing construction requirements;:

2342  
2343 ~~(formerly Section 4(e)(i)(BB)(III))(C)~~ Require that A all  
2344 wells ~~shall be in compliance~~ comply with these construction requirements of Section 14 of this  
2345 Chapter prior to commencing injection operations. Changes in construction plans during  
2346 construction may be approved by the Administrator as minor modifications. No such changes  
2347 may be physically incorporated into construction of the well prior to approval of the modification  
2348 by the Administrator.

2349  
2350 ~~(formerly Section 4(e)(i)(BB)(IV))(D)~~ Include a Ccorrective  
2351 action plan as set forth in Section ~~8~~ 13 of this ~~e~~Chapter;:

2352  
2353 ~~(formerly Section 4(e)(i)(BB)(V))(E)~~ Require that all wells comply  
2354 with the Operational requirements ~~as set forth in of~~ Section ~~9~~ 14 of this ~~e~~Chapter;

2355  
2356 ~~(formerly Section 4(e)(i)(BB)(V))(F)~~ the permit shall eEstablish  
2357 any maximum injection volumes and ~~or~~ pressures necessary to ensure that fractures are not  
2358 initiated in the confining zone, to ensure that injected fluids do not migrate into any underground  
2359 source of drinking water, to ensure that formation fluids are not displaced into any underground  
2360 source of drinking water, and to ensure compliance with the operating requirements;:

2361

2362 ~~(formerly Section 4(e)(i)(BB)(VI))(G)~~ Establish  
2363 Monitoring and reporting requirements ~~as~~ set forth in Sections ~~14-20~~ and ~~15-22~~ of this  
2364 eChapter. The permittee shall be required to identify types of tests and methods used to generate  
2365 the monitoring data: ; and  
2366  
2367 ~~(formerly Section 4(e)(i)(BB)(VII))(H)~~ The owner or operator  
2368 of a Class VI well must Require the permittee to comply with the financial responsibility  
2369 requirements set forth in Section ~~19-26~~ of this eChapter.  
2370  
2371 ~~(formerly Section 4(a)(v)(c))~~ Permits for Class VI wells shall be issued for the operating  
2372 life of the facility and extend through the post-injection site care period until the geologic  
2373 sequestration project is closed in accordance with Department rules and regulations  
2374 Administrator certifies site closure pursuant to Section 24(b)(iii) of this Chapter.  
2375  
2376 ~~(formerly Section 4(a)(vi)(d))~~ Permits may be issued for individual Class VI wells and  
2377 shall not be issued on an area basis for multiple points of discharge operated by the same person.  
2378  
2379 ~~(formerly Section 4(e)(i)(CC))(e)~~ The permits may, ~~when appropriate,~~ specify a  
2380 schedule of compliance leading to compliance with ~~the SDWA and 40 CFR Parts 144, 145, 146,~~  
2381 ~~and 124~~ permit conditions, this Chapter, and the Wyoming Environmental Quality Act, W.S. §  
2382 35-11-101 et seq.  
2383  
2384 ~~(formerly Section 4(e)(i)(CC)(I))(i)~~ Any schedules of compliance shall require  
2385 compliance as soon as possible, and in no case later than three (3) years after the effective date of  
2386 the permit.  
2387  
2388 ~~(formerly Section 4(e)(i)(CC)(II))(ii)~~ If a permit establishes a schedule of  
2389 compliance that exceeds one (1) year from the date of permit issuance, the schedule shall set  
2390 forth interim requirements and the dates for their achievement. (formerly Section  
2391 4(e)(i)(CC)(II)(1.)) The time between interim dates shall not exceed one (1) year unless,  
2392 (formerly Section 4(e)(i)(CC)(II)(2.)) The time necessary for completion of any interim  
2393 requirement is more than one (1) year and is not readily divisible into stages for completion, and  
2394 in that case, the permit shall specify interim dates for the submission of reports of progress  
2395 toward completion of the interim requirements and indicate a projected completion date.  
2396  
2397 ~~(formerly Section 4(e)(i)(III))(iii)~~ The permit compliance schedule shall be  
2398 written to require that if paragraph (e)(i)(CC)(I) of this section is applicable, the permittee to  
2399 submit progress reports ~~be submitted~~ no later than thirty (30) days following each interim date  
2400 and the final date of compliance.  
2401  
2402 ~~(formerly Section 4(e)(ii))(f)~~ In addition to the conditions required of all permits, tThe  
2403 Administrator Director shall ~~establish~~ include in permits, on a case-by-case basis:;  
2404  
2405 ~~(formerly Section 4(e)(ii))(i)~~ eConditions as required for monitoring, schedules  
2406 of compliance, and such any additional conditions ~~as are~~ necessary to prevent the migration of  
2407 fluids into underground sources of drinking water. ~~In the case of wells authorized by permit,~~

2408 ~~these additional requirements shall be imposed by modifying the permit in accordance with this~~  
2409 ~~section, or the permit may be terminated under this section if cause exists, or appropriate~~  
2410 ~~enforcement action may be taken if the permit has been violated.~~The Director shall evaluate what  
2411 conditions are necessary and shall establish these conditions when issuing, modifying, or  
2412 revoking and reissuing permits; and

2413  
2414 ~~(formerly Section 4(e)(iii))~~(ii)~~In addition to conditions required in all permits the~~  
2415 ~~Administrator shall establish e~~Conditions in permits as required on a case-by-case basis, to  
2416 ~~provide for and~~ ensure compliance with all applicable requirements of ~~the SDWA and 40 CFR~~  
2417 ~~Parts 144, 145, 146, and 124~~this Chapter and the Wyoming Environmental Quality Act, W.S. §  
2418 35-11-101 et seq.

2419  
2420 ~~(formerly Section 4(e)(iv))~~(g) ~~New permits, and t~~To the extent allowed possible under  
2421 ~~Section 4 9 of this Chapter,~~ modified or revoked and reissued permits, shall incorporate ~~each of~~  
2422 ~~the applicable requirements referenced~~all of the permit conditions required in by this sSection.  
2423 ~~An applicable requirement is a State statutory or regulatory requirement that takes effect prior to~~  
2424 ~~final administrative disposition of the permit. An applicable requirement is also any requirement~~  
2425 ~~that takes effect prior to the modification or revocation and reissuance of a permit, to the extent~~  
2426 ~~allowed in Section 4.~~

2427  
2428 (h) When they meet the requirements of this Chapter and are approved by the  
2429 Administrator, all plans shall be incorporated into the permit.

2430  
2431 ~~(formerly Section 5(b)(xviii))~~~~Proposed stimulation program, a description of~~  
2432 ~~stimulation fluids to be used, and a determination that stimulation will not compromise~~  
2433 ~~containment. All stimulation programs must be approved by the Administrator as part of the~~  
2434 ~~permit application and incorporated into the permit;~~

2435  
2436 ~~(formerly Section 5(b)(xxviii))~~~~Proposed injection and monitoring well(s)~~  
2437 ~~plugging plan required by Section 16(b) of this chapter; where the plan meets the requirements~~  
2438 ~~of Section 16(b) of this chapter, the Administrator shall incorporate it into the permit as a permit~~  
2439 ~~condition.~~

2440  
2441 **Section 10. ~~Class VI Injection Depth Waiver Requirements.~~ Permit Application.**

2442  
2443 ~~(a) The owner and/or operator seeking a waiver of the requirement to inject below the~~  
2444 ~~lowermost USDW shall submit a supplemental report concurrent with the permit application.~~  
2445 ~~The report shall contain the following:~~

2446  
2447 ~~\_\_\_\_\_ (i) A demonstration that the injection zones are laterally continuous, is not a~~  
2448 ~~USDW, and is not hydraulically connected to USDWs; does not outcrop within the area of~~  
2449 ~~review; has adequate injectivity, volume, and sufficient porosity to safely contain the injected~~  
2450 ~~carbon dioxide and formation fluids; and has appropriate geochemistry.~~

2451  
2452 ~~\_\_\_\_\_ (ii) A demonstration that the injection zones are bounded by laterally~~  
2453 ~~continuous, impermeable confining units above and below the injection zones adequate to~~

2454 ~~prevent fluid movement and pressure buildup outside of the injection zones; and that the~~  
2455 ~~confining unit(s) is/are free of transmissive faults and fractures. The report shall further~~  
2456 ~~characterize the regional fracture properties and contain a demonstration that the fractures will~~  
2457 ~~not interfere with injection, serve as conduits, or endanger USDWs.~~

2458  
2459 ~~—————(iii)——A computer model demonstrating that USDWs above and below the~~  
2460 ~~injection zone will not be endangered as a result of fluid movement. The modeling shall be done~~  
2461 ~~in conjunction with the area of review determination, as described in Section 8 of this chapter,~~  
2462 ~~and is subject to requirements, as described in Section 8(e) of this chapter, and periodic~~  
2463 ~~reevaluation, as described in Section 8(d) of this chapter.~~

2464  
2465 ~~—————(iv)——A demonstration that well design and construction, in conjunction with the~~  
2466 ~~waiver, will ensure isolation of the injectate in lieu of the requirements of Section 9(a)(i) of this~~  
2467 ~~chapter and will meet the well construction requirements of paragraph (f) of this section.~~

2468  
2469 ~~—————(v)——A description of how the monitoring and testing and any additional plans~~  
2470 ~~will be tailored to this geologic sequestration project to ensure protection of USDWs above and~~  
2471 ~~below the injection zone.~~

2472  
2473 ~~—————(vi)——Information on the location of all public water supplies affected,~~  
2474 ~~reasonably likely to be affected, or served by USDWs in the area of review.~~

2475  
2476 ~~—————(vii)——Any other information requested by the Administrator.~~

2477  
2478 ~~—————(b)——To inform the EPA Regional Administrator’s decision on whether to grant a~~  
2479 ~~waiver of the injection depth requirements of 40 CFR §§ 144.6, 146.5(f), and 146.86(a)(1), the~~  
2480 ~~Administrator must submit, to the EPA Regional Administrator, documentation of the following:~~

2481  
2482 ~~—————(i)——An evaluation of the following information as it relates to siting,~~  
2483 ~~construction, and operation of a geologic sequestration project with a waiver:~~

2484  
2485 ~~—————(A)——The integrity of the upper and lower confining units;~~

2486  
2487 ~~—————(B)——The suitability of the injection zone(s) (e.g., lateral continuity; lack~~  
2488 ~~of transmissive faults and fractures; knowledge of current or planned artificial penetrations into~~  
2489 ~~the injection zone(s) or formations below the injection zone);~~

2490  
2491 ~~—————(C)——The potential capacity of the geologic formation(s) to sequester~~  
2492 ~~carbon dioxide, accounting for the availability of alternative injection sites;~~

2493  
2494 ~~—————(D)——All other site characterization data, the proposed emergency and~~  
2495 ~~remedial response plan, and a demonstration of financial responsibility;~~

2496  
2497 ~~—————(E)——Community needs, demands, and supply from drinking water~~  
2498 ~~resources;~~

2499

2500 ~~\_\_\_\_\_ (F) \_\_\_\_\_ Planned needs, potential and/or future use of USDWs and non-~~  
2501 ~~USDWs in the area;~~  
2502  
2503 ~~\_\_\_\_\_ (G) \_\_\_\_\_ Planned or permitted water, hydrocarbon, or mineral resource~~  
2504 ~~exploitation potential of the proposed injection formation(s) and other formations both above and~~  
2505 ~~below the injection zone to determine if there are any plans to drill through the formation to~~  
2506 ~~access resources in or beneath the proposed injection zone(s)/formation(s);~~  
2507  
2508 ~~\_\_\_\_\_ (H) \_\_\_\_\_ The proposed plan for securing alternative resources or treating~~  
2509 ~~USDW formation waters in the event of contamination related to the Class VI injection activity;~~  
2510 ~~and~~  
2511 ~~\_\_\_\_\_ (I) \_\_\_\_\_ Any other applicable considerations or information requested by~~  
2512 ~~the Administrator.~~  
2513  
2514 ~~\_\_\_\_\_ (ii) \_\_\_\_\_ Consultation with the Public Water System Supervision Directors of all~~  
2515 ~~States and Tribes having jurisdiction over lands within the area of review of a well for which a~~  
2516 ~~waiver is sought.~~  
2517  
2518 ~~\_\_\_\_\_ (iii) \_\_\_\_\_ Any written waiver related information submitted by the Public Water~~  
2519 ~~System Supervision Director(s) to the (UIC) Director.~~  
2520  
2521 ~~\_\_\_\_\_ (e) \_\_\_\_\_ Concurrent with the Class VI permit application public notice process, the~~  
2522 ~~Administrator shall give public notice that an injection depth waiver request has been submitted.~~  
2523 ~~The notice shall clearly state:~~  
2524  
2525 ~~\_\_\_\_\_ (i) \_\_\_\_\_ The depth of the proposed injection zone(s);~~  
2526  
2527 ~~\_\_\_\_\_ (ii) \_\_\_\_\_ The location of the injection wells;~~  
2528  
2529 ~~\_\_\_\_\_ (iii) \_\_\_\_\_ The name and depth of all USDWs within the area of review;~~  
2530  
2531 ~~\_\_\_\_\_ (iv) \_\_\_\_\_ A map of the area of review;~~  
2532  
2533 ~~\_\_\_\_\_ (v) \_\_\_\_\_ The names of any public water supplies affected, reasonably likely to be~~  
2534 ~~affected, or served by the USDWs in the area of review; and~~  
2535  
2536 ~~\_\_\_\_\_ (vi) \_\_\_\_\_ The results of any consultation between the UIC program and the Public~~  
2537 ~~Water System Supervision program within the area of review.~~  
2538  
2539 ~~\_\_\_\_\_ (d) \_\_\_\_\_ Following the injection depth waiver application public notice, the Administrator~~  
2540 ~~of the Water Quality Division of the Department of Environmental Quality shall provide all the~~  
2541 ~~information received through the waiver application process to the US EPA Regional~~  
2542 ~~Administrator. Based on the information provided, the US EPA Regional Administrator shall~~  
2543 ~~provide written concurrence or non-concurrence regarding waiver issuance.~~  
2544



2545 ~~————— (i) — If the US EPA Regional Administrator requires additional information to~~  
2546 ~~make a decision, the Administrator of the Water Quality Division of the Department of~~  
2547 ~~Environmental Quality shall provide the information. The US EPA Regional Administrator may~~  
2548 ~~require public notice of the new information.~~  
2549  
2550 ~~————— (ii) — The Administrator of the Water Quality Division of the Department of~~  
2551 ~~Environmental Quality shall not issue a depth injection waiver without receipt of written~~  
2552 ~~concurrence from the US EPA Regional Administrator.~~  
2553  
2554 ~~————— (e) — If an injection depth waiver is issued, within thirty (30) days of issuance, the EPA~~  
2555 ~~shall post the following information on the Office of Water’s website:~~  
2556  
2557 ~~————— (i) — The depth of the proposed injection zone(s).~~  
2558  
2559 ~~————— (ii) — The location of the injection wells.~~  
2560  
2561 ~~————— (iii) — The name and depth of all USDWs within the area of review.~~  
2562  
2563 ~~————— (iv) — A map of the area of review.~~  
2564  
2565 ~~————— (v) — The names of any public water supplies affected, reasonably likely to be~~  
2566 ~~affected, or served by the USDWs in the area of review.~~  
2567  
2568 ~~————— (vi) — The date of waiver issuance.~~  
2569  
2570 ~~————— (f) — Upon receipt of a waiver of the requirement to inject below the lowermost USDW~~  
2571 ~~for geologic sequestration, the owner or operator of a Class VI well must comply with the~~  
2572 ~~following:~~  
2573  
2574 ~~————— (i) — All requirements of Sections 8, 11, 12, 13, 15, 16, 18, and 19 of this~~  
2575 ~~chapter.~~  
2576  
2577 ~~————— (ii) — All the requirements of Section 9 of this chapter with the following~~  
2578 ~~modified requirements:~~  
2579  
2580 ~~————— (A) — The Class VI well shall be constructed and completed to prevent~~  
2581 ~~the movement of fluids into any unauthorized zones including USDWs, in lieu of requirements~~  
2582 ~~of Section 9(a)(i) of this chapter.~~  
2583  
2584 ~~————— (B) — The casing and cementing program shall be designed to prevent the~~  
2585 ~~movement of fluids into any unauthorized zones including USDWs, in lieu of requirements of~~  
2586 ~~Section 9(b) and 9(b)(i) of this chapter.~~  
2587  
2588 ~~————— (C) — The casing shall extend through the base of the nearest USDW~~  
2589 ~~directly above the injection zone and shall be cemented to the surface; or at the Administrator’s~~

2590 ~~discretion, another formation above the injection zone and below the nearest USDW above the~~  
2591 ~~injection zone.~~

2592  
2593 ~~\_\_\_\_\_ (iii) All the requirements of Section 14 of this chapter with the following~~  
2594 ~~modified requirements:~~

2595  
2596 ~~\_\_\_\_\_ (A) The owner or operator shall monitor the groundwater quality,~~  
2597 ~~geochemical changes, and pressure in the first USDWs immediately above and below the~~  
2598 ~~injection zone(s); and any other formation at the discretion of the Administrator.~~

2599  
2600 ~~\_\_\_\_\_ (B) The owner or operator shall conduct testing and monitoring to~~  
2601 ~~track the extent of the carbon dioxide plume and the presence or absence of elevated pressure~~  
2602 ~~(e.g., the pressure front) by using direct methods to monitor for pressure changes in the injection~~  
2603 ~~zone(s); and, indirect methods (e.g., seismic, electrical, gravity, or electromagnetic surveys~~  
2604 ~~and/or down hole carbon dioxide detection tools), unless the Administrator determines, based on~~  
2605 ~~site specific geology, that such methods are not appropriate.~~

2606  
2607 ~~\_\_\_\_\_ (iv) All requirements of Section 17 of this chapter with the following,~~  
2608 ~~modified post-injection site care monitoring requirements:~~

2609  
2610 ~~\_\_\_\_\_ (A) The owner or operator shall monitor the groundwater quality,~~  
2611 ~~geochemical changes and pressure in the first USDWs immediately above and below the~~  
2612 ~~injection zone; and in any other formations at the discretion of the Administrator.~~

2613  
2614 ~~\_\_\_\_\_ (B) Testing and monitoring to track the extent of the carbon dioxide~~  
2615 ~~plume and the presence or absence of elevated pressure (e.g., the pressure front) by using direct~~  
2616 ~~methods in the injection zone(s); and indirect methods (e.g., seismic, electrical, gravity, or~~  
2617 ~~electromagnetic surveys and/or down hole carbon dioxide detection tools), unless the~~  
2618 ~~Administrator determines based on site specific geology, that such methods are not appropriate;~~

2619  
2620 ~~\_\_\_\_\_ (v) Any additional requirements requested by the Administrator to ensure~~  
2621 ~~protection of USDWs above and below the injection zone(s).~~

2622  
2623 ~~(formerly Section 5(a))(a)~~ (a) It is the operator's responsibility to ~~make application~~ apply  
2624 for and obtain a permit in accordance with these regulations. Each application ~~must~~ shall be  
2625 submitted with all supporting data.

2626  
2627 ~~(formerly Section 5(b))(b)~~ (b) In addition to the requirements of W.S. § 35-11-313(f)(ii),  
2628 A a complete application for a Class VI well shall include:

2629  
2630 ~~(formerly Section 5(b)(i))(i)~~ (i) A brief description of the nature of the business and  
2631 the activities to be conducted that require the applicant to obtain a permit under this ~~e~~Chapter~~;~~  
2632

2633 ~~(formerly Section 5(b)(ii))(ii)~~ (ii) The name, address, and telephone number of the  
2634 operator, and the operator's ownership status and status as a ~~F~~State, private, public, or  
2635 other entity~~;~~;

2636  
2637 ~~(formerly Section 5(b)(iii))~~(iii) Up to four ~~SIC~~ (Standard Industrial  
2638 Classification) codes that best reflect the principal products or services provided by the facility.;

2639  
2640 ~~(formerly Section 5(b)(iv))~~(iv) The name, address, and telephone number of  
2641 the facility.;

2642  
2643 ~~(formerly Section 5(b)(iv))~~(v) ~~Additionally, t~~The location of the geologic  
2644 sequestration project ~~shall be~~ identified by section, township, range, and county, noting which, ~~if~~  
2645 ~~any~~, sections (if any) include Indian lands.;

2646  
2647 ~~(formerly Section 5(b)(v))~~(vi) Within the area of review, a listing and status of all  
2648 permits or construction approvals associated with the geologic sequestration project received or  
2649 applied for ~~by the applicant~~ under any of the following programs or corresponding state  
2650 programs:

2651  
2652 ~~(formerly Section 5(b)(v)(A))~~(A) Hazardous Waste Management  
2653 under the Resource Conservation and Recovery Act ~~(RCRA)~~, 42 U.S.C. § 6901 et seq.;

2654  
2655 ~~(formerly Section 5(b)(v)(B))~~(B) UIC Program under the Safe  
2656 Drinking Water Act, 42 U.S.C. § 300f et seq.;

2657  
2658 ~~(formerly Section 5(b)(v)(C))~~(C) National Pollutant Discharge  
2659 Elimination System ~~(NPDES)~~ under the Clean Water Act, 33 U.S.C. § 1251 et seq.;

2660  
2661 ~~(formerly Section 5(b)(v)(D))~~(D) Prevention of Significant  
2662 Deterioration ~~(PSD)~~ program under the Clean Air Act, 42 U.S.C. § 7401 et seq.;

2663  
2664 ~~(formerly Section 5(b)(v)(E))~~(E) Nonattainment program under the  
2665 Clean Air Act, 42 U.S.C. § 7401 et seq.;

2666  
2667 ~~(formerly Section 5(b)(v)(F))~~(F) National Emissions Standards for  
2668 Hazardous Air Pollutants ~~(NESHAPs)~~ pre-construction approval under the Clean Air Act, 42  
2669 U.S.C. § 7401 et seq.;

2670  
2671 ~~(formerly Section 5(b)(v)(G))~~(G) Dredge and fill permitting program  
2672 under section 404 of the Clean Water Act, 33 U.S.C. § 1251 et seq.;

2673  
2674 ~~(formerly Section 5(b)(vi))~~(vii) Within the area of review, a list of other  
2675 relevant permits, ~~whether federal or state~~, associated with the geologic sequestration project that  
2676 the applicant ~~has been~~ is required to obtain. ~~such as construction permits.~~

2677  
2678 ~~(formerly Section 5(b)(vi))~~(viii) ~~This includes a~~ A statement ~~as to~~ of whether  
2679 ~~or not~~ the facility geologic sequestration project is within a state-approved water quality  
2680 management plan area, a state-approved wellhead protection area or a state-approved source  
2681 water protection area.;

2682  
2683 ~~(formerly Section 5(b)(vii))(ix)~~ A map showing the injection well(s) for  
2684 which a permit is sought and the applicable area of review, consistent with Section ~~8~~ 13 of this  
2685 ~~e~~Chapter;

2686  
2687 ~~(formerly Section 5(b)(vii)(A))(A)~~ Within the area of review, the map  
2688 ~~must~~ shall ~~show~~ list the number, or name and location of:

2689  
2690 ~~(formerly Section 5(b)(vii)(A))(I)~~ a ~~All known~~ injection wells,  
2691 producing wells, abandoned wells, plugged wells, ~~or~~ or dry holes, or deep stratigraphic boreholes;

2692  
2693 ~~(formerly Section 5(b)(vii)(A))(II)~~ All state- or EPA-approved  
2694 subsurface cleanup sites;

2695  
2696 ~~(formerly Section 5(b)(vii)(A))(III)~~ All public drinking water  
2697 ~~supply~~ water quality management plan areas, wellhead protection areas, ~~or~~ and source water  
2698 protection areas;

2699  
2700 ~~(formerly Section 5(b)(vii)(A))(IV)~~ All surface bodies of water,  
2701 springs, mines (surface and subsurface), quarries, and water wells; ~~and~~

2702  
2703 ~~(formerly Section 5(b)(vii)(A))(V)~~ o ~~Other~~ pertinent surface  
2704 features, including structures intended for human occupancy;

2705  
2706 ~~(formerly Section 5(b)(vii)(A))(VI)~~ Roads; and

2707  
2708 ~~(formerly Section 5(b)(vii)(A))(VII)~~ s ~~State, tribal, and territory~~  
2709 and Indian reservation boundaries; ~~and roads~~;

2710  
2711 ~~(formerly Section 5(b)(vii)(B))(B)~~ ~~Only information~~ The applicant shall  
2712 include on this map all relevant information of public record ~~is required to be included on this~~  
2713 ~~map,~~ or known to the applicant; and

2714  
2715 ~~(formerly Section 5(b)(vii)(C))(C)~~ The map ~~should~~ shall also show  
2716 known or suspected faults; ~~if known or suspected~~;

2717  
2718 ~~(formerly Section 5(b)(viii))(x)~~ A map delineating the area of review that:

2719  
2720 (A) Meets the requirements of Section 13 of this Chapter;

2721  
2722 ~~(formerly Section 5(b)(viii))(B)~~ Is based upon modeling;

2723  
2724 ~~(formerly Section 5(b)(viii))(C)~~ using Uses all available data,  
2725 including data available from any logging and testing of wells within and adjacent to (within one  
2726 (1) mile of) ~~to~~ the area of review; and

2727

2728 ~~(formerly Section 5(b)(viii)(B))(D)~~ (D) ~~All areas of review shall be legally~~  
2729 ~~described~~ Describes the area of review by township, range, and section to the nearest ten (10)  
2730 acres, as described under the general land survey system.;

2731  
2732 ~~(formerly Section 5(b)(ix)(xi))~~ For the description required by W.S. 35-11-  
2733 313(f)(ii)(A), ~~A description of the general geology of the area to be affected by the injection of~~  
2734 ~~carbon dioxide including geochemistry, structure and faulting, fracturing and seals, and~~  
2735 ~~stratigraphy and lithology including petrophysical attributes. The description shall also include~~  
2736 sufficient information on the geologic structure and reservoir properties of the proposed storage  
2737 site and overlying formations, including:

2738  
2739 ~~(formerly Section 5(b)(ix)(A)(A))~~ (A) Isopach maps of the proposed  
2740 injection and confining zone(s), a structural contour map aligned with the top of the proposed  
2741 injection zone, and at least two (2) geologic cross-sections of the area of review reasonably  
2742 perpendicular to each other and showing the geologic formations from the surface to total depth;

2743  
2744 ~~(formerly Section 5(b)(ix)(B)(B))~~ (B) Location, orientation, and properties  
2745 of known or suspected faults and fractures that may transect the confining zone(s) in the area of  
2746 review and a determination that they ~~would~~ will not ~~interfere with containment~~ allow fluid  
2747 movement;

2748  
2749 ~~(formerly Section 5(b)(ix)(C)(C))~~ (C) Information on seismic history that  
2750 ~~have~~ has affected the proposed area of review including knowledge of previous seismic events  
2751 and history of these events, the presence and depth of seismic sources, and a determination that  
2752 the seismicity ~~would~~ will not ~~compromise containment~~ allow fluid movement out of the injection  
2753 zone;

2754  
2755 ~~(formerly Section 5(b)(ix)(D)(D))~~ (D) Data sufficient to demonstrate the  
2756 effectiveness of the injection and confining zone(s), including:

2757  
2758 ~~(formerly Section 5(b)(ix)(D)(I))~~ (I) ~~d~~Data on the depth, areal  
2759 extent, thickness, mineralogy, porosity, vertical permeability, and capillary pressure of the  
2760 injection and confining zone(s) within the area of review.;

2761  
2762 ~~(formerly Section 5(b)(ix)(D)(II))~~ (II) A description of geologic  
2763 changes based on field data that may include geologic cores, outcrop data, seismic surveys, well  
2764 logs, and names and lithologic descriptions;

2765  
2766 ~~(formerly Section 5(b)(ix)(E)(E))~~ (E) Geomechanical information on  
2767 fractures, stress, ductility, rock strength, and in situ fluid pressures within the confining zone;  
2768 and

2769  
2770 ~~(formerly Section 5(b)(ix)(F)(F))~~ (F) Geologic and topographic maps and  
2771 cross-sections illustrating regional geology, hydrogeology, and the geologic structure of the local  
2772 area.;

2773

2774 ~~(formerly Section 5(b)(x)(xii))~~ A compilation list of all wells and other drill holes  
2775 within; and adjacent to (within one (1) mile) ~~to~~ the area of review. ~~Such data must~~ The list shall  
2776 include a description of each well and drill hole type, construction, date drilled, location, depth,  
2777 record of plugging and ~~or~~ completion, and any additional information the Administrator ~~may~~  
2778 requires;

2779  
2780 ~~(formerly Section 5(b)(x)(A)(xiii))~~ ~~Applicants shall also identify~~ A list  
2781 of the identity and ~~the~~ location of all known wells within; and adjacent to (within one (1) mile) ~~to~~  
2782 the area of review that penetrate the confining or injection zone;

2783  
2784 ~~(formerly Section 5(b)(x)(B))~~ ~~Applicants shall perform mapping with~~  
2785 ~~sufficient resolution as to make a comprehensive effort to identify wells that are not in the public~~  
2786 ~~record using aerial photography, aerial survey, physical traverse, or other methods acceptable to~~  
2787 ~~the Administrator.~~

2788  
2789 ~~(formerly Section 5(b)(x)(C))~~ ~~Applicants shall perform corrective action as~~  
2790 ~~specified in Section 8 of this chapter.~~

2791  
2792 ~~(formerly Section 5(b)(xi)(xiv))~~ Maps and stratigraphic cross-sections  
2793 indicating the general vertical and lateral limits of all USDWs in the area of review; the location  
2794 of water wells and springs ~~within~~ the area of review; ~~the~~ ~~ir~~ positions relative to the injection  
2795 zone(s) of all USDWs, water wells, and springs in the area of review, and the direction of water  
2796 movement; ~~where~~ (if known);

2797  
2798 ~~(formerly Section 5(b)(xii)(xv))~~ ~~A~~ For the characterization required by W.S.  
2799 35-11-313(f)(ii)(B), ~~of the injection zone and aquifers above and below the injection zone that~~  
2800 ~~may be affected, including applicable pressure and fluid chemistry data to describe the projected~~  
2801 ~~effects of injection activities, and background water quality data that will facilitate the~~  
2802 ~~classification of any groundwaters that may be affected by the proposed discharge. This must~~  
2803 ~~include~~ information necessary for the Division to classify the receiver and any secondarily  
2804 affected aquifers under Water Quality Rules and Regulations Chapter 8;

2805  
2806 ~~(formerly Section 5(b)(xiii)(xvi))~~ Baseline geochemical data on subsurface  
2807 formations, including all USDWs in the area of review;

2808  
2809 ~~(formerly Section 5(b)(xiv)(xvii))~~ Proposed operating data, including:

2810  
2811 ~~(formerly Section 5(b)(xiv)(A)(A))~~ (A) Average and maximum daily rate  
2812 and volume and ~~or~~ mass and total anticipated volume and ~~or~~ mass of the carbon dioxide stream;

2813  
2814 ~~(formerly Section 5(b)(xiv)(B)(B))~~ (B) Average and maximum surface  
2815 injection pressure;

2816  
2817 ~~(formerly Section 5(b)(xiv)(C)(C))~~ (C) The source of the carbon dioxide  
2818 stream; and

2819

2820 ~~(formerly Section 5(b)(xiv)(D))(D)~~ An analysis of the chemical and  
2821 physical characteristics of the carbon dioxide stream and any other substance(s) proposed for  
2822 inclusion in the injectate stream; and

2823  
2824 ~~(formerly Section 5(b)(xiv)(E))(E)~~ Anticipated duration of the proposed  
2825 injection period(s);

2826  
2827 ~~(formerly Section 5(b)(xv))(xviii)~~ The compatibility of the carbon dioxide  
2828 stream with fluids in the injection zone and minerals in both the injection and the confining  
2829 zone(s), based on the results of the formation testing program, and with the materials used to  
2830 construct the well;

2831  
2832 ~~(formerly Section 5(b)(xvi))—An assessment of the impact to fluid resources, on~~  
2833 ~~subsurface structures and the surface of lands that may reasonably be expected to be impacted,~~  
2834 ~~and the measures required to mitigate such impacts;~~

2835  
2836 ~~(formerly Section 5(b)(xvii))(xix)~~ Proposed formation testing program to  
2837 obtain an analysis of the chemical and physical characteristics of the injection zone and  
2838 confining zone and that meets the requirements of Section ~~H~~ 16 of this ~~e~~Chapter;

2839  
2840 ~~(formerly Section 5(b)(xviii))(xx)~~ Proposed stimulation program, a description  
2841 of stimulation fluids to be used, and a determination that stimulation will not ~~compromise~~  
2842 ~~containment~~ allow fluid movement out of the injection zone. ~~All stimulation programs must be~~  
2843 ~~approved by the Administrator as part of the permit application and incorporated into the permit;~~

2844  
2845 ~~(formerly Section 5(b)(xix))(xxi)~~ Proposed procedure that outlines steps to  
2846 conduct injection operations;

2847  
2848 ~~(formerly Section 5(b)(xx))(xxii)~~ A wellbore schematic of the subsurface  
2849 construction details and surface wellhead construction of the injection and monitoring wells;

2850  
2851 ~~(formerly Section 7(a))(xxiii)~~ ~~Owners or operators of Class VI wells must~~  
2852 A demonstration, to the satisfaction of the Administrator, that the injection wells will be sited in  
2853 areas with a suitable geologic system. ~~The geologic system must be comprised of that meets the~~  
2854 requirements of Section 12(a) of this Chapter, including:

2855  
2856 ~~(formerly Section 7(b))(A)~~ ~~Owners or operators of Class VI wells must~~  
2857 identification and characterization of additional zones, if they exist, that will impede vertical  
2858 fluid movement, allow for pressure dissipation, and provide additional opportunities for  
2859 monitoring, mitigation, and remediation; and

2860  
2861 ~~(formerly Section 7(b))(B)~~ Identification of ~~V~~vertical faults and  
2862 fractures that transect these zones ~~must be~~ identified. in subparagraph (A) of this subparagraph;

2863

2864 ~~(formerly Section 5(b)(xxi))~~(xxiv) Injection well design and construction  
2865 procedures that meet the requirements of Section ~~9~~ 14 of this ~~e~~Chapter, including the information  
2866 listed in Section 14(c)(ii) of this Chapter;

2867  
2868 ~~(formerly Section 5(b)(xxii))~~(xxv) Proposed area of review and corrective  
2869 action plan that meets the requirements under Section ~~8~~ 13 of this ~~e~~Chapter;

2870  
2871 ~~(formerly Section 5(b)(xxiii))~~(xxvi) The status of corrective action on wells in  
2872 the area of review;

2873  
2874 ~~(formerly Section 5(b)(xxiv))~~(xxvii) All available logging and testing program  
2875 data on the well(s) required by Section ~~11~~ 17 of this ~~e~~Chapter;

2876  
2877 ~~(formerly Section 5(b)(xxv))~~(xxviii) A demonstration of mechanical integrity  
2878 ~~pursuant to~~ required by Section ~~13~~ 19 of this ~~e~~Chapter;

2879  
2880 ~~(formerly Section 5(b)(xxvi))~~(xxix) A demonstration, satisfactory to the  
2881 Administrator, that the applicant has met the financial responsibility requirements ~~under of~~  
2882 Section ~~19~~ 26 of this ~~e~~Chapter;

2883  
2884 ~~(formerly Section 19(e)(i))~~(xxx) The A written financial assurance cost  
2885 estimate required by Section 26(b) of this Chapter; ~~for the various phases of the sequestration~~  
2886 ~~project shall consider the following events:~~

2887  
2888 ~~(formerly Section 5(g))~~(xxxi) ~~An applicant applying for a Class VI well permit must~~  
2889 ~~obtain A~~ public liability insurance certificate ~~to cover the geologic sequestration activities for which~~  
2890 ~~a permit is sought. that, in addition to meeting the requirements of W.S. § 35-11-313(f)(ii)(O),~~  
2891 demonstrates that the public liability insurance policy meets the requirements of Section  
2892 26(l)(i)(B) of this Chapter; identifies each facility by name, address, and EPA Identification  
2893 Number; and identifies the amounts and types of coverage for each facility;

2894  
2895 ~~(formerly Section 5(b)(xxvii))~~(xxxii) Proposed testing and monitoring plan  
2896 required by Section ~~14~~ 20 of this ~~e~~Chapter;

2897  
2898 ~~(formerly Section 5(b)(xxviii))~~(xxxiii) Proposed injection and monitoring  
2899 well(s) plugging plan required by Section ~~16(b)~~ 23 of this ~~e~~Chapter; ~~where the plan meets the~~  
2900 ~~requirements of Section 16(b) of this chapter, the Administrator shall incorporate it into the~~  
2901 ~~permit as a permit condition.~~

2902  
2903 ~~(formerly Section 5(b)(xxix))~~(xxxiv) Proposed post-injection site care and site  
2904 closure plan required by Section ~~17(a)~~ 24(a) of this ~~e~~Chapter;

2905  
2906 ~~(formerly Section 5(b)(xxx))~~(xxxv) Proposed emergency and remedial response  
2907 plan required by Section ~~18~~ 25 of this ~~e~~Chapter;

2908



2909 ~~(formerly Section 5(b)(xxxiv)(xxxvi))~~ A list of contacts, ~~submitted to the~~  
2910 ~~Administrator,~~ for those states or Tribes on Indian lands identified pursuant to be within the area  
2911 ~~of review of the geologic sequestration project based on information provided in~~ subparagraphs  
2912 ~~(b)(vii), (b)(vii)(A), (b)(vii)(B)~~ (b)(v) and (b)(ix)(A)(VII) of this sSection; and

2913  
2914 ~~(formerly Section 5(b)(xxxv)(xxxvii))~~ Any other information requested by the  
2915 Administrator.

2916  
2917 ~~(formerly Section 5(h))(c)~~ All applications for permits, reports, or information ~~to be~~  
2918 submitted to the Administrator shall be signed by a responsible corporate officer ~~as follows:~~

2919  
2920 ~~(formerly Section 5(i))(d)~~ The application shall contain the following certification by  
2921 the ~~person~~ responsible corporate officer signing the application:

2922  
2923 “I certify under penalty of law that this document and all attachments were prepared  
2924 under my direction or supervision in accordance with a system designed to ensure that qualified  
2925 personnel properly gather and evaluate the information submitted. Based on my inquiry of the  
2926 person or persons who manage the system, or those persons directly responsible for gathering the  
2927 information, the information submitted is, to the best of my knowledge and belief, true, accurate,  
2928 and complete. I am aware that there are significant penalties for submitting false information,  
2929 including the possibility of fine and imprisonment for knowing violations.”

2930  
2931 ~~(formerly Section 4(a)(viii))(e)~~ Sections of permit applications ~~filed under this~~  
2932 ~~chapter~~ that represent engineering work shall be sealed, signed, and dated by a licensed  
2933 professional engineer as required by W.S. § 33-29-601.

2934  
2935 ~~(formerly Section 4(a)(ix))(f)~~ Sections of permit applications ~~filed under this chapter~~ that  
2936 represent geologic work shall be sealed, signed, and dated by a licensed professional geologist as  
2937 required by W.S. § 33-41-115.

2938  
2939 **Section 11. ~~Logging, Sampling, and Testing Prior to Injection Well Operation.~~**  
2940 **Prohibitions.**

2941  
2942 ~~(a) — During the drilling and construction of a Class VI injection well, the owner or~~  
2943 ~~operator must run appropriate logs, surveys and tests to determine or verify the depth, thickness,~~  
2944 ~~porosity, permeability, and lithology of, and the salinity of any formation fluids in all relevant~~  
2945 ~~geologic formations in order to ensure conformance with the injection well construction~~  
2946 ~~requirements under Section 9 of this chapter, and to establish accurate baseline data against~~  
2947 ~~which future measurements may be compared. The owner or operator must submit to the~~  
2948 ~~Administrator a descriptive report prepared by a knowledgeable log analyst that includes an~~  
2949 ~~interpretation of the results of such logs and tests. At a minimum, such logs and tests must~~  
2950 ~~include:~~

2951  
2952 ~~(i) — Deviation checks measured during drilling on all holes constructed by~~  
2953 ~~drilling a pilot hole that is subsequently enlarged by reaming or another method. Such checks~~  
2954 ~~must be at sufficiently frequent intervals to determine the location of the borehole and to ensure~~

2955 ~~that vertical avenues for fluid movement in the form of diverging holes are not created during~~  
2956 ~~drilling; and~~

2957  
2958 (ii) ~~— Before and upon installation of the surface casing:~~

2959  
2960 (A) ~~— Resistivity, spontaneous potential, and caliper logs before the~~  
2961 ~~casing is installed; and~~

2962  
2963 (B) ~~— A cement bond and variable density log, or other approved device~~  
2964 ~~to evaluate cement quality radially with sufficient resolution to identify channels, voids, or other~~  
2965 ~~areas of missing cement, and a temperature log, after the casing is set and cemented.~~

2966  
2967 (iii) ~~— Before and upon installation of the long string casing:~~

2968  
2969 (A) ~~— Resistivity, spontaneous potential, porosity, caliper, gamma ray,~~  
2970 ~~fracture finder logs, and any other logs the Administrator requires for the given geology before~~  
2971 ~~the casing is installed; and~~

2972  
2973 (B) ~~— A cement bond and variable density log, and a temperature log~~  
2974 ~~after the casing is set and cemented.~~

2975  
2976 (iv) ~~— Test(s) designed to demonstrate the internal and external mechanical~~  
2977 ~~integrity of injection wells, which may include:~~

2978  
2979 (A) ~~— A pressure test with liquid or gas;~~

2980  
2981 (B) ~~— A tracer survey, such as oxygen activation logging;~~

2982  
2983 (C) ~~— A temperature or noise log; and~~

2984  
2985 (D) ~~— A casing inspection log.~~

2986  
2987 (v) ~~— Any alternative methods that provide equivalent or better information and~~  
2988 ~~that are required of, and/or approved by the Administrator.~~

2989  
2990 (b) ~~— The owner or operator must take whole cores or sidewall cores of the injection~~  
2991 ~~zone and confining system, and formation fluid samples from the injection zone(s), and submit to~~  
2992 ~~the Administrator a detailed report prepared by a log analyst that includes:~~

2993  
2994 (i) ~~— Well log analyses (including well logs);~~

2995  
2996 (ii) ~~— Core analyses; and~~

2997  
2998 (iii) ~~— Formation fluid sample information.~~

2999

3000 (iv) ~~—The Administrator may accept data from cores and fluid samples from~~  
3001 ~~nearby wells if the owner or operator can demonstrate that such data are representative of~~  
3002 ~~conditions in the wellbore.~~

3003  
3004 (e) ~~—The owner or operator must record the formation fluid temperature, formation~~  
3005 ~~fluid pH and conductivity, reservoir pressure, and static fluid level of the injection zone(s).~~

3006  
3007 (d) ~~—The owner or operator must determine fracture pressures of the injection and~~  
3008 ~~confining zones and verify hydrogeologic and geo-mechanical characteristics of the injection~~  
3009 ~~zone by conducting a pressure fall-off test, any other information requested by the Administrator;~~  
3010 ~~and,~~

3011  
3012 (i) ~~—A pump test; or~~

3013  
3014 (ii) ~~—Injectivity tests.~~

3015  
3016 (e) ~~—The owner or operator must provide the Administrator with the opportunity to~~  
3017 ~~witness all logging and testing by this section. The owner or operator must submit a schedule of~~  
3018 ~~such activities to the Administrator prior to conducting the first test and notify the Administrator~~  
3019 ~~of any changes to the schedule thirty (30) days prior to the next scheduled test.~~

3020  
3021 (formerly Section 6(a))(a) ~~In addition to the requirements in Pursuant to the~~  
3022 ~~provisions of~~ W.S. § 35-11-301(a), no person shall:

3023  
3024 (formerly Section 6(a)(i))(i) ~~Discharge into, construct, operate, or modify any~~  
3025 ~~Class VI well unless permitted pursuant to this eChapter;~~

3026  
3027 (formerly Section 6(a)(ii))(ii) ~~Discharge~~ or inject to any zone except the  
3028 authorized ~~discharge~~ injection zone as described in the permit;

3029  
3030 (formerly Section 6(a)(iii))(iii) ~~Conduct any~~ authorized injection activity in  
3031 a manner that results in a violation of any permit condition; or that conflicts with any  
3032 representations made in the a permit application; ~~or the request for coverage under the~~  
3033 ~~individual permit. A permit condition supersedes any application content.~~

3034  
3035 (formerly Section 6(a)(iv))(iv) ~~Construct, operate, maintain, convert, plug,~~  
3036 ~~abandon, or conduct any other injection activity in a manner that allows the movement of fluid~~  
3037 ~~containing any contaminant into underground sources of drinking water, if the presence of that~~  
3038 ~~contaminant may cause a violation of any primary drinking water regulation~~ under contained in  
3039 40 C.F.R. Part 141, Subparts E, F, and G, or may otherwise adversely affect ~~the human~~ health of  
3040 persons, safety, or the environment. The applicant for a permit shall have the burden of showing  
3041 that the requirements of this paragraph are met.

3042  
3043 (formerly Section 6(e))(v) ~~No person shall i~~Inject any hazardous waste that has been  
3044 banned from land disposal pursuant to Wyoming Hazardous Waste Rules, Chapter 1; ~~;~~

3046 ~~(formerly Section 6(d))(vi)~~ The ~~e~~Construction of a new, ~~or~~ operation an existing, or  
3047 ~~maintenance maintain~~ of any an existing Class V wells for non-experimental geologic  
3048 sequestration ~~is prohibited~~.

3049  
3050 ~~(formerly Section 4(a)(iii))(b)~~ Injections from Class VI wells shall ~~be restricted~~  
3051 inject only to ~~those~~ receivers ~~defined~~ classified by the Department pursuant to Water Quality  
3052 Rules and Regulations, Chapter 8, as Class V (Hydrocarbon Commercial) or Class VI  
3053 groundwaters ~~by the Department pursuant to Water Quality Rules and Regulations Chapter 8~~. No  
3054 Class VI well shall inject to any Class I, Class II, Class III, Class IV, or unclassified  
3055 groundwaters.

3056  
3057 ~~(formerly Section 6(e))(c)~~ The Administrator ~~may identify (by narrative description,~~  
3058 ~~illustrations, maps, or other means) and~~ shall designate and protect as underground sources of  
3059 drinking water, all aquifers and parts of aquifers that meet the definition of “underground source  
3060 of drinking water” in Section 2 of this Chapter, except to the extent there is expansion to the  
3061 areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer  
3062 exemption for the exclusive purpose of Class VI injection for geologic sequestration under  
3063 Section 5(e) 16 of this ~~e~~Chapter. ~~Other than EPA-approved aquifer exemption expansions that~~  
3064 ~~meet the criteria set forth in Section 5(e) of this chapter, new aquifer exemptions shall not be~~  
3065 ~~issued for Class VI injection wells. Even if an aquifer has not been specifically identified by the~~  
3066 ~~Administrator, it is an underground source of drinking water if it meets the definition in Section~~  
3067 ~~2 of this chapter~~.

3068  
3069 ~~(formerly Section 6(e))(i)~~ The Administrator may identify underground  
3070 sources of drinking water ~~(by narrative description, illustrations, maps, or other means)~~.

3071  
3072 ~~(formerly Section 6(e))(ii)~~ Other than EPA-approved aquifer exemption  
3073 expansions that meet the ~~criteria set forth in~~ requirements of Section 5(e) 16 of this ~~e~~Chapter,  
3074 new aquifer exemptions shall not be issued for Class VI injection wells. Even if an aquifer has  
3075 not been specifically identified by the Administrator, it is an underground source of drinking  
3076 water if it meets the definition in Section 2 of this ~~e~~Chapter.

3077  
3078 **Section 12. ~~Injection Well Operating Requirements~~. Minimum Criteria for Siting**  
3079 **Class VI Wells**.

3080  
3081 (a) ~~—The owner or operator must ensure that injection pressure does not exceed ninety~~  
3082 ~~(90) percent of the fracture pressure of the injection zone(s) so as to ensure that the injection~~  
3083 ~~does not initiate new fractures or propagate existing fractures in the injection zone(s).~~

3084  
3085 (i) ~~—In no case may injection pressure cause movement of injection or~~  
3086 ~~formation fluids in a manner that endangers a USDW, or otherwise threatens human health,~~  
3087 ~~safety, or the environment.~~

3088  
3089 (ii) ~~—In no case may injection pressure initiate fractures in the confining zone(s)~~  
3090 ~~or cause the movement of injectate or formation fluids that endangers a USDW or otherwise~~  
3091 ~~threatens human health, safety, or the environment.~~

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~~(b) — Injection of the carbon dioxide stream between the outermost casing protecting USDWs and the wellbore is prohibited.~~

~~(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 Administrator. The owner or operator must maintain on the annulus a pressure that exceeds the operating injection pressure, unless the Administrator determines that such requirement might harm the integrity of the well or endanger USDWs.~~

~~(d) — Other than during periods of well workover or maintenance approved by the Administrator in which the sealed tubing-casing annulus is, by necessity, disassembled for maintenance or corrective procedures, the owner or operator must maintain mechanical integrity of the injection well at all times.~~

~~(e) — The owner or operator must install and use continuous recording devices to monitor:~~

~~(i) — Injection pressure; and~~

~~(ii) — Rate, volume, and temperature of the carbon dioxide stream.~~

~~(f) — The owner or operator must install and use continuous recording devices to monitor the pressure on the annulus between the tubing and the long string casing and annulus fluid volume.~~

~~(g) — The owner or operator must install, test, and use alarms and automatic surface shut-off systems, or at the discretion of the Administrator use down-hole shut-off systems (e.g., automatic shut-off, check valves), or other mechanical devices that provide equivalent protection, designed to alert the operator and shut-in the well when operating parameters such as injection rate, injection pressure, or other parameters approved by the Administrator diverge beyond ranges and/or gradients specified in the permit.~~

~~(h) — If an automatic shutdown is triggered or a loss of mechanical integrity is discovered, the owner or operator must immediately investigate and identify as expeditiously as possible the cause. If, upon such investigation, the well appears to be lacking mechanical integrity, or if monitoring required under paragraphs (c), (f), and (g) of this section otherwise indicates that the well may be lacking mechanical integrity, the owner or operator must:~~

~~(i) — Immediately cease injection;~~

~~(ii) — Take all steps reasonably necessary to determine whether there may have been a release of the injected carbon dioxide stream or formation fluids into any unauthorized zone;~~

~~(iii) — Notify the Administrator within twenty-four (24) hours;~~

3138  
3139 (iv) ~~Restore and demonstrate mechanical integrity to the satisfaction of the~~  
3140 ~~Administrator as soon as practicable and prior to resuming injection; and~~

3141  
3142 (v) ~~Notify the Administrator when injection can be expected to resume.~~

3143  
3144 ~~(formerly Section 7(a))(a)~~ (a) Owners or operators of All Class VI wells ~~must shall~~  
3145 ~~demonstrate to the satisfaction of the Administrator that the wells will~~ be sited in areas with a  
3146 suitable geologic system. The geologic system ~~must shall~~ be comprised of:

3147  
3148 ~~(formerly Section 7(a)(i))(i)~~ (i) An injection zone of sufficient areal extent,  
3149 thickness, porosity, and permeability to receive the total anticipated volume of the carbon  
3150 dioxide stream; and

3151  
3152 ~~(formerly Section 7(a)(ii))(ii)~~ (ii) ~~A~~ Confining zone(s) that ~~is~~ are free of transmissive  
3153 faults or fractures and of sufficient areal extent and integrity to contain the injected carbon  
3154 dioxide stream and displaced formation fluids and allow injection at proposed maximum  
3155 pressures and volumes without initiating or propagating fractures in the confining zone(s) or  
3156 causing non-transmissive faults to become transmissive.

3157  
3158 ~~(formerly Section 7(a))(b)~~ (b) Owners or operators of Class VI wells ~~must shall~~ identify  
3159 and characterize additional zones, if they exist, that will impede vertical fluid movement, allow  
3160 for pressure dissipation, and provide additional opportunities for monitoring, mitigation, and  
3161 remediation. ~~Vertical f~~ Faults and fractures that transect these zones ~~must shall~~ be identified.

3162  
3163 **Section 13. ~~Mechanical Integrity.~~ Area of Review Delineation and Corrective**  
3164 **Action.**

3165  
3166 (a) ~~A Class VI well has mechanical integrity if:~~

3167  
3168 ~~————— (i) ——— There is no significant leak in the casing, tubing, or packer; and~~

3169  
3170 ~~————— (ii) ——— There is no significant fluid movement into a USDW through channels~~  
3171 ~~adjacent to the injection wellbore.~~

3172  
3173 ~~————— (b) ——— To evaluate the absence of significant leaks under paragraph (a)(i) of this section,~~  
3174 ~~owners or operators must, following an initial annulus pressure test, continuously monitor~~  
3175 ~~injection pressure, rate, injected volumes, and pressure on the annulus between tubing and long~~  
3176 ~~string casing and annulus fluid volume as specified in Section 12 (e) and (f) of this chapter;~~

3177  
3178 ~~————— (c) ——— At least once per year, the owner or operator must use one (1) of the following~~  
3179 ~~methods to determine the absence of significant fluid movement under subparagraph (a)(ii) of this~~  
3180 ~~section:~~

3181  
3182 ~~————— (i) ——— An approved tracer survey such as an oxygen activation log; or~~  
3183

3184 ~~—————(ii)—— A temperature or noise log.~~

3185

3186 ~~—————(d)—— If required by the Administrator, at a frequency specified in the testing and~~  
3187 ~~monitoring plan required in Section 14 of this chapter, the owner or operator must run a casing~~  
3188 ~~inspection log to determine the presence or absence of corrosion in the long-string casing.~~

3189

3190 ~~—————(e)—— The Administrator may require any other test to evaluate mechanical integrity~~  
3191 ~~under paragraph (a)(i) or (a)(ii) of this section. Also, the Administrator may allow the use of a~~  
3192 ~~test to demonstrate mechanical integrity other than those listed above, with the written approval~~  
3193 ~~of the US EPA Administrator. To obtain approval, the Administrator must submit a written~~  
3194 ~~request to the US EPA Administrator that must set forth the proposed test and all technical data~~  
3195 ~~supporting its use.~~

3196

3197 ~~—————(f)—— In conducting and evaluating the tests enumerated in this section or others to be~~  
3198 ~~allowed by the Administrator, the owner or operator and the Administrator must apply methods~~  
3199 ~~and standards generally accepted in the industry.~~

3200

3201 ~~—————(i)—— When the owner or operator reports the results of mechanical integrity~~  
3202 ~~tests to the Administrator, he/she shall include a description of the test(s) and the method(s) used.~~

3203

3204 ~~—————(ii)—— In making his/her evaluation, the Administrator must review monitoring~~  
3205 ~~and other test data submitted since the previous evaluation.~~

3206

3207 ~~—————(g)—— The Administrator may require additional or alternative tests if the results~~  
3208 ~~presented by the owner or operator under paragraph (e) of this section are not satisfactory to the~~  
3209 ~~Administrator to demonstrate that there is no significant leak in the casing, tubing or packer, or~~  
3210 ~~significant movement of fluid into or between USDWs resulting from the injection activity as~~  
3211 ~~stated in paragraphs (a)(i) and (a)(ii) of this section.~~

3212

3213 ~~(formerly Section 8(b))(a)~~ The owner or operator of a Class VI well ~~must~~ shall  
3214 prepare, maintain, and comply with a plan to delineate the area of review for a proposed geologic  
3215 sequestration project, re-evaluate the delineation, and perform corrective action that meets the  
3216 requirements of this ~~s~~Section and is ~~acceptable to~~ approved by the Administrator. ~~(formerly~~  
3217 ~~Section 8(a))~~ The area of review ~~is~~ shall be based on computational modeling that accounts for  
3218 the physical and chemical properties of all phases of the injected carbon dioxide stream.  
3219 ~~(formerly Section 5(b)(viii)(A))~~ ~~A Class VI~~ The area of review shall never be less than the area  
3220 of potentially affected groundwater. ~~As a part of the permit application for approval by the~~  
3221 ~~Administrator, the owner or operator must submit a~~ An area of review and corrective action plan  
3222 ~~that shall~~ includes the following information:

3223

3224 ~~(formerly Section 8(b)(i))(i)~~ (i) The method for delineating the area of review that  
3225 meets the requirements of paragraph ~~(e)~~ (b) of this ~~s~~Section, including the name, version and  
3226 availability of the model ~~to~~ that will be used, assumptions that will be made, and the site  
3227 characterization data on which the model will be based;

3228

3229 ~~(formerly Section 8(b)(ii))(ii)~~ (ii) A description of:

3230  
3231 ~~(formerly Section 8(b)(ii)(A))(A)~~ (A) The monitoring and operational  
3232 conditions that would warrant a re-evaluation of the area of review prior to the next scheduled re-  
3233 evaluation as determined by the minimum fixed frequency established in paragraph ~~(a)(c)~~ of this  
3234 sSection.

3235  
3236 ~~(formerly Section 8(b)(ii)(B))(B)~~ (B) How monitoring and operational data  
3237 (e.g., injection rate and pressure) will be used to evaluate the area of review; and

3238  
3239 ~~(formerly Section 8(b)(ii)(C))(C)~~ (C) How corrective action will be  
3240 conducted to meet the requirements of paragraph ~~(e)(v)~~ (b)(v) of this sSection, including:

3241  
3242 ~~(formerly Section 8(b)(ii)(C)(I))(I)~~ (I) What corrective action will be  
3243 performed prior to injection;

3244  
3245 ~~(formerly Section 8(b)(ii)(C)(II))(II)~~ (II) What, if any, portions of the  
3246 area of review will have corrective action addressed on a phased basis, and how the phasing will  
3247 be determined;

3248  
3249 ~~(formerly Section 8(b)(ii)(C)(III))(III)~~ (III) How corrective action  
3250 will be adjusted if there are changes in the area of review; and

3251  
3252 ~~(formerly Section 8(b)(ii)(C)(IV))(IV)~~ (IV) How site access will  
3253 be ensured for future corrective action.

3254  
3255 ~~(formerly Section 8(e))(b)~~ (b) Owners or operators of Class VI wells ~~must~~ shall perform  
3256 the following actions to delineate the area of review, identify all wells that require corrective  
3257 action, and perform corrective action on those wells:

3258  
3259 ~~(formerly Section 8(e)(i))(i)~~ (i) Predict, using existing site characterization,  
3260 monitoring and operational data, and computational modeling:

3261  
3262 ~~(formerly Section 8(e)(i)(A))(A)~~ (A) The projected lateral and vertical  
3263 migration of the carbon dioxide plume and formation fluids in the subsurface from the  
3264 commencement of injection activities until the plume movement ceases;

3265  
3266 ~~(formerly Section 8(e)(i)(B))(B)~~ (B) The pressure differentials, ~~and~~  
3267 demonstrating that pressure differentials sufficient to cause the movement of injected fluids or  
3268 formation fluids into a USDW or to otherwise threaten human health, safety, or the environment  
3269 will not be present, ~~(or for until the end of~~ a fixed time period ~~as~~ determined by the  
3270 Administrator);

3271  
3272 ~~(formerly Section 8(e)(i)(C))(C)~~ (C) The potential need for brine  
3273 removal; and;

3274



3275 ~~(formerly Section 8(e)(i)(D))(D)~~ The long-term effects of pressure  
3276 buildup if brine is not removed.

3277  
3278 ~~(formerly Section 8(e)(ii))(ii)~~ The Use modeling ~~must~~ that:

3279  
3280 ~~(formerly Section 8(e)(ii)(A))(A)~~ ~~Be~~ Is based on:

3281  
3282 ~~(formerly Section 8(e)(ii)(A)(I))(I)~~ Detailed geologic data  
3283 available or collected to characterize the injection zone, confining zone, and any additional  
3284 zones; and

3285  
3286 ~~(formerly Section 8(e)(ii)(A)(II))(II)~~ Anticipated operating data,  
3287 including injection pressures, rates and total volumes over the proposed operational life of the  
3288 facility;

3289  
3290 ~~(formerly Section 8(e)(ii)(B))(B)~~ Takes into account any relevant  
3291 geologic heterogeneities, other discontinuities, data quality, and their possible impact on model  
3292 predictions; and

3293  
3294 ~~(formerly Section 8(e)(ii)(C))(C)~~ Considers potential migration  
3295 through faults, fractures, and artificial penetrations.

3296  
3297 ~~(formerly Section 8(e)(iii))(iii)~~ Using methods approved by the  
3298 Administrator, identify all penetrations, including active and abandoned wells and underground  
3299 mines, in the area of review that may penetrate the confining zone, and Provide a description of  
3300 each well's type, construction, date drilled, location, depth, record of plugging and ~~or~~  
3301 completion, and any additional information the Administrator may require; ~~and~~

3302  
3303 ~~(formerly Section 8(e)(iv))(iv)~~ Determine which abandoned wells in the  
3304 area of review have been plugged in a manner that prevents the movement of:

3305  
3306 ~~(formerly Section 8(e)(iv)(A))(A)~~ Carbon dioxide that may endanger  
3307 USDWs or otherwise threaten human health, safety, or the environment; or

3308  
3309 ~~(formerly Section 8(e)(iv)(B))(B)~~ Displaced formation fluids, or other  
3310 fluids, including the use of materials compatible with the carbon dioxide stream, that may  
3311 endanger USDWs or otherwise threaten human health, safety, or the environment; and

3312  
3313 ~~(formerly Section 8(e)(v))(v)~~ Owners or operators of Class VI wells ~~must~~ shall  
3314 ~~that are determined to need corrective action using methods that are approved by the~~  
3315 ~~Administrator, must~~ perform corrective action on all any wells in the area of review that are  
3316 determined to need corrective action, using methods designed to prevent the movement of fluid  
3317 into or between USDWs including use of materials compatible with the carbon dioxide stream,  
3318 where appropriate.

3319

3320 ~~(formerly Section 8(d))(c)~~ At a fixed frequency, not to exceed two (2) years during the  
3321 operational life of the facility; or five (5) years during the post-injection site care period (until  
3322 site closure) as specified in the area of review and corrective action plan, or when monitoring  
3323 and operational conditions warrant, owners or operators ~~must~~ shall:

3324  
3325 ~~(formerly Section 8(d)(i))(i)~~ Re-evaluate the area of review in the same manner  
3326 specified in ~~paragraph (e)(i)~~ subparagraph (b)(i) of this ~~s~~Section;

3327  
3328 ~~(formerly Section 8(d)(ii))(ii)~~ Identify all wells in the re-evaluated area of review  
3329 that require corrective action in the same manner specified in ~~paragraph (e)(iv)~~ subparagraph  
3330 (b)(iv) of this ~~s~~Section;

3331  
3332 ~~(formerly Section 8(d)(iii))(iii)~~ Perform corrective action on wells requiring  
3333 corrective action in the reevaluated area of review in the same manner specified in ~~paragraph~~  
3334 ~~(e)(v)~~ subparagraph (b)(v) of this ~~s~~Section; and

3335  
3336 ~~(formerly Section 8(d)(iv))(iv)~~ Submit an amended area of review and  
3337 corrective action plan, or demonstrate to the Administrator through monitoring data and  
3338 modeling results that no change to the area of review and corrective action plan is needed.

3339  
3340 ~~(formerly Section 8(d)(iv)(A))(A)~~ Any a~~A~~ amendments to the area of  
3341 review and corrective action plan ~~must~~ shall be subject to ~~approved~~ by of the Administrator;.

3342  
3343 ~~(formerly Section 8(d)(iv)(B))(B)~~ Any a~~A~~ amendments to the area of  
3344 review ~~must~~ shall be incorporated into the permit; and

3345  
3346 ~~(formerly Section 8(d)(iv)(C))(C)~~ Any a~~A~~ amendments to the area of  
3347 review are subject to the permit modification requirements of Section ~~4 6~~ of this ~~e~~Chapter, ~~as~~  
3348 appropriate.

3349  
3350 **Section 14. ~~Testing and Monitoring Requirements.~~ Construction and Operation**  
3351 **Standards for Class VI Wells.**

3352  
3353 ~~(a) — The owner or operator of a Class VI well must prepare, maintain, and comply~~  
3354 ~~with a testing and monitoring plan to verify that the geologic sequestration project is operating as~~  
3355 ~~permitted and is not endangering USDWs. The testing and monitoring plan must be submitted~~  
3356 ~~with the permit application, for Administrator approval, and must include a description of how~~  
3357 ~~the owner or operator will meet the requirements of this section, including accessing sites for all~~  
3358 ~~necessary monitoring and testing during the life of the project.~~

3359  
3360 ~~(b) — Testing and monitoring associated with geologic sequestration projects must, at a~~  
3361 ~~minimum, include:~~

3362  
3363 ~~(i) — Plans and procedures for environmental surveillance and excursion~~  
3364 ~~detection, prevention, and control programs, including a monitoring plan to:~~

3365

- 3366 (A) — ~~Assess the migration of the injected carbon dioxide; and~~  
3367  
3368 (B) — ~~Ensure the retention of the carbon dioxide in the geologic~~  
3369 ~~sequestration site.~~  
3370  
3371 (ii) — ~~Analysis of the carbon dioxide stream with sufficient frequency to yield~~  
3372 ~~data representative of its chemical and physical characteristics;~~  
3373  
3374 (iii) — ~~Installation and use, except during well workovers, of continuous~~  
3375 ~~recording devices to monitor:~~  
3376  
3377 (A) — ~~Injection pressure;~~  
3378  
3379 (B) — ~~Rate and volume;~~  
3380  
3381 (C) — ~~Pressure on the annulus between the tubing and the long string~~  
3382 ~~casing;~~  
3383  
3384 (D) — ~~The annulus fluid volume added; and~~  
3385  
3386 (E) — ~~The pressure on the annulus between the tubing and the long string~~  
3387 ~~casing.~~  
3388  
3389 (iv) — ~~Corrosion monitoring of the well materials for loss of mass, thickness,~~  
3390 ~~cracking, pitting, and other signs of corrosion must be performed and recorded at least quarterly~~  
3391 ~~to ensure that the well components meet the minimum standards for material strength and~~  
3392 ~~performance set forth in Section 9(b) of this chapter by:~~  
3393  
3394 (A) — ~~Analyzing coupons of the well construction materials placed in~~  
3395 ~~contact with the carbon dioxide stream;~~  
3396  
3397 (B) — ~~Routing the carbon dioxide stream through a loop constructed with~~  
3398 ~~the material used in the well and inspecting the materials in the loop; or~~  
3399  
3400 (C) — ~~Using an alternative method approved by the Administrator.~~  
3401  
3402 (v) — ~~Periodic monitoring of the groundwater quality and geochemical changes~~  
3403 ~~above the confining zone(s) that may be a result of carbon dioxide movement or displaced~~  
3404 ~~formation fluid movement through the confining zone(s) or additional identified zones including:~~  
3405  
3406 (A) — ~~The location and number of monitoring wells must be based on~~  
3407 ~~specific information about the geologic sequestration project, including injection rate and~~  
3408 ~~volume, geology, the presence of artificial penetrations and other relevant factors; and~~  
3409  
3410 (B) — ~~The monitoring frequency and spatial distribution of monitoring~~  
3411 ~~wells based on baseline geochemical data that have been collected under Section 5(b)(xiii) of this~~

3412 ~~chapter and any modeling results in the area of review evaluation required by Section 8(c) of this~~  
3413 ~~chapter.~~

3414  
3415 ~~(vi) — A demonstration of external mechanical integrity pursuant to Section~~  
3416 ~~13(c) at least once per year until the well is plugged; and if required by the Administrator, a~~  
3417 ~~casing inspection log pursuant to requirements of Section 13(d) of this chapter at a frequency~~  
3418 ~~established in the testing and monitoring plan;~~

3419  
3420 ~~(vii) — A pressure fall-off test that identifies reservoir conditions with respect to~~  
3421 ~~flow dynamics at least once every five (5) years unless more frequent testing is required by the~~  
3422 ~~Administrator based on site-specific information; and~~

3423  
3424 ~~(viii) — Testing and monitoring to track the extent of the carbon dioxide plume,~~  
3425 ~~the position of the pressure front, and surface displacement using:~~

3426  
3427 ~~(A) — Direct methods in the injection zone(s); and~~

3428  
3429 ~~(B) — Indirect methods (e.g., seismic, electrical, gravity, or~~  
3430 ~~electromagnetic surveys and/or down-hole carbon dioxide detection tools), unless the~~  
3431 ~~Administrator determines, based on site-specific geology, that such methods are not appropriate;~~

3432  
3433 ~~(ix) — At the Administrator's discretion, based on site-specific conditions,~~  
3434 ~~surface air monitoring and/or soil gas monitoring to detect movement of carbon dioxide that~~  
3435 ~~could endanger a USDW, or otherwise threaten human health, safety, or the environment.~~

3436  
3437 ~~(A) — The surface air or soil gas monitoring plan must be based on~~  
3438 ~~potential risks to USDWs, and modeling within the area of review;~~

3439  
3440 ~~(B) — The monitoring frequency and spatial distribution of surface air~~  
3441 ~~monitoring and/or soil gas monitoring must reflect baseline data. The monitoring plan must~~  
3442 ~~specify how the proposed monitoring will yield useful information on the area of review~~  
3443 ~~delineation and the potential movement of fluid containing any contaminant into USDWs in~~  
3444 ~~exceedence of any primary drinking water regulation under 40 CFR Part 141, or which may~~  
3445 ~~otherwise adversely affect human health, safety, or the environment.~~

3446  
3447 ~~(x) — If an owner or operator demonstrates that monitoring employed under 40~~  
3448 ~~CFR §§ 98.440 to 98.449 (Clean Air Act, 42 U.S.C. 7401 et seq.) accomplishes the goals of~~  
3449 ~~(b)(ix)(A) and (B) of this section, and meets the requirements pursuant to 40 CFR § 146.91(c)(5),~~  
3450 ~~the Administrator that requires surface air/soil gas monitoring must approve the use of~~  
3451 ~~monitoring employed under 40 CFR §§ 98.440 to 98.449. Compliance with §§ 98.440 to 98.449~~  
3452 ~~pursuant to this provision is considered a condition of the Class VI permit;~~

3453  
3454 ~~(xi) — Any additional monitoring, as required by the Administrator, necessary to~~  
3455 ~~support, upgrade, and improve computational modeling of the area of review re-evaluation~~  
3456 ~~required under Section 8(d) of this chapter and as necessary to demonstrate that there is no~~  
3457 ~~movement of fluid containing any contaminant into underground sources of drinking water in~~

3458 ~~exceedence of any primary drinking water regulation under 40 CFR Part 141, or which could~~  
3459 ~~otherwise adversely affect human health, safety, or the environment;~~

3460  
3461 ~~(xii) — The owner or operator shall periodically review the testing and monitoring~~  
3462 ~~plan to incorporate monitoring data collected under this subpart, operational data collected under~~  
3463 ~~Section 12 of this chapter, and the most recent area of review reevaluation performed under~~  
3464 ~~Section 8 of this chapter. In no case shall the owner or operator review the testing and~~  
3465 ~~monitoring plan less often than once every five (5) years. Based on this review, the owner or~~  
3466 ~~operator shall submit an amended testing and monitoring plan or demonstrate to the~~  
3467 ~~Administrator that no amendment to the testing and monitoring plan is needed. Any amendments~~  
3468 ~~to the testing and monitoring plan must be approved by the Administrator, must be incorporated~~  
3469 ~~into the permit, and are subject to the permit modification requirements of Section 4 of this~~  
3470 ~~chapter, as appropriate. Amended plans or demonstrations shall be submitted to the~~  
3471 ~~Administrator as follows:~~

3472  
3473 ~~(A) — Within one (1) year of an area of review reevaluation;~~

3474  
3475 ~~(B) — Following any significant changes to the facility, such as addition~~  
3476 ~~of monitoring wells or newly permitted injection wells within the area of review, on a schedule~~  
3477 ~~determined by the Administrator; or~~

3478  
3479 ~~(C) — When required by the Administrator.~~

3480  
3481 ~~(xiii) — A quality assurance and surveillance plan for all testing and monitoring~~  
3482 ~~requirements.~~

3483  
3484 ~~(e) — The permittee shall retain records of all monitoring information, including the~~  
3485 ~~following:~~

3486  
3487 ~~(i) — Calibration and maintenance records and all original strip chart recordings~~  
3488 ~~for continuous monitoring instrumentation, copies of all reports required by this permit, and~~  
3489 ~~records of all data used to complete the application for this permit, for a period of at least three~~  
3490 ~~(3) years from the date of the sample, measurement, report, or application. This period may be~~  
3491 ~~extended by request of the Administrator at any time; and~~

3492  
3493 ~~(ii) — The nature and composition of all injected fluids until three (3) years after~~  
3494 ~~the completion of any plugging and abandonment procedures specified under Section 16 of this~~  
3495 ~~chapter. The Administrator may require the owner or operator to deliver the records to the~~  
3496 ~~Administrator at the conclusion of the retention period.~~

3497  
3498 ~~(d) — Records of monitoring information shall include:~~

3499  
3500 ~~(i) — The date, exact place, and time of sampling or measurements;~~

3501  
3502 ~~(ii) — The individual(s) who performed the sampling or measurements;~~

3503

- 3504 ~~(iii) — The date(s) analyses were performed;~~
- 3505
- 3506 ~~(iv) — The individual(s) who performed the analyses;~~
- 3507
- 3508 ~~(v) — The analytical techniques or methods used; and~~
- 3509
- 3510 ~~(vi) — The results of such analyses.~~
- 3511

3512 ~~(formerly Section 9(a))~~(a) The owner or operator ~~must~~ shall design, construct, and  
3513 complete ~~ensure that~~ all Class VI wells ~~are designed, at a minimum,~~ to meet the construction  
3514 standards ~~set forth by the Department and the Wyoming Oil and Gas Conservation Commission,~~  
3515 ~~as applicable, and constructed and completed~~ in this Section and to:

3516

3517 ~~(formerly Section 9(a)(i))~~(i) Prevent the movement of fluids into or between  
3518 USDWs or into any unauthorized zones;

3519

3520 ~~(formerly Section 9(a)(ii))~~(ii) ~~Permit~~ Allow the use of appropriate testing devices  
3521 and workover tools; and

3522

3523 ~~(formerly Section 9(a)(iii))~~(iii) ~~Permit~~ Allow continuous monitoring of the  
3524 annulus space between the injection tubing and long string casing.

3525

3526 ~~(formerly Section 9(b))~~(b) Casing and cement or other materials used in the  
3527 construction of each Class VI well ~~must~~ shall have sufficient structural strength and be designed  
3528 for the life of the well.

3529

3530 ~~(formerly Section 9(b)(i))~~(i) All well materials ~~must~~ shall be compatible with  
3531 fluids with which the materials may be expected to come into contact; and shall meet or exceed  
3532 the following standards ~~developed for such materials by: the American Petroleum Institute,~~  
3533 ~~ASTM International, or comparable standards acceptable to the Administrator.~~

3534

3535 (A) American Petroleum Institute Specification 5CT;

3536

3537 (B) American Petroleum Institute RP 5C1;

3538

3539 (C) American Petroleum Institute RP 10B-2;

3540

3541 (D) American Petroleum Institute Specification 10A;

3542

3543 (E) American Petroleum Institute RP 10D-2;

3544

3545 (F) American Petroleum Institute Specification 11D1;

3546

3547 (G) American Petroleum Institute RP 14B; and

3548

3549 (H) American Petroleum Institute RP 14C.

3550  
3551 ~~(formerly Section 9(b)(ii))(ii)~~ The casing and cementing program ~~must~~ shall be  
3552 designed to prevent the movement of fluids into or between USDWs.  
3553

3554 ~~(formerly Section 9(b)(iii))(iii)~~ ~~In order to~~ To allow the Administrator to  
3555 determine and specify casing and cementing requirements, the owner or operator ~~must~~ shall  
3556 provide the following information in a construction design plan:  
3557

3558 ~~(formerly Section 9(b)(iii)(A))(A)~~ (A) Depth to the injection zone;  
3559

3560 ~~(formerly Section 9(b)(iii)(B))(B)~~ (B) Injection pressure, external pressure,  
3561 internal pressure, and axial loading;  
3562

3563 ~~(formerly Section 9(b)(iii)(C))(C)~~ (C) Hole size;  
3564

3565 ~~(formerly Section 9(b)(iii)(D))(D)~~ (D) Size and grade of all casing strings  
3566 (wall thickness, external diameter, nominal weight, length, joint specification and construction  
3567 material), including whether the casing is new, or used;  
3568

3569 ~~(formerly Section 9(b)(iii)(E))(E)~~ (E) Corrosiveness of the carbon dioxide  
3570 stream and formation fluids;  
3571

3572 ~~(formerly Section 9(b)(iii)(F))(F)~~ (F) Down-hole temperatures and  
3573 pressures;  
3574

3575 ~~(formerly Section 9(b)(iii)(G))(G)~~ (G) Lithology of injection and confining  
3576 zones;  
3577

3578 ~~(formerly Section 9(b)(iii)(H))(H)~~ (H) Type or grade of cement and  
3579 additives; and  
3580

3581 ~~(formerly Section 9(b)(iii)(I))(I)~~ (I) Quantity, chemical composition, and  
3582 temperature of the carbon dioxide stream.  
3583

3584 ~~(formerly Section 9(b)(iv))(iv)~~ (iv) Casing ~~must~~ shall extend through the base of  
3585 the lowermost USDW above the injection zone and be cemented to the surface through the use of  
3586 a single or multiple strings of casing and cement.  
3587

3588 ~~(formerly Section 9(b)(v))(v)~~ (v) At least one (1) long string casing, using a sufficient  
3589 number of centralizers, ~~must~~ shall be set ~~in a manner so as~~ to create a cement bond through the  
3590 overlying and/or underlying confining zone(s).  
3591

3592 ~~(formerly Section 9(b)(v))(A)~~ (A) The long string casing ~~must~~ shall: ~~extend to~~  
3593 ~~the injection zone, must be cemented by circulating cement to the surface in one (1) or more~~  
3594 ~~stages, and must be isolated by placing cement and/or other isolation techniques as necessary to~~

3595 ~~provide adequate isolation of the injection zone and provide for protection of USDWs, human~~  
3596 ~~health, safety, and the environment.~~

3597  
3598 ~~(formerly Section 9(b)(v))(I)~~ eExtend to the injection zone;

3599  
3600 ~~(formerly Section 9(b)(v))(II)~~ must bBe cemented by circulating  
3601 cement to the surface in one (1) or more stages; and

3602  
3603 ~~(formerly Section 9(b)(v))(III)~~ must bBe isolated by placing  
3604 cement ~~and~~ or other isolation techniques as necessary to provide adequate isolation of the  
3605 injection zone and provide for protection of USDWs, human health, safety, and the environment.

3606  
3607 ~~(formerly Section 9(b)(v)(A))(B)~~ Circulation of cement may be  
3608 accomplished by staging. The Administrator may approve an alternative method of cementing in  
3609 cases where the cement cannot be recirculated to the surface, ~~provided if~~ if the owner or operator  
3610 ~~can~~ demonstrates by using logs that the cement does not allow fluid movement behind the  
3611 wellbore.

3612  
3613 ~~(formerly Section 9(b)(vi))(vi)~~ Cement and cement additives ~~must~~ shall be  
3614 suitable for use with the carbon dioxide stream and formation fluids, and be of sufficient quality  
3615 and quantity to maintain integrity over the operating life of the well.

3616  
3617 ~~(formerly Section 9(b)(vii))(vii)~~ The integrity and location of the cement  
3618 shall be verified using technology capable of evaluating cement quality radially with sufficient  
3619 resolution to identify the location of channels, voids, or other areas of missing cement to ensure  
3620 that USDWs are not endangered and that human health, safety, and the environment are  
3621 protected. The owner or operator shall provide a cement bond log (CBL) to the Administrator  
3622 with an evaluation, certified by a licensed professional engineer or a licensed professional  
3623 geologist, of the following:

3624  
3625 (A) Quantitative estimations of the cement compressive strength;

3626  
3627 (B) A bond index; and

3628  
3629 (C) Qualitative interpretation of the cement-to-formation bond.

3630  
3631 ~~(formerly Section 9(e))(c)~~ All owners and operators of Class VI wells ~~must~~ shall  
3632 inject fluids through tubing with a packer set at a depth opposite a cemented interval at the  
3633 location approved by the Administrator.

3634  
3635 ~~(formerly Section 9(e)(i))(i)~~ Tubing and packer materials used in the  
3636 construction of each Class VI well ~~must~~ shall be compatible with fluids with which the materials  
3637 may be expected to come into contact and ~~must~~ shall meet or exceed the following standards  
3638 ~~developed for such materials by the American Petroleum Institute, ASTM International, or~~  
3639 ~~comparable standards acceptable to the Administrator.~~

3640



- 3641 (A) American Petroleum Institute Specification 5CT;
- 3642
- 3643 (B) American Petroleum Institute RP 5C1;
- 3644
- 3645 (C) American Petroleum Institute RP 10B-2;
- 3646
- 3647 (D) American Petroleum Institute Specification 10A;
- 3648
- 3649 (E) American Petroleum Institute RP 10D-2;
- 3650
- 3651 (F) American Petroleum Institute Specification 11D1;
- 3652
- 3653 (G) American Petroleum Institute RP 14B; and
- 3654
- 3655 (H) American Petroleum Institute RP 14C.
- 3656

3657 ~~(formerly Section 9(e)(ii))(ii) In order for t~~The Administrator ~~to~~ shall determine  
3658 and specify requirements for tubing and packer, ~~the owner or operator must submit~~ based on the  
3659 following information:

- 3660
- 3661 ~~(formerly Section 9(e)(ii)(A))(A)~~ (A) Depth of setting;
- 3662
- 3663 ~~(formerly Section 9(e)(ii)(B))(B)~~ (B) Characteristics of the carbon dioxide  
3664 stream (e.g., chemical content, corrosiveness, temperature, and density) and formation fluids;
- 3665
- 3666 ~~(formerly Section 9(e)(ii)(C))(C)~~ (C) Maximum proposed injection  
3667 pressure;
- 3668
- 3669 ~~(formerly Section 9(e)(ii)(D))(D)~~ (D) Maximum proposed annular  
3670 pressure;
- 3671
- 3672 ~~(formerly Section 9(e)(ii)(E))(E)~~ (E) Maximum proposed injection rate  
3673 (intermittent or continuous) and volume of the carbon dioxide stream;
- 3674
- 3675 ~~(formerly Section 9(e)(ii)(F))(F)~~ (F) Size of tubing and casing; and
- 3676
- 3677 ~~(formerly Section 9(e)(ii)(G))(G)~~ (G) Tubing tensile, burst, and collapse  
3678 strengths.
- 3679

3680 **Section 15. Reporting Requirements. Class VI Injection Depth Waiver**  
3681 **Requirements.**

3682

3683 ~~(a) — The owner or operator must, at a minimum, provide the following reports to the~~  
3684 ~~Administrator, for each permitted Class VI well:~~

3685

3686 (i) ~~Semi-annual reports, which are required by the permit shall be submitted~~  
3687 ~~to the Administrator within thirty (30) days following the end of the period covered in the report,~~  
3688 ~~and shall contain:~~

3689 (A) ~~Any changes to the physical, chemical, and other relevant~~  
3690 ~~characteristics of the carbon dioxide stream from the proposed operating data;~~

3691 (B) ~~Monthly average, maximum and minimum values for injection~~  
3692 ~~pressure, flow rate and volume, and annular pressure;~~

3693 (C) ~~A description of any event that exceeds operating parameters for~~  
3694 ~~annulus pressure or injection pressure as specified in the permit;~~

3695 (D) ~~A description of any event that triggers a shutdown device required~~  
3696 ~~pursuant to Section 12(g) of this chapter, and the response taken;~~

3697 (E) ~~The monthly volume of the carbon dioxide stream injected over the~~  
3698 ~~reporting period and project cumulatively;~~

3699 (F) ~~Monthly annulus fluid volume added; and~~

3700 (G) ~~The results of monitoring prescribed under Section 14 of this~~  
3701 ~~chapter.~~

3702 (ii) ~~Report, within thirty (30) days the results of:~~

3703 (A) ~~Periodic tests of mechanical integrity;~~

3704 (B) ~~Any other test of the injection well conducted by the permittee if~~  
3705 ~~required by the Administrator; and~~

3706 (C) ~~Any well workover.~~

3707 (iii) ~~Report, within twenty-four (24) hours:~~

3708 (A) ~~Any evidence that the injected carbon dioxide stream or associated~~  
3709 ~~pressure front may cause an endangerment to a USDW;~~

3710 (B) ~~Any noncompliance with a permit condition, or malfunction of the~~  
3711 ~~injection system, which may cause fluid migration into or between USDWs;~~

3712 (C) ~~Any triggering of a shut-off system (i.e., down-hole or at the~~  
3713 ~~surface);~~

3730 ~~(D) Pursuant to compliance with the requirement at Section 14(b)(x) of~~  
3731 ~~this chapter for surface air or soil gas monitoring or other monitoring technologies, if required by~~  
3732 ~~the Administrator, any release of carbon dioxide to the atmosphere or biosphere.~~

3733  
3734 ~~(iv) Owners or operators must notify the Administrator in writing thirty (30)~~  
3735 ~~days in advance of:~~

3736 ~~(A) Any planned well workover;~~

3737  
3738 ~~(B) Any planned stimulation activities, other than stimulation for~~  
3739 ~~formation testing conducted under Section 5 of this chapter; and~~

3740  
3741 ~~(C) Any other planned test of the injection well conducted by the~~  
3742 ~~permittee.~~

3743  
3744  
3745 ~~(b) Owners or operators must submit all required reports, submittals, and notifications~~  
3746 ~~to both the Administrator and to EPA, in an electronic format acceptable to the EPA.~~

3747  
3748 ~~(c) The permittee shall submit a written report to the Administrator of all remedial~~  
3749 ~~work concerning the failure of equipment or operational procedures that resulted in a violation of~~  
3750 ~~a permit condition, at the completion of the remedial work.~~

3751  
3752 ~~(d) For any aborted or curtailed operation, a complete report shall be submitted~~  
3753 ~~within thirty (30) days of complete termination of the discharge or associated activity.~~

3754  
3755 ~~(e) The permittee shall retain all monitoring records required by the permit for a~~  
3756 ~~period of ten (10) years following site closure. The Administrator may require the owner or~~  
3757 ~~operator to deliver the records to the Administrator at the conclusion of the retention period.~~

3758  
3759 ~~formerly Section 10(a)(a)~~ The An owner ~~and~~/or operator seeking a waiver of the  
3760 requirement to inject below the lowermost USDW shall submit a supplemental report concurrent  
3761 with the permit application. The report shall contain the following:

3762  
3763 ~~formerly Section 10(a)(i)(i)~~ A demonstration that the injection zones are  
3764 laterally continuous, ~~is~~ are not a USDWs, and ~~is~~ are not hydraulically connected to USDWs;  
3765 ~~does~~ not outcrop within the area of review; ~~has~~ have adequate injectivity, volume, and sufficient  
3766 porosity to safely contain the injected carbon dioxide and formation fluids; and ~~has~~ have  
3767 appropriate geochemistry;

3768  
3769 ~~formerly Section 10(a)(ii)(ii)~~ A demonstration that the injection zones are  
3770 bounded by laterally continuous, impermeable confining units above and below the injection  
3771 zones adequate to prevent fluid movement and pressure buildup outside of the injection zones;  
3772 ~~and~~

3773  
3774 ~~formerly Section 10(a)(ii)(iii)~~ A demonstration that the confining unit(s)  
3775 ~~is/are~~ free of transmissive faults and fractures;

3776  
3777 ~~formerly Section 10(a)(ii)(iv)~~ \_\_\_\_\_ ~~The report shall further~~ A characterization  
3778 of the regional fracture properties and ~~contain~~ a demonstration that the fractures will not interfere  
3779 with injection, serve as conduits, or endanger USDWs;

3780  
3781 ~~formerly Section 10(a)(iii)(v)~~ A computer model demonstrating that  
3782 USDWs above and below the injection zone will not be endangered as a result of fluid  
3783 movement. The modeling shall be done in conjunction with the area of review determination, ~~as~~  
3784 described in Section ~~8~~ 13 of this ~~e~~Chapter, ~~and~~ is subject to the requirements, ~~as described in of~~  
3785 Section ~~8(e)-13(b)~~ of this ~~e~~Chapter, and shall be periodically reevaluated, ~~as described in~~  
3786 required by Section ~~8(d)~~ 13(c) of this ~~e~~Chapter;

3787  
3788 ~~formerly Section 10(a)(iv)(vi)~~ A demonstration that well design and  
3789 construction, in conjunction with the waiver, will ensure isolation of the injectate in lieu of the  
3790 requirements of Section ~~9(a)(i)~~ 14(a)(i) of this ~~e~~Chapter and will meet the well construction  
3791 requirements of paragraph (f) of this ~~s~~Section;

3792  
3793 ~~formerly Section 10(a)(v)(vii)~~ A description of how the monitoring and  
3794 testing and any additional plans will be tailored to this geologic sequestration project to ensure  
3795 protection of USDWs above and below the injection zone;

3796  
3797 ~~formerly Section 10(a)(vi)(viii)~~ Information on the location of all public  
3798 water supplies affected, reasonably likely to be affected, or served by USDWs in the area of  
3799 review; and

3800  
3801 ~~formerly Section 10(a)(vii)(ix)~~ Any other information requested by the  
3802 Administrator.

3803  
3804 ~~formerly Section 10(b))(b)~~ To inform the US EPA Regional Administrator's decision  
3805 on whether to grant a waiver of the injection depth requirements of 40 C.F.R. §§ 144.6, 146.5(f),  
3806 and 146.86(a)(1), the Administrator ~~must~~ shall submit, to the US EPA Regional Administrator,  
3807 documentation of the following:

3808  
3809 ~~formerly Section 10(b)(i)(i)~~ An evaluation of the following information as it  
3810 relates to siting, construction, and operation of a geologic sequestration project with a waiver:

3811  
3812 ~~formerly Section 10(b)(i)(A))(A)~~ (A) The integrity of the upper and lower  
3813 confining units;

3814  
3815 ~~formerly Section 10(b)(i)(B))(B)~~ (B) The suitability of the injection  
3816 zone(s) (~~e.g., including~~ lateral continuity; lack of transmissive faults and fractures; and  
3817 knowledge of current or planned artificial penetrations into the injection zone(s) or formations  
3818 below the injection zone);

3819

3820 ~~formerly Section 10(b)(i)(C)~~(C) The potential capacity of the  
3821 geologic formation(s) to sequester carbon dioxide, accounting for the availability of alternative  
3822 injection sites;

3823  
3824 ~~formerly Section 10(b)(i)(D)~~(D) All other site characterization data,  
3825 the proposed emergency and remedial response plan, and a demonstration of financial  
3826 responsibility;

3827  
3828 ~~formerly Section 10(b)(i)(E)~~(E) Community needs, demands, and  
3829 supply from drinking water resources;

3830  
3831 ~~formerly Section 10(b)(i)(F)~~(F) Planned needs, and potential ~~and/or~~  
3832 future use of USDWs and non-USDWs aquifers in the area;

3833  
3834 ~~formerly Section 10(b)(i)(G)~~(G) Planned or permitted water,  
3835 hydrocarbon, or mineral resource exploitation potential of the proposed injection formation(s)  
3836 and other formations both above and below the injection zone to determine if there are any plans  
3837 to drill through the formation to access resources in or beneath the proposed injection zone(s) or  
3838 formation(s);

3839  
3840 ~~formerly Section 10(b)(i)(H)~~(H) The proposed plan for securing  
3841 alternative resources or treating USDW formation waters in the event of contamination related to  
3842 the Class VI injection activity; and

3843  
3844 ~~formerly Section 10(b)(i)(I)~~(I) Any other applicable considerations  
3845 or information requested by the Administrator.;

3846  
3847 ~~formerly Section 10(b)(ii)~~(ii) Consultation with the ~~P~~ublic ~~W~~ater ~~S~~ystem  
3848 ~~S~~upervision ~~D~~irectors of all ~~S~~tates and Tribes having jurisdiction over lands within the area of  
3849 review of a well for which a waiver is sought. and

3850  
3851 ~~formerly Section 10(b)(iii)~~(iii) Any written waiver-related information  
3852 submitted by ~~the a~~ ~~P~~ublic ~~W~~ater ~~S~~ystem ~~S~~upervision ~~D~~irector(s) to the ~~(UIC) Director~~  
3853 Department.

3854  
3855 ~~formerly Section 10(e)~~(c) Concurrent with the Class VI permit application public  
3856 notice process pursuant to Section 27 of this Chapter, the Administrator shall give public notice  
3857 that an injection depth waiver request has been submitted. The notice shall clearly state:

3858  
3859 ~~(formerly Section 10(e)(i))~~(i) The depth of the proposed injection zone(s);

3860  
3861 ~~(formerly Section 10(e)(ii))~~(ii) The location of the injection wells;

3862  
3863 ~~(formerly Section 10(e)(iii))~~(iii) The name and depth of all USDWs within  
3864 the area of review;

3865

3866 ~~(formerly Section 10(e)(iv))~~(iv) A map of the area of review;

3867

3868 ~~(formerly Section 10(e)(v))~~(v) The names of any public water supplies

3869 affected, reasonably likely to be affected, or served by the USDWs in the area of review; and

3870

3871 ~~(formerly Section 10(e)(vi))~~(vi) The results of any consultation between the

3872 UIC program and the Public Water System Supervision ~~program~~ Directors within the area of

3873 review.

3874

3875 ~~(formerly Section 10(d))~~(d) Following the injection depth waiver application public

3876 notice, the Administrator of the Water Quality Division of the Department of Environmental

3877 Quality shall provide all the information received through the waiver application process to the

3878 US EPA Regional Administrator. Based on the information provided, the US EPA Regional

3879 Administrator shall provide written concurrence or non-concurrence regarding waiver issuance.

3880

3881 ~~(formerly Section 10(d)(i))~~(i) If the US EPA Regional Administrator requires

3882 additional information to make a decision, the Administrator of the Water Quality Division of

3883 the Department of Environmental Quality shall provide the information. The US EPA Regional

3884 Administrator may require public notice of the new information.

3885

3886 ~~(formerly Section 10(d)(i))~~(ii) The Administrator of the Water Quality Division of

3887 the Department of Environmental Quality shall not issue a depth injection waiver without receipt

3888 of written concurrence from the US EPA Regional Administrator.

3889

3890 ~~(formerly Section 10(e))~~(e) If an injection depth waiver is issued, within thirty (30)

3891 days of issuance, the EPA shall post the following information on the Office of Water's website:

3892

3893 ~~(formerly Section 10(e)(i))~~(i) The depth of the proposed injection zone(s);

3894

3895 ~~(formerly Section 10(e)(ii))~~(ii) The location of the injection wells;

3896

3897 ~~(formerly Section 10(e)(iii))~~(iii) The name and depth of all USDWs within

3898 the area of review;

3899

3900 ~~(formerly Section 10(e)(iv))~~(iv) A map of the area of review;

3901

3902 ~~(formerly Section 10(e)(v))~~(v) The names of any public water supplies

3903 affected, reasonably likely to be affected, or served by the USDWs in the area of review; and

3904

3905 ~~(formerly Section 10(e)(vi))~~(vi) The date of waiver issuance.

3906

3907 ~~(formerly Section 10(f))~~(f) Upon receipt of a waiver of the requirement to inject below

3908 the lowermost USDW for geologic sequestration, the owner or operator of a Class VI well ~~must~~

3909 shall comply with the following:

3910

3911 ~~(formerly Section 10(f)(i))(i)~~ All requirements of Sections ~~8-13, 11-17, 12-18, 13~~  
3912 ~~19, 15-22, 16-23, 18-25~~, and ~~19 26~~ of this ~~e~~Chapter.;

3913  
3914 ~~(formerly Section 10(f)(ii))(ii)~~ All the requirements of Section ~~9 14~~ of this  
3915 ~~e~~Chapter with the following modified requirements:

3916  
3917 ~~(formerly Section 10(f)(ii)(A))(A)~~ In lieu of meeting the requirements  
3918 of Section 14(a)(i) of this Chapter, ~~F~~the Class VI well shall be constructed and completed to  
3919 prevent the movement of fluids into any unauthorized zones, including USDWs, ~~in lieu of~~  
3920 ~~requirements of Section 9(a)(i) of this chapter.~~;

3921  
3922 ~~(formerly Section 10(f)(ii)(B))(B)~~ In lieu of meeting the requirements  
3923 of Section 14(b) and 14(b)(i) of this Chapter, ~~F~~the casing and cementing program shall ~~be~~  
3924 ~~designed to~~ prevent the movement of fluids into any unauthorized zones including USDWs, ~~in~~  
3925 ~~lieu of requirements of Section 9(b) and 9(b)(i) of this chapter.~~; and

3926  
3927 ~~(formerly Section 10(f)(ii)(C))(C)~~ The casing shall extend through the  
3928 base of the nearest USDW directly above the injection zone and shall be cemented to the surface;  
3929 ~~or,~~ at the Administrator's discretion, at another formation above the injection zone and below the  
3930 nearest USDW above the injection zone.;

3931  
3932 ~~(formerly Section 10(f)(iii))(iii)~~ All the requirements of Section ~~14 20~~ of this  
3933 ~~e~~Chapter with the following modified requirements:

3934  
3935 ~~(formerly Section 10(f)(iii)(A))(A)~~ The owner or operator shall monitor  
3936 the groundwater quality, geochemical changes, and pressure in the first USDWs immediately  
3937 above and below the injection zone(s); and in any other formation at the discretion of the  
3938 Administrator.;

3939 and  
3940 ~~(formerly Section 10(f)(iii)(B))(B)~~ The owner or operator shall conduct  
3941 testing and monitoring to track the extent of the carbon dioxide plume and the presence or  
3942 absence of elevated pressure (e.g., the pressure front) in the injection zone(s) by using: ~~direct~~  
3943 ~~methods to monitor for pressure changes in the injection zone(s); and, indirect methods (e.g.,~~  
3944 ~~seismic, electrical, gravity, or electromagnetic surveys and/or down-hole carbon dioxide~~  
3945 ~~detection tools), unless the Administrator determines, based on site-specific geology, that such~~  
3946 ~~methods are not appropriate.~~

3947  
3948 ~~(formerly Section 10(f)(iii)(B))(I)~~ Direct methods, ~~to monitor~~  
3949 ~~for pressure changes in the injection zone(s); and,~~

3950  
3951 ~~(formerly Section 10(f)(iii)(B))(II)~~ Indirect methods (e.g.,  
3952 seismic, electrical, gravity, or electromagnetic surveys and/or down-hole carbon dioxide  
3953 detection tools), unless the Administrator determines, based on site-specific geology, that such  
3954 methods are not appropriate.;

3955

3956 ~~(formerly Section 10(f)(iv))~~(iv) All requirements of Section ~~17~~ 24 of this  
3957 eChapter with the following; modified ~~post-injection site care monitoring~~ requirements:

3958  
3959 ~~(formerly Section 10(f)(iv)(A))~~(A) The owner or operator shall monitor  
3960 the groundwater quality, geochemical changes and pressure in the first USDWs immediately  
3961 above and below the injection zone; and in any other formations at the discretion of the  
3962 Administrator; and

3963  
3964 ~~(formerly Section 10(f)(iv)(B))~~(B) Testing and monitoring in the  
3965 injection zone(s) to track the extent of the carbon dioxide plume and the presence or absence of  
3966 elevated pressure (e.g., the pressure front) by using direct methods ~~in the injection zone(s)~~; and  
3967 indirect methods (e.g., seismic, electrical, gravity, or electromagnetic surveys and ~~or~~ down-hole  
3968 carbon dioxide detection tools); unless the Administrator determines, based on site-specific  
3969 geology, that such methods are not appropriate; and

3970  
3971 ~~(formerly Section 10(f)(v))~~(v) Any additional requirements ~~requested~~  
3972 imposed by the Administrator to ensure protection of USDWs above and below the injection  
3973 zone(s).

3974  
3975 **Section 16. ~~Injection Well-plugging. Expansion to the Areal Extent of Existing~~**  
3976 **Class II Injection Well Aquifer Exemptions for Class VI Injection Wells.**

3977  
3978 ~~(a) — Prior to the well-plugging, the owner or operator must flush each Class VI~~  
3979 ~~injection well with a buffer fluid, determine bottom hole reservoir pressure, and perform a final~~  
3980 ~~external mechanical integrity test in accordance with Section 13 of this chapter.~~

3981  
3982 ~~(b) — The owner or operator of a Class VI well must prepare, maintain, update on the~~  
3983 ~~same schedule as the update to the area of review delineation, and comply with a well-plugging~~  
3984 ~~plan that is acceptable to the Administrator. Temporary or intermittent cessation of injection~~  
3985 ~~operations is not abandonment. The well-plugging plan must include the following information:~~

3986  
3987 ~~(i) — Appropriate test or measure to determine bottom hole reservoir pressure;~~

3988  
3989 ~~(ii) — Appropriate testing methods to ensure final external mechanical integrity~~  
3990 ~~as specified in Section 13 of this chapter;~~

3991  
3992 ~~(iii) — The type and number of plugs to be used;~~

3993  
3994 ~~(iv) — The placement of each plug including the elevation of the top and bottom~~  
3995 ~~of each plug;~~

3996  
3997 ~~(v) — The type and grade and quantity of material, suitable for use with the~~  
3998 ~~carbon dioxide stream, to be used in plugging;~~

3999  
4000 ~~(vi) — A description of the method of placement of the plugs.~~

4001



4002 ~~(c) — The owner or operator must notify the Administrator, in writing, at least sixty (60)~~  
4003 ~~days before plugging a well.~~

4004  
4005 ~~(i) — If any changes have been made to the original well-plugging plan, the~~  
4006 ~~owner or operator must also provide the revised well-plugging plan.~~

4007  
4008 ~~(ii) — At the discretion of the Administrator, a shorter notice period may be~~  
4009 ~~allowed.~~

4010  
4011 ~~(iii) — Any amendments to the injection well-plugging plan must be approved by~~  
4012 ~~the Administrator, must be incorporated into the permit, and are subject to the permit~~  
4013 ~~modification requirements of Section 4 of this chapter, as appropriate.~~

4014  
4015 ~~(d) — Within sixty (60) days after completion of plugging and abandonment of a well or~~  
4016 ~~well field the permittee shall submit to the Administrator a final report that includes:~~

4017  
4018 ~~(i) — Certification of completion in accordance with approved plans and~~  
4019 ~~specifications by a licensed professional engineer or a licensed professional geologist.~~

4020  
4021 ~~(ii) — Certification of accuracy by the owner or operator and by the person who~~  
4022 ~~performed the plugging operation (if other than the owner or operator).~~

4023  
4024 ~~(iii) — The owner or operator shall retain the well-plugging report for ten (10)~~  
4025 ~~years following site closure.~~

4026  
4027 ~~(formerly Section 5(e)(i)(A))(a)~~ The owner or operator of a Class II enhanced oil  
4028 recovery or enhanced gas recovery well that requests an expansion of the areal extent of an  
4029 existing aquifer exemption for the exclusive purpose of Class VI injection for geologic  
4030 sequestration ~~must~~ shall define (by narrative description, illustrations, maps, or other means) and  
4031 describe (in geographic and/or geometric terms (such as vertical and lateral limits and gradient)  
4032 that are clear and definite); all aquifers or parts thereof that are requested to be designated as  
4033 exempted using the criteria in subparagraphs ~~(d)(i)(A-C)(b)(i)(A)-(C)~~ of this ~~s~~Section.

4034  
4035 ~~(formerly Section 5(e)(i))(b)~~ The Administrator may consider a request from an owners  
4036 ~~and/or operators~~ of permitted Class II injection well(s) ~~that are seeking~~ to convert ~~their its~~ well(s)  
4037 to a Class VI well and ~~are seeking an expansion to~~ expand the areal extent of ~~an~~ the existing  
4038 Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for the exclusive  
4039 purpose of Class VI injection for geologic sequestration.

4040  
4041 ~~(formerly Section 5(e)(i))(i)~~ The Administrator may approve the request if the  
4042 existing aquifer exemption and the ~~affected~~ wells meet the following conditions:

4043  
4044 ~~(formerly Section 5(e)(i)(A))(A)~~ It The groundwater does not  
4045 currently serve as a source of drinking water; ~~and~~

4046  
4047 ~~(formerly Section 5(e)(i)(B))(B)~~ The total dissolved solids content of

4048 the groundwater is more than 3,000 mg/L and less than 10,000 mg/L; and

4049

4050 ~~(formerly Section 5(e)(i)(C))(C)~~ It The groundwater is not reasonably  
4051 expected to supply a public water system.

4052

4053 ~~(formerly Section 5(e)(ii)(B))(ii)~~ In evaluating The Administrator may  
4054 evaluate a request to expand the areal extent of an aquifer exemption of a Class II enhanced oil  
4055 recovery or enhanced gas recovery well for the purpose of Class VI injection; if the  
4056 Administrator;

4057

4058 ~~(formerly Section 5(e)(ii)(B))(A)~~ must determines that the request  
4059 meets the criteria for exemptions in subparagraphs ~~(d)(i)(A-C)~~ (b)(i)(A)-(C) of this sSection;

4060

4061 ~~(formerly Section 5(e)(ii)(B)(H))(B)~~ in order to ensure Determines that  
4062 the proposed injection operation will not at any time endanger USDWs including non-exempted  
4063 portions of the injection formation; and

4064

4065 ~~(formerly Section 5(e)(ii)(B))(C)~~ In making the determination, the  
4066 Administrator shall considers, in making the determinations required by subparagraphs  
4067 (b)(ii)(A)-(B) of this Section, the following:

4068

4069 ~~(formerly Section 5(e)(ii)(B)(I))(I)~~ Current and potential future  
4070 use of the USDWs to be exempted as drinking water resources;

4071

4072 ~~(formerly Section 5(e)(ii)(B)(H))(II)~~ The predicted extent of the  
4073 injected carbon dioxide plume, and any mobilized fluids that may result in degradation of water  
4074 quality, over the lifetime of the geologic sequestration project, as informed by computational  
4075 modeling performed pursuant to Section 8(e)(i) 13(b)(i) of this eChapter, in order to ensure that  
4076 the proposed injection operation will not at any time endanger USDWs including non-exempted  
4077 portions of the injection formation;

4078

4079 ~~(formerly Section 5(e)(ii)(B)(H))(III)~~ Whether the areal  
4080 extent of the expanded aquifer exemption is of sufficient size to account for any possible  
4081 revisions to the computational model during reevaluation of the area of review, pursuant to  
4082 Section 8(d) 13(c) of this eChapter; and

4083

4084 ~~(formerly Section 5(e)(ii)(B)(IV))(IV)~~ Any information  
4085 submitted to support a an injection depth waiver request made by the owner or operator under  
4086 pursuant to Section ~~10~~ 15 of this eChapter, if appropriate.

4087

4088 ~~(formerly Section 5(e)(ii))(c)~~ Such requests will Approvals under this Section are not be  
4089 final until;

4090

4091 ~~(formerly Section 5(e)(ii))(i)~~ The Administrator submits the request as a  
4092 revision to the applicable Federal UIC state-administered program under 40 C.F.R. Part 147 or as  
4093 a substantial program revision to an approved of a Sstate UIC program under 40 C.F.R. § 145.32;

4094 and

4095

4096 ~~(formerly Section 5(e)(ii))~~(ii) EPA approves the request revision.

4097

4098 **Section 17. ~~Post-injection Site Care and Site Closure.~~ Logging, Sampling, and**  
4099 **Testing Prior to Injection Well Operation.**

4100

4101 ~~(a) — The owner or operator of a Class VI well must prepare, maintain, update on the~~  
4102 ~~same schedule as the update to the area of review delineation, and comply with a plan for post-~~  
4103 ~~injection site care and site closure that meets the requirements of paragraph (a)(ii) of this~~  
4104 ~~sSection and is acceptable to the Administrator.~~

4105

4106 ~~————— (i) — The owner or operator must submit the post-injection site care and site~~  
4107 ~~closure plan as a part of the permit application to be approved by the Administrator, in~~  
4108 ~~consultation with EPA.~~

4109

4110 ~~————— (ii) — The post-injection site care and site closure plan must include the~~  
4111 ~~following information:~~

4112

4113 ~~————— (A) — A demonstration containing substantial evidence that the geologic~~  
4114 ~~sequestration project will no longer pose a risk of endangerment to USDWs or will not harm or~~  
4115 ~~present a risk to human health, safety, or the environment at the end of the post-injection site~~  
4116 ~~care timeframe. The demonstration must be based on significant, site-specific data and~~  
4117 ~~information, including all data and information collected pursuant to Sections 4 and 7 of this~~  
4118 ~~chapter.~~

4119

4120 ~~————— (B) — The site closure plan shall address all reclamation, required~~  
4121 ~~monitoring, and remediation sufficient to show that the carbon dioxide injected into the geologic~~  
4122 ~~sequestration site will not harm human health, safety, the environment, or drinking water~~  
4123 ~~supplies.~~

4124

4125 ~~————— (C) — Detailed plans for post-injection monitoring, verification,~~  
4126 ~~maintenance, and mitigation;~~

4127

4128 ~~————— (D) — The pressure differential between pre-injection and predicted post-~~  
4129 ~~injection pressures in the injection zone;~~

4130

4131 ~~————— (E) — The predicted position of the carbon dioxide plume and associated~~  
4132 ~~pressure front at the time when plume movement has ceased and pressure differentials sufficient~~  
4133 ~~to cause the movement of injected fluids or formation fluids into a USDW are no longer present,~~  
4134 ~~as demonstrated in the area of review evaluation required under Section 8(e)(i) of this chapter;~~

4135

4136 ~~————— (F) — A description of post-injection monitoring locations, methods, and~~  
4137 ~~proposed frequency; and~~

4138

- 4139 ~~\_\_\_\_\_ (G) — A proposed schedule for submitting post injection site care~~  
4140 ~~monitoring results pursuant to Section 15(b) of this chapter, as appropriate.~~
- 4141
- 4142 ~~\_\_\_\_\_ (H) — The duration of the post injection site care timeframe that ensures~~  
4143 ~~compliance with subparagraph (A) of this subsection.~~
- 4144
- 4145 ~~\_\_\_\_\_ (I) — The results of computational modeling performed pursuant to~~  
4146 ~~delineation of the area of review under Section 8 of this chapter;~~
- 4147
- 4148 ~~\_\_\_\_\_ (J) — The predicted timeframe for pressure decline within the injection~~  
4149 ~~zone, and any other zones, such that formation fluids may not be forced into any USDWs; and/or~~  
4150 ~~the timeframe for pressure decline to pre injection pressures;~~
- 4151
- 4152 ~~\_\_\_\_\_ (K) — The predicted rate of carbon dioxide plume migration within the~~  
4153 ~~injection zone, and the predicted timeframe for the cessation of migration;~~
- 4154
- 4155 ~~\_\_\_\_\_ (L) — A description of the site specific processes that will result in~~  
4156 ~~carbon dioxide trapping including immobilization by capillary trapping, dissolution, and~~  
4157 ~~mineralization at the site;~~
- 4158
- 4159 ~~\_\_\_\_\_ (M) — The predicted rate of carbon dioxide trapping in the immobile~~  
4160 ~~capillary phase, dissolved phase, and/or mineral phase;~~
- 4161
- 4162 ~~\_\_\_\_\_ (N) — The results of laboratory analyses, research studies, and/or field or~~  
4163 ~~site specific studies to verify the information required in paragraphs (J) and (K) of this~~  
4164 ~~subsection;~~
- 4165
- 4166 ~~\_\_\_\_\_ (O) — A characterization of the confining zone(s) including a~~  
4167 ~~demonstration that it is free of transmissive faults, fractures, and micro fractures and of~~  
4168 ~~appropriate thickness, permeability, and integrity to impede fluid (e.g., carbon dioxide, formation~~  
4169 ~~fluids) movement;~~
- 4170
- 4171 ~~\_\_\_\_\_ (P) — The presence of potential conduits for fluid movement including~~  
4172 ~~planned injection wells and project monitoring wells associated with the proposed geologic~~  
4173 ~~sequestration project or any other projects in proximity to the predicted or modeled, final extent~~  
4174 ~~of the carbon dioxide plume and area of elevated pressure;~~
- 4175
- 4176 ~~\_\_\_\_\_ (Q) — A description of the well construction and an assessment of the~~  
4177 ~~quality of plugs of all abandoned wells within the area of review;~~
- 4178
- 4179 ~~\_\_\_\_\_ (R) — The distance between the injection zone and the nearest USDWs~~  
4180 ~~above and/or below the injection zone; and~~
- 4181
- 4182 ~~\_\_\_\_\_ (S) — Any additional site specific factors required by the Administrator.~~
- 4183

4184 ~~Information submitted to support the demonstration in paragraph (a)(ii) of~~  
4185 ~~this section must meet the following criteria:~~

4186  
4187 ~~(A) All analyses and tests performed to support the demonstration must~~  
4188 ~~be accurate, reproducible, and performed in accordance with the established quality assurance~~  
4189 ~~standards;~~

4190  
4191 ~~(B) Estimation techniques must be appropriate and EPA-certified test~~  
4192 ~~protocols must be used where available;~~

4193  
4194 ~~(C) Predictive models must be appropriate and tailored to the site~~  
4195 ~~conditions, composition of the carbon dioxide stream and injection and site conditions over the~~  
4196 ~~life of the geologic sequestration project;~~

4197  
4198 ~~(D) Predictive models must be calibrated using existing information~~  
4199 ~~(e.g., at Class I, Class II, or Class V experimental technology well sites) where sufficient data are~~  
4200 ~~available;~~

4201  
4202 ~~(E) Reasonably conservative values and modeling assumptions must~~  
4203 ~~be used and disclosed to the Administrator whenever values are estimated on the basis of known,~~  
4204 ~~historical information instead of site-specific measurements;~~

4205  
4206 ~~(F) An analysis must be performed to identify and assess aspects of the~~  
4207 ~~post-injection site care timeframe demonstration that contribute significantly to uncertainty. The~~  
4208 ~~owner or operator must conduct sensitivity analyses to determine the effect that significant~~  
4209 ~~uncertainty may contribute to the modeling demonstration.~~

4210  
4211 ~~(G) An approved quality assurance and quality control plan must~~  
4212 ~~address all aspects of the demonstration; and,~~

4213  
4214 ~~(H) Any additional criteria required by the Administrator.~~

4215  
4216 ~~(iv) Upon cessation of injection, owners or operators of Class VI wells must~~  
4217 ~~either submit an amended post-injection site care and site closure plan or demonstrate to the~~  
4218 ~~Administrator through monitoring data and modeling results that no amendment to the plan is~~  
4219 ~~needed. Any amendments to the post-injection site care and site closure plan must be:~~

4220  
4221 ~~(A) Approved by the Administrator.~~

4222  
4223 ~~(B) Incorporated into the permit.~~

4224  
4225 ~~(C) Subject to the permit modification requirements of Section 4 of~~  
4226 ~~this chapter, as appropriate.~~

4227

4228 ~~—————(v)—— The owner or operator may modify and resubmit the post injection site~~  
4229 ~~care and site closure plan for the Administrator’s approval within thirty (30) days of such~~  
4230 ~~change.~~

4231 ~~—————(b)—— The owner or operator shall monitor the site following the cessation of injection~~  
4232 ~~to show the position of the carbon dioxide plume and pressure front and demonstrate that~~  
4233 ~~USDWs are not being endangered.~~

4235 ~~—————(i)—— The owner or operator shall continue to conduct monitoring as specified in~~  
4236 ~~the Administrator approved post injection site care and site closure plan until closure is certified~~  
4237 ~~by the Administrator.~~

4239 ~~—————(ii)—— The owner or operator can request and demonstrate to the satisfaction of~~  
4240 ~~the Administrator that the post injection site care and site closure plan should be revised to~~  
4241 ~~reduce the frequency of monitoring.~~

4243 ~~—————(iii)—— Prior to authorization for site closure, the owner or operator must~~  
4244 ~~demonstrate to the Administrator, based on monitoring, other site specific data, and modeling~~  
4245 ~~that is reasonably consistent with site performance, that no additional monitoring is needed to~~  
4246 ~~ensure that the geologic sequestration project does not, and is not expected to pose an~~  
4247 ~~endangerment to a USDW or otherwise threaten human health, safety, or the environment. In~~  
4248 ~~addition, the owner or operator must demonstrate, based on the best available understanding of~~  
4249 ~~the site, including monitoring data and/or modeling, that all other site closure standards and~~  
4250 ~~requirements have been met.~~

4252 ~~—————(iv)—— If such a demonstration cannot be made, the owner or operator must~~  
4253 ~~continue post injection site care.~~

4255 ~~—————(v)—— The owner or operator must notify the Administrator, in writing, at least~~  
4256 ~~120 days before filing a request for site closure. At this time, if any changes have been made to~~  
4257 ~~the original post injection site care and site closure plan, the owner or operator must also provide~~  
4258 ~~the revised plan. At the discretion of the Administrator, a shorter notice period may be allowed.~~

4260 ~~—————(vi)—— Post injection site care shall be for a period of not less than ten (10) years~~  
4261 ~~after the date when all wells excluding monitoring wells have been appropriately plugged and~~  
4262 ~~abandoned, all subsurface operations and activities have ceased and all surface equipment and~~  
4263 ~~improvements have been removed or appropriately abandoned, or so long thereafter as necessary~~  
4264 ~~to obtain a completion and release certificate from the Administrator certifying that plume~~  
4265 ~~stabilization has been achieved without the use of control equipment based on a minimum of~~  
4266 ~~three (3) consecutive years of monitoring data.~~

4268 ~~—————(c)—— After the Administrator has certified site closure, the owner or operator must plug~~  
4269 ~~monitoring wells, as determined by the Administrator, in a manner that will not allow movement~~  
4270 ~~of injection or formation fluids.~~

4272

4273 ~~————— (d) — Once the Administrator has certified site closure, the owner or operator must~~  
4274 ~~submit a site closure report within ninety (90) days after completion of all closure operations.~~  
4275 ~~The report must thereafter be retained at a location designated by the Administrator for ten (10)~~  
4276 ~~years. The report must include:~~

4277  
4278 ~~————— (i) — Documentation of appropriate injection and monitoring well plugging as~~  
4279 ~~specified in Section 16 of this chapter and paragraph (c) of this section.~~

4280  
4281 ~~————— (ii) — The owner or operator must provide a copy of a survey plat that has been~~  
4282 ~~submitted to the local zoning authority designated by the Administrator.~~

4283  
4284 ~~————— (A) — The plat must indicate the location of the injection well(s) and~~  
4285 ~~monitoring wells relative to permanently surveyed benchmarks.~~

4286  
4287 ~~————— (B) — The owner or operator must also submit a copy of the plat to the~~  
4288 ~~US EPA Regional Administrator.~~

4289  
4290 ~~————— (iii) — Documentation of appropriate notification and information to such State,~~  
4291 ~~local and tribal authorities as have authority over drilling activities to enable such State and local~~  
4292 ~~authorities to impose appropriate conditions on subsequent drilling activities that may penetrate~~  
4293 ~~the injection and confining zone(s).~~

4294  
4295 ~~————— (iv) — Proof of providing notice to surface owners, mineral claimants, mineral~~  
4296 ~~owners, lessees, and other owners of record of subsurface interests as to the proposed site~~  
4297 ~~closure. Notice requirements at a minimum shall include:~~

4298  
4299 ~~————— (A) — The publishing of notice of the application in a newspaper of~~  
4300 ~~general circulation in each county of the proposed operation at weekly intervals for four (4)~~  
4301 ~~consecutive weeks;~~

4302  
4303 ~~————— (B) — The published notice shall provide a mechanism to request a public~~  
4304 ~~hearing;~~

4305  
4306 ~~————— (C) — A copy of the notice shall also be mailed to all surface owners,~~  
4307 ~~mineral claimants, mineral owners, lessees and other owners of record of subsurface interests~~  
4308 ~~that are located within one (1) mile of the proposed boundary of the geologic sequestration site.~~

4309  
4310 ~~————— (v) — Records reflecting the nature, composition and volume of the carbon~~  
4311 ~~dioxide stream.~~

4312  
4313 ~~————— (e) — Each owner or operator of a Class VI injection well must record a notation on the~~  
4314 ~~deed to the facility property or any other document that is normally examined during title search~~  
4315 ~~that will in perpetuity provide any potential purchaser of the property the following information:~~

4316  
4317 ~~————— (i) — The fact that land has been used to sequester carbon dioxide;~~  
4318

4319 ~~\_\_\_\_\_ (ii) \_\_\_\_\_ The name of the State agency, local authority, and/or tribe with which the~~  
4320 ~~survey plat was filed, as well as the address of the Regional Environmental Protection Agency~~  
4321 ~~Office to which it was submitted; and~~

4322  
4323 ~~\_\_\_\_\_ (iii) \_\_\_\_\_ The volume of fluid injected, the injection zone or zones into which it was~~  
4324 ~~injected, and the period over which injection occurred.~~

4325  
4326 ~~\_\_\_\_\_ (f) \_\_\_\_\_ Well plugging reports, post-injection site care data, including, if appropriate, data~~  
4327 ~~and information used to develop the demonstration of the post-injection site care time frame, and~~  
4328 ~~the site closure report collected pursuant to requirements of subsection (d) above shall be~~  
4329 ~~retained for ten (10) years following site closure. The owner or operator must deliver the records~~  
4330 ~~to the Administrator at the conclusion of the retention period, and the records must thereafter be~~  
4331 ~~retained at a location designated by the Administrator for that purpose.~~

4332  
4333 ~~(formerly Section 11(a))~~(a) During the drilling and construction of a Class VI injection  
4334 well, the owner or operator ~~must shall~~ run appropriate logs, surveys, and tests to determine or  
4335 verify the depth, thickness, porosity, permeability, ~~and~~ lithology ~~of~~, and ~~the~~ salinity of any  
4336 formation fluids in all relevant geologic formations ~~in order~~ to ensure ~~conformance with the~~  
4337 ~~injection~~ well meets the construction requirements ~~under of~~ Section 9 14 of this ~~e~~Chapter; and to  
4338 establish accurate baseline data against which future measurements may be compared. The  
4339 owner or operator ~~must shall~~ submit to the Administrator a descriptive report prepared by a  
4340 knowledgeable log analyst that includes an interpretation of the results of ~~such the~~ logs and tests.  
4341 At a minimum, ~~such the~~ logs and tests ~~must shall~~ include:

4342  
4343 ~~(formerly Section 11(a)(i))~~(i) Deviation checks measured during drilling on all  
4344 holes constructed by drilling a pilot hole that is subsequently enlarged by reaming or another  
4345 method. ~~Such~~ Deviation checks ~~must shall~~ be at sufficiently frequent intervals to determine the  
4346 location of the borehole and to ensure that vertical avenues for fluid movement in the form of  
4347 diverging holes are not created during drilling; ~~and~~

4348  
4349 ~~(formerly Section 11(a)(ii))~~(ii) Before and upon installation of the surface  
4350 casing:

4351  
4352 ~~(formerly Section 11(a)(ii)(A))~~(A) Resistivity, spontaneous potential,  
4353 and caliper logs before the casing is installed; and

4354  
4355 ~~(formerly Section 11(a)(ii)(B))~~(B) A cement bond and variable density  
4356 log, or other approved device to evaluate cement quality radially with sufficient resolution to  
4357 identify channels, voids, or other areas of missing cement; and a temperature log; after the casing  
4358 is set and cemented;

4359  
4360 ~~(formerly Section 11(a)(iii))~~(iii) Before and upon installation of the long  
4361 string casing:

4362



4363 ~~(formerly Section 11(a)(iii)(A))~~(A) Resistivity, spontaneous potential,  
4364 porosity, caliper, gamma ray, fracture finder logs, and any other logs the Administrator requires  
4365 for the given geology before the casing is installed; and

4366  
4367 ~~(formerly Section 11(a)(iii)(B))~~(B) A cement bond and variable density  
4368 log, and a temperature log after the casing is set and cemented-;

4369  
4370 ~~(formerly Section 11(a)(iv))~~(iv) Test(s) designed to demonstrate the internal  
4371 and external mechanical integrity of injection wells, which may include:

4372  
4373 ~~(formerly Section 11(a)(iv)(A))~~(A) A pressure test with liquid or gas;

4374  
4375 ~~(formerly Section 11(a)(iv)(B))~~(B) A tracer survey, such as oxygen-  
4376 activation logging;

4377  
4378 ~~(formerly Section 11(a)(iv)(C))~~(C) A temperature or noise log; and

4379  
4380 ~~(formerly Section 11(a)(iv)(D))~~(D) A casing inspection log-; and

4381  
4382 ~~(formerly Section 11(a)(v))~~(v) Any alternative methods that provide  
4383 equivalent or better information and that are required ~~of, and/~~or approved by the Administrator.

4384  
4385 ~~(formerly Section 11(b))~~(b) The owner or operator ~~must~~ shall take whole cores or  
4386 sidewall cores of the injection zone and confining system, ~~and~~ as well as formation fluid samples  
4387 from the injection zone(s)-;

4388  
4389 ~~(formerly Section 11(b)(i))~~(i) The owner or operator shall ~~and~~ submit to the  
4390 Administrator a detailed report prepared by a log analyst that includes:

4391  
4392 ~~(formerly Section 11(b)(i)(A))~~(A) Well log analyses (including well logs);

4393  
4394 ~~(formerly Section 11(b)(ii))~~(B) Core analyses; and

4395  
4396 ~~(formerly Section 11(b)(iii))~~(C) Formation fluid sample information.

4397  
4398 ~~(formerly Section 11(b)(iv))~~(ii) The Administrator may accept data from cores and  
4399 fluid samples from nearby wells if the owner or operator can demonstrate that such data are  
4400 representative of conditions in the wellbore.

4401  
4402 ~~(formerly Section 11(e))~~(c) The owner or operator ~~must~~ shall record the formation fluid  
4403 temperature, formation fluid pH and conductivity, reservoir pressure, and static fluid level of the  
4404 injection zone(s).

4405  
4406 ~~(formerly Section 11(d))~~(d) The owner or operator ~~must~~ shall determine fracture  
4407 pressures of the injection and confining zones and verify hydrogeologic and geo-mechanical

4408 characteristics of the injection zone by conducting a pressure fall-off test, any other ~~information~~  
4409 ~~test~~ requested by the Administrator; ~~;~~ and; ~~;~~

4410  
4411 ~~(formerly Section 11(d)(i))~~(i) A pump test; or

4412  
4413 ~~(formerly Section 11(d)(ii))~~(ii) Injectivity tests.

4414  
4415 ~~(formerly Section 11(e))~~(e) The owner or operator ~~must~~ shall provide the Administrator  
4416 with the opportunity to witness all logging and testing by this section. The owner or operator  
4417 ~~must~~ shall submit a schedule of such activities to the Administrator prior to conducting the first  
4418 test and shall notify the Administrator of any changes to the schedule thirty (30) days prior to the  
4419 next scheduled test.

4420  
4421 **Section 18. ~~Emergency and Remedial Response.~~ Injection Well Operating**  
4422 **Requirements.**

4423  
4424 ~~(a) — As part of the permit application, the owner or operator must provide the~~  
4425 ~~Administrator with an emergency and remedial response plan that describes actions to be taken~~  
4426 ~~to address movement of the injectate or formation fluids that may cause an endangerment to a~~  
4427 ~~USDW or threaten human health, safety, or the environment during construction, operation,~~  
4428 ~~closure, and post-closure periods.~~

4429  
4430 ~~(i) — The emergency and remedial response plan must be reviewed and~~  
4431 ~~updated, as necessary, on the same schedule as the update to the area of review delineation.~~

4432  
4433 ~~(ii) — Any amendments to the emergency and remedial response plan must be~~  
4434 ~~approved by the Administrator, must be incorporated into the permit, and are subject to the~~  
4435 ~~permit modification requirements of Section 4 of this chapter, as appropriate.~~

4436  
4437 ~~(A) — Amended plans or demonstrations shall be submitted to the~~  
4438 ~~Administrator as follows:~~

4439  
4440 ~~(I) — Within one (1) year of an area of review reevaluation;~~

4441  
4442 ~~(II) — Following any significant changes to the facility, such as~~  
4443 ~~addition of injection or monitoring wells, on a schedule determined by the Administrator; or~~

4444  
4445 ~~(III) — When required by the Administrator.~~

4446  
4447 ~~(b) — If monitoring data, or other evidence obtained by the owner or operator indicate~~  
4448 ~~that the injected carbon dioxide stream, displaced formation fluids or associated pressure front~~  
4449 ~~may endanger a USDW or threatens human health, safety, or the environment, the owner or~~  
4450 ~~operator must:~~

4451  
4452 ~~(i) — Immediately cease injection;~~

4453

4454 (ii) ~~Take all steps reasonably necessary to identify and characterize any~~  
4455 ~~release;~~

4456  
4457 (iii) ~~Notify the Administrator within twenty-four (24) hours.~~

4458  
4459 (iv) ~~In addition to paragraphs (i-iii) of this subsection, if an excursion is~~  
4460 ~~discovered, the owner or operator shall provide verbal notice to the Department within twenty-~~  
4461 ~~four (24) hours, followed by written notice to all surface owners, mineral claimants, mineral~~  
4462 ~~owners, lessees and other owners of record of subsurface interests within thirty (30) days of~~  
4463 ~~when the excursion is discovered; and~~

4464  
4465 (v) ~~Implement the emergency and remedial response plan approved by the~~  
4466 ~~Administrator.~~

4467  
4468 (e) ~~The Administrator may allow the operator to resume injection prior to~~  
4469 ~~remediation if the owner or operator demonstrates that the injection operation will not endanger~~  
4470 ~~USDWs or otherwise threaten human health, safety, or the environment.~~

4471  
4472 ~~(formerly Section 12(a))~~(a) The owner or operator ~~must~~ shall ensure that injection  
4473 pressure does not exceed ninety ~~percent~~ (90%) ~~percent~~ of the fracture pressure of the injection  
4474 zone(s) ~~so as~~ to ensure that the injection does not initiate new fractures or propagate existing  
4475 fractures in the injection zone(s).

4476  
4477 ~~(formerly Section 12(a)(i))~~(i) In no case may injection pressure cause movement  
4478 of injection or formation fluids in a manner that endangers a USDW, or otherwise threatens  
4479 human health, safety, or the environment.

4480  
4481 ~~(formerly Section 12(a)(ii))~~(ii) In no case may injection pressure initiate  
4482 fractures in the confining zone(s) or cause the movement of injectate or formation fluids that  
4483 endangers a USDW or otherwise threatens human health, safety, or the environment.

4484  
4485 ~~(formerly Section 12(b))~~(b) Injection of the carbon dioxide stream between the  
4486 outermost casing protecting USDWs and the wellbore is prohibited.

4487  
4488 ~~(formerly Section 12(e))~~(c) The owner or operator ~~must~~ shall fill the annulus between  
4489 the tubing and the long string casing with a non-corrosive fluid approved by the Administrator.  
4490 The owner or operator ~~must~~ shall maintain on the annulus a pressure that exceeds the operating  
4491 injection pressure, unless the Administrator determines that such requirement might harm the  
4492 integrity of the well or endanger USDWs.

4493  
4494 ~~(formerly Section 12(d))~~(d) Other than during periods of well workover or maintenance  
4495 approved by the Administrator in which the sealed tubing-casing annulus is, by necessity,  
4496 disassembled for maintenance or corrective procedures, the owner or operator ~~must~~ shall  
4497 maintain mechanical integrity of the injection well at all times.

4498

4499 ~~(formerly Section 12(e))~~(e) The owner or operator ~~must~~ shall install and use continuous  
4500 recording devices to monitor:

4501  
4502 ~~(formerly Section 12(e)(i))~~(i) Injection pressure; and

4503  
4504 ~~(formerly Section 12(e)(ii))~~(ii) Injection Rate, volume, and temperature of  
4505 the carbon dioxide stream.

4506  
4507 ~~(formerly Section 12(f))~~(f) The owner or operator ~~must~~ shall install and use continuous  
4508 recording devices to monitor the pressure on the annulus between the tubing and the long string  
4509 casing and annulus fluid volume.

4510  
4511 ~~(formerly Section 12(g))~~(g) The owner or operator ~~must~~ shall install, test, and use  
4512 alarms and automatic surface shut-off systems; or, at the discretion of the Administrator, use  
4513 down-hole shut-off systems (e.g., automatic shut-off, check valves); or other mechanical devices  
4514 that provide equivalent protection, designed to alert the operator and shut-in the well when  
4515 operating parameters such as injection rate, injection pressure, or other parameters approved by  
4516 the Administrator diverge beyond ranges ~~and~~/or gradients specified in the permit.

4517  
4518 ~~(formerly Section 12(h))~~(h) If an automatic shutdown is triggered or a loss of  
4519 mechanical integrity is discovered, the owner or operator ~~must~~ shall immediately investigate and  
4520 identify as expeditiously as possible the cause. If, upon such investigation, the well appears to be  
4521 lacking mechanical integrity, or if monitoring required under paragraphs (e), (f), and (g) of this  
4522 ~~s~~Section otherwise indicates that the well may be lacking mechanical integrity, the owner or  
4523 operator ~~must~~ shall:

4524  
4525 ~~(formerly Section 12(h)(i))~~(i) Immediately cease injection;

4526  
4527 ~~(formerly Section 12(h)(ii))~~(ii) Take all steps reasonably necessary to  
4528 determine whether there may have been a release of the injected carbon dioxide stream or  
4529 formation fluids into any unauthorized zone;

4530  
4531 ~~(formerly Section 12(h)(iii))~~(iii) Notify the Administrator within twenty-four  
4532 (24) hours;

4533  
4534 ~~(formerly Section 12(h)(iv))~~(iv) Restore and demonstrate mechanical  
4535 integrity to the satisfaction of the Administrator as soon as practicable and prior to resuming  
4536 injection; and

4537  
4538 ~~(formerly Section 12(h)(v))~~(v) Notify the Administrator when injection can  
4539 be expected to resume.

4540  
4541 **Section 19. ~~Financial Responsibility.~~ Mechanical Integrity.**

4542

4543           (a) ~~Financial responsibility requirements are to ensure that owners or operators have~~  
4544 ~~the financial resources to carry out activities related to closing and remediating geologic~~  
4545 ~~sequestration sites if needed so they do not endanger the environment or USDWs.~~

4546  
4547           (b) ~~Owners or operators of Class VI wells must demonstrate and maintain financial~~  
4548 ~~responsibility for all applicable phases of the geologic sequestration project including complete~~  
4549 ~~site reclamation in the event of default. The phases of a geologic sequestration project are as~~  
4550 ~~follows:~~

4551  
4552                   (i) ~~Permitting/Characterization.~~

4553  
4554                   (ii) ~~Monitoring and testing, including the requirements of Section 14 of this~~  
4555 ~~chapter.~~

4556  
4557                   (iii) ~~Operations (injection and permanent well closure activities), including the~~  
4558 ~~requirements of Section 16 of this chapter.~~

4559  
4560                   (iv) ~~Post injection site care (“plume stabilization” monitoring until certified~~  
4561 ~~by the Administrator; above ground reclamation completed), including the requirements of~~  
4562 ~~Section 17 of this chapter.~~

4563  
4564                   (v) ~~Emergency and remedial response (that meets the requirements of Section~~  
4565 ~~18 of this chapter).~~

4566  
4567           (c) ~~The owner or operator must submit a detailed written estimate, at the time of~~  
4568 ~~permit application and updated annually in accordance with paragraph (j)(iii) below, in current~~  
4569 ~~dollars, that includes the cost of performing corrective action on wells in the area of review that~~  
4570 ~~meets the requirements of Section 8 of this chapter; plugging the injection well(s) that meets the~~  
4571 ~~requirements of Section 16 of this chapter; post injection site care and site closure that meets the~~  
4572 ~~requirements of Section 17 of this chapter; monitoring activities that meets the requirements of~~  
4573 ~~Section 14 of this chapter; and emergency and remedial response that meets the requirements of~~  
4574 ~~Section 18 of this chapter.~~

4575  
4576                   (i) ~~The financial assurance cost estimate for the various phases of the~~  
4577 ~~sequestration project shall consider the following events:~~

4578  
4579                           (A) ~~Contamination of underground sources of water including drinking~~  
4580 ~~water supplies.~~

4581                           (B) ~~Mineral rights infringement.~~

4582  
4583                           (C) ~~Single large volume release of carbon dioxide that impacts human~~  
4584 ~~health and safety and/or causes ecological damage.~~

4585  
4586                           (D) ~~Low level leakage of carbon dioxide to the surface that impacts~~  
4587 ~~human health and safety and/or causes ecological damage.~~

4590 ~~(E) — Storage rights infringement.~~

4591  
4592 ~~(F) — Property and infrastructure damage including changes to surface~~  
4593 ~~topography and structures.~~

4594  
4595 ~~(G) — Entrained contaminant releases (non-CO2).~~

4596  
4597 ~~(H) — Accidents/unplanned events.~~

4598  
4599 ~~(I) — Well capping and permitted abandonment.~~

4600  
4601 ~~\_\_\_\_\_~~

4602  
4603 ~~(ii) — The Risk Activity matrix in Appendix A of this chapter shall be~~  
4604 ~~considered during the risk assessment process.~~

4605  
4606 ~~(iii) — The cost estimate shall be based upon a multi-disciplinary analytical~~  
4607 ~~framework such as Monte Carlo or other commonly accepted stochastic modeling tools.~~

4608  
4609 ~~(A) — Cost curves shall combine risk probabilities, event outcomes, and~~  
4610 ~~damages assessment to calculate expected losses under a series of events.~~

4611  
4612 ~~(B) — For all cases of potential damages, the probability distributions~~  
4613 ~~should be identified for 50 percent, 95 percent, and 99 percent probabilities of occurrence.~~

4614  
4615 ~~(d) — The owner or operator must also submit a proposed cost estimate for~~  
4616 ~~measurement, monitoring, and verification of plume stabilization following post-closure~~  
4617 ~~certification and release of all other financial assurance instruments.~~

4618  
4619 ~~(e) — The cost estimate must be performed for each phase separately and must be based~~  
4620 ~~on the costs to the regulatory agency of hiring a third party to perform the required activities. A~~  
4621 ~~third party is a party who is not within the corporate structure of the owner or operator.~~

4622  
4623 ~~(f) — The owner or operator must demonstrate and maintain financial responsibility as~~  
4624 ~~determined by the Administrator that meets the conditions of this section.~~

4625  
4626 ~~(g) — The financial responsibility instrument(s) used shall be from the following list of~~  
4627 ~~qualifying instruments:~~

4628  
4629 ~~(i) — Trust Funds;~~

4630  
4631 ~~(ii) — Surety Bonds;~~

4632  
4633 ~~(iii) — Letter of Credit;~~

4634  
4635 ~~(iv) — Insurance.~~

4636

4637                   (A) — ~~Any insurance instruments submitted for financial assurance~~  
4638 ~~purposes shall include State of Wyoming as an additional insured.~~

4639  
4640                   (B) — ~~Inclusion of the State of Wyoming as an additional insured shall~~  
4641 ~~not be deemed a waiver of sovereign immunity.~~

4642  
4643                   (v) — ~~Self insurance (i.e., Financial Test and Corporate Guarantee);~~

4644  
4645                   (vi) — ~~Escrow account;~~

4646  
4647                   (vii) — ~~Any other instrument(s) satisfactory to the Administrator.~~

4648  
4649                   (h) — ~~The qualifying instrument(s) must be sufficient to cover the cost of the estimate~~  
4650 ~~required in subsection (d) of this section.~~

4651  
4652                   (i) — ~~The qualifying financial responsibility instrument(s) must comprise protective~~  
4653 ~~conditions of coverage that include at a minimum cancellation, renewal, continuation provisions,~~  
4654 ~~specifications on when the provider becomes liable following a notice of cancellation, and~~  
4655 ~~requirements for the provider to meet a minimum rating, minimum capitalization, and the ability~~  
4656 ~~to pass the bond rating test when applicable.~~

4657  
4658                   (i) — ~~Cancellation — An owner or operator must provide that their financial~~  
4659 ~~mechanism may not cancel, terminate or fail to renew except for failure to pay such financial~~  
4660 ~~instrument. If there is a failure to pay the financial instrument, the financial institution may elect~~  
4661 ~~to cancel, terminate, or fail to renew the instrument by sending notice by certified mail to the~~  
4662 ~~owner or operator and the Administrator. The cancellation must not be final for 120 days after~~  
4663 ~~receipt of cancellation notice. The owner or operator must provide an alternate financial~~  
4664 ~~responsibility demonstration within sixty (60) days of notice of cancellation, and if an alternate~~  
4665 ~~financial responsibility demonstration is not acceptable (or possible), any funds from the~~  
4666 ~~instrument being cancelled must be released within sixty (60) days of notification by the~~  
4667 ~~Administrator.~~

4668  
4669                   (ii) — ~~Renewal — Owners or operators must renew all financial instruments, if an~~  
4670 ~~instrument expires, for the entire term of the geologic sequestration project. The instrument may~~  
4671 ~~be automatically renewed as long as, at a minimum, the owner or operator has the option of~~  
4672 ~~renewal at the face amount of the expiring instrument.~~

4673  
4674                   (iii) — ~~Continuation — Cancellation, termination, or failure to renew may not~~  
4675 ~~occur and the financial instrument shall remain in full force and effect in the event that on or~~  
4676 ~~before the date of expiration.~~

4677  
4678                   (A) — ~~The Administrator deems the facility abandoned.~~

4679  
4680                   (B) — ~~The permit is terminated, revoked, or a new permit is denied.~~

4681  
4682                   (C) — ~~Closure is ordered by the Administrator, a U.S. district court, or~~  
4683 ~~other court of competent jurisdiction.~~

4684  
4685                   (D)——The owner or operator is named as debtor in a voluntary or  
4686 involuntary proceeding under Title 11 (Bankruptcy), U.S. Code.

4687  
4688                   (E)——The amount due is paid.

4689  
4690           (j)——The qualifying financial responsibility instrument(s) must be approved by the  
4691 Administrator. The Administrator shall also approve the use and length of pay-in periods for  
4692 trust funds and escrow accounts.

4693  
4694           (i)——The Administrator shall consider and approve the financial responsibility  
4695 demonstration for all the phases of the geologic sequestration project prior to issuing a Class VI  
4696 permit.

4697  
4698           (ii)——The Administrator may find that the financial responsibility demonstration  
4699 is unsatisfactory for any reason, as long as that reason is not arbitrary or capricious. The  
4700 Administrator may exercise discretion in negotiating a satisfactory financial responsibility  
4701 demonstration or to deny a demonstration.

4702  
4703           (iii)——The owner or operator must provide any updated information related to  
4704 their financial responsibility instrument(s) on an annual basis and if there are any changes, the  
4705 Administrator must evaluate the financial responsibility demonstration to confirm that the  
4706 instrument(s) used remain adequate for use. The owner or operator must maintain financial  
4707 responsibility requirements regardless of the status of the Administrator's review of the financial  
4708 responsibility demonstration.

4709  
4710           (iv)——The owner or operator must provide an adjustment of the cost estimate to  
4711 the Administrator within sixty (60) days of notification by the Administrator, if the  
4712 Administrator determines during the annual evaluation of the qualifying financial responsibility  
4713 instrument(s) that the most recent demonstration is no longer adequate to cover the cost of  
4714 corrective action (as required by Section 8 of this chapter), injection well plugging (as required  
4715 by Section 16 of this chapter), post injection site care and site closure (as required by Section 17  
4716 of this chapter), and emergency and remedial response (as required by Section 18 of this  
4717 chapter).

4718  
4719           (v)——During the active life of the geologic sequestration project, the owner or  
4720 operator must adjust the cost estimate for inflation within sixty (60) days prior to the anniversary  
4721 date of the establishment of the financial instrument(s) used to comply with paragraph (g) of this  
4722 section and provide this adjustment to the Administrator. The owner or operator must also  
4723 provide to the Administrator written updates of adjustments to the cost estimate within sixty (60)  
4724 days of any amendments to the area of review and corrective action plan (Section 8 of this  
4725 chapter), the injection well plugging plan (Section 16 of this chapter), the post injection site care  
4726 and site closure plan (Section 17 of this chapter), the emergency and remedial response plan  
4727 (Section 18 of this chapter), and mitigation or reclamation costs that State may incur as a result  
4728 of any default by the permit holder.



4730 (vi) — ~~The Administrator must approve any decrease or increase to the initial~~  
4731 ~~cost estimate. During the active life of the geologic sequestration project, the owner or operator~~  
4732 ~~must revise the cost estimate no later than sixty (60) days after the Administrator has approved~~  
4733 ~~the request to modify the area of review and corrective action plan (Section 8 of this chapter), the~~  
4734 ~~injection well plugging plan (Section 16 of this chapter), the post injection site care and site~~  
4735 ~~closure plan (Section 17 of this chapter), and the emergency and response plan (Section 18 of~~  
4736 ~~this chapter), if the change in the plan increases the cost. If the change to the plans decreases the~~  
4737 ~~cost, any withdrawal of funds must be approved by the Administrator. Any decrease to the value~~  
4738 ~~of the financial assurance instrument must first be approved by the Administrator. The revised~~  
4739 ~~cost estimate must be adjusted for inflation as specified in paragraph (k)(v) of this section.~~

4740  
4741 (vii) — ~~Whenever the current cost estimate increases to an amount greater than the~~  
4742 ~~face amount of a financial instrument currently in use, the owner or operator, within sixty (60)~~  
4743 ~~days after the increase, must either cause the face amount to be increased to an amount at least~~  
4744 ~~equal to the current cost estimate and submit evidence of such increase to the Administrator, or~~  
4745 ~~obtain other financial responsibility instruments to cover the increase. Whenever the current cost~~  
4746 ~~estimate decreases, the face amount of the financial assurance instrument may be reduced to the~~  
4747 ~~amount of the current cost estimate only after the owner or operator has received written~~  
4748 ~~approval from the Administrator.~~

4749  
4750 (k) — ~~The owner or operator may demonstrate financial responsibility by using one (1)~~  
4751 ~~or multiple qualifying financial instruments for specific phases of the geologic sequestration~~  
4752 ~~project.~~

4753  
4754 (i) — ~~In the event that the owner or operator combines more than one (1)~~  
4755 ~~instrument for a specific geologic sequestration phase (e.g., well plugging), such combination~~  
4756 ~~must be limited to instruments that are not based on financial strength or performance (i.e., self-~~  
4757 ~~insurance or performance bond). For example trust funds, surety bonds guaranteeing payment~~  
4758 ~~into a trust fund, letters of credit, escrow account, and insurance.~~

4759  
4760 (ii) — ~~When using a third party instrument to demonstrate financial~~  
4761 ~~responsibility, the owner or operator must provide proof that the third party providers either have~~  
4762 ~~passed financial strength requirements based on credit ratings; or has met a minimum rating,~~  
4763 ~~minimum capitalization, and ability to pass the bond rating test when applicable.~~

4764  
4765 (iii) — ~~An owner or operator using certain types of third party instruments must~~  
4766 ~~establish a standby trust to enable the State of Wyoming to be party to the financial responsibility~~  
4767 ~~agreement without the State of Wyoming being the beneficiary of any funds. The standby trust~~  
4768 ~~fund must be used along with other financial responsibility instruments (e.g., surety bonds,~~  
4769 ~~letters of credit, or escrow accounts) to provide a location to place funds if needed.~~

4770  
4771 (iv) — ~~An owner or operator may deposit money into an escrow account to cover~~  
4772 ~~financial responsibility requirements; this account must segregate funds sufficient to cover~~  
4773 ~~estimated costs for Class VI (geologic sequestration) financial responsibility from other accounts~~  
4774 ~~and uses.~~

4776                   (v) — ~~An owner or operator or its guarantor may use self insurance to~~  
4777 ~~demonstrate financial responsibility for certain phases of geologic sequestration projects. In~~  
4778 ~~order to satisfy this requirement the owner or operator must meet a tangible net worth of an~~  
4779 ~~amount approved by the Administrator, have a net working capital and tangible net worth each at~~  
4780 ~~least six times the sum of the current well plugging, post injection site care and site closure cost,~~  
4781 ~~have assets located in the United States amounting to at least 90 percent of total assets or at least~~  
4782 ~~six (6) times the sum of the current well plugging, post injection site care and site closure cost,~~  
4783 ~~and must submit a report of its bond rating and financial information annually. In addition the~~  
4784 ~~owner or operator must either: have a bond rating test of AAA, AA, A, or BBB as issued by~~  
4785 ~~Standard & Poor's or Aaa, Aa, A, or Baa as issued by Moody's; or meet all of the following five~~  
4786 ~~financial ratio thresholds: a ratio of total liabilities to net worth less than 2.0; a ratio of current~~  
4787 ~~assets to current liabilities greater than 1.5; a ratio of the sum of net income plus depreciation,~~  
4788 ~~depletion, and amortization to total liabilities greater than 0.1; a ratio of current assets minus~~  
4789 ~~current liabilities to total assets greater than 0.1; and a net profit (revenues minus expenses)~~  
4790 ~~greater than 0.~~

4791  
4792                   (vi) — ~~An owner or operator who is not able to meet corporate financial test~~  
4793 ~~criteria may arrange a corporate guarantee by demonstrating that its corporate parent meets the~~  
4794 ~~financial test requirements on its behalf. The parent's demonstration that it meets the financial~~  
4795 ~~test requirement is insufficient if it has not also guaranteed to fulfill the obligations for the owner~~  
4796 ~~or operator.~~

4797  
4798                   (vii) — ~~An owner or operator may obtain an insurance policy to cover the~~  
4799 ~~estimated costs of geologic sequestration activities requiring financial responsibility. This~~  
4800 ~~insurance policy must be obtained from a third party provider.~~

4801  
4802                   (l) — ~~The owner or operator must maintain financial responsibility and resources until~~  
4803 ~~the administrator receives and approves the completed post injection site care and site closure~~  
4804 ~~plan and the administrator approves site closure.~~

4805  
4806                   (m) — ~~The owner or operator must notify the Administrator by certified mail of adverse~~  
4807 ~~financial conditions such as bankruptcy that may affect the ability to carry out injection well-~~  
4808 ~~plugging and post injection site care and site closure.~~

4809  
4810                   (i) — ~~In the event that the owner or operator or the third party provider of a~~  
4811 ~~financial responsibility instrument is going through a bankruptcy, the owner or operator must~~  
4812 ~~notify the Administrator by certified mail of the commencement of a voluntary or involuntary~~  
4813 ~~proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor,~~  
4814 ~~within ten (10) days after commencement of the proceeding.~~

4815  
4816                   (ii) — ~~A guarantor of a corporate guarantee must make such a notification to the~~  
4817 ~~Administrator if he/she is named as debtor, as required under the terms of the corporate~~  
4818 ~~guarantee.~~

4819  
4820                   (iii) — ~~An owner or operator who fulfills the requirements of paragraph (g) of this~~  
4821 ~~section by obtaining a trust fund, surety bond, letter of credit, escrow account, or insurance~~

4822 ~~policy will be deemed to be without the required financial assurance in the event of bankruptcy~~  
4823 ~~of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee~~  
4824 ~~institution to act as trustee of the institution issuing the trust fund, surety bond, letter of credit,~~  
4825 ~~escrow account, or insurance policy. The owner or operator must establish other financial~~  
4826 ~~assurance within sixty (60) days after such an event.~~

4827  
4828 ~~(n) — The owner or operator may be released from a financial instrument in the~~  
4829 ~~following circumstances:~~

4830  
4831 ~~(i) — The owner or operator has completed the phase of the geologic~~  
4832 ~~sequestration project for which the financial instrument was required and has fulfilled all its~~  
4833 ~~financial obligations as determined by the Administrator, including obtaining financial~~  
4834 ~~responsibility for the next phase of the geologic sequestration project, if required.~~

4835  
4836 ~~(ii) — The owner or operator has submitted a replacement financial instrument~~  
4837 ~~and received written approval from the Administrator accepting the new financial instrument and~~  
4838 ~~releasing the owner or operator from the previous financial instrument.~~

4839  
4840 ~~(iii) — The owner or operator has submitted a revised cost estimate for the~~  
4841 ~~remaining phases of the geologic sequestration project. The revised cost estimate may~~  
4842 ~~demonstrate that a partial release of the financial instrument is warranted and can still provide~~  
4843 ~~adequate financial assurance for the remainder of the project. Partial release of the financial~~  
4844 ~~instrument is at the discretion of the Administrator.~~

4845  
4846 ~~(o) — Following the release of all financial assurance and receipt of a site closure~~  
4847 ~~certificate, the Administrator must approve the cost estimate prepared for the post closure~~  
4848 ~~measurement, monitoring and verification of a geologic sequestration site. The cost estimate~~  
4849 ~~shall only be provided after plume stabilization and all remediation work has been completed.~~

4850  
4851 ~~(formerly Section 13(a))~~(a) A Class VI well has mechanical integrity if:

4852  
4853 ~~(formerly Section 13(a)(i))~~(i) There is no significant leak in the casing, tubing, or  
4854 packer; and

4855  
4856 ~~(formerly Section 13(a)(ii))~~(ii) There is no significant fluid movement into  
4857 a USDW through channels adjacent to the injection wellbore.

4858  
4859 ~~(formerly Section 13(b))~~(b) To evaluate the absence of significant leaks under  
4860 subparagraph (a)(i) of this ~~s~~Section, owners or operators ~~must shall~~, following an initial annulus  
4861 pressure test, continuously monitor injection pressure, rate, injected volumes, and pressure on the  
4862 annulus between tubing, ~~and~~ long string casing, and annulus fluid volume as specified in Section  
4863 ~~12~~ 18(e) ~~and~~ (f) of this ~~e~~Chapter;

4864  
4865 ~~(formerly Section 13(e))~~(c) At least once per year, the owner or operator ~~must shall~~ use  
4866 one (1) of the following methods to determine the absence of significant fluid movement under  
4867 subparagraph (a)(ii) of this ~~s~~Section:

4868  
4869                   ~~(formerly Section 13(e)(i))~~(i) An approved tracer survey such as an oxygen-  
4870 activation log; or

4871  
4872                   ~~(formerly Section 13(e)(ii))~~(ii)           A temperature or noise log.  
4873

4874                   ~~(formerly Section 13(d))~~(d) If required by the Administrator, at a frequency specified in  
4875 the testing and monitoring plan required in Section ~~14~~ 20 of this ~~e~~Chapter, the owner or operator  
4876 ~~must~~ shall run a casing inspection log to determine the presence or absence of corrosion in the  
4877 long-string casing.

4878  
4879                   ~~(formerly Section 13(e))~~(e) The Administrator may require any other test to evaluate  
4880 mechanical integrity under ~~paragraph (a)(i) or (a)(ii) of this s~~Section. ~~Also, t~~The Administrator  
4881 may allow the use of a test to demonstrate mechanical integrity other than those listed ~~above, in~~  
4882 paragraph (c) of this Section with the written approval of the US EPA Administrator. To obtain  
4883 approval, the Administrator ~~must~~ shall submit a written request to the US EPA Administrator  
4884 that ~~must~~ shall set forth the proposed test and all technical data supporting its use.

4885  
4886                   ~~(formerly Section 13(f))~~(f) In conducting and evaluating the tests enumerated in this  
4887 section or others to be allowed by the Administrator, the owner or operator and the Administrator  
4888 ~~must~~ shall apply methods and standards generally accepted in the industry.

4889  
4890                   ~~(formerly Section 13(f)(i))~~(i) When the owner or operator reports the results of  
4891 mechanical integrity tests to the Administrator, ~~he/she~~ the owner or operator shall include a  
4892 description of the test~~(s)~~ and the method~~(s)~~ used.

4893  
4894                   ~~(formerly Section 13(f)(ii))~~(ii) In making ~~his/her~~ an evaluation, the  
4895 Administrator ~~must~~ shall review monitoring and other test data submitted since the previous  
4896 evaluation.

4897  
4898                   ~~(formerly Section 13(g))~~(g) The Administrator may require additional or alternative  
4899 tests if the results presented by the owner or operator under paragraph (e) of this ~~s~~Section are not  
4900 satisfactory to the Administrator to demonstrate that there is no significant leak in the casing,  
4901 tubing or packer; ~~or~~ and that there is no significant movement of fluid into or between USDWs  
4902 resulting from the injection activity ~~as stated in paragraphs (a)(i) and (a)(ii) of this section.~~

4903  
4904                   **Section 20. ~~Public Participation, Public Notice and Public Hearing Requirements.~~**  
4905 **Testing and Monitoring Requirements.**

4906  
4907                   ~~(a) — The Administrator shall give public notice if a draft permit has been prepared or a~~  
4908 ~~hearing has been scheduled.~~

4909  
4910                   ~~(b) — Public notice of the preparation of a draft permit shall allow at least sixty (60)~~  
4911 ~~days for public comment. Public notice of a public hearing shall be given at least thirty (30) days~~  
4912 ~~before the hearing. Public notice of the hearing may be given at the same time as public notice of~~  
4913 ~~the draft permit and the two notices may be combined.~~

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- ~~(e) — Public notice shall be given by:~~
- ~~(i) — Mailing a copy of the notice, a copy of the fact sheet, the permit application (if any) and the draft permit (if any) to the following persons:~~
- ~~(A) — The applicant, by certified or registered mail;~~
- ~~(B) — The U.S. Environmental Protection Agency, Region 8 Drinking Water Program;~~
- ~~(C) — The U.S. Environmental Protection Agency, Underground Injection Control Program;~~
- ~~(D) — Wyoming Game and Fish Department;~~
- ~~(E) — Wyoming State Engineer;~~
- ~~(F) — State Historical Preservation Officer;~~
- ~~(G) — Wyoming Oil and Gas Conservation Commission;~~
- ~~(H) — Wyoming Department of Environmental Quality, Land Quality Division~~
- ~~(I) — Wyoming State Geological Survey;~~
- ~~(J) — Wyoming Water Development Office;~~
- ~~(K) — Wyoming Department of Environmental Quality, Air Quality Division;~~
- ~~(L) — Wyoming Department of Environmental Quality, Solid and Hazardous Waste Division; and~~
- ~~(M) — U.S. Army Corps of Engineers;~~
- ~~(N) — Persons on the mailing list developed by the Department, including those who request in writing to be on the list and by soliciting participants in public hearings in that area for their interest in being included on “area” mailing lists; and~~
- ~~(O) — Any unit of local government having jurisdiction over the area where the facility is proposed to be located.~~
- ~~(ii) — Publication of the notice in a newspaper of general circulation in the location of the facility or operation; and~~

4960                   ~~(iii) — At the discretion of the Administrator, any other method reasonably~~  
4961 ~~expected to give actual notice of the action in question to the persons potentially affected by it,~~  
4962 ~~including press releases or any other forum or medium to elicit public participation.~~

4963  
4964                   ~~(d) — All public notices issued under this chapter shall contain the following minimum~~  
4965 ~~information:~~

4966                   ~~(i) — Name and address of the Department;~~

4967  
4968                   ~~(ii) — Name and address of permittee or permit applicant, and, if different, of the~~  
4969 ~~facility or activity regulated by the permit;~~

4970  
4971                   ~~(iii) — A brief description of the business conducted at the facility or activity~~  
4972 ~~described in the permit application or the draft permit;~~

4973  
4974                   ~~(iv) — The type and quantity of wastes, fluids, or pollutants that are proposed to~~  
4975 ~~be or are being treated, stored, disposed of, injected, emitted, or discharged.~~

4976  
4977                   ~~(v) — A brief summary of the basis for the draft permit conditions including~~  
4978 ~~references to applicable statutory or regulatory provisions;~~

4979  
4980                   ~~(vi) — Reasons why any requested variances or alternatives to required standards~~  
4981 ~~do or do not appear justified;~~

4982  
4983                   ~~(vii) — Name, address and telephone number of a person from whom interested~~  
4984 ~~persons may obtain further information, including copies of the draft permit, as the case may be,~~  
4985 ~~statement of basis or fact sheet, and the application;~~

4986  
4987                   ~~(viii) — A brief description of comment procedures including,~~

4988  
4989                   ~~(A) — Procedures to request a hearing;~~

4990  
4991                   ~~(B) — The beginning and ending dates of the comment period;~~

4992  
4993                   ~~(C) — The address where comments will be received; and~~

4994  
4995                   ~~(D) — Other procedures that the public may use to participate in the final~~  
4996 ~~permit decision; and~~

4997  
4998                   ~~(ix) — Any additional information considered necessary and proper.~~

4999  
5000                   ~~(e) — In addition to the information required in paragraph (d) of this section, any notice~~  
5001 ~~for public hearing shall contain the following:~~

5002  
5003                   ~~(i) — Reference to the date of previous public notices relating to the permit;~~

5006 ~~(ii) — Date, time and place of hearing; and~~

5007  
5008 ~~(iii) — A brief description of the nature and purpose of the hearing, including~~  
5009 ~~applicable rules and procedures.~~

5010  
5011 ~~(f) — The Department shall provide an opportunity for the applicant, permittee, or any~~  
5012 ~~interested person to submit written comments regarding any aspect of a permit or to request a~~  
5013 ~~public hearing.~~

5014  
5015 ~~(g) — During the public comment period, any interested person may submit written~~  
5016 ~~comments on the draft permit and may request a public hearing. Requests for public hearings~~  
5017 ~~must be made in writing to the Administrator and shall state the reasons for the request.~~

5018  
5019 ~~(h) — The Administrator shall hold a hearing whenever the Administrator finds, on the~~  
5020 ~~basis of requests, a significant degree of public interest in a draft permit. The Administrator has~~  
5021 ~~the discretion to hold a hearing whenever such a hearing may clarify issues involved in a permit~~  
5022 ~~decision.~~

5023  
5024 ~~(i) — The public comment period shall automatically extend to the close of any public~~  
5025 ~~hearing. The Administrator may also extend the comment period by so stating at the public~~  
5026 ~~hearing.~~

5027  
5028 ~~(j) — The Administrator shall render a decision on the draft permit within sixty (60)~~  
5029 ~~days after the completion of the comment period if no hearing is requested. If a hearing is held,~~  
5030 ~~the Administrator shall make a decision on any Department hearing as soon as practicable after~~  
5031 ~~receipt of the transcript or after the expiration of the time set to receive written comments.~~

5032  
5033 ~~(k) — At the time a final decision is issued, the Department shall respond, in writing, to~~  
5034 ~~those comments received during the public comment period or comments received during the~~  
5035 ~~allotted time for a hearing held by the Department. This response shall:~~

5036  
5037 ~~(i) — Specify any changes that have been made to the permit; and~~

5038  
5039 ~~(ii) — Briefly describe and respond to all comments voicing a technical or~~  
5040 ~~regulatory concern that is within the authority of the Department to regulate.~~

5041  
5042 ~~(l) — The response to comments shall also be available to the public.~~

5043  
5044 ~~(m) — Requests for a contested case hearing on a permit issuance, denial, revocation,~~  
5045 ~~termination, or any other final Department action appealable to the Council shall be in~~  
5046 ~~accordance with the Department of Environmental Quality Rules of Practice and Procedure.~~

5047  
5048 ~~(formerly Section 14(a))~~(a) The owner or operator of a Class VI well ~~must~~ shall  
5049 prepare, maintain, and comply with a testing and monitoring plan to verify that the geologic  
5050 sequestration project is operating as permitted and is not endangering USDWs. The testing and  
5051 monitoring plan ~~must~~ shall be submitted with the permit application, ~~for~~ shall be subject to

5052 Administrator approval, and ~~must~~ shall include a description of how the owner or operator will  
5053 meet the requirements of this ~~s~~Section, including accessing sites for all necessary monitoring and  
5054 testing during the life of the project.

5055  
5056 ~~(formerly Section 14(b))~~(b) In addition to the requirements of W.S. § 35-11-313,  
5057 Testing and monitoring associated with geologic sequestration projects ~~must~~ shall, ~~at a~~  
5058 ~~minimum~~, include:

5059  
5060 ~~(i) Plans and procedures for environmental surveillance and excursion~~  
5061 ~~detection, prevention, and control programs, including a monitoring plan to:~~

5062 ~~\_\_\_\_\_ (A) Assess the migration of the injected carbon dioxide; and~~

5063 ~~\_\_\_\_\_ (B) Ensure the retention of the carbon dioxide in the geologic~~  
5064 ~~sequestration site.~~

5065  
5066 ~~(formerly Section 14(b)(ii))~~(i) Analysis of the carbon dioxide stream with  
5067 sufficient frequency to yield data representative of its chemical and physical characteristics;

5068  
5069 ~~(formerly Section 14(b)(iii))~~(ii) Installation and use, except during well  
5070 workovers, of continuous recording devices to monitor:

5071  
5072 ~~(formerly Section 14(b)(iii)(A))~~(A) Injection pressure;

5073  
5074 ~~(formerly Section 14(b)(iii)(B))~~(B) Injection ~~R~~ate and volume;

5075  
5076 ~~(formerly Section 14(b)(iii)(C))~~(C) Pressure on the annulus between the  
5077 tubing and the long string casing;

5078  
5079 ~~(formerly Section 14(b)(iii)(D))~~(D) The annulus fluid volume added; and

5080  
5081 ~~(formerly Section 14(b)(iii)(E))~~(E) The pressure on the annulus between  
5082 the tubing and the long string casing.;

5083  
5084 ~~(formerly Section 14(b)(iv))~~(iii) Corrosion monitoring of the well materials  
5085 for loss of mass, loss of thickness, cracking, pitting, and other signs of corrosion, ~~which~~ ~~must~~  
5086 shall be performed and recorded at least quarterly to ensure that the well components meet the

5087 minimum standards for material strength and performance set forth in Section ~~9(b)~~ 14(b) of this  
5088 eChapter by:

5089  
5090 ~~(formerly Section 14(b)(iv)(A))~~(A) Analyzing coupons of the well  
5091 construction materials placed in contact with the carbon dioxide stream;

5092  
5093 ~~(formerly Section 14(b)(iv)(B))~~(B) Routing the carbon dioxide stream  
5094 through a loop constructed with the material used in the well and inspecting the materials in the  
5095 loop; or



5098  
5099 ~~(formerly Section 14(b)(iv)(C))(C)~~ Using an alternative method  
5100 approved by the Administrator;

5101  
5102 ~~(formerly Section 14(b)(v))(iv)~~ Periodic monitoring of the groundwater  
5103 quality and geochemical changes above the confining zone(s) that may be a result of carbon  
5104 dioxide movement or displaced formation fluid movement through the confining zone(s) or  
5105 additional ~~identified~~ zones, ~~including~~ The monitoring wells shall:

5106  
5107 ~~(formerly Section 14(b)(v)(A))(A)~~ ~~The location and number of~~  
5108 ~~monitoring wells must be based on~~ Use specific information about the geologic sequestration  
5109 project, including injection rate and volume, geology, the presence of artificial penetrations, and  
5110 other relevant factors to establish the location and number of monitoring wells; and

5111  
5112 ~~(formerly Section 14(b)(v)(B))(B)~~ ~~The monitoring frequency and~~  
5113 ~~spatial distribution of monitoring wells based on~~ Use baseline geochemical data that have been  
5114 collected under Section ~~5(b)(xiii)~~ 10(b)(xvi) of this eChapter and any modeling results in the area  
5115 of review evaluation required by Section ~~8(e)~~ 13(b) of this eChapter: to establish the monitoring  
5116 frequency and spatial distribution of monitoring wells;

5117  
5118 ~~(formerly Section 14(b)(vi))(v)~~ A demonstration of external mechanical  
5119 integrity pursuant to Section ~~13(e)~~ 19(c) at least once per year until the well is plugged;

5120  
5121 ~~(formerly Section 14(b)(vi))(vi)~~ \_\_\_\_\_ and ~~if~~ required by the Administrator, a  
5122 casing inspection log pursuant to requirements of Section ~~13(d)~~ 19(d) of this eChapter at a  
5123 frequency established in the testing and monitoring plan;

5124  
5125 ~~(formerly Section 14(b)(vii))(vii)~~ A pressure fall-off test that identifies  
5126 reservoir conditions with respect to flow dynamics at least once every five (5) years, unless more  
5127 frequent testing is required by the Administrator based on site-specific information; ~~and~~

5128  
5129 ~~(formerly Section 14(b)(viii))(viii)~~ Testing and monitoring to track the extent of  
5130 the carbon dioxide plume, the position of the pressure front, and surface displacement using:

5131  
5132 ~~(formerly Section 14(b)(viii)(A))(A)~~ Direct methods in the injection  
5133 zone(s); and

5134  
5135 ~~(formerly Section 14(b)(viii)(B))(B)~~ Indirect methods in the injection  
5136 zone (e.g., seismic, electrical, gravity, or electromagnetic surveys and/or down-hole carbon  
5137 dioxide detection tools); unless the Administrator determines, based on site-specific geology, that  
5138 such methods are not appropriate;

5139  
5140 ~~(formerly Section 14(b)(ix))(ix)~~ ~~At the Administrator's discretion, b~~Based on  
5141 site-specific conditions, surface air monitoring ~~and/or~~ soil gas monitoring to detect movement of  
5142 carbon dioxide that could endanger a USDW; or otherwise threaten human health, safety, or the  
5143 environment;

5144  
5145 ~~(formerly Section 14(b)(ix)(A))(A)~~ The surface air or soil gas  
5146 monitoring plan ~~must~~ shall:  
5147  
5148 ~~(formerly Section 14(b)(ix)(A))(I)~~ bBe based on potential risks  
5149 to USDWs, and modeling within the area of review;  
5150  
5151 ~~(formerly Section 14(b)(ix)(B))(II)~~ Use baseline data to establish  
5152 ~~T~~he monitoring frequency and spatial distribution of surface air monitoring ~~and/~~ or soil gas  
5153 monitoring ~~must reflect baseline data;~~ and  
5154  
5155 ~~(formerly Section 14(b)(ix)(B))(III)~~ The monitoring plan must  
5156 sSpecify how the proposed monitoring will yield useful information ~~on~~ for the area of review  
5157 delineation and the potential movement of fluid:  
5158  
5159 ~~(formerly Section 14(b)(ix)(B))(1.)~~ eContaining any  
5160 contaminant into USDWs in ~~exceedence~~ exceedance of any primary drinking water regulation  
5161 under 40 C.F.R. Part 141; ~~;~~  
5162  
5163 ~~(formerly Section 14(b)(ix)(B))(2.)~~ wWhich may  
5164 otherwise adversely affect human health, safety, or the environment; ~~;~~  
5165  
5166 ~~(formerly Section 14(b)(x))(B)~~ If an owner or operator demonstrates  
5167 that monitoring employed under 40 C.F.R. §§ 98.440 to 98.449 ~~(Clean Air Act, 42 U.S.C. 7401~~  
5168 ~~et seq.)~~ accomplishes the goals of subparagraph (b)(ix)(A) ~~and (B)~~ of this sSection, ~~and meets~~  
5169 ~~the requirements pursuant to 40 CFR § 146.91(e)(5), the Administrator that requires surface~~  
5170 ~~air/soil gas monitoring must shall~~ approve the use of monitoring employed under 40 C.F.R. §§  
5171 98.440 to 98.449. ~~Compliance with §§ 98.440 to 98.449 pursuant to this provision is considered~~  
5172 ~~a condition of the Class VI permit.~~ An owner or operator who uses monitoring employed under  
5173 40 C.F.R. §§ 98.440 to 98.449 to meet the requirements of this Section shall comply with 40  
5174 C.F.R. §§ 98.440 to 98.449;  
5175  
5176 ~~(formerly Section 14(b)(xi))(x)~~ Any additional monitoring, as required by  
5177 the Administrator, necessary to support, upgrade, and improve computational modeling of the  
5178 area of review re-evaluation required under Section ~~8(d)~~ 13(c) of this eChapter and as necessary  
5179 to demonstrate that there is no movement of fluid containing any contaminant into ~~underground~~  
5180 ~~sources of drinking water~~ USDWs in ~~exceedence~~ exceedance of any primary drinking water  
5181 regulation under 40 C.F.R. Part 141, Subparts E, F, and G, or which could otherwise adversely  
5182 affect human health, safety, or the environment;  
5183  
5184 ~~(formerly Section 14(b)(xii))(xi)~~ The owner or operator shall periodically  
5185 review the testing and monitoring plan to incorporate monitoring data collected under this  
5186 ~~subpart~~ Section, operational data collected under Section ~~12~~ 18 of this eChapter, and the most  
5187 recent area of review reevaluation performed under Section ~~8~~ 13 of this eChapter. ~~In no case~~  
5188 ~~shall~~ TThe owner or operator shall review the testing and monitoring plan ~~less often than~~ at least  
5189 once every five (5) years. Based on this review, the owner or operator shall submit an amended

5190 testing and monitoring plan or demonstrate to the Administrator that no amendment to the testing  
5191 and monitoring plan is needed. Any amendments to the testing and monitoring plan ~~must be~~  
5192 ~~approved~~ are subject to approval by the Administrator, ~~must~~ shall be incorporated into the  
5193 permit, and are subject to the permit modification requirements of Section ~~4-6~~ of this ~~e~~Chapter;  
5194 ~~as appropriate~~. Amended plans or demonstrations shall be submitted to the Administrator as  
5195 follows:

5196  
5197 ~~(formerly Section 14(b)(xii)(A))(A)~~ (A) Within one (1) year of an area of  
5198 review reevaluation;

5199  
5200 ~~(formerly Section 14(b)(xii)(B))(B)~~ (B) Following any significant changes to  
5201 the facility, such as addition of monitoring wells or newly permitted injection wells within the  
5202 area of review, ~~on a schedule determined by the Administrator~~; or

5203  
5204 ~~(formerly Section 14(b)(xii)(C))(C)~~ (C) When required by the  
5205 Administrator; and

5206  
5207 ~~(formerly Section 14(b)(xiii))(xii)~~ (xii) A quality assurance and surveillance plan  
5208 for all testing and monitoring requirements.

5209  
5210 ~~(formerly Section 14(d))(c)~~ The owner or operator shall create and retain R records of  
5211 all monitoring information ~~shall~~ that include:

5212  
5213 ~~(formerly Section 14(d)(i))(i)~~ (i) The date, time, and exact place, ~~and time~~ of  
5214 sampling or measurements;

5215  
5216 ~~(formerly Section 14(d)(ii))(ii)~~ (ii) The individual(s) who performed the  
5217 sampling or measurements;

5218  
5219 ~~(formerly Section 14(d)(iii))(iii)~~ (iii) The date(s) analyses were performed;

5220  
5221 ~~(formerly Section 14(d)(iv))(iv)~~ (iv) The individual(s) who performed the  
5222 analyses;

5223  
5224 ~~(formerly Section 14(d)(v))(v)~~ (v) The analytical techniques or methods used;  
5225 and

5226  
5227 ~~(formerly Section 14(d)(vi))(vi)~~ (vi) The results of such analyses.

5228  
5229 **Section 21. Record Retention.**

5230  
5231 ~~(formerly Section 14(e))(a)~~ The permittee ~~An owner or operator of a Class VI well~~  
5232 shall ~~retain~~ maintain records ~~of all monitoring information, including~~ according to the following  
5233 schedules;

5234

5235 ~~(formerly Section 14(e)(i))~~(i) Calibration and maintenance records and all original  
5236 strip chart recordings for continuous monitoring instrumentation, copies of all reports required  
5237 by this permit, and records of all data used to complete the application for this permit, for a  
5238 period of at least three (3) years from the date of the sample, measurement, report, or application.  
5239 This period may be extended by request of the Administrator at any time; ~~and~~

5240  
5241 ~~(formerly Section 14(e)(ii))~~(ii) The nature and composition of all injected  
5242 fluids until ~~three (3)~~ ten (10) years after the completion of any plugging and abandonment  
5243 procedures ~~specified~~ under Section ~~16~~ 23 of this ~~e~~Chapter.;

5244  
5245 ~~(formerly Section 8(f))~~(iii) All modeling inputs and data used to support area of  
5246 review reevaluations under ~~paragraph (d)~~ Section 13 of this ~~section~~ Chapter shall be retained for  
5247 ten (10) years.;

5248  
5249 ~~(formerly Section 17(f))~~(iv) ~~The W~~well-plugging reports, required by Section 23  
5250 of this Chapter, the site closure report required by Section 24 of this Chapter, and any post-  
5251 injection site care data, (including, if appropriate, data and information used to develop establish  
5252 the demonstration of the post-injection site care time frame,) ~~and the site closure report collected~~  
5253 ~~pursuant to requirements of subsection (d) above~~ shall be retained for ten (10) years following  
5254 site closure. ~~The owner or operator must deliver the records to the Administrator at the~~  
5255 ~~conclusion of the retention period, and the records must thereafter be retained at a location~~  
5256 ~~designated by the Administrator for that purpose.~~

5257  
5258 ~~(formerly Section 5(j))~~(v) All data used to complete permit applications shall  
5259 be ~~kept retained~~ by the applicant for the life of the geologic sequestration project and for ten (10)  
5260 years following site closure. ~~;~~ and

5261  
5262 ~~(formerly Section 15(e))~~(vi) ~~The permittee shall retain a~~All other monitoring  
5263 records required by ~~the a~~ permit shall be retained for a period of ten (10) years following site  
5264 closure. ~~The Administrator may require the owner or operator to deliver the records to the~~  
5265 ~~Administrator at the conclusion of the retention period.~~

5266  
5267 ~~(formerly Section 14(e)(ii))~~(b) ~~The Administrator may require the owner or~~  
5268 ~~operator to deliver the records to the Administrator at the conclusion of the retention period.~~The  
5269 owner or operator must deliver the records to the Administrator at the conclusion of the retention  
5270 period, and the records must thereafter be retained at a location designated by the Administrator  
5271 for that purpose.

## 5272 Section 22. Reporting and Notice Requirements.

5273  
5274  
5275 ~~(formerly Section 15(a))~~(a) The owner or operator ~~must shall, at a minimum,~~ provide  
5276 the following reports to the Administrator, for each ~~permitted~~ Class VI well:

5277  
5278 ~~(formerly Section 15(a)(i))~~(i) Semi-annual reports, ~~which~~ Semi-annual reports  
5279 are required by the permit shall be submitted to the Administrator within thirty (30) days  
5280 following the end of the period covered in the report, and shall contain:

- 5281  
5282 ~~(formerly Section 15(a)(i)(A))~~(A) Any changes to the physical,  
5283 chemical, and other relevant characteristics of the carbon dioxide stream from the proposed  
5284 operating data;  
5285  
5286 ~~(formerly Section 15(a)(i)(B))~~(B) Monthly average, maximum, and  
5287 minimum values for injection pressure, flow rate and volume, and annular pressure;  
5288  
5289 ~~(formerly Section 15(a)(i)(C))~~(C) A description of any event that  
5290 exceeds operating parameters for annulus pressure or injection pressure as specified in the  
5291 permit;  
5292  
5293 ~~(formerly Section 15(a)(i)(D))~~(D) A description of any event that  
5294 triggers a shutdown device required pursuant to Section ~~12(g)~~ 18(g) of this ~~e~~Chapter, and the  
5295 response taken;  
5296  
5297 ~~(formerly Section 15(a)(i)(E))~~(E) The monthly volume of the carbon  
5298 dioxide stream injected over the reporting period and project cumulatively;  
5299  
5300 ~~(formerly Section 15(a)(i)(F))~~(F) Monthly annulus fluid volume  
5301 added; and  
5302  
5303 ~~(formerly Section 15(a)(i)(G))~~(G) The results of monitoring ~~prescribed~~  
5304 ~~under required by~~ Section ~~14~~ 20 of this ~~e~~Chapter.;;  
5305  
5306 ~~(formerly Section 15(a)(ii))~~(ii) Reports, within thirty (30) days, the results  
5307 of:  
5308  
5309 ~~(formerly Section 15(a)(ii)(A))~~(A) Periodic tests of mechanical  
5310 integrity;  
5311  
5312 ~~(formerly Section 15(a)(ii)(B))~~(B) Any other test of the injection well  
5313 conducted by the ~~permittee~~ owner or operator if required by the Administrator; and  
5314  
5315 ~~(formerly Section 15(a)(ii)(C))~~(C) Any well workover.;; and  
5316  
5317 ~~(formerly Section 15(a)(iii))~~(iii) Reports, within twenty-four (24) hours, of:  
5318  
5319 ~~(formerly Section 15(a)(iii)(A))~~(A) Any evidence that the injected  
5320 carbon dioxide stream or associated pressure front may cause an endangerment to a USDW;  
5321  
5322 ~~(formerly Section 15(a)(iii)(B))~~(B) Any noncompliance with a permit  
5323 condition, or malfunction of the injection system, which may cause fluid migration into or  
5324 between USDWs;  
5325

5326 ~~(formerly Section 15(a)(iii)(C))(C)~~ Any triggering of a shut-off system,  
5327 either (i.e., down-hole or at the surface);

5328  
5329 ~~(formerly Section 15(a)(iii)(D))(D)~~ ~~Pursuant to compliance with the~~  
5330 ~~requirement at Section 14(b)(x) of this chapter for surface air or soil gas monitoring or other~~  
5331 ~~monitoring technologies, if required by the Administrator, a~~Any release of carbon dioxide to the  
5332 atmosphere or biosphere indicated by the surface air or soil gas monitoring or other monitoring  
5333 technologies required by Section 14(b)(ix) of this Chapter; and

5334  
5335 (E) Any failure to maintain mechanical integrity.

5336  
5337 ~~(formerly Section 15(a)(iv))(b)~~ Owners or operators ~~must~~ shall notify the  
5338 Administrator in writing thirty (30) days in advance of:

5339  
5340 ~~(formerly Section 15(a)(iv)(A))(i)~~ Any planned well workover;

5341  
5342 ~~(formerly Section 15(a)(iv)(B))(ii)~~ Any planned stimulation activities, other  
5343 than stimulation for formation testing conducted under Section ~~5~~ 10 of this ~~e~~Chapter; and

5344  
5345 ~~(formerly Section 15(a)(iv)(C))(iii)~~ Any other planned test of the injection well  
5346 conducted by the ~~permittee~~ owner or operator.

5347  
5348 ~~(formerly Section 15(b))(c)~~ Owners or operators ~~must~~ shall submit all required reports,  
5349 submittals, and notifications to both the Administrator and to EPA; ~~(in an electronic format~~  
5350 ~~acceptable to the EPA).~~

5351  
5352 ~~(formerly Section 15(e))(d)~~ ~~The permittee~~ Owners or operators shall submit a written  
5353 report to the Administrator of all remedial work concerning the failure of equipment or  
5354 operational procedures that resulted in a violation of a permit condition; ~~at the completion of the~~  
5355 ~~remedial work.~~

5356  
5357 ~~(formerly Section 15(d))(e)~~ For any aborted or curtailed operation, the owner or  
5358 operator shall submit to the Administrator a complete report ~~shall be submitted~~ within thirty (30)  
5359 days of complete termination of the discharge or associated activity.

5360  
5361 Section 23. Injection Well-plugging.

5362  
5363 ~~(formerly Section 16(a))(a)~~ Prior to ~~the~~ well-plugging, the owner or operator ~~must~~ shall  
5364 flush each Class VI injection well with a buffer fluid, determine bottom hole reservoir pressure,  
5365 and perform a final external mechanical integrity test in accordance with Section ~~13~~ 19 of this  
5366 ~~e~~Chapter.

5367  
5368 ~~(formerly Section 16(b))(b)~~ The owner or operator of a Class VI well ~~must~~ shall  
5369 prepare, maintain, update on the same schedule as the update to the area of review delineation,  
5370 and comply with a well-plugging plan that is ~~acceptable to~~ approved by the Administrator.

5371 ~~Temporary or intermittent cessation of injection operations is not abandonment.~~ The well-  
5372 plugging plan ~~must~~ shall include the following information:

5373  
5374 ~~(formerly Section 16(b)(i))~~(i) Appropriate test or measure to determine bottom  
5375 hole reservoir pressure;

5376  
5377 ~~(formerly Section 16(b)(ii))~~(ii) Appropriate testing methods to ensure final  
5378 external mechanical integrity as specified in Section ~~13~~ 19 of this ~~e~~Chapter;

5379  
5380 ~~(formerly Section 16(b)(iii))~~(iii) The type and number of plugs to be used;

5381  
5382 ~~(formerly Section 16(b)(iv))~~(iv) The placement of each plug including the  
5383 elevation of the top and bottom of each plug;

5384  
5385 ~~(formerly Section 16(b)(v))~~(v) The type and grade and quantity of material,  
5386 suitable for use with the carbon dioxide stream, to be used in plugging; and

5387  
5388 ~~(formerly Section 16(b)(vi))~~(vi) A description of the method of placement of  
5389 the plugs.

5390  
5391 ~~(formerly Section 16(e)(iii))~~(c) Any amendments to the injection well-plugging  
5392 plan ~~must be approved~~ are subject to approval by the Administrator, ~~must~~ shall be incorporated  
5393 into the permit if approved, and are subject to the permit modification requirements of Section ~~4~~  
5394 6 of this ~~e~~Chapter, ~~as appropriate~~.

5395  
5396 ~~(formerly Section 16(e))~~(d) The owner or operator ~~must~~ shall notify the Administrator,  
5397 in writing, at least sixty (60) days before plugging a well.

5398  
5399 ~~(formerly Section 16(e)(i))~~(i) If any changes have been made to the original well-  
5400 plugging plan, the owner or operator ~~must~~ shall also provide the revised well-plugging plan with  
5401 notice of its intent to plug the well.

5402  
5403 ~~(formerly Section 16(e)(ii))~~(ii) ~~At the discretion of t~~The Administrator, may  
5404 allow a shorter notice period ~~may be allowed~~.

5405  
5406 ~~(formerly Section 16(d))~~(e) Within sixty (60) days after completion of plugging and  
5407 abandonment of a well or well field, the ~~permittee~~ owner or operator shall submit to the  
5408 Administrator a final report that includes:

5409  
5410 ~~(formerly Section 16(d)(i))~~(i) Certification of completion in accordance with  
5411 approved plans and specifications by a licensed professional engineer or a licensed professional  
5412 geologist; and

5413  
5414 ~~(formerly Section 16(d)(ii))~~(ii) Certification of accuracy by the owner or  
5415 operator and by the person who performed the plugging operation (if other than the owner or  
5416 operator).

5417  
5418 Section 24. Post-injection Site Care and Site Closure.  
5419

5420 ~~(formerly Section 17(a))(a)~~ (a) The owner or operator of a Class VI well ~~must shall~~  
5421 prepare, maintain, update on the same schedule as the update to the area of review delineation,  
5422 and comply with a plan for post-injection site care and site closure that meets the requirements of  
5423 subparagraph (a)(ii) of this sSection and is ~~acceptable to~~ approved by the Administrator.  
5424

5425 ~~(formerly Section 17(a)(i))(i)~~ (i) The ~~owner or operator must submit the~~ post-  
5426 injection site care and site closure plan ~~as a part of the permit application to be~~ is subject to  
5427 ~~approved~~ ed by the Administrator, ~~;~~ in consultation with EPA.  
5428

5429 ~~(formerly Section 17(a)(ii))(ii)~~ (ii) The post-injection site care and site closure  
5430 plan ~~must shall~~ include the following information:  
5431

5432 ~~(formerly Section 17(a)(ii)(A))(A)~~ (A) A demonstration containing  
5433 substantial evidence that the geologic sequestration project will no longer pose a risk of  
5434 endangerment to USDWs ~~or and~~ will not harm or present a risk to human health, safety, or the  
5435 environment at the end of the post-injection site care timeframe. The demonstration ~~must shall~~ be  
5436 based on significant, site-specific data and information, including all data and information  
5437 collected pursuant to Sections ~~4 10~~ and ~~7 12~~ of this ~~eChapter;~~  
5438

5439 ~~(formerly Section 17(a)(ii)(B))(B)~~ (B) The site closure plan shall address all  
5440 reclamation, ~~required~~ monitoring, and remediation sufficient to show that the carbon dioxide  
5441 stream injected into the geologic sequestration site will not harm human health, safety, the  
5442 environment, or drinking water supplies;  
5443

5444 ~~(formerly Section 17(a)(ii)(C))(C)~~ (C) Detailed plans for post-injection  
5445 monitoring, verification, maintenance, and mitigation;  
5446

5447 ~~(formerly Section 17(a)(ii)(D))(D)~~ (D) The pressure differential between  
5448 pre-injection and predicted post-injection pressures in the injection zone;  
5449

5450 ~~(formerly Section 17(a)(ii)(E))(E)~~ (E) The predicted position of the carbon  
5451 dioxide plume and associated pressure front at the time when plume movement has ceased and  
5452 pressure differentials sufficient to cause the movement of injected fluids or formation fluids into  
5453 a USDW are no longer present, as demonstrated in the area of review evaluation required under  
5454 Section ~~8(e)(i) 13(b)(i)~~ of this ~~eChapter;~~  
5455

5456 ~~(formerly Section 17(a)(ii)(F))(F)~~ (F) A description of post-injection  
5457 monitoring locations, methods, and proposed frequency; ~~and~~  
5458

5459 ~~(formerly Section 17(a)(ii)(G))(G)~~ (G) A proposed schedule for submitting  
5460 post-injection site care monitoring results pursuant to Section ~~15(b) 22(c)~~ of this ~~eChapter;~~ ~~as~~  
5461 ~~appropriate;~~  
5462



5463 ~~(formerly Section 17(a)(ii)(H))(H)~~ (H) The duration of the post-injection  
5464 site care timeframe that ensures compliance with subparagraph (A) of this ~~subsection~~ paragraph;

5465  
5466 ~~(formerly Section 17(a)(ii)(I))(I)~~ (I) The results of computational  
5467 modeling performed pursuant to delineation of the area of review under Section 8 13 of this  
5468 eChapter;

5469  
5470 ~~(formerly Section 17(a)(ii)(J))(J)~~ (J) The predicted timeframe for pressure  
5471 decline;

5472  
5473 ~~(formerly Section 17(a)(ii)(J))(I)~~ (I) ~~w~~ Within the injection zone,  
5474 and any other zones, such that formation fluids may not be forced into any USDWs; ~~and~~ or

5475  
5476 ~~(formerly Section 17(a)(ii)(J))(II)~~ (II) ~~the timeframe for pressure~~  
5477 ~~decline~~ to pre-injection pressures;

5478  
5479 ~~(formerly Section 17(a)(ii)(K))(K)~~ (K) The predicted rate of carbon dioxide  
5480 plume migration within the injection zone, and the predicted timeframe for the cessation of  
5481 migration;

5482  
5483 ~~(formerly Section 17(a)(ii)(L))(L)~~ (L) A description of the site-specific  
5484 processes that will result in carbon dioxide trapping including immobilization by capillary  
5485 trapping, dissolution, and mineralization at the site;

5486  
5487 ~~(formerly Section 17(a)(ii)(M))(M)~~ (M) The predicted rate of carbon dioxide  
5488 trapping in the immobile capillary phase, dissolved phase, and ~~or~~ mineral phase;

5489  
5490 ~~(formerly Section 17(a)(ii)(N))(N)~~ (N) The results of laboratory analyses,  
5491 research studies, and ~~or~~ field or site-specific studies to verify the information required in  
5492 subparagraphs (J) and (K) of this ~~subsection~~ paragraph;

5493  
5494 ~~(formerly Section 17(a)(ii)(O))(O)~~ (O) A characterization of the confining  
5495 zone(s) including a demonstration that ~~it is~~ they are free of transmissive faults, fractures, and  
5496 micro-fractures and of appropriate thickness, permeability, and integrity to impede fluid (~~e.g.,~~  
5497 including carbon dioxide, ~~and~~ and formation fluids) movement;

5498  
5499 ~~(formerly Section 17(a)(ii)(P))(P)~~ (P) The presence of potential conduits  
5500 for fluid movement, including planned injection wells and project monitoring wells associated  
5501 with the proposed geologic sequestration project or any other projects in proximity to the  
5502 predicted or modeled, final extent of the carbon dioxide plume and area of elevated pressure;

5503  
5504 ~~(formerly Section 17(a)(ii)(Q))(Q)~~ (Q) A description of the well  
5505 construction and an assessment of the quality of plugs of all abandoned wells within the area of  
5506 review;

5507

5508 ~~(formerly Section 17(a)(ii)(R))~~(R) The distance between the injection  
5509 zone and the nearest USDWs above and/or below the injection zone; and

5510  
5511 ~~(formerly Section 17(a)(ii)(S))~~(S) Any additional site-specific factors  
5512 required by the Administrator.

5513  
5514 ~~(formerly Section 17(a)(iii))~~(iii) Information submitted to support the  
5515 demonstration in subparagraph (a)(ii) of this ~~s~~Section ~~must~~ shall meet the following criteria:

5516  
5517 ~~(formerly Section 17(a)(iii)(A))~~(A) All analyses and tests performed ~~to~~  
5518 ~~support the demonstration must~~ shall be accurate, reproducible, and performed in accordance  
5519 with ~~the established quality assurance~~ industry standards;

5520  
5521 ~~(formerly Section 17(a)(iii)(B))~~(B) Estimation techniques ~~must~~ shall be  
5522 appropriate; ~~and~~

5523  
5524 ~~(formerly Section 17(a)(iii)(B))~~(C) EPA-certified test protocols ~~must~~  
5525 shall be used where available;

5526  
5527 ~~(formerly Section 17(a)(iii)(C))~~(D) Predictive models ~~must~~ shall be  
5528 appropriate and tailored to the site conditions, composition of the carbon dioxide stream and  
5529 injection, and site conditions over the life of the geologic sequestration project;

5530  
5531 ~~(formerly Section 17(a)(iii)(D))~~(E) Predictive models ~~must~~ shall be  
5532 calibrated using existing information (~~e.g., at which may be obtained from~~ Class I, Class II, ~~or~~  
5533 Class V experimental technology, ~~or Class VI~~ well sites) where sufficient data are available;

5534  
5535 ~~(formerly Section 17(a)(iii)(E))~~(F) Reasonably conservative values and  
5536 modeling assumptions ~~must~~ shall be used and disclosed to the Administrator whenever values  
5537 are estimated on the basis of known, historical information instead of site-specific  
5538 measurements;

5539  
5540 ~~(formerly Section 17(a)(iii)(F))~~(G) An analysis ~~must~~ shall be performed  
5541 to identify and assess aspects of the post-injection site care timeframe demonstration that  
5542 contribute significantly to uncertainty. The owner or operator ~~must~~ shall conduct sensitivity  
5543 analyses to determine the effect that significant uncertainty may contribute to the modeling  
5544 demonstration;

5545  
5546 ~~(formerly Section 17(a)(iii)(G))~~(H) An approved quality assurance and  
5547 quality control plan ~~must~~ shall address all aspects of the demonstration; ~~and~~;

5548  
5549 ~~(formerly Section 17(a)(iii)(H))~~(I) Any additional criteria required by  
5550 the Administrator shall be met.

5551  
5552 ~~(formerly Section 17(a)(iv))~~(iv) Upon cessation of injection, owners or  
5553 operators of Class VI wells ~~must~~ shall either submit an amended post-injection site care and site

5554 closure plan or demonstrate to the Administrator through monitoring data and modeling results  
5555 that no amendment to the plan is needed. Any amendments to the post-injection site care and site  
5556 closure plan ~~must~~ shall be:

5557  
5558 ~~(formerly Section 17(a)(iv)(A))(A)~~ Subject to Aapprovedal by the  
5559 Administrator;

5560  
5561 ~~(formerly Section 17(a)(iv)(B))(B)~~ Incorporated into the permit; and

5562  
5563 ~~(formerly Section 17(a)(iv)(C))(C)~~ Subject to the permit modification  
5564 requirements of Section 4 6 of this ~~e~~Chapter, ~~as appropriate~~.

5565  
5566 ~~(formerly Section 17(a)(v))(v)~~ The owner or operator may ~~modify~~ amend  
5567 ~~and resubmit~~ the post-injection site care and site closure plan, ~~for the Administrator's approval~~  
5568 ~~within thirty (30) days of such change.~~ The owner or operator shall re-submit the post-injection  
5569 site care and closure plan for the Administrator's approval within thirty (30) days of amending  
5570 the plan.

5571  
5572 (vi) Upon receipt of the Administrator's approval of the post-injection site care  
5573 and site closure plan, the owner or operator shall submit the proposed cost estimate for  
5574 measurement, monitoring, and verification of plume stabilization required by Section 26(i) of  
5575 this Chapter.

5576  
5577 ~~(formerly Section 17(b))(b)~~ The owner or operator shall monitor the site following the  
5578 cessation of injection to ~~show~~ ascertain the position of the carbon dioxide plume and pressure  
5579 front and demonstrate that USDWs are not being endangered.

5580  
5581 ~~(formerly Section 17(b)(i))(i)~~ The owner or operator shall continue to conduct  
5582 monitoring as specified in the Administrator-approved post-injection site care and site closure  
5583 plan until the Administrator certifies site closure ~~is certified by the Administrator pursuant to~~  
5584 Section 24(b)(iii) of this Chapter.

5585  
5586 ~~(formerly Section 17(b)(ii))(ii)~~ The owner or operator ~~can~~ may request ~~and~~  
5587 ~~demonstrate to the satisfaction of the Administrator~~ that the post-injection site care and site  
5588 closure plan ~~should~~ be revised to reduce the frequency of monitoring, and the Administrator  
5589 may approve the request if the owner or operator demonstrates that the plan should be revised.

5590  
5591 ~~(formerly Section 17(b)(iii))(iii)~~ Prior to ~~authorization for~~ certification of site  
5592 closure, the owner or operator ~~must~~ shall demonstrate to the Administrator, based on monitoring,  
5593 other site-specific data, and modeling that is reasonably consistent with site performance, that no  
5594 additional monitoring is needed to ensure that the geologic sequestration project does not, and is  
5595 not expected to ~~pose an~~ endangerment to a USDW or otherwise threaten human health, safety, or  
5596 the environment. In addition, the owner or operator ~~must~~ shall demonstrate, based on the best  
5597 available understanding of the site, including monitoring data and ~~or~~ modeling, that all other site  
5598 closure standards and requirements have been met.

5599

5600 ~~(formerly Section 17(b)(iv))~~(iv) If ~~such a demonstration cannot be made~~ the  
5601 owner or operator does not demonstrate that the requirements of subparagraph (b)(iii) of this  
5602 Section have been met, the owner or operator ~~must~~ shall continue post-injection site care.

5603  
5604 ~~(formerly Section 17(b)(v))~~(v) The owner or operator ~~must~~ shall notify the  
5605 Administrator, in writing, at least 120 days before filing a request for site closure. At this time, if  
5606 any changes have been made to the original post-injection site care and site closure plan, the  
5607 owner or operator ~~must~~ shall also provide the revised plan. ~~At the discretion of t~~The  
5608 Administrator; may allow a shorter notice period ~~may be allowed~~.

5609  
5610 ~~(formerly Section 17(b)(vi))~~(vi) Post-injection site care shall ~~be~~ continue for  
5611 a period ~~of not less than ten (10) years after the date when all wells excluding monitoring wells~~  
5612 ~~have been appropriately plugged and abandoned, all subsurface operations and activities have~~  
5613 ~~ceased and all surface equipment and improvements have been removed or appropriately~~  
5614 ~~abandoned, or so long thereafter as necessary to obtain a completion and release certificate from~~  
5615 ~~the Administrator certifying that plume stabilization has been achieved without the use of control~~  
5616 ~~equipment based on a minimum of three (3) consecutive years of monitoring data~~ that meets the  
5617 criteria of W.S. § 35-11-313(f)(vi)(F).

5618  
5619 ~~(formerly Section 17(e))~~(c) After the Administrator has certified site closure, the owner  
5620 or operator ~~must~~ shall plug monitoring wells, ~~as determined by the Administrator~~, in a manner  
5621 approved by the Administrator that will not allow movement of injection or formation fluids.

5622  
5623 ~~(formerly Section 17(d))~~(d) ~~Once the Administrator has certified site closure, t~~The  
5624 owner or operator ~~must~~ shall submit a site closure report within ninety (90) days after completion  
5625 of all closure operations. ~~The report must thereafter be retained at a location designated by the~~  
5626 ~~Administrator for ten (10) years~~. The report ~~must~~ shall include:

5627  
5628 ~~(formerly Section 17(d)(i))~~(i) Documentation of ~~appropriate~~ injection and  
5629 monitoring well-plugging ~~as specified in that meets the requirements of~~ Section ~~16~~ 23 of this  
5630 ~~e~~Chapter and paragraph (c) of this ~~s~~Section;

5631  
5632 ~~(formerly Section 17(d)(ii))~~(ii) ~~The owner or operator must provide a~~ A  
5633 copy of a survey plat that has been submitted to the local zoning authority designated by the  
5634 Administrator; and:

5635  
5636 ~~(formerly Section 17(d)(ii)(A))~~(A) The plat ~~must~~ shall indicate the  
5637 location of the injection well(s) and monitoring wells relative to permanently surveyed  
5638 benchmarks; and

5639  
5640 ~~(formerly Section 17(d)(ii)(B))~~(B) The owner or operator ~~must~~ shall  
5641 also submit a copy of the plat to the US EPA Regional Administrator;

5642  
5643 ~~(formerly Section 17(d)(iii))~~(iii) Documentation of appropriate notification  
5644 and information to ~~such~~ the State, local and tribal authorities ~~as~~ that have authority over drilling

5645 activities to enable ~~such State and local authorities~~ them to impose appropriate conditions on  
5646 subsequent drilling activities that may penetrate the injection and confining zone(s);  
5647

5648 ~~(formerly Section 17(d)(iv))(iv)~~ (iv) Proof ~~of providing notice to surface owners,~~  
5649 ~~mineral claimants, mineral owners, lessees, and other owners of record of subsurface interests as~~  
5650 ~~to the proposed site closure. Notice requirements at a minimum shall include~~ that the owner or  
5651 operator has:  
5652

5653 ~~(formerly Section 17(d)(iv)(A))(A)~~ (A) The ~~p~~ublishing ~~of~~ notice of the  
5654 application for site closure, including ~~(formerly Section 17(d)(iv)(B))~~ The published notice  
5655 ~~shall provide~~ a mechanism to request a public hearing; ~~(formerly Section 17(d)(iv)(A))~~ in a  
5656 newspaper of general circulation in each county of the proposed operation at weekly intervals for  
5657 four (4) consecutive weeks; and  
5658

5659 ~~(formerly Section 17(d)(iv)(C))(B)~~ (B) ~~A copy of the notice shall also be~~  
5660 ~~m~~ailed notice of the application for site closure to all surface owners, mineral claimants,  
5661 mineral owners, lessees, and other owners of record of subsurface interests that are located  
5662 within one (1) mile of the proposed boundary of the geologic sequestration site; and  
5663

5664 ~~(formerly Section 17(d)(v))(v)~~ (v) Records reflecting ~~of~~ the nature,  
5665 composition, and volume of the carbon dioxide stream.  
5666

5667 ~~(formerly Section 17(e))(e)~~ (e) Each owner or operator of a Class VI injection well ~~must~~  
5668 shall record a notation on the deed to the facility property or any other document that is normally  
5669 examined during title search that will in perpetuity provide notice to any potential purchaser of  
5670 the property, and shall file an affidavit in accordance with W.S. § 35-11-313(f)(vi)(G), that  
5671 includes the following information:  
5672

5673 ~~(formerly Section 17(e)(i))(i)~~ (i) The fact that land has been used to sequester carbon  
5674 dioxide;  
5675

5676 ~~(formerly Section 17(e)(ii))(ii)~~ (ii) The name of the State agency, local  
5677 authority, ~~and/or~~ and ~~t~~he Tribe with which the survey plat was filed, as well as the address of the  
5678 ~~Regional Environmental Protection Agency~~ EPA regional ~~O~~ffice to which it was submitted; and  
5679

5680 ~~(formerly Section 17(e)(iii))(iii)~~ (iii) The volume of fluid injected, the injection  
5681 zone or zones into which it was injected, and the period over which injection occurred.  
5682

## 5683 Section 25. Emergency and Remedial Response.

5684  
5685 ~~(formerly Section 18(a))(a)~~ (a) ~~As part of the permit application, the~~ All owners or  
5686 operators of a Class VI well shall develop, maintain, and comply ~~must provide the Administrator~~  
5687 with an emergency and remedial response plan that describes actions to be taken to address  
5688 movement of the injectate or formation fluids that ~~may cause an~~ endangerments ~~to~~ a USDW or  
5689 threatens human health, safety, or the environment during construction, operation, closure, and  
5690 post-closure periods.

5691 ~~(formerly Section 18(a)(i))~~(i) The emergency and remedial response plan ~~must~~  
5692 shall be reviewed and updated, as necessary, on the same schedule as the update to the area of  
5693 review delineation.

5694  
5695 ~~(formerly Section 18(a)(ii))~~(ii) Any amendments to the emergency and  
5696 remedial response plan ~~must shall~~ be subject to approveded by the Administrator, ~~must shall~~ be  
5697 incorporated into the permit, and are subject to the permit modification requirements of Section 4  
5698 6 of this ~~e~~Chapter, ~~as appropriate. (formerly Section 18(a)(ii)(A))~~ Amendedments plans or  
5699 ~~demonstrations to the emergency and remedial response plan~~ shall be submitted to the  
5700 Administrator as follows:

5701  
5702 ~~(formerly Section 18(a)(ii)(A)(I))~~(A) Within one (1) year of an area of  
5703 review reevaluation;

5704  
5705 ~~(formerly Section 18(a)(ii)(A)(II))~~(B) Following any significant  
5706 changes to the facility, such as addition of injection or monitoring wells, ~~on a schedule~~  
5707 ~~determined by the Administrator~~; or

5708  
5709 ~~(formerly Section 18(a)(ii)(A)(III))~~(C) When required by the  
5710 Administrator.

5711  
5712 ~~(formerly Section 18(e))~~(iii) The emergency and remedial response plan ~~(as~~  
5713 ~~required by Section 18 of this chapter) and a demonstration of financial responsibility (as~~  
5714 ~~described by Section 19 of this chapter) must shall~~ account for the entire area of review ~~(as~~  
5715 ~~modified) delineated pursuant to Section 13 of this Chapter~~, regardless of whether ~~or not~~  
5716 corrective action in the area of review is phased.

5717  
5718 ~~(formerly Section 18(b))~~(b) If any monitoring data, or other ~~evidence obtained by the~~  
5719 ~~owner or operator~~ information indicate that any contaminant, the injected carbon dioxide stream,  
5720 displaced formation fluids, or associated pressure front may endanger a USDW or threatens  
5721 human health, safety, or the environment, the owner or operator ~~must shall~~:

5722  
5723 ~~(formerly Section 18(b)(i))~~(i) Immediately cease injection;

5724  
5725 ~~(formerly Section 18(b)(ii))~~(ii) Take all steps reasonably necessary to  
5726 identify and characterize any release;

5727  
5728 ~~(formerly Section 18(b)(iii))~~(iii) Orally ~~N~~otify the Administrator within  
5729 twenty-four (24) hours: of discovering the condition; and

5730  
5731 ~~(formerly Section 4(c)(i)(R)(II))~~(iv) ~~Any noncompliance with a permit condition~~  
5732 ~~or malfunction of the injection system that may cause fluid migration into or between USDWs or~~  
5733 ~~if an excursion is discovered. It shall be orally reported to the Administrator within twenty four~~  
5734 ~~(24) hours from the time the permittee becomes aware of the circumstances, and a written~~  
5735 ~~submission shall be~~ Provided a written report to the Administrator within five (5) days of ~~the~~  
5736 ~~time the permittee becomes aware of any excursion or indication that a contaminant may cause~~

5737 ~~an endangerment to a USDW~~ discovering the condition. The written ~~submission~~ report shall  
5738 contain:

5739  
5740 ~~(formerly Section 4(e)(i)(R)(II))(1.)~~ (A) A description of the  
5741 noncompliance and its cause;

5742  
5743 ~~(formerly Section 4(e)(i)(R)(II))(2.)~~ (B) The period of  
5744 noncompliance, including exact dates and times, and, if the noncompliance has not been  
5745 controlled, the anticipated time it is expected to continue; and

5746  
5747 ~~(formerly Section 4(e)(i)(R)(II))(3.)~~ (C) Steps taken or planned to  
5748 reduce, eliminate, and prevent reoccurrence of the noncompliance.

5749  
5750 ~~(formerly Section 18(b)(iv))(c)~~ (c) ~~In addition to paragraphs (i-iii) of this subsection, if~~  
5751 ~~an~~ If an owner or operator discovers any noncompliance with a permit condition or a  
5752 requirement of this Chapter that may cause fluid migration into or between USDWs, any  
5753 malfunction of the injection system that may cause fluid migration into or between USDWs, or  
5754 any excursion ~~is discovered~~, the owner or operator shall:

5755  
5756 ~~(formerly Section 18(b)(iv))(i)~~ (i) ~~provide verbal notice to the Department~~  
5757 Orally notify the Administrator within twenty-four (24) hours, ~~of discovering the condition;~~

5758  
5759 ~~(formerly Section 4(e)(i)(R)(II))(ii)~~ (ii) ~~Any noncompliance with a permit condition~~  
5760 ~~or malfunction of the injection system that may cause fluid migration into or between USDWs or~~  
5761 ~~if an excursion is discovered. It shall be orally reported to the Administrator within twenty-four~~  
5762 ~~(24) hours from the time the permittee becomes aware of the circumstances, and~~ Provide a  
5763 written submission report to the Administrator ~~shall be provided~~ within five (5) days of ~~the time~~  
5764 ~~the permittee becomes aware of any excursion or indication that a contaminant may cause an~~  
5765 ~~endangerment to a USDW.~~ discovering the condition. ~~The written submission~~ which shall  
5766 contain:

5767  
5768 ~~(formerly Section 4(e)(i)(R)(II))(1.)~~ (A) A description of the  
5769 noncompliance, malfunction, or excursion and its cause;

5770  
5771 ~~(formerly Section 4(e)(i)(R)(II))(2.)~~ (B) The period of  
5772 noncompliance, malfunction, or excursion, including exact dates and times, and, if the  
5773 noncompliance, malfunction, or excursion has not been controlled, the anticipated time it is  
5774 expected to continue;

5775  
5776 ~~(formerly Section 4(e)(i)(R)(II))(3.)~~ (C) Steps taken or planned to  
5777 reduce, eliminate, and prevent reoccurrence of the noncompliance, malfunction, or excursion.

5778  
5779 ~~(formerly Section 18(b)(iv))(iii)~~ (iii) ~~If an excursion is discovered, followed by~~  
5780 provide written notice to all surface owners, mineral claimants, mineral owners, lessees, and  
5781 other owners of record of subsurface interests within thirty (30) days of ~~when~~ discovering the  
5782 excursion ~~is discovered~~; and

5783  
5784 ~~(formerly Section 18(b)(v))(iv)~~ Implement the emergency and remedial  
5785 response plan approved by the Administrator.  
5786

5787 ~~(formerly Section 18(e))(d)~~ The Administrator may allow the owner or operator to  
5788 resume injection prior to ~~remediation~~ implementing the emergency and remedial response plan if  
5789 the owner or operator demonstrates that the injection operation will not endanger USDWs or  
5790 otherwise threaten human health, safety, or the environment.  
5791

5792 ~~(formerly Section 6(b))(e)~~ If any water quality monitoring of ~~an underground source~~  
5793 ~~of drinking water~~ a USDW indicates the movement of any contaminant into the ~~underground~~  
5794 ~~source of drinking water~~ USDW, except as authorized under this ~~e~~Chapter, the Administrator  
5795 shall prescribe ~~such~~ any additional requirements for construction, corrective action, operation,  
5796 monitoring, ~~or~~ reporting, ~~(including or~~ closure of the injection well) ~~as~~ that are necessary to  
5797 prevent ~~such~~ further movement, ~~and~~:

5798  
5799 ~~(formerly Section 6(b))(i)~~ ~~In~~ If the ~~case of~~ wells responsible for the movement  
5800 is authorized by permit, these additional requirements shall be imposed by modifying the permit  
5801 ~~in accordance with Section 4 of this chapter;~~ or  
5802

5803 ~~(formerly Section 6(b))(ii)~~ ~~The Director~~ the permit may be terminated ~~or~~  
5804 revoke and reissue the permit pursuant to Section 4 7 of this ~~e~~Chapter ~~if cause exists, or~~  
5805 ~~appropriate enforcement action may be taken if the permit has been violated.~~  
5806

## 5807 Section 26. Financial Responsibility.

5808  
5809 ~~(formerly Section 19(b))(a)~~ Owners or operators of Class VI wells ~~must~~ shall establish,  
5810 demonstrate, and maintain financial responsibility for all applicable phases of the geologic  
5811 sequestration project, including complete site reclamation in the event of default. The phases of a  
5812 geologic sequestration project are ~~as follows~~:

5813  
5814 ~~(formerly Section 19(b)(i))(i)~~ ~~Permitting/~~Ccharacterization;

5815  
5816 ~~(formerly Section 19(b)(ii))(ii)~~ Testing and mMonitoring ~~and testing,~~  
5817 ~~including the requirements of~~ pursuant to Section ~~14~~ 20 of this ~~e~~Chapter;

5818  
5819 ~~(formerly Section 19(b)(iii))(iii)~~ Operations, including (injection and  
5820 ~~permanent well closure activities)~~well-plugging, including the requirements of pursuant to  
5821 Sections ~~16~~ 18 and 23 of this ~~e~~Chapter;

5822  
5823 ~~(formerly Section 19(b)(iv))(iv)~~ Post-injection site care, including (“plume  
5824 stabilization”, monitoring, measurement, verification, corrective action, and other actions  
5825 needed to ensure that underground sources of drinking water are not endangered from the time of  
5826 well-plugging until site closure is certified by the Administrator; ~~and~~ above ground-reclamation  
5827 is completed), ~~including the requirements of~~ pursuant to Section ~~17~~ 24 of this ~~e~~Chapter; ~~and~~  
5828



5829 ~~(formerly Section 19(b)(v))(v)~~ Emergency and remedial response ~~(that~~  
5830 ~~meets the requirements of pursuant to~~ Section ~~18-25~~ of this ~~e~~Chapter).

5831  
5832 ~~(formerly Section 19(e))(b)~~ The owner or operator ~~must~~ shall develop ~~submit a detailed~~  
5833 ~~written estimate, at the time of permit application~~ and annually updated ~~annually~~ in accordance  
5834 with paragraph ~~(j)(iii) below~~ (f) of this Section, a written financial assurance cost estimate.;

5835  
5836 ~~(formerly Section 19(e))(i)~~ ~~in current dollars,~~ The financial assurance cost  
5837 estimate shall ~~that~~ includes the cost in current dollars of:

5838  
5839 ~~(formerly Section 19(e))(A)~~ pPerforming corrective action on other wells  
5840 in the area of review that require corrective action ~~meets the requirements of under~~ Section ~~8~~ 13  
5841 of this ~~e~~Chapter;

5842  
5843 ~~(formerly Section 19(e))(B)~~ pPlugging the injection well(s) ~~that meets~~  
5844 ~~the requirements of under~~ Section ~~16~~ 23 of this ~~e~~Chapter;

5845  
5846 ~~(formerly Section 19(e))(C)~~ pPost-injection site care and site closure ~~that~~  
5847 ~~meets the requirements of under~~ Section ~~17~~ 24 of this ~~e~~Chapter;

5848  
5849 ~~(formerly Section 19(e))(D)~~ Testing and monitoring ~~activities that meets~~  
5850 ~~the requirements of under~~ Section ~~14~~ 20 of this ~~e~~Chapter; and

5851  
5852 ~~(formerly Section 19(e))(E)~~ Emergency and remedial response ~~that~~  
5853 ~~meets the requirements of under~~ Section ~~18~~ 25 of this ~~e~~Chapter.

5854  
5855 ~~(formerly Section 19(e)(i))(ii)~~ (ii) The financial assurance cost estimate ~~for the various~~  
5856 ~~phases of the sequestration project~~ shall consider the following events:

5857  
5858 ~~(formerly Section 19(e)(i)(A))(A)~~ (A) Contamination of underground  
5859 sources of water including, drinking water supplies;

5860  
5861 ~~(formerly Section 19(e)(i)(B))(B)~~ (B) Mineral rights infringement;

5862  
5863 ~~(formerly Section 19(e)(i)(C))(C)~~ (C) Single large-volume release of  
5864 carbon dioxide that impacts human health and safety ~~and/or~~ that causes ecological damage;

5865  
5866 ~~(formerly Section 19(e)(i)(D))(D)~~ (D) Low-level leakage of carbon dioxide  
5867 to the surface that impacts human health and safety ~~and/or~~ that causes ecological damage;

5868  
5869 ~~(formerly Section 19(e)(i)(E))(E)~~ (E) Storage rights infringement;

5870  
5871 ~~(formerly Section 19(e)(i)(F))(F)~~ (F) Property and infrastructure damage,  
5872 including changes to surface topography and structures;

5873  
5874 ~~(formerly Section 19(e)(i)(G))(G)~~ (G) Entrained contaminant releases ~~(non-~~

5875 ~~CO<sub>2</sub>~~ of contaminants other than carbon dioxide;

5876

5877 ~~(formerly Section 19(e)(i)(H))(H)~~ Accidents/ and unplanned events;

5878

5879 ~~(formerly Section 19(e)(i)(I))(I)~~ Well capping and permitted

5880 abandonment; and

5881

5882 ~~(formerly Section 19(e)(i)(J))(J)~~ Removal of above-ground facilities

5883 and site reclamation.

5884

5885 ~~(formerly Section 19(e)(ii))(iii)~~ The owner or operator shall consider the

5886 Risk Activity ~~m~~Matrix in Appendix A of this ~~e~~Chapter ~~shall be considered during the risk~~

5887 ~~assessment process~~ to develop the financial assurance cost estimate.

5888

5889 ~~(formerly Section 19(e)(iii))(iv)~~ The financial assurance cost estimate shall

5890 be based upon a multi-disciplinary analytical framework such as Monte Carlo or other

5891 commonly accepted stochastic modeling tools.

5892

5893 ~~(formerly Section 19(e)(iii)(A))(A)~~ Cost curves shall combine risk

5894 probabilities, event outcomes, and damages assessment to calculate expected losses under a

5895 series of events.

5896

5897 ~~(formerly Section 19(e)(iii)(B))(B)~~ For all cases of potential damages,

5898 the probability distributions should be identified for 50 percent, 95 percent, and 99 percent

5899 probabilities of occurrence.

5900

5901 ~~(formerly Section 19(e))(v)~~ The owner or operator shall perform the financial

5902 assurance cost estimate ~~must be performed~~ for each phase separately. and

5903

5904 ~~(formerly Section 19(e))(vi) must be based-~~The owner or operator shall base the

5905 financial assurance cost estimate on the costs to the regulatory agency of hiring a third party (that

5906 is not within the corporate structure of the owner or operator) to perform the required activities.

5907 ~~A third party is a party who is not within the corporate structure of the owner or operator.~~

5908

5909 ~~(formerly Section 8(e))(vii)~~ The ~~emergency and remedial response plan (as~~

5910 ~~required by Section 18 of this chapter) and a demonstration of financial responsibility~~ assurance

5911 cost estimate ~~(as described by Section 19 of this chapter) must shall~~ account for the entire area of

5912 review ~~(as modified), regardless of whether or not corrective action in the area of review is~~

5913 ~~phased~~ delineated pursuant to Section 13 of this Chapter.

5914

5915 ~~(viii)~~ The owner or operator shall submit an updated financial assurance cost

5916 estimate to the Administrator annually within thirty (30) days of the anniversary date when the

5917 original financial assurance cost estimate was submitted.

5918

5919 ~~(formerly Section 19(g))(c)~~ The financial responsibility instrument~~(s)~~ used shall be

5920 from the following list of qualifying instruments and shall be submitted on a Wyoming

5921 Department of Environmental Quality form:

5922

5923 ~~(formerly Section 19(g)(i))~~ (i) Irrevocable Trust Funds with government-backed  
5924 securities;

5925

5926 ~~(formerly Section 19(g)(ii))~~ (ii) Surety Bonds;

5927

5928 ~~(formerly Section 19(g)(iii))~~ (iii) Irrevocable Letter of Credit;

5929

5930 ~~(iv) — Insurance.~~

5931

5932 ~~(A) — Any insurance instruments submitted for financial assurance~~  
5933 ~~purposes shall include State of Wyoming as an additional insured.~~

5934

5935 ~~(B) — Inclusion of the State of Wyoming as an additional insured shall~~  
5936 ~~not be deemed a waiver of sovereign immunity.~~

5937

5938 ~~(v) — Self insurance (i.e., Financial Test and Corporate Guarantee);~~

5939

5940 ~~(vi) — Escrow account;~~

5941

5942 ~~(vii) — Any other instrument(s) satisfactory to the Administrator.~~

5943

5944 (iv) Cash; or

5945

5946 (v) Federally Insured Certificates of Deposit.

5947

5948 ~~(formerly Section 19(h))~~ (d) The qualifying instrument(s) ~~must~~ shall be sufficient to  
5949 cover the cost of the financial assurance cost estimate required in ~~subsection (d)~~ paragraph (b) of  
5950 this ~~s~~Section.

5951

5952 ~~(formerly Section 19(i))~~ (e) The qualifying financial responsibility instrument(s) ~~must~~  
5953 shall comprise protective conditions of coverage that include at a minimum cancellation,  
5954 renewal, continuation provisions, specifications on when the provider becomes liable following a  
5955 notice of cancellation, and requirements for the provider to meet a minimum rating, minimum  
5956 capitalization, and the ability to pass the bond rating test when applicable.

5957

5958 ~~(formerly Section 19(i)(i))~~ (i) Cancellation— An owner or operator ~~must~~ shall  
5959 provide that their financial mechanism may not cancel, terminate or fail to renew except for  
5960 failure to pay such financial instrument. ~~If there is a failure to pay the financial instrument, the~~  
5961 ~~financial institution may elect to cancel, terminate, or fail to renew the instrument by sending~~  
5962 ~~notice by certified mail to the owner or operator and the Administrator. The cancellation must~~  
5963 ~~not be final for 120 days after receipt of cancellation notice. The owner or operator must provide~~  
5964 ~~an alternate financial responsibility demonstration within sixty (60) days of notice of~~  
5965 ~~cancellation, and if an alternate financial responsibility demonstration is not acceptable (or~~  
5966 ~~possible), any funds from the instrument being cancelled must be released within sixty (60) days~~

5967 ~~of notification by the Administrator.~~

5968

5969 ~~(formerly Section 19(i)(i))(A)~~ If there is a failure to pay the financial  
5970 instrument, the financial institution may elect to cancel, terminate, or fail to renew the instrument  
5971 by sending notice by certified mail to the owner or operator and the ~~Administrator~~ Director;

5972

5973 ~~(formerly Section 19(i)(i))(B)~~ The cancellation shall not be final for 120  
5974 days after receipt of cancellation notice;

5975

5976 ~~(formerly Section 19(i)(i))(C)~~ ~~The owner or operator must provide an~~  
5977 ~~alternate financial responsibility demonstration~~ W within sixty (60) days of notice of cancellation,  
5978 the owner or operator shall provide to the Director an alternate financial responsibility  
5979 demonstration that meets the requirements of paragraphs (c), (d), (e), (f), and (g) of this Section;  
5980 and

5981

5982 ~~(formerly Section 19(i)(i))(D)~~ If an alternate financial responsibility  
5983 demonstration is not acceptable (or possible), any funds from the instrument being cancelled  
5984 ~~must~~ shall be released within sixty (60) days of notification by the ~~Administrator~~ Director.

5985

5986 ~~(formerly Section 19(i)(ii))(ii)~~ ~~Renewal~~— Owners or operators ~~must~~ shall  
5987 renew all financial instruments, if an instrument expires, for the entire term of the geologic  
5988 sequestration project. The instrument may be automatically renewed as long as, at a minimum,  
5989 the owner or operator has the option of renewal at the face amount of the expiring instrument.

5990

5991 ~~(formerly Section 19(i)(iii))(iii)~~ ~~Continuation~~— Cancellation, termination, or  
5992 failure to renew may not occur and the financial instrument shall remain in full force and effect  
5993 in the event that on or before the date of expiration:

5994

5995 ~~(formerly Section 19(i)(iii)(A))(A)~~ (A) The Administrator deems the facility  
5996 abandoned.

5997

5998 ~~(formerly Section 19(i)(iii)(B))(B)~~ (B) The permit is terminated, revoked, or  
5999 a new permit is denied.

6000

6001 ~~(formerly Section 19(i)(iii)(C))(C)~~ (C) Closure is ordered by the  
6002 ~~Administrator~~ Director, a U.S. district court, or other court of competent jurisdiction.

6003

6004 ~~(formerly Section 19(i)(iii)(D))(D)~~ (D) The owner or operator is named as  
6005 debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code.

6006

6007 ~~(formerly Section 19(i)(iii)(E))(E)~~ (E) The amount due is paid.

6008

6009 ~~(formerly Section 19(j))(f)~~ The qualifying financial responsibility instrument(s) ~~must~~  
6010 ~~be approved~~ are subject to approval by the ~~Administrator~~ Director. The ~~Administrator shall also~~  
6011 ~~approve the~~ use and length of pay-in-periods for trust funds and escrow accounts are also subject  
6012 to approval by the Director.

6013  
6014 ~~(formerly Section 19(j)(i))~~(i) No Class VI permit shall be issued until and unless  
6015 ~~T~~the ~~Administrator~~ Director shall ~~has~~ considered and ~~approved~~ approved the financial responsibility  
6016 demonstration for all ~~the~~ phases of the geologic sequestration project ~~prior to issuing a Class VI~~  
6017 ~~permit.~~

6018  
6019 ~~(formerly Section 19(j)(ii))~~(ii) ~~The Administrator may find that the~~  
6020 ~~financial responsibility demonstration is unsatisfactory for any reason, as long as that reason is~~  
6021 ~~not arbitrary or capricious.~~ The ~~Administrator~~ Director may ~~exercise discretion in~~ negotiate a  
6022 satisfactory financial responsibility demonstration or ~~to~~ deny a demonstration.

6023  
6024 ~~(formerly Section 19(j)(iii))~~(iii) The owner or operator ~~must~~ shall provide  
6025 any updated information related to ~~their~~ financial responsibility instrument(s) on an annual basis,  
6026 and if there are any changes, the ~~Administrator~~ Director ~~must~~ shall evaluate the financial  
6027 responsibility demonstration ~~to confirm that~~ and determine whether the instrument(s) used  
6028 ~~remain~~ are adequate ~~for use~~. The owner or operator ~~must~~ shall maintain financial responsibility  
6029 requirements regardless of the status of the ~~Administrator's~~ Director's review of the financial  
6030 responsibility demonstration.

6031  
6032 ~~(formerly Section 19(j)(iv))~~(iv) The owner or operator ~~must~~ shall provide an  
6033 adjustment of the financial assurance cost estimate to the Administrator within sixty (60) days of  
6034 ~~notification by the Administrator receiving notice, if that~~ the Administrator ~~has~~ determines  
6035 ~~during the annual evaluation of the qualifying financial responsibility instrument(s) that the most~~  
6036 ~~recent a~~ demonstration of financial assurance is ~~not~~ longer adequate to cover the cost of  
6037 corrective action ~~(as required by Section 8 of this chapter)~~, injection well-plugging ~~(as required~~  
6038 ~~by Section 16 of this chapter)~~, post-injection site care and site closure ~~(as required by Section 17~~  
6039 ~~of this chapter)~~, and emergency and remedial response ~~(as required by Section 18 of this~~  
6040 ~~chapter).~~

6041  
6042 ~~(formerly Section 19(j)(v))~~(v) During ~~the active life~~ all phases of the geologic  
6043 sequestration project, the owner or operator ~~must~~ shall adjust the financial assurance cost  
6044 estimate for inflation within sixty (60) days prior to the anniversary date of the establishment of  
6045 the financial instrument(s) used to comply with ~~paragraph (g) of this s~~Section and provide this  
6046 adjustment to the Administrator. The owner or operator ~~must~~ shall also provide to the  
6047 Administrator written updates of adjustments to the cost estimate within sixty (60) days of any  
6048 amendments to the area of review and corrective action plan ~~(Section 8 of this chapter)~~, the  
6049 injection well-plugging plan ~~(Section 16 of this chapter)~~, the post-injection site care and site  
6050 closure plan ~~(Section 17 of this chapter)~~, the emergency and remedial response plan ~~(Section 18~~  
6051 ~~of this chapter)~~, and mitigation or reclamation costs that the State may incur as a result of any  
6052 default by the permit holder.

6053  
6054 ~~(formerly Section 19(j)(vi))~~(vi) ~~The Administrator must approve~~  
6055 ~~a~~Any decrease or increase to the ~~initial~~ financial assurance cost estimate ~~shall be subject to~~  
6056 approval by the Administrator. During ~~the active life~~ all phases of the geologic sequestration  
6057 project, the owner or operator ~~must~~ shall revise the cost estimate no later than sixty (60) days  
6058 after the Administrator has approved ~~the~~ a request to modify the area of review and corrective

6059 action plan ~~(Section 8 of this chapter)~~, the injection well-plugging plan ~~(Section 16 of this~~  
6060 ~~chapter)~~, the post-injection site care and site closure plan ~~(Section 17 of this chapter)~~, ~~and or~~ the  
6061 emergency and response plan ~~(Section 18 of this chapter)~~, if the change in the plan increases the  
6062 cost. If the change to the plans decreases the cost, any withdrawal of funds ~~must be~~ is subject to  
6063 approval by the Administrator. Any decrease to the value of the financial assurance instrument  
6064 ~~must first be~~ is subject to approval by the Administrator. ~~The revised cost estimate must be~~  
6065 ~~adjusted for inflation as specified in paragraph (j)(v) of this section.~~

6066  
6067 ~~(formerly Section 19(j)(vii))(vii)~~ Whenever the current financial assurance  
6068 cost estimate increases to an amount greater than the face amount of a financial instrument  
6069 currently in use, the owner or operator, within sixty (60) days after the increase, ~~must~~ shall either  
6070 cause the face amount to be increased to an amount at least equal to the current financial  
6071 assurance cost estimate and submit evidence of such increase to the Administrator, or the owner  
6072 or operator shall obtain other financial responsibility instruments to cover the increase.  
6073 Whenever the current financial assurance cost estimate decreases, the face amount of the  
6074 financial assurance instrument may be reduced to the amount of the current financial assurance  
6075 cost estimate only after the owner or operator has received written approval from the  
6076 Administrator.

6077  
6078 ~~(formerly Section 19(k))(g)~~ The owner or operator may demonstrate financial  
6079 responsibility by using one (1) or multiple qualifying financial instruments ~~for specific phases of~~  
6080 ~~the geologic sequestration project.~~ subject to the following requirements:

6081  
6082 (i) Owners or operators that propose to demonstrate financial assurance with  
6083 surety bonds shall meet the following requirements:

6084  
6085 (A) A corporate surety shall not be considered good and sufficient  
6086 unless:

6087  
6088 (I) It is licensed to do business in the State;

6089  
6090 (II) The estimated bond amount does not exceed the limit of  
6091 risk as provided for in W.S. § 26-5-110, nor raise the total of all bonds held by the applicant  
6092 under that surety above three (3) times the limit of risk; and

6093  
6094 (III) The surety agrees:

6095  
6096 (1.) Not to cancel bond unless the Department gives  
6097 prior written approval of a good and sufficient replacement surety with transfer of the liability  
6098 that has accrued against the operator on the permit area, site, or facility;

6099  
6100 (2.) To be jointly and severally liable with the permittee,  
6101 owner, or operator.

6102  
6103 (3.) To provide immediate written notice to the  
6104 Department and operator once it becomes unable or may become unable due to any action filed

6105 against it to fulfill its obligations under the bond.

6106

6107 (B) If for any reason the surety becomes unable to fulfill its obligations  
6108 under the bond, the operator shall provide the required notice. Failure to comply with this  
6109 provision shall result in suspension of the permit.

6110

6111 (C) The surety bond shall be submitted on a Wyoming Department of  
6112 Environmental Quality form.

6113

6114 (ii) Owners or operators that propose to demonstrate financial assurance with  
6115 cash, or government securities, or a combination of both, shall meet the following requirements:

6116

6117 (A) Securities that are unencumbered shall only include those that are  
6118 United States government securities or state government securities that are acceptable to the  
6119 Director. Government securities shall be endorsed to the order of the Department and placed in  
6120 possession of the Department. Possession shall be in the form of the cash value of the irrevocable  
6121 trust for the full amount of the reclamation obligation and payable to the Department and  
6122 federally insured.

6123

6124 (B) An owner or operator shall satisfy the requirements of this  
6125 subsection by establishing an irrevocable trust that conforms to the requirements below and  
6126 submitting an originally signed duplicate of the trust agreement to the Director for consideration.

6127

6128 (I) The irrevocable trust shall be submitted to the Director on  
6129 the Wyoming Department of Environmental Quality Irrevocable Trust Form and be signed by  
6130 the owner, operator, or guarantor as principal and the financial institution as Trustee, and made  
6131 payable to the Department;

6132

6133 (II) The Trustee shall be a bank organized to do business in the  
6134 United States that has the authority to act as a trustee and whose trust operations is regulated and  
6135 examined by a federal agency;

6136

6137 (III) The irrevocable trust shall be cash funded for the full  
6138 amount of the financial assurance obligation to be provided in the irrevocable trust before it may  
6139 be approved to satisfy the requirements of financial assurance in lieu of a bond. For purposes of  
6140 this subsection, "the full amount of the financial assurance obligation to be provided" means the  
6141 amount of coverage required to be provided by paragraphs (b) and (i) of this Section, less the  
6142 amount of financial assurance obligation that is being provided by other financial assurance  
6143 mechanisms being used to demonstrate financial assurance by the owner, operator, or guarantor;

6144

6145 (IV) Any bond may be canceled by the surety only after ninety  
6146 (90) days written notice to the Director, and upon receipt of the Director's written consent, which  
6147 may be granted only when the requirements of the irrevocable trust have been fulfilled; and

6148

6149 (V) Irrevocable trust forfeiture proceedings shall occur only  
6150 after the Department provides notice to the owner or operator and trustee pursuant to W.S. 35-

6151 11-701 that a violation exists and the Environmental Quality Council has approved the request of  
6152 the Director to begin forfeiture proceedings.

6153  
6154 (iii) Owners or operators that propose to demonstrate financial assurance with  
6155 irrevocable letters of credit shall meet the following conditions:

6156  
6157 (A) The irrevocable letter of credit shall be payable to the Department  
6158 in part or in full upon demand and receipt from the Director of a notice of forfeiture issued in  
6159 accordance with paragraph (t) of this Section;

6160  
6161 (B) The irrevocable letter of credit shall not be in excess of ten percent  
6162 of the issuing or supporting bank's capital surplus account as shown on a balance sheet liabilities  
6163 certified by a certified public accountant;

6164  
6165 (C) The Director shall not accept standby letters of credit;

6166  
6167 (D) The Director shall not accept letters of credit from a bank for any  
6168 person, on all permits held by that person, in excess of the limitations imposed by W.S. §13-3-  
6169 402; and

6170  
6171 (E) The irrevocable letter of credit shall provide that:

6172  
6173 (I) The bank will give prompt notice to the owner or operator  
6174 and the Director of any notice received or action filed alleging the insolvency or bankruptcy of  
6175 the bank or alleging any violations of regulatory requirements that could result in suspension or  
6176 revocation of the bank's charter or license to do business;

6177  
6178 (II) In the event the bank becomes unable to fulfill its  
6179 obligations under the letter of credit for any reason, notice shall be given immediately to the  
6180 owner or operator and the Director; and

6181  
6182 (III) Upon the incapacity of a bank by reason of bankruptcy,  
6183 insolvency, or suspension or revocation of its charter or license, the owner or operator shall be  
6184 deemed to be without performance bond coverage in violation of the Act. The Director shall  
6185 issue a notice of violation against any owner or operator who is without bond coverage,  
6186 specifying a reasonable period to replace bond coverage, not to exceed ninety (90) days. During  
6187 this period the Director or the Director's designated representative shall conduct weekly  
6188 inspections to ensure continuing compliance with other permit requirements, the regulations and  
6189 the Act. If the notice is not abated in accordance with the schedule, a cessation order shall be  
6190 issued.

6191  
6192 (IV) The irrevocable letter of credit may be cancelled by the  
6193 surety only after ninety (90) days notice to the Director, and upon receipt of the Director's  
6194 written consent, which may be granted only when the requirements of the bond have been  
6195 fulfilled.

6196



6197 (F) The irrevocable letter may only be issued by a bank organized to  
6198 do business in the U.S. that identifies by name, address, and telephone number an agent upon  
6199 whom any process, notice or demand required or permitted by law to be served upon the bank  
6200 may be served.

6201  
6202 (I) If the bank fails to appoint or maintain an agent in this  
6203 State, or whenever any such agent cannot be reasonably found, then the Director shall be an  
6204 agent for such bank upon whom any process, notice or demand may be served for the purpose of  
6205 this Chapter. In the event of any such process, the Director shall immediately cause one copy of  
6206 such process, notice or demand to be forwarded by registered mail to the bank at its principal  
6207 place of business. The Director shall keep a record of all processes, notices, or demands served  
6208 upon him under this paragraph, and shall record therein the time of such service and his action  
6209 with reference thereto.

6210  
6211 (II) Nothing herein contained shall limit or affect the right to  
6212 serve any process, notice or demand required or permitted by law to be served upon the bank in  
6213 any other manner now or hereafter permitted by law.

6214  
6215 ~~(formerly Section 19(f))(h)~~ (h) The owner or operator ~~must~~ shall maintain financial  
6216 responsibility and resources until: ~~the administrator receives and approves the completed post-~~  
6217 ~~injection site care and site closure plan and the administrator approves site closure.~~

6218  
6219 (i) The Administrator receives the site closure report and certifies site  
6220 closure.

6221  
6222 (A) When the conditions of W.S. § 35-11-313(f)(vi)(F) have been met,  
6223 the owner or operator may submit a written request to the Administrator to release the retained  
6224 financial assurance instruments; and

6225  
6226 (B) The Administrator shall evaluate the request within sixty (60) days  
6227 of the receipt of the financial assurance release request.

6228  
6229 (I) If the Administrator finds the owner or operator has  
6230 demonstrated the requirements of W.S. § 35-11-313(f)(vi)(F) have been met, the Administrator  
6231 shall prepare a draft recommendation to the Director to approve the request and provide public  
6232 notice pursuant to Section 27 of this Chapter.

6233  
6234 (II) Re-submittal of information by an operator for an  
6235 incomplete demonstration of the requirements of W.S. § 35-11-313(f)(vi)(F) will restart the  
6236 process described in this subsection.

6237  
6238 (III) If the Administrator finds the owner or operator has not  
6239 demonstrated the requirements of W.S. § 35-11-313(f)(vi)(F) have been met, the Administrator  
6240 shall prepare a draft recommendation to the Director to deny the request.

6241  
6242 (C) After receiving public comment and holding a hearing (if a hearing

6243 is held) pursuant to Section 27 of this Chapter, the Director shall determine whether the operator  
6244 has demonstrated the requirements of W.S. § 35-11-313(f)(vi)(F) have been met.

6245  
6246 (I) If the Director finds the owner or operator has  
6247 demonstrated the requirements of W.S. § 35-11-313(f)(vi)(F) have been met, the Director shall  
6248 notify the owner or operator and request the State Treasurer to release that portion of the final  
6249 financial assurance instruments. The State Treasurer shall then return the financial assurance  
6250 instruments constituting that portion of the financial assurance so retained.

6251  
6252 (II) If the Director finds the owner or operator has not  
6253 demonstrated the requirements of W.S. § 35-11-313(f)(vi)(F) have been met, the Director shall  
6254 notify the owner or operator by registered mail within a reasonable time after the request is filed.  
6255 The notice shall state the reasons for denial and shall recommend corrective actions.

6256  
6257 ~~formerly Section 19(n)(ii)~~ The owner or operator ~~may be~~ meets the requirements for  
6258 released ~~release~~ from a financial instrument in the following circumstances:

6259  
6260 ~~formerly Section 19(n)(i)(A)~~ The owner or operator has completed the  
6261 phase of the geologic sequestration project for which the financial instrument was required and  
6262 has fulfilled all its financial obligations as determined by the ~~Administrator~~ Director, including  
6263 obtaining financial responsibility for the next phase of the geologic sequestration project, if  
6264 required;

6265  
6266 ~~formerly Section 19(n)(ii)(B)~~ The owner or operator has submitted a  
6267 replacement financial instrument and received written approval from the ~~Administrator~~ Director  
6268 accepting the new financial instrument and releasing the owner or operator from the previous  
6269 financial instrument; or

6270  
6271 ~~formerly Section 19(n)(iii)(C)~~ The owner or operator has submitted a  
6272 revised financial assurance cost estimate for the remaining phases of the geologic sequestration  
6273 project. The revised financial assurance cost estimate may demonstrate that a partial release of  
6274 the financial instrument is warranted and ~~can will~~ still provide adequate financial assurance for  
6275 the remainder of the geologic sequestration project. Partial release of the financial instrument is  
6276 at the discretion of the ~~Administrator~~ Director.

6277  
6278 ~~formerly Section 19(e)(i)~~ Within a reasonable time following certification of site  
6279 closure by the Administrator, plume stabilization, the completion of all remediation work, and  
6280 release of all other financial assurance instruments, the owner or operator shall submit a  
6281 proposed cost estimate for measurement, monitoring, and verification of plume stabilization.  
6282 ~~Following the release of all financial assurance and receipt of a site closure certificate, t~~ The  
6283 Administrator ~~must shall approve~~ evaluate and determine whether the proposed cost estimate  
6284 prepared for the post-closure measurement, monitoring and verification of a geologic  
6285 sequestration site is adequate. ~~The cost estimate shall only be provided after plume stabilization~~  
6286 and all remediation work has been completed.

6287  
6288 ~~formerly Section 19(m)(j)~~ The owner or operator ~~must shall~~ notify the ~~Administrator~~

6289 Director by certified mail of adverse financial conditions, such as bankruptcy, that may affect ~~the~~  
6290 its ability to ~~carry out~~ complete injection well-plugging and post-injection site care and site  
6291 closure.

6292  
6293 ~~formerly Section 19(m)(i)(i)~~ (i) In the event that the owner or operator or the third  
6294 party provider of a financial responsibility instrument is going through a bankruptcy, ~~t~~The owner  
6295 or operator ~~must~~ shall notify the ~~Administrator~~ Director by certified mail of the commencement  
6296 of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the  
6297 owner or operator or the third-party provider of a financial responsibility instrument as debtor,  
6298 within ten (10) days after commencement of the proceeding.

6299  
6300 ~~formerly Section 19(m)(iii)(ii)~~ An owner or operator who fulfills the  
6301 requirements of ~~paragraph (g) of this s~~Section by obtaining a an irrevocable trust fund, surety  
6302 bond, or irrevocable letter of credit, ~~escrow account, or insurance policy will~~ shall be deemed to  
6303 be without the required financial assurance in the event of: ~~bankruptcy of the trustee or issuing~~  
6304 ~~institution, or a suspension or revocation of the authority of the trustee institution to act as trustee~~  
6305 ~~of the institution issuing the trust fund, surety bond, letter of credit, escrow account, or insurance~~  
6306 ~~policy, The owner or operator must establish other financial assurance within sixty (60) days~~  
6307 ~~after such an event.~~

6308  
6309 ~~formerly Section 19(m)(iii)(A)~~ bBankruptcy of the trustee or issuing  
6310 institution;

6311  
6312 ~~formerly Section 19(m)(iii)(B)~~ or a A suspension or revocation of  
6313 the authority of the trustee institution to act as trustee of the institution issuing the irrevocable  
6314 trust fund, surety bond, or irrevocable letter of credit; ~~escrow account, or insurance policy, or~~

6315  
6316 ~~formerly Section 19(m)(iii)(C)~~ \_\_\_\_\_ If the license to do business in  
6317 Wyoming of the surety issuing financial assurance is suspended or revoked.

6318  
6319 ~~formerly Section 19(m)(iii)(iii)~~ Within sixty (60) days after such an event  
6320 ~~T~~he owner or operator ~~must~~ shall establish other financial assurance ~~within sixty (60) days after~~  
6321 ~~such an event~~ that meets the requirements of paragraphs (c), (d), (e), (f), and (g) of this Section.

6322  
6323 (k) \_\_\_\_\_ The Department shall conduct bond forfeiture proceedings pursuant to W.S. § 35-  
6324 11-421. If the forfeited financial assurance instrument is inadequate to cover the costs of the  
6325 closure, mitigation, reclamation, measurement, monitoring, verification, and pollution control,  
6326 the Department may request that the Attorney General bring suit to recover costs against the  
6327 owner, operator, or permittee.

6328  
6329 ~~(formerly Section 5(g))(l)~~ An applicant applying for a Class VI well permit must The  
6330 owner or operator shall obtain and maintain public liability insurance ~~to cover the~~ for a geologic  
6331 sequestration ~~activities for which a permit is sought~~ project.

6332  
6333 ~~(formerly Section 5(g)(i))(i)~~ (i) The public liability insurance policy shall ~~be in~~  
6334 ~~addition to the financial assurance required in Section 19 of this chapter.;~~

6335  
6336 ~~(formerly Section 5(g)(ii))(A) The insurance policy shall provide for~~  
6337 ~~personal injury and property damage protection and shall be in place until a completion and~~  
6338 ~~release certificate has been obtained from the Administrator certifying that plume stabilization~~  
6339 ~~has been achieved.~~ Include coverage for the major risks identified in Appendix A to this Chapter;

6340  
6341 (B) Provide minimum coverage that:

6342  
6343 (I) Accounts for site-specific risk factor and bond adjustment  
6344 factor calculations, based on the previous year's information; and

6345  
6346 ~~(formerly Section 5(g)(iii))(II) The minimum insurance~~  
6347 ~~coverage for public liability insurance as required by W.S. § 35-11-313(f)(ii)(O) shall be five~~  
6348 ~~hundred thousand dollars (\$500,000) for each occurrence of bodily injury or property damage,~~  
6349 ~~and one million dollars (\$1,000,000) aggregate. Is at least \$15 million per occurrence with an~~  
6350 annual aggregate of at least \$45 million, exclusive of legal defense costs; and

6351  
6352 ~~(formerly Section 5(g)(iv))(C) The public liability insurance shall~~  
6353 ~~include a rider that requires that the insurer to notify the Administrator whenever substantive~~  
6354 ~~changes are made to the policy, including any termination or failure to renew.~~

6355  
6356 (ii) The owner or operator shall recalculate the minimum coverage amount of  
6357 the public liability insurance policy annually and at the same time that the owner or operator  
6358 updates the financial assurance cost estimate pursuant to paragraph (b) of this Section. The  
6359 owner or operator shall submit a copy of the current public liability insurance policy annually  
6360 and at the same time that the owner or operator submits an updated financial assurance cost  
6361 estimate pursuant to subparagraph (b)(viii) of this Section.

6362  
6363 ~~(formerly Section 5(g)(ii))(iii) The owner or operator shall maintain the~~  
6364 ~~public liability insurance policy shall provide for personal injury and property damage protection~~  
6365 ~~and shall be in place until a completion and release certificate has been obtained from until the~~  
6366 ~~Administrator certifying certifies that plume stabilization has been achieved.~~

## 6367 Section 27. Public Participation, Public Notice and Public Hearing Requirements.

6368  
6369  
6370 ~~(formerly Section 20(a))(a) The Administrator shall give public notice if a draft permit~~  
6371 ~~has been prepared, after receiving a financial assurance release request pursuant to Section~~  
6372 ~~26(h)(i)(A) of this Chapter and finding the operator has met the requirements of W.S. 35-11-~~  
6373 ~~313(f)(vi)(F), or if a hearing has been scheduled.~~

6374  
6375 ~~(formerly Section 20(b))(i) Public notice of the preparation of a draft permit~~  
6376 ~~shall allow at least sixty (60) days for public comment.~~

6377  
6378 ~~(formerly Section 20(b))(ii) Public notice of a public hearing or~~  
6379 ~~recommendation to release financial assurance after certifying site closure shall be given at least~~  
6380 ~~thirty (30) days before the hearing.~~

6381  
6382 ~~(formerly Section 20(b))(iii)~~ Public notice of ~~the a~~ hearing may be given at the  
6383 same time as public notice of the draft permit or of a draft recommendation to release financial  
6384 assurance after certifying site closure. and the two notices may be combined.

6385  
6386 ~~(formerly Section 20(e))(b)~~ Public notice shall be given by:

6387  
6388 ~~(formerly Section 20(e)(i))(i)~~ ~~Mailing-Providing~~ a copy of the notice, a copy of  
6389 the fact sheet, the permit application (if any), and the draft permit (if any) to the following  
6390 persons:

6391  
6392 ~~(formerly Section 20(e)(i)(A))(A)~~ The applicant, by certified or  
6393 registered mail;

6394  
6395 ~~(formerly Section 20(e)(i)(B))(B)~~ The U.S. Environmental Protection  
6396 Agency, Region 8 Drinking Water Program, by mail;

6397  
6398 ~~(formerly Section 20(e)(i)(C))(C)~~ The U.S. Environmental Protection  
6399 Agency, Underground Injection Control Program, by mail;

6400  
6401 ~~(formerly Section 20(e)(i)(D))(D)~~ Wyoming Game and Fish  
6402 Department;

6403  
6404 ~~(formerly Section 20(e)(i)(E))(E)~~ Wyoming State Engineer;

6405  
6406 ~~(formerly Section 20(e)(i)(F))(F)~~ State Historical Preservation Officer;

6407  
6408 ~~(formerly Section 20(e)(i)(G))(G)~~ Wyoming Oil and Gas Conservation  
6409 Commission;

6410  
6411 ~~(formerly Section 20(e)(i)(H))(H)~~ Wyoming Department of  
6412 Environmental Quality, Land Quality Division;

6413  
6414 ~~(formerly Section 20(e)(i)(I))(I)~~ Wyoming State Geological Survey;

6415  
6416 ~~(formerly Section 20(e)(i)(J))(J)~~ Wyoming Water Development  
6417 Office;

6418  
6419 ~~(formerly Section 20(e)(i)(K))(K)~~ Wyoming Department of  
6420 Environmental Quality, Air Quality Division;

6421  
6422 ~~(formerly Section 20(e)(i)(L))(L)~~ Wyoming Department of  
6423 Environmental Quality, Solid and Hazardous Waste Division; and

6424  
6425 ~~(formerly Section 20(e)(i)(M))(M)~~ U.S. Army Corps of Engineers;

6426

6427 (N) Federal agencies with jurisdiction over fish, shellfish, and wildlife  
6428 resources and over coastal zone management plans;

6429  
6430 (O) The Advisory Council on Historic Preservation;

6431  
6432 (P) Any Tribes with Indian reservations and Indian lands identified  
6433 pursuant to Sections 10(b)(v) and 10(b)(ix)(A)(VII) of this Chapter;

6434  
6435 ~~(formerly Section 20(e)(i)(N))~~(Q) Persons on the mailing list developed  
6436 by the Department, including those who request in writing to be on the list and ~~by soliciting~~  
6437 participants in ~~public~~ hearings in that area ~~for their interest in being included~~ who request to be  
6438 on “area” mailing lists; and

6439  
6440 ~~(formerly Section 20(e)(i)(O))~~(R) Any unit of state or local government  
6441 having jurisdiction over the area where the facility is proposed to be located.

6442  
6443 ~~(formerly Section 20(e)(ii))~~(ii) ~~Publication of~~ Publishing the notice in a  
6444 newspaper of general circulation in the location of the facility or operation; and

6445  
6446 ~~(formerly Section 20(e)(iii))~~(iii) At the discretion of the Administrator, any  
6447 other method reasonably expected to give actual notice of the proposed action ~~in question~~ to the  
6448 persons potentially affected by it, including press releases or any other forum or medium to elicit  
6449 public participation.

6450  
6451 ~~(formerly Section 20(d))~~(c) All public notices issued under this chapter shall contain  
6452 the following minimum information:

6453  
6454 ~~(formerly Section 20(d)(i))~~(i) Name and address of the Department;

6455  
6456 ~~(formerly Section 20(d)(ii))~~(ii) Name and address of the owner, operator,  
6457 permittee, or permit applicant, and, if different, of the facility or activity regulated by the permit;

6458  
6459 ~~(formerly Section 20(d)(iii))~~(iii) A brief description of the business  
6460 conducted at the facility or activity described in the permit application, ~~or described in~~ the draft  
6461 permit, or subject to regulation under this Chapter;

6462  
6463 ~~(formerly Section 20(d)(iv))~~(iv) The type and quantity of wastes, fluids, or  
6464 pollutants that are proposed to be or are being treated, stored, disposed of, injected, emitted, or  
6465 discharged;

6466  
6467 ~~(formerly Section 20(d)(v))~~(v) A brief summary of the basis for the draft  
6468 permit conditions, including references to applicable statutory or regulatory provisions;

6469  
6470 ~~(formerly Section 20(d)(vi))~~(vi) Reasons why any requested variances or  
6471 alternatives to required standards do or do not appear justified;

6472

6473 ~~(formerly Section 20(d)(vii))~~(vii) Name, address and telephone number of a  
6474 person from whom interested persons may obtain further information, including copies of the  
6475 draft permit, ~~as the case may be~~, statement of basis, ~~or~~ fact sheet, and the application; and  
6476

6477 ~~(formerly Section 20(d)(viii))~~(viii) A brief description of comment procedures,  
6478 including;

6479 ~~(formerly Section 20(d)(viii)(A))~~(A) Procedures to request a hearing;

6481 ~~(formerly Section 20(d)(viii)(B))~~(B) The beginning and ending dates of  
6482 the comment period;

6484 ~~(formerly Section 20(d)(viii)(C))~~(C) The address where comments ~~will be~~  
6485 ~~received~~ may be submitted; and

6487 ~~(formerly Section 20(d)(viii)(D))~~(D) Other procedures that the public may  
6488 use to participate in the final permit decision; ~~and~~

6490 ~~(formerly Section 20(e))~~(d) In addition to the information required in paragraph ~~(d)~~(c)  
6491 of this ~~s~~Section, any notice for ~~public~~ a hearing shall contain the following:

6492 ~~(formerly Section 20(e)(i))~~(i) Reference to the date of previous public notices  
6493 relating to the permit;

6494 ~~(formerly Section 20(e)(ii))~~(ii) Date, time, and place of hearing; and

6496 ~~(formerly Section 20(e)(iii))~~(iii) A brief description of the nature and purpose  
6497 of the hearing, including applicable rules and procedures.

6501 ~~(formerly Section 20(f))~~(e) The Department shall provide an opportunity for the  
6502 applicant, permittee, owner, operator, or any interested person to submit written comments  
6503 regarding any aspect of a permit or to request a ~~public~~ hearing.

6504 ~~(formerly Section 20(g))~~(i) During the public comment period, any interested  
6505 person may submit written comments on the draft permit and may request a ~~public~~ hearing.  
6506 Requests for ~~public~~ hearings ~~must~~ shall be made in writing to the Administrator and shall state  
6507 the reasons for the request.

6508 ~~(formerly Section 20(h))~~(ii) The Administrator shall hold a hearing whenever  
6509 the Administrator finds, on the basis of requests, a significant degree of public interest in a draft  
6510 permit.

6511 ~~(formerly Section 20(h))~~(iii) The Administrator ~~has the discretion to~~ may hold a  
6512 hearing whenever ~~such~~ a hearing may clarify issues involved in a permit decision.

6513  
6514  
6515  
6516  
6517

6518 ~~(formerly Section 20(i))(iv)~~ The public comment period shall automatically  
6519 extend to the close of any ~~public~~ hearing. The Administrator may also extend the comment  
6520 period by so stating at the ~~public~~ hearing.

6521  
6522 ~~(formerly Section 20(j))(f)~~ The ~~Administrator~~ Director shall render a decision on the  
6523 draft permit within sixty (60) days after ~~the~~ completion of the public comment period if no  
6524 hearing is ~~requested~~ held. If a hearing is held, the ~~Administrator~~ Director shall make a decision  
6525 on any Department hearing as soon as practicable after receipt of the transcript or after the  
6526 expiration of the time set to receive written comments.

6527  
6528 ~~(formerly Section 20(k))(g)~~ At the time a final decision is issued, the ~~Department~~  
6529 Administrator shall respond, in writing, to ~~those~~ comments received during the public comment  
6530 period or ~~comments received~~ during the ~~allotted time for a~~ hearing held by the Department. This  
6531 response shall:

6532  
6533 ~~(formerly Section 20(k)(i))(i)~~ Specify any changes that have been made to the  
6534 permit and the reasons for the changes; and

6535  
6536 ~~(formerly Section 20(k)(ii))(ii)~~ Briefly describe and respond to all  
6537 comments ~~voicing~~ stating a technical or regulatory concern that is within the authority of the  
6538 Department to regulate.

6539  
6540 **Section 28. Incorporation by Reference.**

6541  
6542 (a) These rules incorporate by reference the following statutes, rules, and regulations  
6543 in effect as of July 1, 2020:

6544  
6545 (i) 10 C.F.R. Part 20, Appendix B, Table II, Column 2, available at  
6546 <http://www.ecfr.gov>;

6547  
6548 (ii) 40 C.F.R. §§ 98.440 to 98.449, available at <http://www.ecfr.gov>;

6549  
6550 (iii) 40 C.F.R. § 141, Subparts E, F, and G, available at: <http://www.ecfr.gov>;

6551  
6552 (iv) 40 C.F.R. § 261.3-available at: <http://www.ecfr.gov>;

6553  
6554 (v) American Petroleum Institute Recommended Practice, API RP 14C,  
6555 Recommended Practice for Analysis, Design, Installation and Testing of Safety Systems for  
6556 Offshore Production Facilities, Recommended Practice 14C, (2018), referred to as “API RP  
6557 14C”, available at [https://www.apiwebstore.org/publications/item.cgi?af9eaacd-f8b0-4d7c-bfa7-](https://www.apiwebstore.org/publications/item.cgi?af9eaacd-f8b0-4d7c-bfa7-2c39a409f892)  
6558 [2c39a409f892](https://www.apiwebstore.org/publications/item.cgi?af9eaacd-f8b0-4d7c-bfa7-2c39a409f892);

6559  
6560 (vi) American Petroleum Institute Specification, API Spec 10A, Specification  
6561 for Cements and Materials for Well Cementing, 25th Edition, (2019), referred to as “API  
6562 Specification 10A”, available at [https://www.apiwebstore.org/publications/item.cgi?82493435-](https://www.apiwebstore.org/publications/item.cgi?82493435-f281-45d8-af82-07ad8131cb56)  
6563 [f281-45d8-af82-07ad8131cb56](https://www.apiwebstore.org/publications/item.cgi?82493435-f281-45d8-af82-07ad8131cb56);



6564  
6565 (vii) American Petroleum Institute Recommended Practice, API RP 10D-2,  
6566 Centralizer Placement and Stop-collar Testing, (2020), referred to as “API RP 10D-2”, available  
6567 at <https://www.apiwebstore.org/publications/item.cgi?7ad6705a-954e-476c-b520-47cbbdce9f06>;  
6568

6569 (viii) American Petroleum Institute Recommended Practice, API RP 10B-2,  
6570 Recommended Practice for Testing Well Cements, (2019), referred to as “API RP 10B-2”,  
6571 available at [https://www.apiwebstore.org/publications/item.cgi?3c1808c7-6312-4b8d-b3de-](https://www.apiwebstore.org/publications/item.cgi?3c1808c7-6312-4b8d-b3de-291ef79704c5)  
6572 [291ef79704c5](https://www.apiwebstore.org/publications/item.cgi?3c1808c7-6312-4b8d-b3de-291ef79704c5);  
6573

6574 (ix) American Petroleum Institute Recommended Practice, API RP 14B,  
6575 Design, Installation, Repair, and Operation of Subsurface Safety Valve Systems, (2012), referred  
6576 to as “API RP 14 B”, available at [https://www.apiwebstore.org/publications/item.cgi?a1711f10-](https://www.apiwebstore.org/publications/item.cgi?a1711f10-0121-4c12-936c-471c97a19f93)  
6577 [0121-4c12-936c-471c97a19f93](https://www.apiwebstore.org/publications/item.cgi?a1711f10-0121-4c12-936c-471c97a19f93);  
6578

6579 (x) American Petroleum Institute Specification, API Spec 5CT, Specification  
6580 for Casing and Tubing, (2019), referred to as “API Specification 5CT”, available at  
6581 <https://www.apiwebstore.org/publications/item.cgi?5b345884-5a3a-4889-8066-60f93e467f29>;  
6582

6583 (xi) American Petroleum Institute Recommended Practice, API RP 5C1,  
6584 Recommended Practices for Care and Use of Casing and Tubing, (2020), referred to as “API RP  
6585 5C1”, available at [https://www.apiwebstore.org/publications/item.cgi?010058af-29b1-412c-](https://www.apiwebstore.org/publications/item.cgi?010058af-29b1-412c-b892-ec3e5583c534)  
6586 [b892-ec3e5583c534](https://www.apiwebstore.org/publications/item.cgi?010058af-29b1-412c-b892-ec3e5583c534); and  
6587

6588 (xii) American Petroleum Institute Specification, API Spec 11D1, Packers and  
6589 Bridge Plugs, (2015), referred to as “API Specification 11D1”, available at  
6590 <https://www.apiwebstore.org/publications/item.cgi?4828a454-0fea-451b-a61b-18304836ea91>.  
6591

6592 (b) For these rules incorporated by reference:  
6593

6594 (i) The Environmental Quality Council has determined that incorporation of  
6595 the full text in these rules would be cumbersome or inefficient given the length or nature of the  
6596 rules;  
6597

6598 (ii) This Chapter does not incorporate later amendments or editions of  
6599 incorporated codes, standards, rules, and regulations; and  
6600

6601 (iii) All incorporated codes, standards, rules, and regulations are available for  
6602 public inspection at the Department’s Cheyenne office. Contact information for the Cheyenne  
6603 office may be obtained at <http://deq.wyoming.gov> or from (307) 777-7937.  
6604  
6605

**Appendix A. Risk Activity Table**

	<b>Major Risk (Feature, Event, or Process)</b>
<b>1</b>	<b>Mineral Rights Infringement (Trespass)</b>
1.1	Leakage migrates into mineral zone or hydraulic front impacts recoverable mineral zone; causes may include plume migration different than modeled.
1.2	Post injection discovery of recoverable minerals.
1.3	New technology (or economic conditions) enables recovery of previously un-economically recoverable minerals.
1.4	Act of God (e.g. seismic event).
1.5	Formation fluid impact due to CO <sub>2</sub> injection.
1.6	Address also contributing causes 3.1, 3.2, 3.3, 3.5, 4.3, and 4.4
<b>2</b>	<b>Water Quality Contamination</b>
2.1	Leakage of CO <sub>2</sub> outside permitted area.
2.2	Leakage of drilling fluid contaminates potable water aquifer.
2.3	Rock/acid water (i.e. geochemistry) interaction contaminates potable water by carryover of dissolved contaminants.
2.4	Act of God (e.g. seismic event).
2.5	Formation fluid impact due to CO <sub>2</sub> injection.
2.6	See also contributing causes 3.1, 3.2, 3.3, 3.5, 4.3, and 4.4
<b>3</b>	<b>Single Large Volume CO<sub>2</sub> Release to the Surface – Asphyxiation/Health/Ecological</b>
3.1	Overpressurization (i.e. induced).
3.2	Caprock/reservoir failure.
3.3	Well blowout (e.g. at surface or bore failure below ground), includes monitoring wells – Causes could include seal failure (e.g. well, drilling or injection equipment).
3.4	Major mechanical failure of distribution system or storage facilities above ground or below ground (i.e. near the surface).
3.5	Orphan well failure (e.g. well not identified prior to injection).
3.6	Sabotage/Terrorist attack (e.g. on surface infrastructure).
3.7	Act of God (e.g. major seismic event)
<b>4</b>	<b>Low Level CO<sub>2</sub> Release to Surface – Ecological damage due to low-level releases; potential asphyxiation of human or ecological receptors</b>
4.1	Overpressurization (i.e. induced).
4.2	Caprock/reservoir failure (e.g. Plume migrates along fault line/fissure to surface).
4.3	Incomplete geological seal (e.g. inaccurate characterization of sub-surface geology).
4.4	Well seal failure (e.g. well, drilling or injection equipment) including monitor wells
4.5	Mechanical failure of distribution system or storage facilities above or below ground (e.g. near surface).
4.6	Orphan wells (e.g. well not identified prior to injection).
4.7	Induced seismicity leading to leakage.
4.8	Act of God (e.g. seismic event).

**Risk Activity Table (continued)**

	<b>Major Risk (Feature, Event, or Process)</b>
<b>5</b>	<b>Storage Rights Infringement (CO<sub>2</sub> or other entrained contaminant gases) – Form of Mineral Rights Infringement</b>
5.1	Leakage migrates into adjacent pore space; causes may include plume migrates faster than modeled.
5.2	Post injection decision (e.g. due to new technology or changed economic conditions) to store gas in adjacent pore space.
5.3	Acts of God affecting storage capacity of pore space.
5.4	Formation fluid impact due to CO <sub>2</sub> injection.
5.5	Will also require primary contributing causes 3.1, 3.2, 3.3, 3.5, 4.3, and 4.4
<b>6</b>	<b>Modified Surface Topography (subsidence or uplift) Resulting in Property/Infrastructure Damage</b>
6.1	Induced Seismicity – Pressure from geochemistry induced reactivation of historic fault or dissolution of material caused by subsidence.
6.2	Formation fluid impact due to CO <sub>2</sub> injection.
<b>7</b>	<b>Entrained Contaminant (Non-CO<sub>2</sub>) Releases</b>
7.1	Change in CO <sub>2</sub> composition/properties (e.g. concentration of contaminate in CO <sub>2</sub> supply increases).
7.2	Microbial activity initiated by injection process or composition.
	Will also require primary contributing causes 3.1, 3.2, 3.3, 3.5, 4.3, and 4.4
<b>8</b>	<b>Accidents/Unplanned Events (Typical Insurable Events)</b>
8.1	Surface infrastructure damage
8.2	Saline water releases from surface storage impoundment.