

CHAPTER 24

**Class VI Injection Wells and Facilities  
Underground Injection Control Program**

**Section 1. Authority.**

These regulations are promulgated pursuant to Wyoming Statutes (W.S.) §§ 35-11-101 through 2005, specifically § 313.

**Section 2. Definitions.**

The following definitions supplement the definitions contained in Section § 35-11-103 of the Wyoming Environmental Quality Act.

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

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

(c) “Area of review” means the subsurface three-dimensional extent of the carbon dioxide plume, associated pressure front, and displaced fluids, as well as the overlying formations, and surface area above that delineated region.

(d) "Background" means the constituents or parameters and the concentrations or measurements that describe water quality and water quality variability prior to the underground injection.

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

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

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

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

47  
48 (i) “Casing/tubing annulus” means the space between the well casing and the tubing.  
49

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

54  
55 (k) “Class I well” means a well used to inject hazardous or non-hazardous industrial,  
56 commercial, or municipal waste beneath the lowermost formation containing, within one-quarter  
57 (1/4) mile of the well bore, an underground source of drinking water.

58  
59 ~~(k)(l)~~ “Class II ~~W~~well” shall mean any ~~non-commercial~~ well used to dispose of water  
60 ~~and/or~~ fluids directly associated with the production of oil ~~and/or~~ gas, any well used to inject  
61 fluids or gas for enhanced oil recovery, or any well used for the storage of liquid hydrocarbons.  
62 ~~Non-hazardous gas plant wastes may be disposed of in a Class II well pending Environmental~~  
63 ~~Protection Agency co-approval, as defined in Wyoming Oil and Gas Conservation Commission~~  
64 ~~Rules and Regulations, Chapter 1, Section 2.~~

65  
66 ~~(l)(m)~~ “Class V facility” means any property that contains an injection well, drywell, or  
67 subsurface fluid distribution system that is not defined as a Class I, II, III, IV, or VI well in ~~this~~  
68 ~~chapter~~ these Regulations. ~~The~~ A Class V facility includes all systems of collection, treatment,  
69 and control that are associated with the ~~subsurface disposal~~ underground injection. ~~Class V~~  
70 ~~injection wells are described in Water Quality Rules and Regulations Chapter 27.~~

71  
72 ~~(m)(n)~~ “Class VI well” means a well ~~injecting a carbon dioxide stream for geologic~~  
73 ~~sequestration, beneath the lowermost formation containing a USDW; or a well used for geologic~~  
74 ~~sequestration of carbon dioxide that has been granted a waiver of the injection depth~~  
75 ~~requirements pursuant to requirements of Section 10 of this chapter; or, a well used for geologic~~  
76 ~~sequestration of carbon dioxide that has received an expansion to the areal extent of an existing~~  
77 ~~Class II enhanced oil recovery or enhanced gas recovery aquifer exemption pursuant to Section 5~~  
78 ~~of this chapter. Class VI wells are regulated under this chapter. that is used for injecting a~~  
79 carbon dioxide stream for geologic sequestration that:

80  
81 (i) Is not experimental in nature and injects a carbon dioxide stream for  
82 geologic sequestration, beneath the lowermost formation containing an underground source of  
83 drinking water;

84  
85 (ii) Has been granted a waiver of the injection depth requirements pursuant to  
86 requirements of Section 15 of this Chapter; or

87  
88 (iii) Has received an expansion to the areal extent of an existing Class II  
89 enhanced oil recovery or enhanced gas recovery aquifer exemption pursuant to Section 16 of this  
90 Chapter.

91  
92 (o) “Confining zone” means a geological formation, group of formations, or part of a

93 formation stratigraphically overlying the injection zone(s) that act(s) as a barrier to fluid  
94 movement. For Class VI wells operating under an injection depth waiver, confining zone means  
95 a geologic formation, group of formations, or part of a formation stratigraphically overlying and  
96 underlying the injection zone(s) that acts as a barrier to fluid movement.

97  
98 (p) “Contaminant” means any pollution; wastes; or physical, chemical, biological, or  
99 radiological substance or matter in water.

100  
101 (q) “Corrective action” means the use of Administrator-approved methods to ensure  
102 that wells within the area of review do not serve as conduits for the movement of fluids into  
103 geologic formations other than those authorized under the permit.

104  
105 (r) “Endanger” means to expose to actions or activities that could pollute an  
106 underground source of drinking water.

107  
108 (s) “Exempted aquifer” means an aquifer or a portion thereof that meets the criteria  
109 in the definition of underground source of drinking water but that has been exempted according  
110 to the procedures in Section 16 of this Chapter.

111  
112 (t) “Fact sheet” means a document briefly setting forth the principal facts and the  
113 significant factual, legal, methodological, and policy questions considered in preparing the draft  
114 permit.

115  
116 (u) “Geologic sequestration project” means an injection well or wells used to emplace  
117 a carbon dioxide stream into an injection zone for geologic sequestration. It includes the  
118 subsurface three-dimensional extent of the carbon dioxide plume, associated pressure front, and  
119 displaced fluid, as well as the surface area above that delineated region.

120  
121 (v) “Groundwater” means subsurface water that fills available openings in rock or  
122 soil materials such that they may be considered water saturated under hydrostatic pressure.

123  
124 (w) “Groundwaters of the State” are all bodies of underground water that are wholly  
125 or partially within the boundaries of the State.

126  
127 (x) “Hazardous waste” means a hazardous waste as defined in 40 C.F.R. § 261.3.

128  
129 (y) “Indian lands” and “Indian country” means:

130  
131 (i) All land within the limits of any Indian reservation under the jurisdiction  
132 of the United States Government, notwithstanding the issuance of any patent, and, including  
133 rights-of-way running through the reservation;

134  
135 (ii) All dependent Indian communities within the borders of the United States  
136 whether within the original or subsequently acquired territory thereof, and whether within or  
137 without the limits of a state; and  
138

- 139 (iii) All Indian allotments, the Indian titles to which have not been  
140 extinguished, including rights-of-way running through the same.  
141
- 142 (z) “Injectate” means the material injected through any underground injection  
143 facility.  
144
- 145 (aa) “Injection zone” means a geologic formation, group of formations, or part of a  
146 formation that is of sufficient areal extent, thickness, porosity, and permeability to receive carbon  
147 dioxide through a well or wells associated with a geologic sequestration project.  
148
- 149 (bb) “Log” means a written record progressively describing the strata and geologic and  
150 hydrologic character thereof to include electrical, radioactivity, radioactive tracer, temperature,  
151 cement bond and similar surveys, a lithologic description of all cores, and test data.  
152
- 153 (cc) “Long string casing” means a casing that is continuous from at least the top of the  
154 injection interval to the surface and that is cemented in place.  
155
- 156 (dd) “Packer” means a device lowered into a well to produce a fluid-tight seal.  
157
- 158 (ee) “Plugging” means the act or process of stopping the flow of water, oil, or gas into  
159 or out of a formation through a borehole or well penetrating that formation.  
160
- 161 (ff) “Plugging record” means a systematic listing of permanent or temporary  
162 abandonment of water, oil, gas, test, exploration, and waste injection wells. A plugging record  
163 may contain a well log, description of amounts and types of plugging material used, the method  
164 employed for plugging, a description of formations that are sealed, and a graphic log of the well  
165 showing formation location, formation thickness, and location of plugging structures.  
166
- 167 (gg) “Plume stabilization” has been achieved when the carbon dioxide stream that has  
168 been injected subsurface essentially no longer expands vertically or horizontally and poses no  
169 threat to underground sources of drinking water, human health, safety, or the environment, as  
170 demonstrated by a minimum of three (3) consecutive years of monitoring data.  
171
- 172 ~~(ww)~~(hh) “Post-injection site care” means the monitoring, measurement,  
173 verification, and other actions (including corrective action) needed to ensure that ~~USDW’s~~  
174 underground sources of drinking water are not endangered, following the ~~closure~~ cessation of  
175 injection, and plugging and abandonment of injection wells until plume stabilization has been  
176 achieved and certified by the Administrator, as required under Section ~~17~~ 24 of this ~~e~~Chapter.  
177
- 178 (ii) “Pressure front” means the zone of elevated pressure that is created by the  
179 injection of the carbon dioxide stream into the subsurface. The pressure front of a carbon dioxide  
180 plume refers to a zone where there is a pressure differential sufficient to cause movement of  
181 injected fluids or formation fluid if a migration pathway or conduit existed.  
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- 183 (jj) “Radioactive waste” means any waste that contains radioactive material in  
184 concentrations that exceed those listed in 10 C.F.R. Part 20, Appendix B, Table II, Column 2.

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(kk) “Receiver” means any zone, interval, formation, or unit in the subsurface into which a carbon dioxide stream is injected.

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

(i) For a corporation, “responsible corporate officer” means:

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

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

(ii) For a partnership, “responsible corporate officer” means a general partner.

(iii) For a sole proprietorship, “responsible corporate officer” means the proprietor.

(iv) For a municipality, state, federal or other public agency, “responsible corporate officer” means the principal executive officer or ranking elected official. For the purposes of this definition, a principal executive officer of a federal agency includes:

(A) The chief executive officer of the agency; or

(B) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency, such as a Regional Administrator.

(v) A corporation, municipality, state, federal or other public agency may authorize an individual or a position that does not meet the requirements of subparagraphs (i), (ii), (iii), or (iv) of this paragraph to act as a “responsible corporate officer.”

(A) To authorize a responsible corporate officer:

(I) A person who meets the requirements of subparagraph (i), (ii), (iii), or (iv) of this paragraph shall authorize the responsible corporate officer in writing;

(II) The authorization shall specify an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of

231 equivalent responsibility; and

232

233 (III) The corporation shall submit the written authorization to  
234 the Administrator.

235

236 (B) If an authorization under subparagraph (A) of this subparagraph is  
237 no longer accurate because a different individual or position has responsibility for the overall  
238 operation of the facility, the corporation shall notify the Administrator that the authorization is  
239 no longer accurate or shall submit to the Administrator a new authorization satisfying the  
240 requirements of subparagraph (A) of this subparagraph prior to or together with any reports,  
241 information, or applications to be signed by an authorized representative.

242

243 (mm) “Secondarily affected aquifer” means an aquifer affected by migration of fluids  
244 from an injection facility that does not directly discharge into the secondarily affected aquifer.

245

246 (nn) “Site closure” occurs when a geologic sequestration project is released from post-  
247 injection site care responsibilities and the Administrator certifies site closure pursuant to Section  
248 24(b)(iii) of this Chapter.

249

250 (oo) “Surface casing” means the first string of well casing to be installed in the well.

251

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

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256 (qq) “Underground source of drinking water” or “USDW” means an aquifer or  
257 portions thereof that is not an exempted aquifer and:

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259 (i) Supplies any public water system; or

260

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

263

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

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

267

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

271

272 (ss) “Well” means:

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

276

- 277 (ii) An improved sinkhole; or  
278  
279 (iii) A subsurface fluid distribution system.  
280  
281 (tt) “Well plug” means a watertight and gastight seal installed in a borehole or well to  
282 prevent movement of fluids.  
283  
284 (uu) “Well stimulation” means any process used to clean the wellbore, enlarge  
285 channels, or increase pore space in the interval to be injected and includes surging, jetting,  
286 blasting, acidizing, and hydraulic fracturing.  
287  
288 (vv) “Workover” means to pull the tubing, packer, or any downhole hardware from the  
289 well and inspect, replace, or refurbish it prior to placing that hardware back in service, or to enter  
290 the hole with any drilling tool.  
291  
292 (ww) “Wellhead protection area” means the area delineated for the protection of a  
293 public water supply utilizing a groundwater source under a Department-approved plan developed  
294 pursuant to Section 1428 of the Safe Drinking Water Act, 42 U.S.C. § 300h-7, or Section 1453 of  
295 the Safe Drinking Water Act, 42 U.S.C. § 300j-13.  
296

297 **Section 3. Applicability.**  
298

- 299 (a) Construction, installation, operation, monitoring, testing, plugging, post-injection  
300 site care, and modification of any Class VI well shall be allowed only in accordance with this  
301 Chapter.  
302  
303 (b) This chapter applies to all Class VI wells.  
304  
305 (i) This Chapter applies to owners, operators, and permittees of Class VI  
306 wells.  
307  
308 (ii) This Chapter applies to any Class I industrial, Class II, or Class V  
309 experimental or demonstration carbon dioxide injection project that is converted to a Class VI  
310 well. A permitted Class I, Class II, or Class V injection well may be converted to a Class VI well  
311 by obtaining a Class VI permit pursuant to this Chapter.  
312  
313 (A) To convert a permitted Class I, Class II, or Class V injection well to a  
314 Class VI well, the applicant shall:  
315  
316 (I) Apply for a Class VI permit;  
317  
318 (II) Demonstrate to the Administrator that the well was engineered and  
319 constructed to meet the requirements of Section 14(a) of this Chapter; and  
320  
321 (III) In lieu of meeting the requirements of Section 14(b) and Section  
322 17(a) of this Chapter, demonstrate to the Administrator that the well will ensure protection of

323 USDWs and will not endanger any USDW.  
324

325 (B) After December 10, 2011, owners or operators of Class I wells previously  
326 permitted for the purpose of geologic sequestration and Class V experimental technology wells  
327 no longer being used for experimental purposes that will continue injection of carbon dioxide for  
328 the purpose of geologic sequestration shall obtain a Class VI permit.  
329

330 (C) If the Administrator determines that a converted Class I, Class II,  
331 or Class V injection well will not endanger any USDWs, the Administrator may exempt the well  
332 from the requirements of Section 14(b)(i)-(vii) and Section 17(a)(i)-(v) of this Chapter.  
333

334 (c) The injection of carbon dioxide for purposes of a project for enhanced recovery of  
335 oil or other minerals approved by the Wyoming Oil and Gas Conservation Commission is not  
336 subject to the provisions of this Chapter unless the operator converts to geologic sequestration  
337 upon the cessation of oil and gas recovery operations or as otherwise required by the  
338 Commission or Director.  
339

340 (d) For owners or operators of Class II wells described in W.S. § 35-11-313(c):  
341

342 (i) The Director's determination of primary purpose and increased risk to a  
343 USDW shall include, at a minimum, an evaluation of the following criteria:  
344

345 (A) Increase in reservoir pressure within the injection zone(s).  
346

347 (B) Increase in carbon dioxide injection rates.  
348

349 (C) Decrease in reservoir production rates.  
350

351 (D) Distance between the injection zone(s) and USDWs.  
352

353 (E) Suitability of the Class II area of review delineation.  
354

355 (F) Quality of abandoned well plugs within the area of review.  
356

357 (G) The owner's and/or operator's plan for recovery of carbon dioxide  
358 at the cessation of injection.  
359

360 (H) The source and properties of the injected carbon dioxide.  
361

362 (I) Any additional site-specific factors as determined by the  
363 Administrator.  
364

365 (ii) An owner or operator may apply for a Class VI permit upon  
366 recommendation by the Oil and Gas Conservation Commission supervisor, or by the  
367 Commission, that regulation of a Class II enhanced recovery operation be transferred to the  
368 Department.



369  
370 (iii) An owner or operator of a Class II enhanced recovery operation shall  
371 apply for a Class VI permit within thirty (30) days of receipt of written notice from the Director  
372 that a Class VI permit is required.

373  
374 **Section 4. Processing Permits.**

375  
376  
377 (a) The following permit processing procedures are applicable to all Class VI  
378 permits:

379  
380 (i) The applicant shall submit the permit application to the Division in a  
381 format required by the Administrator.

382  
383 (ii) Within sixty (60) days of submission of an application, the Administrator  
384 shall make an initial determination of completeness. An application shall be determined  
385 complete when the Administrator receives an application and any supplemental information  
386 necessary to determine compliance with this Chapter. The completeness of any application for a  
387 permit shall be judged independently of the status of any other permit application or permit for  
388 the same facility or activity.

389  
390 (iii) Re-submittal of information by an applicant for an incomplete application  
391 will restart the process described in this Section.

392  
393 (iv) At the end of any 60-day review period where an application is determined  
394 complete, the Administrator shall:

395  
396 (A) Prepare a draft permit for issuance or denial;

397  
398 (B) Prepare a fact sheet on the proposed operation;

399  
400 (C) Provide public notice pursuant to Section 27 of this Chapter; and

401  
402 (D) Notify in writing, the contacts, for any Tribes provided pursuant to  
403 Section 10(b)(xxxiv) of this Chapter.

404  
405 (b) If the Administrator intends to modify, terminate, revoke, or reissue a permit, the  
406 Administrator shall prepare a draft permit incorporating the proposed changes and provide public  
407 notice pursuant to Section 27 of this Chapter.

408  
409 (c) Prior to issuing a permit for a Class VI well, the Administrator shall consider:

410  
411 (i) The final area of review based on modeling, using data obtained during  
412 logging and testing of the well and the formation as required by subparagraphs (b)(xviii),  
413 (b)(xix), (b)(xxvii), and (b)(xxviii) of Section 10 of this Chapter;

414

415 (ii) Any relevant updates, based on data obtained during logging and testing of  
416 the well and the formation as required by subparagraphs (b)(xviii), (b)(xix), (b)(xxvii), and  
417 (b)(xxviii) of Section 10 of this Chapter, to the information on the geologic structure and  
418 hydrogeologic properties of the proposed storage site and overlying formations, submitted to  
419 satisfy the requirements of subparagraph (b)(xi) of Section 10 of this Chapter;

420  
421 (iii) The results of the formation testing program required by subparagraph  
422 (b)(xix) of Section 10 of this Chapter;

423  
424 (iv) Final injection well construction procedures that meet the requirements of  
425 Section 14 of this Chapter;

426  
427 (v) Any updates to the proposed area of review and corrective action plan,  
428 testing and monitoring plan, injection well-plugging plan, post-injection site care and site closure  
429 plan, or the emergency and remedial response plan submitted under Section 10(b) of this chapter  
430 that are necessary to address new information collected during logging and testing of the well  
431 and the formation as required by Section 10 of this Chapter.

432  
433 (d) Permits may be modified, revoked and reissued, or terminated either in response  
434 to a petition from any interested person (including the permittee) or upon the Administrator's  
435 initiative.

436  
437 (i) All petitions to modify, revoke and reissue, or terminate a permit shall be  
438 in writing and shall contain facts or reasons supporting the request.

439  
440 (ii) If the Administrator decides a petition to modify, revoke and reissue, or  
441 terminate a permit is not justified, the Administrator shall send the petitioner a brief written  
442 response giving the reason for the decision. A petition for modification, revocation and  
443 reissuance, or termination shall be considered denied if the Administrator takes no action within  
444 sixty (60) days after receiving the written request.

445  
446 (iii) Denials of petitions for modification, revocation and reissuance, or  
447 termination are not subject to public notice and comment.

448  
449 (e) The Department shall review each permit at least once every five (5) years to  
450 determine whether it should be modified, revoked and reissued, or terminated.

451  
452 **Section 5. Denying Permits.**

453  
454 (a) The Administrator may deny a permit for any of the following reasons:

455  
456 (i) The application is incomplete;

457  
458 (ii) The project, if constructed or operated, will violate applicable state surface  
459 or groundwater standards;

460

461                   (iii) The application proposes the construction or operation of a project that  
462 does not meet the requirements of this Chapter;

463  
464                   (iv) The permitted facility would be in conflict with or is in conflict with a  
465 State-approved local wellhead protection plan, State-approved local source water protection plan,  
466 or State-approved water quality management plan; or

467  
468                   (v) Other justifiable reasons necessary to carry out the provisions of the  
469 Wyoming Environmental Quality Act.

470  
471                   **Section 6. Modifying Permits.**

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473                   (a) The Administrator may modify a permit when:

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475                   (i) Any material or substantial alterations or additions to the facility occur  
476 after permitting that justify the application of different permit conditions;

477  
478                   (ii) Any modification in the operation of the facility is capable of causing or  
479 increasing pollution in excess of applicable standards or permit conditions;

480  
481                   (iii) Information warranting modification is discovered after the operation has  
482 begun that would have justified the application of different permit conditions at the time of  
483 permit issuance;

484  
485                   (iv) Regulations or standards upon which the permit was based changed after  
486 the permit was issued;

487  
488                   (v) Cause exists for termination, as described in this Section, but the  
489 Department determines that modification is appropriate;

490  
491                   (vi) Modification is necessary to comply with applicable statutes, standards, or  
492 regulations;

493  
494                   (vii) The permit is transferred; or

495  
496                   (viii) The Administrator determines that permit changes are necessary based on:

497  
498                   (A) Area of review reevaluations under Section 13(c)(i) of this  
499 Chapter;

500  
501                   (B) Amendments to the testing and monitoring plan under Section  
502 20(b)(xi) of this Chapter;

503  
504                   (C) Amendments to the injection well-plugging plan under Section  
505 23(c) of this Chapter;

506

507 (D) Amendments to the post-injection site care and site closure plan  
508 under Section 24(a)(iv) of this Chapter;

509  
510 (E) Amendments to the emergency and remedial response plan under  
511 Section 25(a) of this Chapter;

512  
513 (F) A review of monitoring or testing results; or

514  
515 (G) A determination that the injectate is a hazardous waste as defined  
516 in 40 CFR § 261.3.

517  
518 (b) The Administrator may make minor modifications to permits with the consent of  
519 the permittee. The Administrator shall notify the permittee of minor modifications to its permit,  
520 and the modifications shall become final twenty (20) days from the date of receipt of such notice.  
521 Minor modifications may only:

522  
523 (i) Correct typographical errors;

524  
525 (ii) Require more frequent monitoring or reporting by the permittee;

526  
527 (iii) Change an interim compliance date in a schedule of compliance, provided  
528 the new date is not more than 120 days after the date specified in the existing permit and does  
529 not interfere with attainment of the final compliance date requirement;

530  
531 (iv) Allow for a permit transfer and change in ownership or operational control  
532 of a facility where the Administrator determines that no other change in the permit is necessary,  
533 provided that a written agreement containing a specific date for transfer of permit responsibility,  
534 coverage, and liability between the current and new permittees has been submitted to the  
535 Administrator;

536  
537 (v) Change quantities or types of fluids injected that are within the capacity of  
538 the facility as permitted and, in the judgment of the Administrator, would not interfere with the  
539 operation of the facility or its ability to meet conditions described in the permit and would not  
540 change its classification;

541  
542 (vi) Change construction requirements approved by the Administrator pursuant  
543 to Section 9(b)(xxix)(A)-(C) of this Chapter, provided that the alteration complies with the  
544 requirements of this Chapter;

545  
546 (vii) Amend a well-plugging plan that has been updated under Section 23 of  
547 this Chapter; or

548  
549 (ix) Amend a Class VI injection well testing and monitoring plan, well-  
550 plugging plan, post-injection site care and site closure plan, or emergency and remedial response  
551 plan where the modifications merely clarify or correct the plan.

552

553 (c) The Administrator may modify a permit to resolve issues that could lead to the  
554 revocation or termination of the permit under Section 7(a) of this Chapter.  
555

556 (d) When the Administrator modifies a permit, only the conditions that are being  
557 modified shall be reopened when a new draft permit is prepared. All other aspects of the existing,  
558 unmodified permit shall remain in effect for the duration of the modified permit and the modified  
559 permit shall expire on the date when the original permit would have expired. Suitability of the  
560 facility location shall not be considered unless new information or standards indicate that a threat  
561 to human health, safety, or the environment exists that was unknown at the time of permit  
562 issuance.  
563

564 (e) The Administrator may require the submission of a new application to modify a  
565 permit.  
566

567 **Section 7. Terminating, Revoking, and Reissuing Permits.**  
568

569 (a) The Administrator may terminate a permit or revoke and reissue a permit for any  
570 of the following reasons:  
571

572 (i) Noncompliance with terms and conditions of the permit;  
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574 (ii) Failure in the application or during the issuance process to disclose fully  
575 all relevant facts, or misrepresentation of any relevant facts at any time; or  
576

577 (iii) A determination that the activity threatens human health, safety, or the  
578 environment and can only be regulated to acceptable levels by a permit modification or  
579 termination.  
580

581 (b) As part of any notice of intent to terminate a permit, the Administrator shall order  
582 the permittee to proceed with reclamation within a reasonable time period.  
583

584 (c) A revoked permit may be reissued only if a new application is submitted.  
585

586 (d) When a permit is revoked and reissued, the entire permit is reopened as if the  
587 permit has expired and is being reissued, except that suitability of the facility location shall not  
588 be considered unless new information or standards indicate that a threat to human health, safety,  
589 or the environment exists that was unknown at the time of permit issuance. During any  
590 revocation and reissuance proceeding, the permittee shall comply with all conditions of the  
591 existing permit until a new final permit is issued.  
592

593 **Section 8. Transferring Permits.**  
594

595 (a) To transfer a permit:  
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597 (i) The proposed permit transferee shall apply in writing as though that  
598 person were the original applicant for the permit; and

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(ii) The proposed permit transferee shall agree to be bound by all of the terms and conditions of the permit.

(b) Transfer of a permit is allowed only upon approval by the Administrator.

(c) When a permit transfer occurs pursuant to this section, the permit rights of the previous permittee automatically terminate.

(d) Transfer shall not be allowed if the permittee is in noncompliance with any term and conditions of the permit unless the transferee agrees to bring the facility back into compliance with the permit.

(e) A permit may be transferred by modifying the permit or by revoking and reissuing the permit to identify the new permittee and incorporate the requirements of this Chapter and the Wyoming Environmental Quality Act, W.S. § 35-11-101 *et seq.*

**Section 9. Permit Conditions.**

(a) Permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the incorporated conditions shall be given in the permit.

(b) All permits issued under this Chapter shall contain the following conditions:

(i) A requirement that the permittee complies with all conditions of the permit, and a statement that any permit noncompliance constitutes a violation of these regulations and is grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application;

(ii) A requirement that if the permittee wishes to continue injection activity after the expiration date of the permit, the permittee shall apply to the Administrator for, and obtain, a new permit prior to expiration of the existing permit;

(iii) A stipulation that it shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit;

(iv) A requirement that the permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit;

(v) A requirement that the permittee properly operates and maintains all facilities and systems of treatment and control, and related appurtenances, that are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding and operator staffing and

645 training, and adequate laboratory and process controls including appropriate quality assurance  
646 procedures. This provision requires the operation of back-up or auxiliary facilities or similar  
647 systems only when necessary to achieve compliance with the conditions of the permit;

648  
649 (vi) A stipulation that the filing of a request by the permittee, or at the  
650 instigation of the Administrator, for a permit modification, revocation, termination, or  
651 notification of planned changes or anticipated non-compliance, shall not stay any permit  
652 condition;

653  
654 (vii) A stipulation that the permit does not convey any property rights of any  
655 sort, or any exclusive privilege;

656  
657 (viii) A stipulation that the permittee shall furnish to the Administrator, within a  
658 specified time, any information that the Administrator requests to determine whether cause exists  
659 for modifying, revoking and reissuing, or terminating the permit, or to determine compliance  
660 with the permit. The permittee shall also furnish to the Administrator, upon request, copies of  
661 records required to be kept by the permit;

662  
663 (ix) A requirement that the permittee shall allow the Administrator, or an  
664 authorized representative of the Administrator, upon the presentation of credentials, during  
665 normal working hours, to enter the premises where a regulated facility is located, or where  
666 records are kept under the conditions of this permit, and:

667  
668 (A) Inspect the discharge and related facilities, practices, or operations  
669 regulated or required under this permit;

670  
671 (B) Review and copy reports and records required by the permit;

672  
673 (C) Collect fluid samples for analysis for the purposes of ensuring  
674 permit compliance or as otherwise authorized by the Wyoming Environmental Quality Act of  
675 any substances or parameters at any location;

676  
677 (D) Measure and record water levels;

678  
679 (E) Collect resource data as defined by W.S. § 6-3-414; and

680  
681 (F) Perform any other function authorized by law or regulation.

682  
683 (x) A requirement that:

684  
685 (A) If the facility is located on property not owned by the permittee,  
686 the permittee shall also secure from the landowner upon whose property the facility is located  
687 permission for Department personnel and their invitees to enter the premises where the facility is  
688 located, or where records are kept under the conditions of this permit, and collect resource data  
689 as defined by W.S. § 6-3-414, inspect and photograph the facility, collect samples for analysis,  
690 review records, and perform any other function authorized by law or regulation. The permittee

691 shall secure and maintain such access for the duration of the permit and the post-injection site  
692 care and site closure period; and

693  
694 (B) If the facility cannot be directly accessed using public roads, the  
695 permittee shall also secure permission for Department personnel and their invitees to enter and  
696 cross all properties necessary to access the facility. The permittee shall secure and maintain such  
697 access for the duration of the permit and the post-injection site care and site closure period;

698  
699 (xi) A requirement that the permittee furnishes any information necessary to  
700 establish a testing and monitoring pursuant to Section 20 of this Chapter. Conditions shall  
701 specify:

702  
703 (A) Required monitoring including type, intervals, and frequency  
704 sufficient to yield data that are representative of the monitored activity including when  
705 appropriate, continuous monitoring;

706  
707 (B) Requirements concerning the proper use, maintenance, and  
708 installation, of monitoring equipment or methods, including biological monitoring methods; and

709  
710 (C) Reporting and notice requirements based upon the impact of the  
711 regulated activity and as specified in Section 22 of this Chapter. Reporting shall be no less  
712 frequent than specified in Section 22 of this Chapter;

713  
714 (xii) A requirement that all samples and measurements taken for the purpose of  
715 monitoring shall be representative of the monitored activity and that records of all monitoring  
716 information be retained by the permittee;

717  
718 (xiii) A requirement that all applications, reports, and other information  
719 submitted to the Administrator contain the certifications required in Section 10(d) of this Chapter  
720 by a responsible corporate officer;

721  
722 (xiv) A requirement that the permittee give advance notice to the Administrator  
723 as soon as possible of any planned physical alteration or additions, other than authorized  
724 operation and maintenance, to the permitted facility and receive authorization from the  
725 Administrator prior to implementing the proposed alteration or addition;

726  
727 (xv) A requirement that any modification that may result in a violation of a  
728 permit condition shall be reported to the Administrator, and any modification that will result in a  
729 violation of a permit condition shall be reported to the Administrator through the submission of a  
730 new or amended permit application;

731  
732 (xvi) A requirement that any transfer of a permit shall first be approved by the  
733 Administrator, and that no transfer will be approved if the facility is not in compliance with the  
734 existing permit unless the proposed permittee agrees to bring the facility into compliance;

735  
736 (xvii) A requirement that monitoring results shall be reported at the intervals



737 specified in the permit;

738

739 (xviii) A requirement that reports of compliance or non compliance, or any  
740 progress reports on interim and final requirements contained in any compliance schedule (if one  
741 is required by the Administrator) shall be submitted no later than thirty (30) days following each  
742 schedule date;

743

744 (xix) The following reporting and mitigation requirements:

745

746 (A) If any monitoring or other information indicates that any  
747 contaminant, the injected carbon dioxide stream, displaced formation fluids, or associated  
748 pressure front may endanger a USDW or threaten human health, safety, or the environment, the  
749 permittee shall:

750

751 (I) Immediately cease injection;

752

753 (II) Take all steps reasonably necessary to identify and  
754 characterize any release;

755

756 (III) Orally notify the Administrator within twenty-four (24)  
757 hours of discovering the condition; and

758

759 (IV) Provide a written report to the Administrator within five (5)  
760 days of discovering the condition. The written report shall contain:

761

762 (1.) A description of the endangerment and its cause;

763

764 (2.) The period of endangerment, including exact dates  
765 and times, and, if the endangerment has not been controlled, the anticipated time it is expected to  
766 continue; and

767

768 (3.) The steps taken or planned to reduce, eliminate, and  
769 prevent reoccurrence of the endangerment;

770

771 (B) If the permittee discovers any noncompliance with a permit  
772 condition or a requirement of this Chapter that may cause fluid migration into or between  
773 USDWs, any malfunction of the injection system that may cause fluid migration into or between  
774 USDWs, or any excursion, the permittee shall:

775

776 (I) Orally notify the Administrator within twenty-four (24)  
777 hours of discovering the condition;

778

779 (II) Provide a written report to the Administrator within five (5)  
780 days of discovering the condition, which shall contain:

781

782 (1.) A description of the noncompliance, malfunction, or

783 excursion and its cause;

784

785 (2.) The period of noncompliance, malfunction, or  
786 excursion, including exact dates and times, and, if the noncompliance, malfunction, or excursion  
787 has not been controlled, the anticipated time it is expected to continue; and

788

789 (3.) The steps taken or planned to reduce, eliminate, and  
790 prevent reoccurrence of the noncompliance, malfunction, or excursion.

791 .

792 (III) If an excursion is discovered, provide written notice to all  
793 surface owners, mineral claimants, mineral owners, lessees, and other owners of record of  
794 subsurface interests within thirty (30) days of discovering the excursion; and

795

796 (IV) Implement the emergency and remedial response plan approved by  
797 the Administrator;

798

799 (xx) A requirement that the permittee report all instances of noncompliance not  
800 already required to be reported under subparagraph (b)(xix)(B) of this Section, at the time  
801 monitoring reports are submitted. The reports shall contain the information listed in  
802 subparagraph (b)(xix)(B)(II) of this Section;

803

804 (xxi) A requirement that if the permittee becomes aware that it failed to submit  
805 any relevant facts in a permit application, or submitted incorrect information in a permit  
806 application or in any report to the Administrator, the permittee shall promptly submit such facts  
807 or information;

808

809 (xxii) A requirement that the injection facility meet construction requirements  
810 outlined in Section 14 of this Chapter, that the permittee submit a notice of completion of  
811 construction to the Administrator, and that the permittee allows the Administrator to inspect the  
812 facility upon completion of construction and prior to commencing any underground injection  
813 activity;

814

815 (xxiii) A requirement that the permittee notifies the Administrator before  
816 conversion or abandonment of the facility;

817

818 (xxiv) A requirement that injection shall not commence until construction is  
819 complete, and that construction is complete when:

820

821 (A) The permittee has submitted a notice of completion of construction  
822 to the Administrator; and

823

824 (B) The Administrator has inspected or reviewed the injection well and  
825 found it is in compliance with the conditions of the permit;

826

827 (I) Within thirteen (13) days of the date of the notice in  
828 subparagraph (xxii) of this paragraph, the Administrator shall provide notice to the permittee of

829 the intent to inspect or review the injection well. The notice shall include a reasonable time  
830 period in which the Administrator shall inspect or review the well; but

831  
832 (II) If the Administrator does not provide the notice required by  
833 subparagraph (I) of this subparagraph, the requirement for prior inspection or review is waived,  
834 and the permittee may commence injection;

835  
836 (xxv) A requirement that the permittee shall establish mechanical  
837 integrity prior to commencing injection or on a schedule determined by the Administrator and  
838 that thereafter, the permittee shall maintain mechanical integrity as defined in Section 19 of this  
839 Chapter;

840  
841 (xxvi) A requirement that if the Administrator determines that a Class VI  
842 well lacks mechanical integrity and gives written notice of the determination to the permittee, the  
843 permittee shall:

844  
845 (A) Cease injection into the well within forty-eight (48) hours  
846 of receipt of the Administrator's determination unless the Administrator requires immediate  
847 cessation;

848  
849 (B) Perform any construction, operation, monitoring, reporting,  
850 and corrective action that the Administrator requires to prevent the movement of fluid into or  
851 between USDWs caused by the lack of mechanical integrity, or plug the well pursuant to the  
852 requirements of Section 23 of this Chapter if allowed by the Administrator; and

853  
854 (C) Not resume injection into the well until the Administrator  
855 provides written notice that the permittee has demonstrated mechanical integrity pursuant to  
856 Section 19 of this Chapter.

857  
858 (xxvii) A requirement that, for any Class VI well that lacks mechanical  
859 integrity, injection operations are prohibited until the permittee shows to the satisfaction of the  
860 Administrator under Section 19 of this Chapter that the well has mechanical integrity;

861  
862 (xxviii) A requirement that the permittee comply with a well-  
863 plugging plan that meets the requirements of Section 23 of this Chapter, which shall be  
864 incorporated into the permit; and

865  
866 (xxix) Conditions that implement the requirements of Section 14 of this  
867 Chapter. The conditions shall:

868  
869 (A) Require all wells to achieve compliance with the  
870 requirements of Section 14 of this Chapter according to a compliance schedule established as a  
871 permit condition;

872  
873 (B) Prohibit construction from commencing until a permit has  
874 been issued containing construction requirements;

- 875  
876 (C) Require that all wells comply with the construction  
877 requirements of Section 14 of this Chapter prior to commencing injection operations;  
878  
879 (D) Include a corrective action plan as set forth in Section 13 of  
880 this Chapter;  
881  
882 (E) Require that all wells comply with the operational  
883 requirements of Section 14 of this Chapter;  
884  
885 (F) Establish any maximum injection volumes and pressures  
886 necessary to ensure that fractures are not initiated in the confining zone, to ensure that injected  
887 fluids do not migrate into any underground source of drinking water, to ensure that formation  
888 fluids are not displaced into any underground source of drinking water, and to ensure compliance  
889 with the operating requirements;  
890  
891 (G) Establish monitoring and reporting requirements set forth  
892 in Sections 20 and 22 of this Chapter. The permittee shall be required to identify types of tests  
893 and methods used to generate the monitoring data; and  
894  
895 (H) Require the permittee to comply with the financial  
896 responsibility requirements set forth in Section 26 of this Chapter.  
897  
898 (c) Permits for Class VI wells shall be issued for the operating life of the facility and  
899 extend through the post-injection site care period until the Administrator certifies site closure  
900 pursuant to Section 24(b)(iii) of this Chapter.  
901  
902 (d) Permits may be issued for individual Class VI wells and shall not be issued on an  
903 area basis for multiple points of discharge operated by the same person.  
904  
905 (e) Permits may specify a schedule of compliance leading to compliance with permit  
906 conditions, this Chapter, and the Wyoming Environmental Quality Act, W.S. § 35-11-101 *et seq.*  
907  
908 (i) Schedules of compliance shall require compliance as soon as possible, and  
909 in no case later than three (3) years after the effective date of the permit.  
910  
911 (ii) If a permit establishes a schedule of compliance that exceeds one (1) year  
912 from the date of permit issuance, the schedule shall set forth interim requirements and the dates  
913 for their achievement. The time between interim dates shall not exceed one (1) year unless, the  
914 time necessary for completion of any interim requirement is more than one (1) year and is not  
915 readily divisible into stages for completion, and in that case, the permit shall specify interim  
916 dates for the submission of reports of progress toward completion of the interim requirements  
917 and indicate a projected completion date.  
918  
919 (iii) The compliance schedule shall require the permittee to submit progress  
920 reports no later than thirty (30) days following each interim date and the final date of

921 compliance.

922

923 (f) The Administrator shall include in permits, on a case-by-case basis:

924

925 (i) Conditions for monitoring, schedules of compliance, and any additional  
926 conditions necessary to prevent the migration of fluids into underground sources of drinking  
927 water. The Administrator shall evaluate what conditions are necessary and shall establish these  
928 conditions when issuing, modifying, or revoking and reissuing permits; and

929

930 (ii) ~~In addition to conditions required in all permits the Administrator shall~~  
931 ~~establish e~~Conditions ~~in permits as required on a case by case basis, to provide for and~~ ensure  
932 compliance with all applicable requirements of ~~the SDWA and 40 CFR Parts 144, 145, 146, and~~  
933 ~~124~~this Chapter and the Wyoming Environmental Quality Act, W.S. § 35-11-101 et seq.

934

935 (g) To the extent possible under Section 9 of this Chapter, modified or revoked and  
936 reissued permits, shall incorporate all of the permit conditions required by this Section.

937

938 (h) When they meet the requirements of this Chapter and are approved by the  
939 Administrator, the following plans shall be incorporated into the permit:

940

941 (i) Stimulation programs required by Section 10(b)(xx) of this Chapter; and

942

943 (ii) Injection and monitoring well plugging plans required by Sections  
944 10(b)(xxx) and 23(b) of this Chapter.

945

946 **Section 10. Permit Application.**

947

948 (a) It is the operator's responsibility to apply for and obtain a permit in accordance  
949 with these regulations. Each application shall be submitted with all supporting data.

950

951 (b) In addition to the requirements of W.S. § 35-11-313(f)(ii), a complete application  
952 for a Class VI well shall include:

953

954 (i) A brief description of the nature of the business and the activities to be  
955 conducted that require the applicant to obtain a permit under this Chapter;

956

957 (ii) The name, address, and telephone number of the operator, and the  
958 operator's ownership status and status as a federal, state, private, public, or other entity;

959

960 (iii) Up to four Standard Industrial Classification codes that best reflect the  
961 principal products or services provided by the facility;

962

963 (iv) The name, address, and telephone number of the facility;

964

965 (v) The location of the geologic sequestration project identified by section,  
966 township, range, and county, noting which sections (if any) include Indian lands;

967  
968           (vi) Within the area of review, a listing and status of all permits or construction  
969 approvals associated with the geologic sequestration project received or applied for under any of  
970 the following programs or corresponding state programs:

971  
972                   (A) Hazardous Waste Management under the Resource Conservation  
973 and Recovery Act, 42 U.S.C. § 6901 *et seq.*;

974  
975                   (B) UIC Program under the Safe Drinking Water Act, 42 U.S.C. § 300f  
976 *et seq.*;

977  
978                   (C) National Pollutant Discharge Elimination System under the Clean  
979 Water Act, 33 U.S.C. § 1251 *et seq.*;

980  
981                   (D) Prevention of Significant Deterioration program under the Clean  
982 Air Act, 42 U.S.C. § 7401 *et seq.*;

983  
984                   (E) Nonattainment program under the Clean Air Act, 42 U.S.C. § 7401  
985 *et seq.*;

986  
987                   (F) National Emissions Standards for Hazardous Air Pollutants pre-  
988 construction approval under the Clean Air Act, 42 U.S.C. § 7401 *et seq.*;

989  
990                   (G) Dredge and fill permitting program under section 404 of the Clean  
991 Water Act, 33 U.S.C. § 1251 *et seq.*;

992  
993           (vii) Within the area of review, a list of other relevant permits associated with  
994 the geologic sequestration project that the applicant is required to obtain;

995  
996           (viii) A statement of whether the geologic sequestration project is within a state-  
997 approved water quality management plan area, a state-approved wellhead protection area or a  
998 state-approved source water protection area;

999  
1000           (ix) A map showing the injection well(s) for which a permit is sought and the  
1001 applicable area of review, consistent with Section 13 of this Chapter;

1002  
1003                   (A) Within the area of review, the map shall list the number, or name  
1004 and location of:

1005  
1006                           (I) All injection wells, producing wells, abandoned wells,  
1007 plugged wells, dry holes, or deep stratigraphic boreholes;

1008  
1009                           (II) All state- or EPA-approved subsurface cleanup sites;

1010  
1011                           (III) All water quality management plan areas, wellhead  
1012 protection areas, and source water protection areas;

- 1013  
1014 (IV) All surface bodies of water, springs, mines (surface and  
1015 subsurface), quarries, and water wells;  
1016  
1017 (V) Other pertinent surface features, including structures  
1018 intended for human occupancy;  
1019  
1020 (VI) Roads; and  
1021  
1022 (VII) State and Indian reservation boundaries;  
1023  
1024 (B) The applicant shall include on this map all relevant information of  
1025 public record or known to the applicant; and  
1026  
1027 (C) The map shall also show known or suspected faults;  
1028  
1029 (x) A map delineating the area of review that:  
1030  
1031 (A) Meets the requirements of Section 13 of this Chapter;  
1032  
1033 (B) Is based upon modeling;  
1034  
1035 (C) Uses all available data, including data available from any logging  
1036 and testing of wells within and adjacent to (within one (1) mile of) the area of review; and  
1037  
1038 (D) Describes the area of review by township, range, and section to the  
1039 nearest ten (10) acres, as described under the general land survey system;  
1040  
1041 (xi) For the description required by W.S. 35-11-313(f)(ii)(A), sufficient  
1042 information on the geologic structure and reservoir properties of the proposed storage site and  
1043 overlying formations, including:  
1044  
1045 (A) Isopach maps of the proposed injection and confining zone s, a  
1046 structural contour map aligned with the top of the proposed injection zone, and at least two (2)  
1047 geologic cross-sections of the area of review reasonably perpendicular to each other and showing  
1048 the geologic formations from the surface to total depth;  
1049  
1050 (B) Location, orientation, and properties of known or suspected faults  
1051 and fractures that may transect the confining zone s in the area of review and a determination  
1052 that they will not allow fluid movement;  
1053  
1054 (C) Information on seismic history that has affected the proposed area  
1055 of review including knowledge of previous seismic events and history of these events, the  
1056 presence and depth of seismic sources, and a determination that the seismicity will not allow  
1057 fluid movement;  
1058

- 1059 (D) Data sufficient to demonstrate the effectiveness of the injection  
1060 and confining zones, including:  
1061
- 1062 (I) Data on the depth, areal extent, thickness, mineralogy,  
1063 porosity, vertical permeability, and capillary pressure of the injection and confining zones within  
1064 the area of review; and  
1065
- 1066 (II) A description of geologic changes based on field data that  
1067 may include geologic cores, outcrop data, seismic surveys, well logs, and names and lithologic  
1068 descriptions;  
1069
- 1070 (E) Geomechanical information on fractures, stress, ductility, rock  
1071 strength, and in situ fluid pressures within the confining zone; and  
1072
- 1073 (F) Geologic and topographic maps and cross-sections illustrating  
1074 regional geology, hydrogeology, and the geologic structure of the local area;  
1075
- 1076 (xii) A list of all wells and other drill holes within and adjacent to (within one  
1077 (1) mile) the area of review. The list shall include a description of each well and drill hole type,  
1078 construction, date drilled, location, depth, record of plugging and completion, and any additional  
1079 information the Administrator requires;  
1080
- 1081 (xiii) A list of the identity and location of all known wells within and adjacent to  
1082 (within one (1) mile) the area of review that penetrate the confining or injection zone;  
1083
- 1084 (xiv) Maps and stratigraphic cross-sections indicating the general vertical and  
1085 lateral limits of all USDWs in the area of review; the location of water wells and springs in the  
1086 area of review; the positions relative to the injection zones of all USDWS, water wells, and  
1087 springs in the area of review, and the direction of water movement (if known);  
1088
- 1089 (xv) For the characterization required by W.S. 35-11-313(f)(ii)(B), information  
1090 necessary for the Division to classify the receiver and any secondarily affected aquifers under  
1091 Water Quality Rules and Regulations Chapter 8;  
1092
- 1093 (xvi) Baseline geochemical data on subsurface formations, including all  
1094 USDWs in the area of review;  
1095
- 1096 (xvii) Proposed operating data, including:  
1097
- 1098 (A) Average and maximum daily rate and volume and mass and total  
1099 anticipated volume and mass of the carbon dioxide stream;  
1100
- 1101 (B) Average and maximum surface injection pressure;  
1102
- 1103 (C) The source of the carbon dioxide stream; and  
1104



- 1105 (D) An analysis of the chemical and physical characteristics of the  
1106 carbon dioxide stream and any other substances proposed for inclusion in the injectate stream;  
1107 and  
1108
- 1109 (E) Anticipated duration of the proposed injection periods;  
1110
- 1111 (xviii) The compatibility of the carbon dioxide stream with fluids in the injection  
1112 zone and minerals in both the injection and the confining zones, based on the results of the  
1113 formation testing program, and with the materials used to construct the well;  
1114
- 1115 (xix) Proposed formation testing program to obtain an analysis of the chemical  
1116 and physical characteristics of the injection zone and confining zone and that meets the  
1117 requirements of Section 16 of this Chapter;  
1118
- 1119 (xx) Proposed stimulation program, a description of stimulation fluids to be  
1120 used, and a determination that stimulation will not allow fluid movement;  
1121
- 1122 (xxi) Proposed procedure that outlines steps to conduct injection operations;  
1123
- 1124 (xxii) A wellbore schematic of the subsurface construction details and surface  
1125 wellhead construction of the injection and monitoring wells;  
1126
- 1127 (xxiii) A demonstration, to the satisfaction of the Administrator, that the injection  
1128 wells will be sited in areas with a suitable geologic system that meets the requirements of Section  
1129 12(a) of this Chapter, including:  
1130
- 1131 (A) Identification and characterization of additional zones, if they  
1132 exist, that will impede vertical fluid movement, allow for pressure dissipation, and provide  
1133 additional opportunities for monitoring, mitigation, and remediation; and  
1134
- 1135 (B) Identification of vertical faults and fractures that transect the zones  
1136 identified in subparagraph (A) of this subparagraph;  
1137
- 1138 (xxiv) Injection well design and construction procedures that meet the  
1139 requirements of Section 14 of this Chapter, including the information listed in Section 14(c)(ii)  
1140 of this Chapter;  
1141
- 1142 (xxv) Proposed area of review and corrective action plan that meets the  
1143 requirements under Section 13 of this Chapter;  
1144
- 1145 (xxvi) The status of corrective action on wells in the area of review;  
1146
- 1147 (xxvii) All available logging and testing program data on the wells required by  
1148 Section 17 of this Chapter;  
1149
- 1150 (xxviii) A demonstration of mechanical integrity required by Section 19 of

1151 this Chapter;

1152

1153 (xxix) A demonstration, satisfactory to the Administrator, that the applicant has  
1154 met the financial responsibility requirements of Section 26 of this Chapter;

1155

1156 (xxx) A written financial assurance cost estimate required by Section 26(b) of  
1157 this Chapter;

1158

1159 (xxxvi) ~~An applicant applying for a Class VI well permit must obtain a~~ public  
1160 liability insurance certificate to cover the geologic sequestration activities for which a permit is  
1161 ~~sought.~~ that, in addition to meeting the requirements of W.S. § 35-11-313(f)(ii)(O), demonstrates  
1162 that the public liability insurance policy meets the requirements of Section 26(l)(i)(B) of this  
1163 Chapter; identifies each facility by name, address, and EPA Identification Number; and identifies  
1164 the amounts and types of coverage for each facility;

1165

1166 (xxxvii) Proposed testing and monitoring plan required by Section 20 of this  
1167 Chapter;

1168

1169 (xxxviii) Proposed injection and monitoring wells plugging plan required by  
1170 Section 23 of this Chapter;

1171

1172 (xxxix) Proposed post-injection site care and site closure plan required by  
1173 Section 24(a) of this Chapter;

1174

1175 (xl) Proposed emergency and remedial response plan required by Section 25 of  
1176 this Chapter;

1177

1178 (xli) A list of contacts for Tribes on Indian lands identified pursuant to  
1179 subparagraphs (b)(v) and (b)(ix)(A)(VII) of this Section; and

1180

1181 (xlii) Any other information requested by the Administrator.

1182

1183 (c) All applications for permits, reports, or information submitted to the  
1184 Administrator shall be signed by a responsible corporate officer.

1185

1186 (d) The application shall contain the following certification by the responsible  
1187 corporate officer signing the application:

1188

1189 “I certify under penalty of law that this document and all attachments were prepared  
1190 under my direction or supervision in accordance with a system designed to ensure that qualified  
1191 personnel properly gather and evaluate the information submitted. Based on my inquiry of the  
1192 person or persons who manage the system, or those persons directly responsible for gathering the  
1193 information, the information submitted is, to the best of my knowledge and belief, true, accurate,  
1194 and complete. I am aware that there are significant penalties for submitting false information,  
1195 including the possibility of fine and imprisonment for knowing violations.”

1196

1197 (e) Sections of permit applications that represent engineering work shall be sealed,  
1198 signed, and dated by a licensed professional engineer as required by W.S. § 33-29-601.  
1199

1200 (f) Sections of permit applications that represent geologic work shall be sealed,  
1201 signed, and dated by a licensed professional geologist as required by W.S. § 33-41-115.  
1202

1203 **Section 11. Prohibitions.**  
1204

1205 (a) Pursuant to the provisions of W.S. § 35-11-301(a), no person shall:  
1206

1207 (i) Discharge into, construct, operate, or modify any Class VI well unless  
1208 permitted pursuant to this Chapter;  
1209

1210 (ii) Discharge or inject to any zone except the authorized injection zone as  
1211 described in the permit;  
1212

1213 (iii) Conduct any injection activity in a manner that results in a violation of any  
1214 permit condition or that conflicts with any representations made in a permit application;  
1215

1216 (iv) Construct, operate, maintain, convert, plug, abandon, or conduct any other  
1217 injection activity in a manner that allows the movement of fluid containing any contaminant into  
1218 underground sources of drinking water, if the presence of that contaminant may cause a violation  
1219 of any primary drinking water regulation contained in 40 C.F.R. Part 141, Subparts E, F, and G,  
1220 or may otherwise adversely affect human health, safety, or the environment;  
1221

1222 (v) Inject any hazardous waste that has been banned from land disposal  
1223 pursuant to Wyoming Hazardous Waste Rules, Chapter 1;  
1224

1225 (vi) Construct a new, operate an existing, or maintain an existing Class V well  
1226 for non-experimental geologic sequestration.  
1227

1228 (b) Class VI wells shall inject only to receivers classified by the Department pursuant  
1229 to Water Quality Rules and Regulations, Chapter 8, as Class V (Hydrocarbon Commercial) or  
1230 Class VI groundwaters. No Class VI well shall inject to any Class I, Class II, Class III, Class IV,  
1231 or unclassified groundwaters.  
1232

1233 (c) The Administrator shall designate and protect as underground sources of drinking  
1234 water, all aquifers and parts of aquifers that meet the definition of “underground source of  
1235 drinking water” in Section 2 of this Chapter, except to the extent there is expansion to the areal  
1236 extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption  
1237 for the exclusive purpose of Class VI injection for geologic sequestration under Section 16 of  
1238 this Chapter.  
1239

1240 (i) The Administrator may identify underground sources of drinking water by  
1241 narrative description, illustrations, maps, or other means.  
1242

1243 (ii) Other than EPA-approved aquifer exemption expansions that meet the  
1244 requirements of Section 16 of this Chapter, new aquifer exemptions shall not be issued for Class  
1245 VI injection wells.

1246  
1247 **Section 12. Minimum Criteria for Siting Class VI Wells.**

1248  
1249 (a) All Class VI wells shall be sited in areas with a suitable geologic system. The  
1250 geologic system shall be comprised of:

1251  
1252 (i) An injection zone of sufficient areal extent, thickness, porosity, and  
1253 permeability to receive the total anticipated volume of the carbon dioxide stream; and

1254  
1255 (ii) Confining zones that are free of transmissive faults or fractures and of  
1256 sufficient areal extent and integrity to contain the injected carbon dioxide stream and displaced  
1257 formation fluids and allow injection at proposed maximum pressures and volumes without  
1258 initiating or propagating fractures in the confining zones or causing non-transmissive faults to  
1259 become transmissive.

1260  
1261 (b) Owners or operators of Class VI wells ~~must~~ shall identify and characterize  
1262 additional zones, if they exist, that will impede vertical fluid movement, allow for pressure  
1263 dissipation, and provide additional opportunities for monitoring, mitigation, and remediation.  
1264 ~~Vertical faults and fractures that transect these zones~~ ~~must~~ shall be identified.

1265  
1266 **Section 13. Area of Review Delineation and Corrective Action.**

1267  
1268 (a) The owner or operator of a Class VI well shall prepare, maintain, and comply  
1269 with a plan to delineate the area of review for a proposed geologic sequestration project, re-  
1270 evaluate the delineation, and perform corrective action that meets the requirements of this  
1271 Section and is approved by the Administrator. The area of review shall be based on  
1272 computational modeling that accounts for the physical and chemical properties of all phases of  
1273 the injected carbon dioxide stream. The area of review shall never be less than the area of  
1274 potentially affected groundwater. An area of review and corrective action plan shall include the  
1275 following information:

1276  
1277 (i) The method for delineating the area of review that meets the requirements  
1278 of paragraph (b) of this Section, including the name, version and availability of the model that  
1279 will be used, assumptions that will be made, and the site characterization data on which the  
1280 model will be based;

1281  
1282 (ii) A description of:

1283  
1284 (A) The monitoring and operational conditions that would warrant a re-  
1285 evaluation of the area of review prior to the next scheduled re-evaluation as determined by the  
1286 minimum fixed frequency established in paragraph (c) of this Section.

1287  
1288 (B) How monitoring and operational data (e.g., injection rate and

1289 pressure) will be used to evaluate the area of review; and

1290

1291 (C) How corrective action will be conducted to meet the requirements  
1292 of paragraph (b)(v) of this Section, including:

1293

1294 (I) What corrective action will be performed prior to injection;

1295

1296 (II) What, if any, portions of the area of review will have  
1297 corrective action addressed on a phased basis and how the phasing will be determined;

1298

1299 (III) How corrective action will be adjusted if there are changes  
1300 in the area of review; and

1301

1302 (IV) How site access will be ensured for future corrective action.

1303

1304 (b) Owners or operators of Class VI wells shall perform the following actions to  
1305 delineate the area of review, identify all wells that require corrective action, and perform  
1306 corrective action on those wells:

1307

1308 (i) Predict, using existing [site characterization, monitoring and operational](#)  
1309 [data, and](#) computational modeling:

1310

1311 (A) The projected lateral and vertical migration of the carbon dioxide  
1312 plume and formation fluids in the subsurface from the commencement of injection activities until  
1313 the plume movement ceases;

1314

1315 (B) The pressure differentials, demonstrating that pressure differentials  
1316 sufficient to cause the movement of injected fluids or formation fluids into a USDW or to  
1317 otherwise threaten human health, safety, or the environment will not be present, or until the end  
1318 of a fixed time period determined by the Administrator;

1319

1320 (C) The potential need for brine removal; and

1321

1322 (D) The long-term effects of pressure buildup if brine is not removed.

1323

1324 (ii) Use modeling that:

1325

1326 (A) Is based on:

1327

1328 (I) Detailed geologic data available or collected to characterize  
1329 the injection zone, confining zone, and any additional zones; and

1330

1331 (II) Anticipated operating data, including injection pressures,  
1332 rates and total volumes over the proposed operational life of the facility;

1333

1334 (B) Takes into account any relevant geologic heterogeneities, other

1335 discontinuities, data quality, and their possible impact on model predictions; and

1336

1337 (C) Considers potential migration through faults, fractures, and  
1338 artificial penetrations.

1339

1340 (iii) Using methods approved by the Administrator, identify all penetrations,  
1341 including active and abandoned wells and underground mines, in the area of review that may  
1342 penetrate the confining zone, and provide a description of each well's type, construction, date  
1343 drilled, location, depth, record of plugging and completion, and any additional information the  
1344 Administrator may require;

1345

1346 (iv) Determine which abandoned wells in the area of review have been  
1347 plugged in a manner that prevents the movement of:

1348

1349 (A) Carbon dioxide that may endanger USDWs or otherwise threaten  
1350 human health, safety, or the environment; or

1351

1352 (B) Displaced formation fluids, or other fluids, including the use of  
1353 materials compatible with the carbon dioxide stream, that may endanger USDWs or otherwise  
1354 threaten human health, safety, or the environment; and

1355

1356 (v) Perform corrective action on any wells in the area of review that the owner  
1357 or operator determines require corrective action to prevent the movement of fluid into or between  
1358 USDWs including use of materials compatible with the carbon dioxide stream, where  
1359 appropriate.

1360

1361 (c) At a fixed frequency, not to exceed two (2) years during the operational life of the  
1362 facility or five (5) years during the post-injection site care period (until site closure) as specified  
1363 in the area of review and corrective action plan, or when monitoring and operational conditions  
1364 warrant, owners or operators shall:

1365

1366 (i) Re-evaluate the area of review in the same manner specified in  
1367 subparagraph (b)(i) of this Section;

1368

1369 (ii) Identify all wells in the re-evaluated area of review that require corrective  
1370 action in the same manner specified in subparagraph (b)(iv) of this Section;

1371

1372 (iii) Perform corrective action on wells requiring corrective action in the  
1373 reevaluated area of review in the same manner specified in subparagraph (b)(v) of this Section;  
1374 and

1375

1376 (iv) Submit an amended area of review and corrective action plan, or  
1377 demonstrate to the Administrator through monitoring data and modeling results that no change to  
1378 the area of review and corrective action plan is needed.

1379

1380 (A) Amendments to the area of review and corrective action plan shall

1381 be subject to approval of the Administrator.

1382

1383 (B) Amendments to the area of review shall be incorporated into the  
1384 permit.

1385

1386 (C) Amendments to the area of review are subject to the permit  
1387 modification requirements of Section 6 of this Chapter.

1388

1389 **Section 14. Construction and Operation Standards for Class VI Wells.**

1390

1391 (a) The owner or operator shall design, construct, and complete all Class VI wells to  
1392 meet the construction standards in this Section and to:

1393

1394 (i) Prevent the movement of fluids into or between USDWs or into any  
1395 unauthorized zones;

1396

1397 (ii) Allow the use of appropriate testing devices and workover tools; and

1398

1399 (iii) Allow continuous monitoring of the annulus space between the injection  
1400 tubing and long string casing.

1401

1402 (b) Casing and cement or other materials used in the construction of each Class VI  
1403 well shall have sufficient structural strength and be designed for the life of the well.

1404

1405 (i) All well materials ~~must~~ shall be compatible with fluids with which the  
1406 materials may be expected to come into contact, and shall meet or exceed the following  
1407 standards ~~developed for such materials by: the American Petroleum Institute, ASTM~~  
1408 ~~International, or comparable standards acceptable to the Administrator.~~

1409

1410 (A) American Petroleum Institute Specification 5CT;

1411

1412 (B) American Petroleum Institute RP 5C1;

1413

1414 (C) American Petroleum Institute RP 10B-2;

1415

1416 (D) American Petroleum Institute Specification 10A;

1417

1418 (E) American Petroleum Institute RP 10D-2;

1419

1420 (F) American Petroleum Institute Specification 11D1;

1421

1422 (G) American Petroleum Institute RP 14B; and

1423

1424 (H) American Petroleum Institute RP 14C.

1425

1426 (ii) The casing and cementing program shall be designed to prevent the

1427 movement of fluids into or between USDWs.

1428

1429 (iii) To allow the Administrator to determine and specify casing and cementing  
1430 requirements, the owner or operator shall provide the following information in a construction  
1431 design plan:

1432

1433 (A) Depth to the injection zone;

1434

1435 (B) Injection pressure, external pressure, internal pressure, and axial  
1436 loading;

1437

1438 (C) Hole size;

1439

1440 (D) Size and grade of all casing strings (wall thickness, external  
1441 diameter, nominal weight, length, joint specification and construction material), including  
1442 whether the casing is new or used;

1443

1444 (E) Corrosiveness of the carbon dioxide stream and formation fluids;

1445

1446 (F) Down-hole temperatures and pressures;

1447

1448 (G) Lithology of injection and confining zones;

1449

1450 (H) Type or grade of cement and additives; and

1451

1452 (I) Quantity, chemical composition, and temperature of the carbon  
1453 dioxide stream.

1454

1455 (iv) Casing shall extend through the base of the lowermost USDW above the  
1456 injection zone and be cemented to the surface through the use of a single or multiple strings of  
1457 casing and cement.

1458

1459 (v) At least one (1) long string casing, using a sufficient number of  
1460 centralizers, shall be set to create a cement bond through the overlying and underlying confining  
1461 zones.

1462

1463 (A) The long string casing shall:

1464

1465 (I) Extend to the injection zone;

1466

1467 (II) Be cemented by circulating cement to the surface in one (1)  
1468 or more stages; and

1469

1470 (III) Be isolated by placing cement or other isolation techniques  
1471 as necessary to provide adequate isolation of the injection zone and provide for protection of  
1472 USDWs, human health, safety, and the environment.



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(B) Circulation of cement may be accomplished by staging. The Administrator may approve an alternative method of cementing in cases where the cement cannot be recirculated to the surface if the owner or operator demonstrates by using logs that the cement does not allow fluid movement behind the wellbore.

(vi) Cement and cement additives shall be suitable for use with the carbon dioxide stream and formation fluids, and be of sufficient quality and quantity to maintain integrity over the operating life of the well.

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

(A) Quantitative estimations of the cement compressive strength;

(B) A bond index; and

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

(c) All owners and operators of Class VI wells shall inject fluids through tubing with a packer set at a depth opposite a cemented interval at the location approved by the Administrator.

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

(A) American Petroleum Institute Specification 5CT;

(B) American Petroleum Institute RP 5C1;

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

(D) American Petroleum Institute Specification 10A;

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

(F) American Petroleum Institute Specification 11D1;

(G) American Petroleum Institute RP 14B; and

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(H) American Petroleum Institute RP 14C.

(ii) The Administrator shall determine and specify requirements for tubing and packer based on the following information:

(A) Depth of setting;

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

(C) Maximum proposed injection pressure;

(D) Maximum proposed annular pressure;

(E) Maximum proposed injection rate (intermittent or continuous) and volume of the carbon dioxide stream;

(F) Size of tubing and casing; and

(G) Tubing tensile, burst, and collapse strengths.

**Section 15. Class VI Injection Depth Waiver Requirements.**

(a) An owner or operator seeking a waiver of the requirement to inject below the lowermost USDW shall submit a supplemental report concurrent with the permit application. The report shall contain the following:

(i) A demonstration that the injection zones are laterally continuous, are not USDWs, and are not hydraulically connected to USDWs; do not outcrop within the area of review; have adequate injectivity, volume, and sufficient porosity to safely contain the injected carbon dioxide and formation fluids; and have appropriate geochemistry;

(ii) A demonstration that the injection zones are bounded by laterally continuous, impermeable confining units above and below the injection zones adequate to prevent fluid movement and pressure buildup outside of the injection zones;

(iii) A demonstration that the confining units are free of transmissive faults and fractures;

(iv) A characterization of the regional fracture properties and a demonstration that the fractures will not interfere with injection, serve as conduits, or endanger USDWs;

(v) A computer model demonstrating that USDWs above and below the injection zone will not be endangered as a result of fluid movement. The modeling shall be done in conjunction with the area of review determination described in Section 13 of this Chapter, is

1565 subject to the requirements of Section 13(b) of this Chapter, and shall be periodically reevaluated  
1566 as required by Section 13(c) of this Chapter;

1567  
1568 (vi) A demonstration that well design and construction, in conjunction with the  
1569 waiver, will ensure isolation of the injectate in lieu of the requirements of Section 14(a)(i) of this  
1570 chapter and will meet the well construction requirements of paragraph (f) of this Section;

1571  
1572 (vii) A description of how the monitoring and testing and any additional plans  
1573 will be tailored to this geologic sequestration project to ensure protection of USDWs above and  
1574 below the injection zone;

1575  
1576 (viii) Information on the location of all public water supplies affected,  
1577 reasonably likely to be affected, or served by USDWs in the area of review; and

1578  
1579 (ix) Any other information requested by the Administrator.

1580  
1581 (b) To inform the EPA Regional Administrator's decision on whether to grant a  
1582 waiver of the injection depth requirements of 40 C.F.R. §§ 144.6, 146.5(f), and 146.86(a)(1), the  
1583 Administrator shall submit to the EPA Regional Administrator documentation of the following:

1584  
1585 (i) An evaluation of the following information as it relates to siting,  
1586 construction, and operation of a geologic sequestration project with a waiver:

1587  
1588 (A) The integrity of the upper and lower confining units;

1589  
1590 (B) The suitability of the injection zone(s) (including lateral continuity,  
1591 lack of transmissive faults and fractures, and knowledge of current or planned artificial  
1592 penetrations into the injection zone(s) or formations below the injection zone);

1593  
1594 (C) The potential capacity of the geologic formation(s) to sequester  
1595 carbon dioxide, accounting for the availability of alternative injection sites;

1596  
1597 (D) All other site characterization data, the proposed emergency and  
1598 remedial response plan, and a demonstration of financial responsibility;

1599  
1600 (E) Community needs, demands, and supply from drinking water  
1601 resources;

1602  
1603 (F) Planned needs and potential and future use of USDWs and non-  
1604 USDW aquifers in the area;

1605  
1606 (G) Planned or permitted water, hydrocarbon, or mineral resource  
1607 exploitation potential of the proposed injection formation(s) and other formations both above and  
1608 below the injection zone to determine if there are any plans to drill through the formation to  
1609 access resources in or beneath the proposed injection zone(s) or formation(s);

1610

1611 (H) The proposed plan for securing alternative resources or treating  
1612 USDW formation waters in the event of contamination related to the Class VI injection activity;  
1613 and

1614  
1615 (I) Any other applicable considerations or information requested by  
1616 the Administrator;

1617  
1618 (ii) Consultation with the public water system supervision directors of all  
1619 States and Tribes having jurisdiction over lands within the area of review of a well for which a  
1620 waiver is sought; and

1621  
1622 (iii) Any written waiver-related information submitted by a public water  
1623 system supervision director to the Department.

1624  
1625 (c) Concurrent with the Class VI permit application public notice process pursuant to  
1626 Section 27 of this Chapter, the Administrator shall give public notice that an injection depth  
1627 waiver request has been submitted. The notice shall clearly state:

1628  
1629 (i) The depth of the proposed injection zone(s);

1630  
1631 (ii) The location of the injection wells;

1632  
1633 (iii) The name and depth of all USDWs within the area of review;

1634  
1635 (iv) A map of the area of review;

1636  
1637 (v) The names of any public water supplies affected, reasonably likely to be  
1638 affected, or served by the USDWs in the area of review; and

1639  
1640 (vi) The results of any consultation between the UIC program and the Public  
1641 Water System Supervision Directors within the area of review.

1642  
1643 (d) Following the injection depth waiver application public notice, the Administrator  
1644 of the Water Quality Division of the Department of Environmental Quality shall provide all the  
1645 information received through the waiver application process to the US EPA Regional  
1646 Administrator. Based on the information provided, the US EPA Regional Administrator shall  
1647 provide written concurrence or non-concurrence regarding waiver issuance.

1648  
1649 (i) If the US EPA Regional Administrator requires additional information to  
1650 make a decision, the Administrator of the Water Quality Division of the Department of  
1651 Environmental Quality shall provide the information. The US EPA Regional Administrator may  
1652 require public notice of the new information.

1653  
1654 (ii) The Administrator of the Water Quality Division of the Department of  
1655 Environmental Quality shall not issue a depth injection waiver without receipt of written  
1656 concurrence from the US EPA Regional Administrator.

1657  
1658           (e)     If an injection depth waiver is issued, within thirty (30) days of issuance, the EPA  
1659 shall post the following information on the Office of Water’s website:

- 1660                   (i)     The depth of the proposed injection zone(s);  
1661  
1662                   (ii)    The location of the injection wells;  
1663  
1664                   (iii)   The name and depth of all USDWs within the area of review;  
1665  
1666                   (iv)    A map of the area of review;  
1667  
1668                   (v)     The names of any public water supplies affected, reasonably likely to be  
1669 affected, or served by the USDWs in the area of review; and  
1670  
1671                   (vi)    The date of waiver issuance.

1672  
1673           (f)     Upon receipt of a waiver of the requirement to inject below the lowermost USDW  
1674 for geologic sequestration, the owner or operator of a Class VI well shall comply with the  
1675 following:

- 1676                   (i)     All requirements of Sections 13, 17, 18, 19, 22, 23, 25, and 26 of this  
1677 Chapter;  
1678                   (ii)    All the requirements of Section 14 of this Chapter with the following  
1679 modified requirements:  
1680                           (A)     In lieu of meeting the requirements of Section 14(a)(i) of this  
1681 Chapter, the Class VI well shall be constructed and completed to prevent the movement of fluids  
1682 into any unauthorized zones, including USDWs;  
1683                           (B)     In lieu of meeting the requirements of Section 14(b) and 14(b)(i) of  
1684 this Chapter, the casing and cementing program shall prevent the movement of fluids into any  
1685 unauthorized zones including USDWs; and  
1686                           (C)     The casing shall extend through the base of the nearest USDW  
1687 directly above the injection zone and shall be cemented to the surface or, at the Administrator’s  
1688 discretion, at another formation above the injection zone and below the nearest USDW above the  
1689 injection zone;  
1690                   (iii)    All the requirements of Section 20 of this Chapter with the following  
1691 modified requirements:  
1692                           (A)     The owner or operator shall monitor the groundwater quality,  
1693 geochemical changes, and pressure in the first USDWs immediately above and below the  
1694 injection zone(s) and in any other formation at the discretion of the Administrator; and  
1695  
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1703  
1704 (B) The owner or operator shall conduct testing and monitoring in the  
1705 injection zone(s) to track the extent of the carbon dioxide plume and the presence or absence of  
1706 elevated pressure (e.g., the pressure front) by using direct methods and indirect methods (e.g.,  
1707 seismic, electrical, gravity, or electromagnetic surveys and down-hole carbon dioxide detection  
1708 tools) unless the Administrator determines, based on site-specific geology, that such methods are  
1709 not appropriate;

1710  
1711 (iv) All requirements of Section 24 of this Chapter with the following  
1712 modified requirements:

1713  
1714 (A) The owner or operator shall monitor the groundwater quality,  
1715 geochemical changes and pressure in the first USDWs immediately above and below the  
1716 injection zone and in any other formations at the discretion of the Administrator; and

1717  
1718 (B) Testing and monitoring in the injection zone(s) to track the extent  
1719 of the carbon dioxide plume and the presence or absence of elevated pressure (e.g., the pressure  
1720 front) by using direct methods and indirect methods (e.g., seismic, electrical, gravity, or  
1721 electromagnetic surveys and down-hole carbon dioxide detection tools) unless the Administrator  
1722 determines, based on site-specific geology, that such methods are not appropriate; and

1723  
1724 (v) Any additional requirements imposed by the Administrator to ensure  
1725 protection of USDWs above and below the injection zone(s).

1726  
1727 **Section 16. Expansion to the Areal Extent of Existing Class II Injection Well**  
1728 **Aquifer Exemptions for Class VI Injection Wells.**

1729  
1730 (a) The owner or operator of a Class II enhanced oil recovery or enhanced gas  
1731 recovery well that requests an expansion of the areal extent of an existing aquifer exemption for  
1732 the exclusive purpose of Class VI injection for geologic sequestration shall define (by narrative  
1733 description, illustrations, maps, or other means) and describe (in geographic and/or geometric  
1734 terms such as vertical and lateral limits and gradient that are clear and definite) all aquifers or  
1735 parts thereof that are requested to be designated as exempted using the criteria in subparagraphs  
1736 (b)(i)(A)-(C) of this Section.

1737  
1738 (b) The Administrator may consider a request from an owner or operator of permitted  
1739 Class II injection well to convert its well to a Class VI well and expand the areal extent of the  
1740 existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for the  
1741 exclusive purpose of Class VI injection for geologic sequestration.

1742  
1743 (i) The Administrator may approve the request if the existing aquifer  
1744 exemption and the well meet the following conditions:

1745  
1746 (A) The groundwater does not currently serve as a source of drinking  
1747 water;

1748

1749 (B) The total dissolved solids content of the groundwater is more than  
1750 3,000 mg/L and less than 10,000 mg/L; and

1751  
1752 (C) The groundwater is not reasonably expected to supply a public  
1753 water system.

1754  
1755 (ii) The Administrator may approve a request to expand the areal extent of an  
1756 aquifer exemption of a Class II enhanced oil recovery or enhanced gas recovery well for the  
1757 purpose of Class VI injection if the Administrator:

1758  
1759 (A) Determines that the request meets the criteria for exemptions in  
1760 subparagraphs (b)(i)(A)-(C) of this Section;

1761  
1762 (B) Determines that the proposed injection operation will not at any  
1763 time endanger USDWs including non-exempted portions of the injection formation; and

1764  
1765 (C) Considers, in making the determinations required by  
1766 subparagraphs (b)(ii)(A)-(B) of this Section, the following:

1767  
1768 (I) Current and potential future use of the USDWs to be  
1769 exempted as drinking water resources;

1770  
1771 (II) The predicted extent of the injected carbon dioxide plume,  
1772 and any mobilized fluids that may result in degradation of water quality over the lifetime of the  
1773 geologic sequestration project, as informed by computational modeling performed pursuant to  
1774 Section 13(b)(i) of this Chapter;

1775  
1776 (III) Whether the areal extent of the expanded aquifer exemption  
1777 is of sufficient size to account for any possible revisions to the computational model during  
1778 reevaluation of the area of review, pursuant to Section 13(c) of this Chapter; and

1779  
1780 (IV) Any information submitted to support an injection depth  
1781 waiver request pursuant to Section 15 of this Chapter.

1782  
1783 (c) Approvals under this Section are not final until:

1784  
1785 (i) The Administrator submits the request as a revision to the state-  
1786 administered program under 40 C.F.R. Part 147 or as a substantial revision of a state program  
1787 under 40 C.F.R. § 145.32; and

1788  
1789 (ii) EPA approves the revision.

1790  
1791 **Section 17. Logging, Sampling, and Testing Prior to Injection Well Operation.**

1792  
1793 (a) During the drilling and construction of a Class VI injection well, the owner or  
1794 operator shall run appropriate logs, surveys, and tests to determine or verify the depth, thickness,

1795 porosity, permeability, lithology, and salinity of any formation fluids in all relevant geologic  
1796 formations to ensure the well meets the construction requirements of Section 14 of this Chapter  
1797 and to establish accurate baseline data against which future measurements may be compared.  
1798 The owner or operator shall submit to the Administrator a descriptive report prepared by a  
1799 knowledgeable log analyst that includes an interpretation of the results of the logs and tests. At a  
1800 minimum, the logs and tests shall include:

1801  
1802 (i) Deviation checks measured during drilling on all holes constructed by  
1803 drilling a pilot hole that is subsequently enlarged by reaming or another method. Deviation  
1804 checks shall be at sufficiently frequent intervals to determine the location of the borehole and to  
1805 ensure that vertical avenues for fluid movement in the form of diverging holes are not created  
1806 during drilling;

1807  
1808 (ii) Before and upon installation of the surface casing:

1809  
1810 (A) Resistivity, spontaneous potential, and caliper logs before the  
1811 casing is installed; and

1812  
1813 (B) A cement bond and variable density log, or other approved device  
1814 to evaluate cement quality radially with sufficient resolution to identify channels, voids, or other  
1815 areas of missing cement and a temperature log after the casing is set and cemented;

1816  
1817 (iii) Before and upon installation of the long string casing:

1818  
1819 (A) Resistivity, spontaneous potential, porosity, caliper, gamma ray,  
1820 fracture finder logs, and any other logs the Administrator requires for the given geology before  
1821 the casing is installed; and

1822  
1823 (B) A cement bond and variable density log, and a temperature log  
1824 after the casing is set and cemented;

1825  
1826 (iv) Tests designed to demonstrate the internal and external mechanical  
1827 integrity of injection wells, which may include:

1828  
1829 (A) A pressure test with liquid or gas;

1830  
1831 (B) A tracer survey, such as oxygen-activation logging;

1832  
1833 (C) A temperature or noise log; and

1834  
1835 (D) A casing inspection log; and

1836  
1837 (v) Any alternative methods that provide equivalent or better information and  
1838 that are required or approved by the Administrator.

1839  
1840 (b) The owner or operator shall take whole cores or sidewall cores of the injection



1841 zone and confining system as well as formation fluid samples from the injection zone(s).

1842

1843 (i) The owner or operator shall submit to the Administrator a detailed report  
1844 prepared by a log analyst that includes:

1845

1846 (A) Well log analyses (including well logs);

1847

1848 (B) Core analyses; and

1849

1850 (C) Formation fluid sample information.

1851

1852 (ii) The Administrator may accept data from cores and fluid samples from  
1853 nearby wells if the owner or operator can demonstrate that such data are representative of  
1854 conditions in the wellbore.

1855

1856 (c) The owner or operator shall record the formation fluid temperature, formation  
1857 fluid pH and conductivity, reservoir pressure, and static fluid level of the injection zone(s).

1858

1859 (d) The owner or operator shall determine fracture pressures of the injection and  
1860 confining zones and verify hydrogeologic and geo-mechanical characteristics of the injection  
1861 zone by conducting a pressure fall-off test, any other test requested by the Administrator, and:

1862

1863 (i) A pump test; or

1864

1865 (ii) Injectivity tests.

1866

1867 (e) The owner or operator shall provide the Administrator with the opportunity to  
1868 witness all logging and testing by this section. The owner or operator shall submit a schedule of  
1869 such activities to the Administrator prior to conducting the first test and shall notify the  
1870 Administrator of any changes to the schedule thirty (30) days prior to the next scheduled test.

1871

1872 **Section 18. Injection Well Operating Requirements.**

1873

1874 (a) The owner or operator shall ensure that injection pressure does not exceed ninety  
1875 percent (90%) of the fracture pressure of the injection zone(s) to ensure that the injection does  
1876 not initiate new fractures or propagate existing fractures in the injection zone(s).

1877

1878 (i) In no case may injection pressure cause movement of injection or  
1879 formation fluids in a manner that endangers a USDW, or otherwise threatens human health,  
1880 safety, or the environment.

1881

1882 (ii) In no case may injection pressure initiate fractures in the confining zone s  
1883 or cause the movement of injectate or formation fluids that endangers a USDW or otherwise  
1884 threatens human health, safety, or the environment.

1885

1886 (b) Injection of the carbon dioxide stream between the outermost casing protecting

1887 USDWs and the wellbore is prohibited.

1888

1889 (c) The owner or operator shall fill the annulus between the tubing and the long string  
1890 casing with a non-corrosive fluid approved by the Administrator. The owner or operator shall  
1891 maintain on the annulus a pressure that exceeds the operating injection pressure, unless the  
1892 Administrator determines that such requirement might harm the integrity of the well or endanger  
1893 USDWs.

1894

1895 (d) Other than during periods of well workover or maintenance approved by the  
1896 Administrator in which the sealed tubing-casing annulus is, by necessity, disassembled for  
1897 maintenance or corrective procedures, the owner or operator shall maintain mechanical integrity  
1898 of the injection well at all times.

1899

1900 (e) The owner or operator shall install and use continuous recording devices to  
1901 monitor:

1902

1903 (i) Injection pressure; and

1904

1905 (ii) Injection rate, volume, and temperature of the carbon dioxide stream.

1906

1907 (f) The owner or operator shall install and use continuous recording devices to  
1908 monitor the pressure on the annulus between the tubing and the long string casing and annulus  
1909 fluid volume.

1910

1911 (g) The owner or operator shall install, test, and use alarms and automatic surface  
1912 shut-off systems or, at the discretion of the Administrator, use down-hole shut-off systems (e.g.,  
1913 automatic shut-off, check valves) or other mechanical devices that provide equivalent protection,  
1914 designed to alert the operator and shut-in the well when operating parameters such as injection  
1915 rate, injection pressure, or other parameters approved by the Administrator diverge beyond  
1916 ranges or gradients specified in the permit.

1917

1918 (h) If an automatic shutdown is triggered or a loss of mechanical integrity is  
1919 discovered, the owner or operator shall immediately investigate and identify as expeditiously as  
1920 possible the cause. If, upon such investigation, the well appears to be lacking mechanical  
1921 integrity, or if monitoring required under paragraphs (e), (f), and (g) of this Section otherwise  
1922 indicates that the well may be lacking mechanical integrity, the owner or operator shall:

1923

1924 (i) Immediately cease injection;

1925

1926 (ii) Take all steps reasonably necessary to determine whether there may have  
1927 been a release of the injected carbon dioxide stream or formation fluids into any unauthorized  
1928 zone;

1929

1930 (iii) Notify the Administrator within twenty-four (24) hours;

1931

1932 (iv) Restore and demonstrate mechanical integrity to the satisfaction of the

1933 Administrator as soon as practicable and prior to resuming injection; and

1934

1935 (v) Notify the Administrator when injection can be expected to resume.

1936

1937 **Section 19. Mechanical Integrity.**

1938

1939 (a) A Class VI well has mechanical integrity if:

1940

1941 (i) There is no significant leak in the casing, tubing, or packer; and

1942

1943 (ii) There is no significant fluid movement into a USDW through channels  
1944 adjacent to the injection wellbore.

1945

1946 (b) To evaluate the absence of significant leaks under subparagraph (a)(i) of this  
1947 Section, owners or operators shall, following an initial annulus pressure test, continuously  
1948 monitor injection pressure, rate, injected volumes, and pressure on the annulus between tubing,  
1949 long string casing, and annulus fluid volume as specified in Section 18(e)-(f) of this Chapter.

1950

1951 (c) At least once per year, the owner or operator shall use one (1) of the following  
1952 methods to determine the absence of significant fluid movement under subparagraph (a)(ii) of  
1953 this Section:

1954

1955 (i) An approved tracer survey such as an oxygen-activation log; or

1956

1957 (ii) A temperature or noise log.

1958

1959 (d) If required by the Administrator, at a frequency specified in the testing and  
1960 monitoring plan required in Section 20 of this Chapter, the owner or operator shall run a casing  
1961 inspection log to determine the presence or absence of corrosion in the long-string casing.

1962

1963 (e) The Administrator may require any other test to evaluate mechanical integrity  
1964 under this Section. The Administrator may allow the use of a test to demonstrate mechanical  
1965 integrity other than those listed in paragraph (c) of this Section with the written approval of the  
1966 US EPA Administrator. To obtain approval, the Administrator shall submit a written request to  
1967 the US EPA Administrator that shall set forth the proposed test and all technical data supporting  
1968 its use.

1969

1970 (f) In conducting and evaluating the tests enumerated in this section or others to be  
1971 allowed by the Administrator, the owner or operator and the Administrator shall apply methods  
1972 and standards generally accepted in the industry.

1973

1974 (i) When the owner or operator reports the results of mechanical integrity  
1975 tests to the Administrator, the owner or operator shall include a description of the test s and the  
1976 methods used.

1977

1978 (ii) In making an evaluation, the Administrator shall review monitoring and

1979 other test data submitted since the previous evaluation.

1980

1981 (g) The Administrator may require additional or alternative tests if the results  
1982 presented by the owner or operator under paragraph (e) of this Section are not satisfactory to the  
1983 Administrator to demonstrate that there is no significant leak in the casing, tubing or packer and  
1984 that there is no significant movement of fluid into or between USDWs resulting from the  
1985 injection activity.

1986

1987 **Section 20. Testing and Monitoring Requirements.**

1988

1989 (a) The owner or operator of a Class VI well shall prepare, maintain, and comply  
1990 with a testing and monitoring plan to verify that the geologic sequestration project is operating as  
1991 permitted and is not endangering USDWs. The testing and monitoring plan shall be submitted  
1992 with the permit application, shall be subject to Administrator approval, and shall include a  
1993 description of how the owner or operator will meet the requirements of this Section, including  
1994 accessing sites for all necessary monitoring and testing during the life of the project.

1995

1996 (b) In addition to the requirements of W.S. § 35-11-313, Testing and monitoring  
1997 associated with geologic sequestration projects ~~must~~ shall, ~~at a minimum,~~ include:

1998

1999 ~~(i) Plans and procedures for environmental surveillance and excursion~~  
2000 ~~detection, prevention, and control programs, including a monitoring plan to:~~

2001

2002 ~~\_\_\_\_\_ (A) Assess the migration of the injected carbon dioxide; and~~

2003

2004 ~~\_\_\_\_\_ (B) Ensure the retention of the carbon dioxide in the geologic~~  
2005 ~~sequestration site.~~

2006

2007 (i) Analysis of the carbon dioxide stream with sufficient frequency to yield  
2008 data representative of its chemical and physical characteristics;

2009

2010 (ii) Installation and use, except during well workovers, of continuous  
2011 recording devices to monitor:

2012

2013 (A) Injection pressure;

2014

2015 (B) Injection rate and volume;

2016

2017 (C) Pressure on the annulus between the tubing and the long string

2018 casing;

2019

2020 (D) The annulus fluid volume added; and

2021

2022 (E) The pressure on the annulus between the tubing and the long string

2023 casing;

2024

2025 (iii) Corrosion monitoring of the well materials for loss of mass, loss of  
2026 thickness, cracking, pitting, and other signs of corrosion, which shall be performed and recorded  
2027 at least quarterly to ensure that the well components meet the minimum standards for material  
2028 strength and performance set forth in Section 14(b) of this Chapter by:

2029  
2030 (A) Analyzing coupons of the well construction materials placed in  
2031 contact with the carbon dioxide stream;

2032  
2033 (B) Routing the carbon dioxide stream through a loop constructed with  
2034 the material used in the well and inspecting the materials in the loop; or

2035  
2036 (C) Using an alternative method approved by the Administrator;

2037  
2038 (iv) Periodic monitoring of the groundwater quality and geochemical changes  
2039 above the confining zones that may be a result of carbon dioxide movement or displaced  
2040 formation fluid movement through the confining zones or additional zones. The monitoring wells  
2041 shall:

2042  
2043 (A) Use specific information about the geologic sequestration project,  
2044 including injection rate and volume, geology, the presence of artificial penetrations, and other  
2045 relevant factors to establish the location and number of monitoring wells; and

2046  
2047 (B) Use baseline geochemical data that have been collected under  
2048 Section 10(b)(xvi) of this Chapter and any modeling results in the area of review evaluation  
2049 required by Section 13(b) of this Chapter to establish the monitoring frequency and spatial  
2050 distribution of monitoring wells;

2051  
2052 (v) A demonstration of external mechanical integrity pursuant to Section  
2053 19(c) at least once per year until the well is plugged;

2054  
2055 (vi) If required by the Administrator, a casing inspection log pursuant to  
2056 requirements of Section 19(d) of this Chapter at a frequency established in the testing and  
2057 monitoring plan;

2058  
2059 (vii) A pressure fall-off test that identifies reservoir conditions with respect to  
2060 flow dynamics at least once every five (5) years, unless more frequent testing is required by the  
2061 Administrator based on site-specific information;

2062  
2063 (viii) Testing and monitoring to track the extent of the carbon dioxide plume,  
2064 the position of the pressure front, and surface displacement using:

2065  
2066 (A) Direct methods in the injection zone(s); and

2067  
2068 (B) Indirect methods in the injection zone (e.g., seismic, electrical,  
2069 gravity, or electromagnetic surveys and/or down-hole carbon dioxide detection tools) unless the  
2070 Administrator determines, based on site-specific geology, that such methods are not appropriate;

- 2071  
2072 (ix) ~~At the Administrator's discretion,~~ Based on site-specific conditions,  
2073 surface air monitoring ~~and~~/or soil gas monitoring to detect movement of carbon dioxide that  
2074 could endanger a USDW<sup>7</sup>; or otherwise threaten human health, safety, or the environment<sup>8</sup>;
- 2075  
2076 (A) The surface air or soil gas monitoring plan shall:
- 2077  
2078 (I) Be based on potential risks to USDWs, and modeling  
2079 within the area of review;
- 2080  
2081 (II) Use baseline data to establish the monitoring frequency and  
2082 spatial distribution of surface air monitoring or soil gas monitoring; and
- 2083  
2084 (III) Specify how the proposed monitoring will yield useful  
2085 information for the area of review delineation and the potential movement of fluid:
- 2086  
2087 (1.) Containing any contaminant into USDWs in  
2088 exceedance of any primary drinking water regulation under 40 C.F.R. Part 141; or
- 2089  
2090 (2.) Which may otherwise adversely affect human  
2091 health, safety, or the environment;
- 2092  
2093 (B) If an owner or operator demonstrates that monitoring employed  
2094 under 40 C.F.R. §§ 98.440 to 98.449 accomplishes the goals of subparagraph (b)(ix)(A) of this  
2095 Section, the Administrator shall approve the use of monitoring employed under 40 C.F.R. §§  
2096 98.440 to 98.449. An owner or operator who uses monitoring employed under 40 C.F.R. §§  
2097 98.440 to 98.449 to meet the requirements of this Section shall comply with 40 C.F.R. §§ 98.440  
2098 to 98.449;
- 2099  
2100 (x) Any additional monitoring, as required by the Administrator, necessary to  
2101 support, upgrade, and improve computational modeling of the area of review re-evaluation  
2102 required under Section 13(c) of this Chapter and as necessary to demonstrate that there is no  
2103 movement of fluid containing any contaminant into USDWs in exceedance of any primary  
2104 drinking water regulation under 40 C.F.R. Part 141, Subparts E, F, and G, or which could  
2105 otherwise adversely affect human health, safety, or the environment;
- 2106  
2107 (xi) The owner or operator shall periodically review the testing and monitoring  
2108 plan to incorporate monitoring data collected under this Section, operational data collected under  
2109 Section 18 of this Chapter, and the most recent area of review reevaluation performed under  
2110 Section 13 of this Chapter. The owner or operator shall review the testing and monitoring plan at  
2111 least once every five (5) years. Based on this review, the owner or operator shall submit an  
2112 amended testing and monitoring plan or demonstrate to the Administrator that no amendment to  
2113 the testing and monitoring plan is needed. Any amendments to the testing and monitoring plan  
2114 are subject to approval by the Administrator, shall be incorporated into the permit, and are  
2115 subject to the permit modification requirements of Section 6 of this Chapter. Amended plans or  
2116 demonstrations shall be submitted to the Administrator as follows:

- 2117  
2118 (A) Within one (1) year of an area of review reevaluation;  
2119  
2120 (B) Following any significant changes to the facility, such as addition  
2121 of monitoring wells or newly permitted injection wells within the area of review; or  
2122  
2123 (C) When required by the Administrator; and  
2124  
2125 (xii) A quality assurance and surveillance plan for all testing and monitoring  
2126 requirements.

2127  
2128 (c) The owner or operator shall create and retain records of all monitoring  
2129 information that include:

- 2130 (i) The date, time, and exact place, of sampling or measurements;  
2131  
2132 (ii) The individuals who performed the sampling or measurements;  
2133  
2134 (iii) The dates analyses were performed;  
2135  
2136 (iv) The individuals who performed the analyses;  
2137  
2138 (v) The analytical techniques or methods used; and  
2139  
2140 (vi) The results of such analyses.  
2141  
2142

2143 **Section 21. Record Retention.**

2144  
2145 (a) An owner or operator of a Class VI well shall maintain records according to the  
2146 following schedules:

2147  
2148 (i) Calibration and maintenance records and all original strip chart recordings  
2149 for continuous monitoring instrumentation, copies of all reports required by this permit, and  
2150 records of all data used to complete the application for this permit, for a period of at least three  
2151 (3) years from the date of the sample, measurement, report, or application. This period may be  
2152 extended by request of the Administrator at any time;

2153  
2154 (ii) The nature and composition of all injected fluids until three (3) years after  
2155 the completion of any plugging and abandonment procedures under Section 23 of this Chapter;

2156  
2157 (iii) All modeling inputs and data used to support area of review reevaluations  
2158 under Section 13 of this Chapter shall be retained for ten (10) years;

2159  
2160 (iv) The well-plugging report required by Section 23 of this Chapter, the site  
2161 closure report required by Section 24 of this Chapter, and any post-injection site care data,  
2162 (including data and information used to establish the post-injection site care time frame) shall be

2163 retained for ten (10) years following site closure;

2164

2165 (v) All data used to complete permit applications shall be retained for the life  
2166 of the geologic sequestration project and for ten (10) years following site closure; and

2167

2168 (vi) All other monitoring records required by a permit shall be retained for a  
2169 period of ten (10) years following site closure.

2170

2171 (b) The Administrator may require the owner or operator to deliver the records to the  
2172 Administrator at the conclusion of the record retention period.

2173

2174 **Section 22. Reporting and Notice Requirements.**

2175

2176 (a) The owner or operator shall provide the following reports to the Administrator,  
2177 for each Class VI well:

2178

2179 (i) Semi-annual reports. Semi-annual reports required by the permit shall be  
2180 submitted to the Administrator within thirty (30) days following the end of the period covered in  
2181 the report and shall contain:

2182

2183 (A) Any changes to the physical, chemical, and other relevant  
2184 characteristics of the carbon dioxide stream from the proposed operating data;

2185

2186 (B) Monthly average, maximum, and minimum values for injection  
2187 pressure, flow rate and volume, and annular pressure;

2188

2189 (C) A description of any event that exceeds operating parameters for  
2190 annulus pressure or injection pressure as specified in the permit;

2191

2192 (D) A description of any event that triggers a shutdown device required  
2193 pursuant to Section 18(g) of this Chapter, and the response taken;

2194

2195 (E) The monthly volume of the carbon dioxide stream injected over the  
2196 reporting period and project cumulatively;

2197

2198 (F) Monthly annulus fluid volume added; and

2199

2200 (G) The results of monitoring required by Section 20 of this Chapter;

2201

2202 (ii) Reports, within thirty (30) days of receiving the results, of:

2203

2204 (A) Periodic tests of mechanical integrity;

2205

2206 (B) Any other test of the injection well conducted by the owner or  
2207 operator if required by the Administrator; and

2208



- 2209 (C) Any well workover; and  
2210  
2211 (iii) Reports, within twenty-four (24) hours, of:  
2212  
2213 (A) Any evidence that the injected carbon dioxide stream or associated  
2214 pressure front may cause an endangerment to a USDW;  
2215  
2216 (B) Any noncompliance with a permit condition, or malfunction of the  
2217 injection system, which may cause fluid migration into or between USDWs;  
2218  
2219 (C) Any triggering of a shut-off system, either down-hole or at the  
2220 surface;  
2221  
2222 (D) Any release of carbon dioxide to the atmosphere or biosphere  
2223 indicated by the surface air or soil gas monitoring or other monitoring technologies required by  
2224 Section 14(b)(ix) of this Chapter; and  
2225  
2226 (E) Any failure to maintain mechanical integrity.  
2227  
2228 (b) Owners or operators shall notify the Administrator in writing thirty (30) days in  
2229 advance of:  
2230  
2231 (i) Any planned well workover;  
2232  
2233 (ii) Any planned stimulation activities, other than stimulation for formation  
2234 testing conducted under Section 10 of this Chapter; and  
2235  
2236 (iii) Any other planned test of the injection well conducted by the owner or  
2237 operator.  
2238  
2239 (c) Owners or operators shall submit all required reports, submittals, and notifications  
2240 to both the Administrator and to EPA (in an electronic format acceptable to EPA).  
2241  
2242 (d) Owners or operators shall submit a written report to the Administrator of all  
2243 remedial work concerning the failure of equipment or operational procedures that resulted in a  
2244 violation of a permit condition at the completion of the remedial work.  
2245  
2246 (e) For any aborted or curtailed operation, the owner or operator shall submit to the  
2247 Administrator a complete report within thirty (30) days of complete termination of the discharge  
2248 or associated activity.  
2249

**Section 23. Injection Well-plugging.**

- 2250  
2251  
2252 (a) Prior to well-plugging, the owner or operator shall flush each Class VI injection  
2253 well with a buffer fluid, determine bottom hole reservoir pressure, and perform a final external  
2254 mechanical integrity test in accordance with Section 19 of this Chapter.

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(b) The owner or operator of a Class VI well shall prepare, maintain, update on the same schedule as the update to the area of review delineation, and comply with a well-plugging plan that is approved by the Administrator. The well-plugging plan shall include the following information:

- (i) Appropriate test or measure to determine bottom hole reservoir pressure;
- (ii) Appropriate testing methods to ensure final external mechanical integrity as specified in Section 19 of this Chapter;
- (iii) The type and number of plugs to be used;
- (iv) The placement of each plug including the elevation of the top and bottom of each plug;
- (v) The type and grade and quantity of material, suitable for use with the carbon dioxide stream, to be used in plugging; and
- (vi) A description of the method of placement of the plugs.

(c) Any amendments to the injection well-plugging plan are subject to approval by the Administrator, shall be incorporated into the permit if approved, and are subject to the permit modification requirements of Section 6 of this Chapter.

(d) The owner or operator shall notify the Administrator, in writing, at least sixty (60) days before plugging a well.

(i) If any changes have been made to the original well-plugging plan, the owner or operator shall also provide the revised well-plugging plan with notice of its intent to plug the well.

(ii) The Administrator may allow a shorter notice period.

(e) Within sixty (60) days after completion of plugging and abandonment of a well or well field, the owner or operator shall submit to the Administrator a final report that includes:

(i) Certification of completion in accordance with approved plans and specifications by a licensed professional engineer or a licensed professional geologist; and

(ii) Certification of accuracy by the owner or operator and by the person who performed the plugging operation (if other than the owner or operator).

**Section 24. Post-injection Site Care and Site Closure.**

(a) The owner or operator of a Class VI well shall prepare, maintain, update on the

2301 same schedule as the update to the area of review delineation, and comply with a plan for post-  
2302 injection site care and site closure that meets the requirements of subparagraph (a)(ii) of this  
2303 Section and is approved by the Administrator.  
2304

2305 (i) The post-injection site care and site closure plan is subject to approval by  
2306 the Administrator in consultation with EPA.  
2307

2308 (ii) The post-injection site care and site closure plan shall include the  
2309 following information:  
2310

2311 (A) A demonstration containing substantial evidence that the geologic  
2312 sequestration project will no longer pose a risk of endangerment to USDWs and will not harm or  
2313 present a risk to human health, safety, or the environment at the end of the post-injection site  
2314 care timeframe. The demonstration shall be based on significant, site-specific data and  
2315 information, including all data and information collected pursuant to Sections 10 and 12 of this  
2316 Chapter;  
2317

2318 (B) The site closure plan shall address all reclamation, monitoring, and  
2319 remediation sufficient to show that the carbon dioxide stream injected into the geologic  
2320 sequestration site will not harm human health, safety, the environment, or drinking water  
2321 supplies;  
2322

2323 (C) Detailed plans for post-injection monitoring, verification,  
2324 maintenance, and mitigation;  
2325

2326 (D) The pressure differential between pre-injection and predicted post-  
2327 injection pressures in the injection zone;  
2328

2329 (E) The predicted position of the carbon dioxide plume and associated  
2330 pressure front at the time when plume movement has ceased and pressure differentials sufficient  
2331 to cause the movement of injected fluids or formation fluids into a USDW are no longer present,  
2332 as demonstrated in the area of review evaluation required under Section 13(b)(i) of this Chapter;  
2333

2334 (F) A description of post-injection monitoring locations, methods, and  
2335 proposed frequency;  
2336

2337 (G) A proposed schedule for submitting post-injection site care  
2338 monitoring results pursuant to Section 22(c) of this Chapter;  
2339

2340 (H) The duration of the post-injection site care timeframe that ensures  
2341 compliance with subparagraph (A) of this paragraph;  
2342

2343 (I) The results of computational modeling performed pursuant to  
2344 delineation of the area of review under Section 13 of this Chapter;  
2345

2346 (J) The predicted timeframe for pressure decline:

- 2347  
2348 (I) Within the injection zone and any other zones such that  
2349 formation fluids may not be forced into any USDWs; or  
2350  
2351 (II) To pre-injection pressures;  
2352  
2353 (K) The predicted rate of carbon dioxide plume migration within the  
2354 injection zone, and the predicted timeframe for the cessation of migration;  
2355  
2356 (L) A description of the site-specific processes that will result in  
2357 carbon dioxide trapping including immobilization by capillary trapping, dissolution, and  
2358 mineralization at the site;  
2359  
2360 (M) The predicted rate of carbon dioxide trapping in the immobile  
2361 capillary phase, dissolved phase, and mineral phase;  
2362  
2363 (N) The results of laboratory analyses, research studies, and field or  
2364 site-specific studies to verify the information required in subparagraphs (J) and (K) of this  
2365 paragraph;  
2366  
2367 (O) A characterization of the confining zones including a  
2368 demonstration that they are free of transmissive faults, fractures, and micro-fractures and of  
2369 appropriate thickness, permeability, and integrity to impede fluid (including carbon dioxide and  
2370 formation fluids) movement;  
2371  
2372 (P) The presence of potential conduits for fluid movement, including  
2373 planned injection wells and project monitoring wells associated with the proposed geologic  
2374 sequestration project or any other projects in proximity to the predicted or modeled final extent  
2375 of the carbon dioxide plume and area of elevated pressure;  
2376  
2377 (Q) A description of the well construction and an assessment of the  
2378 quality of plugs of all abandoned wells within the area of review;  
2379  
2380 (R) The distance between the injection zone and the nearest USDWs  
2381 above and below the injection zone; and  
2382  
2383 (S) Any additional site-specific factors required by the Administrator.  
2384  
2385 (iii) Information submitted to support the demonstration in subparagraph (a)(ii)  
2386 of this Section shall meet the following criteria:  
2387  
2388 (A) All analyses and tests performed shall be accurate, reproducible,  
2389 and performed in accordance with industry standards;  
2390  
2391 (B) Estimation techniques shall be appropriate;  
2392

- 2393 (C) EPA-certified test protocols shall be used where available;  
2394
- 2395 (D) Predictive models shall be appropriate and tailored to the site  
2396 conditions, composition of the carbon dioxide stream and injection, and site conditions over the  
2397 life of the geologic sequestration project;  
2398
- 2399 (E) Predictive models shall be calibrated using existing information  
2400 (which may be obtained from Class I, Class II, Class V experimental technology, or Class VI  
2401 well sites) where sufficient data are available;  
2402
- 2403 (F) Reasonably conservative values and modeling assumptions shall  
2404 be used and disclosed to the Administrator whenever values are estimated on the basis of known,  
2405 historical information instead of site-specific measurements;  
2406
- 2407 (G) An analysis shall be performed to identify and assess aspects of the  
2408 post-injection site care timeframe demonstration that contribute significantly to uncertainty. The  
2409 owner or operator shall conduct sensitivity analyses to determine the effect that significant  
2410 uncertainty may contribute to the modeling demonstration;  
2411
- 2412 (H) An approved quality assurance and quality control plan shall  
2413 address all aspects of the demonstration; and  
2414
- 2415 (I) Any additional criteria required by the Administrator shall be met.  
2416
- 2417 (iv) Upon cessation of injection, owners or operators of Class VI wells shall  
2418 either submit an amended post-injection site care and site closure plan or demonstrate to the  
2419 Administrator through monitoring data and modeling results that no amendment to the plan is  
2420 needed. Any amendments to the post-injection site care and site closure plan shall be:  
2421
- 2422 (A) Subject to approval by the Administrator;  
2423
- 2424 (B) Incorporated into the permit; and  
2425
- 2426 (C) Subject to the permit modification requirements of Section 6 of  
2427 this Chapter.  
2428
- 2429 (v) The owner or operator may amend the post-injection site care and site  
2430 closure plan. The owner or operator shall re-submit the post-injection site care and closure plan  
2431 for the Administrator's approval within thirty (30) days of amending the plan.  
2432
- 2433 (vi) Upon receipt of the Administrator's approval of the post-injection site care  
2434 and site closure plan, the owner or operator shall submit the proposed cost estimate for  
2435 measurement, monitoring, and verification of plume stabilization required by Section 26(i) of  
2436 this Chapter.  
2437
- 2438 (b) The owner or operator shall monitor the site following the cessation of injection

2439 to ascertain the position of the carbon dioxide plume and pressure front and demonstrate that  
2440 USDWs are not being endangered.

2441  
2442 (i) The owner or operator shall continue to conduct monitoring as specified in  
2443 the Administrator-approved post-injection site care and site closure plan until the Administrator  
2444 certifies site closure pursuant to Section 24(b)(iii) of this Chapter.

2445  
2446 (ii) The owner or operator may request that the post-injection site care and site  
2447 closure plan be revised to reduce the frequency of monitoring, and the Administrator may  
2448 approve the request if the owner or operator demonstrates that the plan should be revised.

2449  
2450 (iii) Prior to certification of site closure, the owner or operator shall  
2451 demonstrate to the Administrator, based on monitoring, other site-specific data, and modeling  
2452 that is reasonably consistent with site performance, that no additional monitoring is needed to  
2453 ensure that the geologic sequestration project does not, and is not expected to endanger a USDW  
2454 or otherwise threaten human health, safety, or the environment. In addition, the owner or  
2455 operator shall demonstrate, based on the best available understanding of the site including  
2456 monitoring data and modeling, that all other site closure standards and requirements have been  
2457 met.

2458  
2459 (iv) If the owner or operator does not demonstrate that the requirements of  
2460 subparagraph (b)(iii) of this Section have been met, the owner or operator shall continue post-  
2461 injection site care.

2462  
2463 (v) The owner or operator shall notify the Administrator, in writing, at least  
2464 120 days before filing a request for site closure. At this time, if any changes have been made to  
2465 the original post-injection site care and site closure plan, the owner or operator shall also provide  
2466 the revised plan. The Administrator may allow a shorter notice period.

2467  
2468 (vi) Post-injection site care shall ~~be~~ continue for a period ~~of not less than ten~~  
2469 ~~(10) years after the date when all wells excluding monitoring wells have been appropriately~~  
2470 ~~plugged and abandoned, all subsurface operations and activities have ceased and all surface~~  
2471 ~~equipment and improvements have been removed or appropriately abandoned, or so long~~  
2472 ~~thereafter as necessary to obtain a completion and release certificate from the Administrator~~  
2473 ~~certifying that plume stabilization has been achieved without the use of control equipment based~~  
2474 ~~on a minimum of three (3) consecutive years of monitoring data.~~ that meets the criteria of W.S. §  
2475 35-11-313(f)(vi)(F).

2476  
2477 (c) After the Administrator has certified site closure, the owner or operator shall plug  
2478 monitoring wells in a manner approved by the Administrator that will not allow movement of  
2479 injection or formation fluids.

2480  
2481 (d) The owner or operator shall submit a site closure report within ninety (90) days  
2482 after completion of all closure operations. The report shall include:

2483  
2484 (i) Documentation of injection and monitoring well-plugging that meets the

2485 requirements of Section 23 of this Chapter and paragraph (c) of this Section

2486

2487 (ii) A copy of a survey plat that has been submitted to the local zoning  
2488 authority designated by the Administrator, and:

2489

2490 (A) The plat shall indicate the location of the injection well(s) and  
2491 monitoring wells relative to permanently surveyed benchmarks; and

2492

2493 (B) The owner or operator shall also submit a copy of the plat to the  
2494 US EPA Regional Administrator;

2495

2496 (iii) Documentation of appropriate notification and information to the State,  
2497 local and tribal authorities that have authority over drilling activities to enable them to impose  
2498 appropriate conditions on subsequent drilling activities that may penetrate the injection and  
2499 confining zones;

2500

2501 (iv) Proof that the owner or operator has:

2502

2503 (A) Published notice of the application for site closure, including a  
2504 mechanism to request a public hearing, in a newspaper of general circulation in each county of  
2505 the proposed operation at weekly intervals for four (4) consecutive weeks; and

2506

2507 (B) Mailed notice of the application for site closure to all surface  
2508 owners, mineral claimants, mineral owners, lessees, and other owners of record of subsurface  
2509 interests that are located within one (1) mile of the proposed boundary of the geologic  
2510 sequestration site; and

2511

2512 (v) Records of the nature, composition, and volume of the carbon dioxide  
2513 stream.

2514

2515 (e) Each owner or operator of a Class VI injection well ~~must~~ shall record a notation  
2516 on the deed to the facility property or any other document that is normally examined during title  
2517 search that will in perpetuity provide notice to any potential purchaser of the property, and shall  
2518 file an affidavit in accordance with W.S. § 35-11-313(f)(vi)(G), that includes the following  
2519 information:

2520

2521 (i) The fact that land has been used to sequester carbon dioxide;

2522

2523 (ii) The name of the State agency, local authority, or tribe with which the  
2524 survey plat was filed, as well as the address of the EPA regional office to which it was  
2525 submitted; and

2526

2527 (iii) The volume of fluid injected, the injection zone or zones into which it was  
2528 injected, and the period over which injection occurred.

2529

2530 **Section 25. Emergency and Remedial Response.**

2531  
2532 (a) All owners or operators of a Class VI well shall develop and maintain an  
2533 emergency and remedial response plan that describes actions to be taken to address movement of  
2534 the injectate or formation fluids that endangers a USDW or threatens human health, safety, or the  
2535 environment during construction, operation, closure, and post-closure periods.

2536  
2537 (i) The emergency and remedial response plan shall be reviewed and updated,  
2538 as necessary, on the same schedule as the update to the area of review delineation.

2539  
2540 (ii) Any amendments to the emergency and remedial response plan shall be  
2541 subject to approval by the Administrator, shall be incorporated into the permit, and are subject to  
2542 the permit modification requirements of Section 6 of this Chapter. Amendments to the  
2543 emergency and remedial response plan shall be submitted to the Administrator as follows:

2544  
2545 (A) Within one (1) year of an area of review reevaluation;

2546  
2547 (B) Following any significant changes to the facility, such as addition  
2548 of injection or monitoring wells; or

2549  
2550 (C) When required by the Administrator.

2551  
2552 (iii) The emergency and remedial response plan shall account for the entire  
2553 area of review delineated pursuant to Section 13 of this Chapter, regardless of whether corrective  
2554 action in the area of review is phased.

2555  
2556 (b) If any monitoring data or other information indicate that any contaminant, the  
2557 injected carbon dioxide stream, displaced formation fluids, or associated pressure front may  
2558 endanger a USDW or threaten human health, safety, or the environment, the owner or operator  
2559 shall:

2560  
2561 (i) Immediately cease injection;

2562  
2563 (ii) Take all steps reasonably necessary to identify and characterize any  
2564 release;

2565  
2566 (iii) Orally notify the Administrator within twenty-four (24) hours of  
2567 discovering the condition; and

2568  
2569 (iv) Provide a written report to the Administrator within five (5) days of  
2570 discovering the condition. The written report shall contain:

2571  
2572 (A) A description of the noncompliance and its cause;

2573  
2574 (B) The period of noncompliance, including exact dates and times,  
2575 and, if the noncompliance has not been controlled, the anticipated time it is expected to continue;  
2576 and



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(C) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(c) If an owner or operator discovers any noncompliance with a permit condition or a requirement of this Chapter that may cause fluid migration into or between USDWs, any malfunction of the injection system that may cause fluid migration into or between USDWs, or any excursion, the owner or operator shall:

(i) Orally notify the Administrator within twenty-four (24) hours of discovering the condition;

(ii) Provide a written report to the Administrator within five (5) days of discovering the condition, which shall contain:

(A) A description of the noncompliance, malfunction, or excursion and its cause;

(B) The period of noncompliance, malfunction, or excursion, including exact dates and times, and, if the noncompliance, malfunction, or excursion has not been controlled, the anticipated time it is expected to continue;

(C) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance, malfunction, or excursion.

(iii) If an excursion is discovered, provide written notice to all surface owners, mineral claimants, mineral owners, lessees, and other owners of record of subsurface interests within thirty (30) days of discovering the excursion; and

(iv) Implement the emergency and remedial response plan approved by the Administrator.

(d) The Administrator may allow the owner or operator to resume injection prior to implementing the emergency and remedial response plan if the owner or operator demonstrates that the injection operation will not endanger USDWs or otherwise threaten human health, safety, or the environment.

(e) If any water quality monitoring of a USDW indicates the movement of any contaminant into the USDW, except as authorized under this Chapter, the Administrator shall prescribe any additional requirements for construction, corrective action, operation, monitoring, reporting, or closure of the injection well that are necessary to prevent further movement, and:

(i) If the well responsible for the movement is authorized by permit, these additional requirements shall be imposed by modifying the permit; or

(ii) The Administrator may terminate or revoke and reissue the permit

2623 pursuant to Section 7 of this Chapter.

2624

2625 **Section 26. Financial Responsibility.**

2626

2627 (a) Owners or operators of Class VI wells shall establish, demonstrate, and maintain  
2628 financial responsibility for all applicable phases of the geologic sequestration project, including  
2629 complete site reclamation in the event of default. The phases of a geologic sequestration project  
2630 are:

2631

(i) Permitting/characterization;

2632

(ii) Testing and monitoring, pursuant to Section 20 of this Chapter;

2633

2634 (iii) Operations, including injection and well-plugging, pursuant to Sections 18  
2635 and 23 of this Chapter;

2636

2637 (iv) Post-injection site care, including plume stabilization, monitoring,  
2638 measurement, verification, corrective action, and other actions needed to ensure that  
2639 underground sources of drinking water are not endangered from the time of well-plugging until  
2640 site closure is certified by the Administrator and above ground-reclamation is completed,  
2641 pursuant to Section 24 of this Chapter; and

2642

(v) Emergency and remedial response pursuant to Section 25 of this Chapter.

2643

2644 (b) The owner or operator shall develop and annually update in accordance with  
2645 paragraph (f) of this Section, a written financial assurance cost estimate.

2646

2647 (i) The financial assurance cost estimate shall include the cost in current  
2648 dollars of:

2649

2650 (A) Performing corrective action on other wells in the area of review  
2651 that require corrective action under Section 13 of this Chapter;

2652

(B) Plugging the injection wells under Section 23 of this Chapter;

2653

2654 (C) Post-injection site care and site closure under Section 24 of this  
2655 Chapter;

2656

(D) Testing and monitoring under Section 20 of this Chapter; and

2657

2658 (E) Emergency and remedial response under Section 25 of this  
2659 Chapter.

2660

(ii) The financial assurance cost estimate shall consider the following events:

2661

(A) Contamination of underground sources of water including,

2662

2663

2664

2665

2666

2667

- 2669 drinking water supplies;  
2670  
2671 (B) Mineral rights infringement;  
2672  
2673 (C) Single large-volume release of carbon dioxide that impacts human  
2674 health and safety or that causes ecological damage;  
2675  
2676 (D) Low-level leakage of carbon dioxide to the surface that impacts  
2677 human health and safety or that causes ecological damage;  
2678  
2679 (E) Storage rights infringement;  
2680  
2681 (F) Property and infrastructure damage, including changes to surface  
2682 topography and structures;  
2683  
2684 (G) Entrained contaminant releases of contaminants other than carbon  
2685 dioxide;  
2686  
2687 (H) Accidents and unplanned events;  
2688  
2689 (I) Well capping and permitted abandonment; and  
2690  
2691 (J) Removal of above-ground facilities and site reclamation.  
2692  
2693 (iii) The owner or operator shall consider the Risk Activity Matrix in  
2694 Appendix A of this Chapter to develop the financial assurance cost estimate.  
2695  
2696 (iv) The financial assurance cost estimate shall be based upon a multi-  
2697 disciplinary analytical framework such as Monte Carlo or other commonly accepted stochastic  
2698 modeling tools.  
2699  
2700 (A) Cost curves shall combine risk probabilities, event outcomes, and  
2701 damages assessment to calculate expected losses under a series of events.  
2702  
2703 (B) For all cases of potential damages, the probability distributions  
2704 should be identified for 50 percent, 95 percent, and 99 percent probabilities of occurrence.  
2705  
2706 (v) The owner or operator shall perform the financial assurance cost estimate  
2707 for each phase separately.  
2708  
2709 (vi) The owner or operator shall base the financial assurance cost estimate on  
2710 the costs to the regulatory agency of hiring a third party (that is not within the corporate structure  
2711 of the owner or operator) to perform the required activities.  
2712  
2713 (vii) The financial assurance cost estimate shall account for the entire area of  
2714 review delineated pursuant to Section 13 of this Chapter.

2715  
2716 (viii) The owner or operator shall submit an updated financial assurance cost  
2717 estimate to the Administrator annually within thirty (30) days of the anniversary date when the  
2718 original financial assurance cost estimate was submitted.

2719  
2720 (c) The financial responsibility instrument~~(s)~~ used shall be from the following list of  
2721 qualifying instruments and shall be submitted on a Wyoming Department of Environmental  
2722 Quality form:

2723  
2724 (i) Irrevocable Trust Funds with government-backed securities;

2725  
2726 (ii) Surety Bonds;

2727  
2728 (iii) Irrevocable Letter of Credit;

2729  
2730 ~~(iv) Insurance.~~

2731  
2732 ~~(A) Any insurance instruments submitted for financial assurance~~  
2733 ~~purposes shall include State of Wyoming as an additional insured.~~

2734  
2735 ~~(B) Inclusion of the State of Wyoming as an additional insured shall~~  
2736 ~~not be deemed a waiver of sovereign immunity.~~

2737  
2738 ~~(v) Self insurance (i.e., Financial Test and Corporate Guarantee);~~

2739  
2740 ~~(vi) Escrow account;~~

2741  
2742 ~~(vii) Any other instrument(s) satisfactory to the Administrator.~~

2743  
2744 (iv) Cash; or

2745  
2746 (v) Federally Insured Certificates of Deposit.

2747  
2748 (d) The qualifying instruments shall be sufficient to cover the cost of the financial  
2749 assurance cost estimate required in paragraph (b) of this Section.

2750  
2751 (e) The qualifying financial responsibility instruments shall comprise protective  
2752 conditions of coverage that include at a minimum cancellation, renewal, continuation provisions,  
2753 specifications on when the provider becomes liable following a notice of cancellation, and  
2754 requirements for the provider to meet a minimum rating, minimum capitalization, and the ability  
2755 to pass the bond rating test when applicable.

2756  
2757 ~~(formerly Section 19(i)(i))~~(i) ~~Cancellation~~— An owner or operator ~~must~~ shall  
2758 provide that their financial mechanism may not cancel, terminate or fail to renew except for  
2759 failure to pay such financial instrument. ~~If there is a failure to pay the financial instrument, the~~  
2760 ~~financial institution may elect to cancel, terminate, or fail to renew the instrument by sending~~

2761 ~~notice by certified mail to the owner or operator and the Administrator. The cancellation must~~  
2762 ~~not be final for 120 days after receipt of cancellation notice. The owner or operator must provide~~  
2763 ~~an alternate financial responsibility demonstration within sixty (60) days of notice of~~  
2764 ~~cancellation, and if an alternate financial responsibility demonstration is not acceptable (or~~  
2765 ~~possible), any funds from the instrument being cancelled must be released within sixty (60) days~~  
2766 ~~of notification by the Administrator.~~

2767  
2768 ~~(formerly Section 19(i)(i))~~(A) If there is a failure to pay the financial  
2769 instrument, the financial institution may elect to cancel, terminate, or fail to renew the instrument  
2770 by sending notice by certified mail to the owner or operator and the ~~Administrator~~ Director;

2771  
2772 ~~(formerly Section 19(i)(i))~~(B) The cancellation shall not be final for 120  
2773 days after receipt of cancellation notice;

2774  
2775 ~~(formerly Section 19(i)(i))~~(C) ~~The owner or operator must provide an~~  
2776 ~~alternate financial responsibility demonstration. W~~within sixty (60) days of notice of cancellation,  
2777 the owner or operator shall provide to the Director an alternate financial responsibility  
2778 demonstration that meets the requirements of paragraphs (c), (d), (e), (f), and (g) of this Section;  
2779 and

2780  
2781 ~~(formerly Section 19(i)(i))~~(D) If an alternate financial responsibility  
2782 demonstration is not acceptable (or possible), any funds from the instrument being cancelled  
2783 ~~must~~ shall be released within sixty (60) days of notification by the ~~Administrator~~ Director.

2784  
2785 (ii) Owners or operators shall renew all financial instruments, if an instrument  
2786 expires, for the entire term of the geologic sequestration project. The instrument may be  
2787 automatically renewed as long as, at a minimum, the owner or operator has the option of renewal  
2788 at the face amount of the expiring instrument.

2789  
2790 (iii) Cancellation, termination, or failure to renew may not occur and the  
2791 financial instrument shall remain in full force and effect in the event that on or before the date of  
2792 expiration:

2793  
2794 (A) The Administrator deems the facility abandoned.

2795  
2796 (B) The permit is terminated, revoked, or a new permit is denied.

2797  
2798 (C) Closure is ordered by the Administrator, a U.S. district court, or  
2799 other court of competent jurisdiction.

2800  
2801 (D) The owner or operator is named as debtor in a voluntary or  
2802 involuntary proceeding under Title 11 (Bankruptcy), U.S. Code.

2803  
2804 (E) The amount due is paid.

2805  
2806 (f) The qualifying financial responsibility instruments are subject to approval by the

2807 Director. The use and length of pay-in-periods for trust funds and escrow accounts are also  
2808 subject to approval by the Director.

2809  
2810 (i) No Class VI permit shall be issued until and unless the Director has  
2811 considered and approved the financial responsibility demonstration for all phases of the geologic  
2812 sequestration project.

2813  
2814 (ii) The Director may negotiate a satisfactory financial responsibility  
2815 demonstration or deny a demonstration.

2816  
2817 (iii) The owner or operator shall provide any updated information related to  
2818 financial responsibility instruments on an annual basis, and if there are any changes, the Director  
2819 shall evaluate the financial responsibility demonstration and determine whether the instruments  
2820 used are adequate. The owner or operator shall maintain financial responsibility requirements  
2821 regardless of the status of the Director's review of the financial responsibility demonstration.

2822  
2823 (iv) The owner or operator shall provide an adjustment of the financial  
2824 assurance cost estimate to the Administrator within sixty (60) days of receiving notice that the  
2825 Administrator has determined that a demonstration of financial assurance is not adequate to  
2826 cover the cost of corrective action, injection well-plugging, post-injection site care and site  
2827 closure, and emergency and remedial response.

2828  
2829 (v) During all phases of the geologic sequestration project, the owner or  
2830 operator shall adjust the financial assurance cost estimate for inflation within sixty (60) days  
2831 prior to the anniversary date of the establishment of the financial instruments used to comply  
2832 with this Section and provide this adjustment to the Administrator. The owner or operator shall  
2833 also provide to the Administrator written updates of adjustments to the cost estimate within sixty  
2834 (60) days of any amendments to the area of review and corrective action plan, the injection well-  
2835 plugging plan, the post-injection site care and site closure plan, the emergency and remedial  
2836 response plan, and mitigation or reclamation costs that the State may incur as a result of any  
2837 default by the permit holder.

2838  
2839 (vi) Any decrease or increase to the financial assurance cost estimate shall be  
2840 subject to approval by the Administrator. During all phases of the geologic sequestration project,  
2841 the owner or operator shall revise the cost estimate no later than sixty (60) days after the  
2842 Administrator has approved a request to modify the area of review and corrective action plan, the  
2843 injection well-plugging plan, the post-injection site care and site closure plan, or the emergency  
2844 and response plan, if the change in the plan increases the cost. If the change to the plan decreases  
2845 the cost, any withdrawal of funds is subject to approval by the Administrator. Any decrease to  
2846 the value of the financial assurance instrument is subject to approval by the Administrator.

2847  
2848 (vii) Whenever the current financial assurance cost estimate increases to an  
2849 amount greater than the face amount of a financial instrument currently in use, the owner or  
2850 operator, within sixty (60) days after the increase, shall either cause the face amount to be  
2851 increased to an amount at least equal to the current financial assurance cost estimate and submit  
2852 evidence of such increase to the Administrator, or the owner or operator shall obtain other

2853 financial responsibility instruments to cover the increase. Whenever the current financial  
2854 assurance cost estimate decreases, the face amount of the financial assurance instrument may be  
2855 reduced to the amount of the current financial assurance cost estimate only after the owner or  
2856 operator has received written approval from the Administrator.

2857  
2858 (g) The owner or operator may demonstrate financial responsibility by using one (1)  
2859 or multiple qualifying financial instruments ~~for specific phases of the geologic sequestration~~  
2860 ~~project.~~ subject to the following requirements:

2861  
2862 (i) Owners or operators that propose to demonstrate financial assurance with  
2863 surety bonds shall meet the following requirements:

2864  
2865 (A) A corporate surety shall not be considered good and sufficient  
2866 unless:

2867  
2868 (I) It is licensed to do business in the State;

2869  
2870 (II) The estimated bond amount does not exceed the limit of  
2871 risk as provided for in W.S. § 26-5-110, nor raise the total of all bonds held by the applicant  
2872 under that surety above three (3) times the limit of risk; and

2873  
2874 (III) The surety agrees:

2875  
2876 (1.) Not to cancel bond unless the Department gives  
2877 prior written approval of a good and sufficient replacement surety with transfer of the liability  
2878 that has accrued against the operator on the permit area, site, or facility;

2879  
2880 (2.) To be jointly and severally liable with the permittee,  
2881 owner, or operator.

2882  
2883 (3.) To provide immediate written notice to the  
2884 Department and operator once it becomes unable or may become unable due to any action filed  
2885 against it to fulfill its obligations under the bond.

2886  
2887 (B) If for any reason the surety becomes unable to fulfill its obligations  
2888 under the bond, the operator shall provide the required notice. Failure to comply with this  
2889 provision shall result in suspension of the permit.

2890  
2891 (C) The surety bond shall be submitted on a Wyoming Department of  
2892 Environmental Quality form.

2893  
2894 (ii) Owners or operators that propose to demonstrate financial assurance with  
2895 cash, or government securities, or a combination of both, shall meet the following requirements:

2896  
2897 (A) Securities that are unencumbered shall only include those that are  
2898 United States government securities or state government securities that are acceptable to the

2899 Director. Government securities shall be endorsed to the order of the Department and placed in  
2900 possession of the Department. Possession shall be in the form of the cash value of the irrevocable  
2901 trust for the full amount of the reclamation obligation and payable to the Department and  
2902 federally insured.

2903  
2904 (B) An owner or operator shall satisfy the requirements of this  
2905 subsection by establishing an irrevocable trust that conforms to the requirements below and  
2906 submitting an originally signed duplicate of the trust agreement to the Director for consideration.

2907  
2908 (I) The irrevocable trust shall be submitted to the Director on  
2909 the Wyoming Department of Environmental Quality Irrevocable Trust Form and be signed by  
2910 the owner, operator, or guarantor as principal and the financial institution as Trustee, and made  
2911 payable to the Department;

2912  
2913 (II) The Trustee shall be a bank organized to do business in the  
2914 United States that has the authority to act as a trustee and whose trust operations is regulated and  
2915 examined by a federal agency;

2916  
2917 (III) The irrevocable trust shall be cash funded for the full  
2918 amount of the financial assurance obligation to be provided in the irrevocable trust before it may  
2919 be approved to satisfy the requirements of financial assurance in lieu of a bond. For purposes of  
2920 this subsection, “the full amount of the financial assurance obligation to be provided” means the  
2921 amount of coverage required to be provided by paragraphs (b) and (i) of this Section, less the  
2922 amount of financial assurance obligation that is being provided by other financial assurance  
2923 mechanisms being used to demonstrate financial assurance by the owner, operator, or guarantor;

2924  
2925 (IV) Any bond may be canceled by the surety only after ninety  
2926 (90) days written notice to the Director, and upon receipt of the Director's written consent, which  
2927 may be granted only when the requirements of the irrevocable trust have been fulfilled; and

2928  
2929 (V) Irrevocable trust forfeiture proceedings shall occur only  
2930 after the Department provides notice to the owner or operator and trustee pursuant to W.S. 35-  
2931 11-701 that a violation exists and the Environmental Quality Council has approved the request of  
2932 the Director to begin forfeiture proceedings.

2933  
2934 (iii) Owners or operators that propose to demonstrate financial assurance with  
2935 irrevocable letters of credit shall meet the following conditions:

2936  
2937 (A) The irrevocable letter of credit shall be payable to the Department  
2938 in part or in full upon demand and receipt from the Director of a notice of forfeiture issued in  
2939 accordance with paragraph (t) of this Section;

2940  
2941 (B) The irrevocable letter of credit shall not be in excess of ten percent  
2942 of the issuing or supporting bank’s capital surplus account as shown on a balance sheet liabilities  
2943 certified by a certified public accountant;

2944



- 2945                                    (C)     The Director shall not accept standby letters of credit;  
2946
- 2947                                    (D)     The Director shall not accept letters of credit from a bank for any  
2948 person, on all permits held by that person, in excess of the limitations imposed by W.S. §13-3-  
2949 402; and  
2950
- 2951                                    (E)     The irrevocable letter of credit shall provide that:  
2952
- 2953                                    (I)     The bank will give prompt notice to the owner or operator  
2954 and the Director of any notice received or action filed alleging the insolvency or bankruptcy of  
2955 the bank or alleging any violations of regulatory requirements that could result in suspension or  
2956 revocation of the bank's charter or license to do business;  
2957
- 2958                                    (II)    In the event the bank becomes unable to fulfill its  
2959 obligations under the letter of credit for any reason, notice shall be given immediately to the  
2960 owner or operator and the Director; and  
2961
- 2962                                    (III)   Upon the incapacity of a bank by reason of bankruptcy,  
2963 insolvency, or suspension or revocation of its charter or license, the owner or operator shall be  
2964 deemed to be without performance bond coverage in violation of the Act. The Director shall  
2965 issue a notice of violation against any owner or operator who is without bond coverage,  
2966 specifying a reasonable period to replace bond coverage, not to exceed ninety (90) days. During  
2967 this period the Director or the Director's designated representative shall conduct weekly  
2968 inspections to ensure continuing compliance with other permit requirements, the regulations and  
2969 the Act. If the notice is not abated in accordance with the schedule, a cessation order shall be  
2970 issued.  
2971
- 2972                                    (IV)   The irrevocable letter of credit may be cancelled by the  
2973 surety only after ninety (90) days notice to the Director, and upon receipt of the Director's  
2974 written consent, which may be granted only when the requirements of the bond have been  
2975 fulfilled.  
2976
- 2977                                    (F)     The irrevocable letter may only be issued by a bank organized to  
2978 do business in the U.S. that identifies by name, address, and telephone number an agent upon  
2979 whom any process, notice or demand required or permitted by law to be served upon the bank  
2980 may be served.  
2981
- 2982                                    (I)     If the bank fails to appoint or maintain an agent in this  
2983 State, or whenever any such agent cannot be reasonably found, then the Director shall be an  
2984 agent for such bank upon whom any process, notice or demand may be served for the purpose of  
2985 this Chapter. In the event of any such process, the Director shall immediately cause one copy of  
2986 such process, notice or demand to be forwarded by registered mail to the bank at its principal  
2987 place of business. The Director shall keep a record of all processes, notices, or demands served  
2988 upon him under this paragraph, and shall record therein the time of such service and his action  
2989 with reference thereto.  
2990

2991 (II) Nothing herein contained shall limit or affect the right to  
2992 serve any process, notice or demand required or permitted by law to be served upon the bank in  
2993 any other manner now or hereafter permitted by law.

2994  
2995 (h) The owner or operator shall maintain financial responsibility and resources until:

2996  
2997 (i) The Administrator receives the site closure report and certifies site  
2998 closure.

2999  
3000 (A) When the conditions of W.S. § 35-11-313(f)(vi)(F) have been met,  
3001 the owner or operator may submit a written request to the Administrator to release the retained  
3002 financial assurance instruments; and

3003  
3004 (B) The Administrator shall evaluate the request within sixty (60) days  
3005 of the receipt of the financial assurance release request.

3006  
3007 (I) If the Administrator finds the  
3008 owner or operator has demonstrated the requirements of W.S. § 35-11-313(f)(vi)(F) have been  
3009 met, the Administrator shall prepare a draft recommendation to the Director to approve the  
3010 request and provide public notice pursuant to Section 27 of this Chapter.

3011  
3012 (II) Re-submittal of information by an operator for an  
3013 incomplete demonstration of the requirements of W.S. § 35-11-313(f)(vi)(F) will restart the  
3014 process described in this subsection.

3015  
3016 (III) If the Administrator finds the owner or operator has not  
3017 demonstrated the requirements of W.S. § 35-11-313(f)(vi)(F) have been met, the Administrator  
3018 shall prepare a draft recommendation to the Director to deny the request.

3019  
3020 (C) After receiving public comment and holding a hearing (if a hearing  
3021 is held) pursuant to Section 27 of this Chapter, the Director shall determine whether the operator  
3022 has demonstrated the requirements of W.S. § 35-11-313(f)(vi)(F) have been met.

3023  
3024 (I) If the Director finds the owner or operator has  
3025 demonstrated the requirements of W.S. § 35-11-313(f)(vi)(F) have been met, the Director shall  
3026 notify the owner or operator and request the State Treasurer to release that portion of the final  
3027 financial assurance instruments. The State Treasurer shall then return the financial assurance  
3028 instruments constituting that portion of the financial assurance so retained.

3029  
3030 (II) If the Director finds the owner or operator has not  
3031 demonstrated the requirements of W.S. § 35-11-313(f)(vi)(F) have been met, the Director shall  
3032 notify the owner or operator by registered mail within a reasonable time after the request is filed.  
3033 The notice shall state the reasons for denial and shall recommend corrective actions.

3034  
3035 (ii) The owner or operator meets the requirements for release from a financial  
3036 instrument in the following circumstances:

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(A) The owner or operator has completed the phase of the geologic sequestration project for which the financial instrument was required and has fulfilled all its financial obligations as determined by the Director, including obtaining financial responsibility for the next phase of the geologic sequestration project, if required;

(B) The owner or operator has submitted a replacement financial instrument and received written approval from the Director accepting the new financial instrument and releasing the owner or operator from the previous financial instrument; or

(C) The owner or operator has submitted a revised financial assurance cost estimate for the remaining phases of the geologic sequestration project. The revised financial assurance cost estimate may demonstrate that a partial release of the financial instrument is warranted and will still provide adequate financial assurance for the remainder of the geologic sequestration project. Partial release of the financial instrument is at the discretion of the Director.

(i) Within a reasonable time following certification of site closure by the Administrator, plume stabilization, the completion of all remediation work, and release of all other financial assurance instruments, the owner or operator shall submit a proposed cost estimate for measurement, monitoring, and verification of plume stabilization. The Administrator shall evaluate and determine whether the proposed cost estimate is adequate.

(j) The owner or operator shall notify the Director by certified mail of adverse financial conditions, such as bankruptcy, that may affect its ability to complete injection well-plugging and post-injection site care and site closure.

(i) The owner or operator shall notify the Director by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator or the third-party provider of a financial responsibility instrument as debtor, within ten (10) days after commencement of the proceeding.

(ii) An owner or operator who fulfills the requirements of this Section by obtaining an irrevocable trust fund, surety bond, or irrevocable letter of credit shall be deemed to be without the required financial assurance in the event of:

(A) Bankruptcy of the trustee or issuing institution;

(B) A suspension or revocation of the authority of the trustee institution to act as trustee of the institution issuing the irrevocable trust fund, surety bond, or irrevocable letter of credit; or

(C) If the license to do business in Wyoming of the surety issuing financial assurance is suspended or revoked.

(iii) Within sixty (60) days after such an event the owner or operator shall

3083 establish other financial assurance that meets the requirements of paragraphs (c), (d), (e), (f), and  
3084 (g) of this Section.

3085  
3086 (k) The Department shall conduct bond forfeiture proceedings pursuant to W.S. § 35-  
3087 11-421. If the forfeited financial assurance instrument is inadequate to cover the costs of the  
3088 closure, mitigation, reclamation, measurement, monitoring, verification, and pollution control,  
3089 the Department may request that the Attorney General bring suit to recover costs against the  
3090 owner, operator, or permittee.

3091  
3092 (l) The owner or operator shall obtain and maintain public liability insurance for a  
3093 geologic sequestration project.

3094  
3095 (i) The public liability insurance policy shall ~~be in addition to the financial~~  
3096 ~~assurance required in Section 19 of this chapter.:~~

3097  
3098 (A) ~~The insurance policy shall provide for personal injury and property~~  
3099 ~~damage protection and shall be in place until a completion and release certificate has been~~  
3100 ~~obtained from the Administrator certifying that plume stabilization has been achieved.~~ Include  
3101 coverage for the major risks identified in Appendix A to this Chapter;

3102  
3103 (B) Provide minimum coverage that:

3104  
3105 (I) Accounts for site-specific risk factor and bond adjustment  
3106 factor calculations, based on the previous year's information; and

3107  
3108 ~~(formerly Section 5(g)(iii))(II) The minimum insurance~~  
3109 ~~coverage for public liability insurance as required by W.S. § 35-11-313(f)(ii)(O) shall be five~~  
3110 ~~hundred thousand dollars (\$500,000) for each occurrence of bodily injury or property damage,~~  
3111 ~~and one million dollars (\$1,000,000) aggregate. Is at least \$15 million per occurrence with an~~  
3112 annual aggregate of at least \$45 million, exclusive of legal defense costs; and

3113  
3114 ~~(formerly Section 5(g)(iv))(C) The public liability insurance shall~~  
3115 ~~include a rider that requires that the insurer to notify the Administrator whenever substantive~~  
3116 ~~changes are made to the policy, including any termination or failure to renew.~~

3117  
3118 (ii) The owner or operator shall recalculate the minimum coverage amount of  
3119 the public liability insurance policy annually and at the same time that the owner or operator  
3120 updates the financial assurance cost estimate pursuant to paragraph (b) of this Section. The  
3121 owner or operator shall submit a copy of the current public liability insurance policy annually  
3122 and at the same time that the owner or operator submits an updated financial assurance cost  
3123 estimate pursuant to subparagraph (b)(viii) of this Section.

3124  
3125 (iii) The owner or operator shall maintain the public liability insurance policy  
3126 until the Administrator certifies that plume stabilization has been achieved.

3127  
3128 **Section 27. Public Participation, Public Notice and Public Hearing Requirements.**

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(a) The Administrator shall give public notice if a draft permit has been prepared, after receiving a financial assurance release request pursuant to Section 26(h)(i)(A) of this Chapter and finding the operator has met the requirements of W.S. 35-11-313(f)(vi)(F), or if a hearing has been scheduled.

(i) Public notice of the preparation of a draft permit shall allow at least sixty (60) days for public comment.

(ii) Public notice of a hearing or recommendation to release financial assurance after certifying site closure shall be given at least thirty (30) days before the hearing.

(iii) Public notice of a hearing may be given at the same time as public notice of the draft permit or of a draft recommendation to release financial assurance after certifying site closure, and the two notices may be combined.

(b) Public notice shall be given by:

(i) Providing 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, by mail;

(C) The U.S. Environmental Protection Agency, Underground Injection Control Program, by mail;

(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;

- 3175  
3176 (L) Wyoming Department of Environmental Quality, Solid and  
3177 Hazardous Waste Division; and  
3178  
3179 (M) U.S. Army Corps of Engineers;  
3180  
3181 (N) Federal agencies with jurisdiction over fish, shellfish, and wildlife  
3182 resources and over coastal zone management plans;  
3183  
3184 (O) The Advisory Council on Historic Preservation;  
3185  
3186 (P) Any Tribes with Indian reservations and Indian lands identified  
3187 pursuant to Sections 10(b)(v) and 10(b)(ix)(A)(VII) of this Chapter;  
3188  
3189 (Q) Persons on the mailing list developed by the Department, including  
3190 those who request in writing to be on the list and participants in hearings in that area who request  
3191 to be on “area” mailing lists; and  
3192  
3193 (R) Any unit of local government having jurisdiction over the area  
3194 where the facility is proposed to be located.  
3195  
3196 (ii) Publishing the notice in a newspaper of general circulation in the location  
3197 of the facility or operation; and  
3198  
3199 (iii) At the discretion of the Administrator, any other method reasonably  
3200 expected to give actual notice of the proposed action to the persons potentially affected by it,  
3201 including press releases or any other forum or medium to elicit public participation.  
3202  
3203 (c) All public notices issued under this chapter shall contain the following minimum  
3204 information:  
3205  
3206 (i) Name and address of the Department;  
3207  
3208 (ii) Name and address of the owner, operator, permittee, or permit applicant,  
3209 and, if different, of the facility or activity regulated by the permit;  
3210  
3211 (iii) A brief description of the business conducted at the facility or activity  
3212 described in the permit application, described in the draft permit, or subject to regulation under  
3213 this Chapter;  
3214  
3215 (iv) The type and quantity of wastes, fluids, or pollutants that are proposed to  
3216 be or are being treated, stored, disposed of, injected, emitted, or discharged;  
3217  
3218 (v) A brief summary of the basis for the draft permit conditions, including  
3219 references to applicable statutory or regulatory provisions;  
3220

3221 (vi) Reasons why any requested variances or alternatives to required standards  
3222 do or do not appear justified;

3223  
3224 (vii) Name, address and telephone number of a person from whom interested  
3225 persons may obtain further information, including copies of the draft permit, statement of basis,  
3226 fact sheet, and the application; and

3227  
3228 (viii) A brief description of comment procedures, including:

3229  
3230 (A) Procedures to request a hearing;

3231  
3232 (B) The beginning and ending dates of the comment period;

3233  
3234 (C) The address where comments may be submitted; and

3235  
3236 (D) Other procedures that the public may use to participate in the final  
3237 permit decision.

3238  
3239 (d) In addition to the information required in paragraph (c) of this Section, any notice  
3240 for a hearing shall contain the following:

3241  
3242 (i) Reference to the date of previous public notices relating to the permit;

3243  
3244 (ii) Date, time, and place of hearing; and

3245  
3246 (iii) A brief description of the nature and purpose of the hearing, including  
3247 applicable rules and procedures.

3248  
3249 (e) The Department shall provide an opportunity for the applicant, permittee, owner,  
3250 operator, or any interested person to submit written comments regarding any aspect of a permit  
3251 or to request a hearing.

3252  
3253 (i) During the public comment period, any interested person may submit  
3254 written comments on the draft permit and may request a hearing. Requests for hearings shall be  
3255 made in writing to the Administrator and shall state the reasons for the request.

3256  
3257 (ii) The Administrator shall hold a hearing whenever the Administrator finds,  
3258 on the basis of requests, a significant degree of public interest in a draft permit.

3259  
3260 (iii) The Administrator may hold a hearing whenever a hearing may clarify  
3261 issues involved in a permit decision.

3262  
3263 (iv) The public comment period shall automatically extend to the close of any  
3264 hearing. The Administrator may also extend the comment period by so stating at the hearing.

3265  
3266 (f) The Administrator shall render a decision on the draft permit within sixty (60)

3267 days after completion of the public comment period if no hearing is held. If a hearing is held, the  
3268 Administrator shall make a decision on any Department hearing as soon as practicable after  
3269 receipt of the transcript or after the expiration of the time set to receive written comments.  
3270

3271 (g) At the time a final decision is issued, the Department shall respond in writing to  
3272 comments received during the public comment period or during the hearing held by the  
3273 Department. This response shall:

3274  
3275 (i) Specify any changes that have been made to the permit and the reasons for  
3276 the changes; and  
3277

3278 (ii) Briefly describe and respond to all comments stating a technical or  
3279 regulatory concern that is within the authority of the Department to regulate.  
3280

### Section 28. Incorporation by Reference.

3281  
3282 (a) These rules incorporate by reference the following statutes, rules, and regulations  
3283 in effect as of July 1, 2020:

3284 (i) 10 C.F.R. Part 20, Appendix B, Table II, Column 2, available at  
3285 <http://www.ecfr.gov>;  
3286

3287 (ii) 40 C.F.R. §§ 98.440 to 98.449, available at <http://www.ecfr.gov>;  
3288

3289 (iii) 40 C.F.R. 141, Subparts E, F, and G, available at: <http://www.ecfr.gov>;  
3290

3291 (iv) 40 C.F.R. § 261.3 available at: <http://www.ecfr.gov>;  
3292

3293 (v) American Petroleum Institute Recommended Practice, API RP 14C,  
3294 *Recommended Practice for Analysis, Design, Installation and Testing of Safety Systems for*  
3295 *Offshore Production Facilities, Recommended Practice 14C, (2018), referred to as “API RP*  
3296 *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)  
3297 [2c39a409f892](https://www.apiwebstore.org/publications/item.cgi?af9eaacd-f8b0-4d7c-bfa7-2c39a409f892);  
3298

3299 (vi) American Petroleum Institute Specification, API Spec 10A, *Specification*  
3300 *for Cements and Materials for Well Cementing, 25th Edition, (2019), referred to as “API*  
3301 *Specification 10A”*, available at [https://www.apiwebstore.org/publications/item.cgi?82493435-](https://www.apiwebstore.org/publications/item.cgi?82493435-f281-45d8-af82-07ad8131cb56)  
3302 [f281-45d8-af82-07ad8131cb56](https://www.apiwebstore.org/publications/item.cgi?82493435-f281-45d8-af82-07ad8131cb56);  
3303

3304 (vii) American Petroleum Institute Recommended Practice, API RP 10D-2,  
3305 *Centralizer Placement and Stop-collar Testing, (2020), referred to as “API RP 10D-2”*, available  
3306 at <https://www.apiwebstore.org/publications/item.cgi?7ad6705a-954e-476c-b520-47cbbdce9f06>;  
3307

3308 (viii) American Petroleum Institute Recommended Practice, API RP 10B-2,  
3309 *Recommended Practice for Testing Well Cements, (2019), referred to as “API RP 10B-2”*,  
3310 available at <https://www.apiwebstore.org/publications/item.cgi?3c1808c7-6312-4b8d-b3de->  
3311 [3c1808c7-6312-4b8d-b3de-](https://www.apiwebstore.org/publications/item.cgi?3c1808c7-6312-4b8d-b3de-)  
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3313 [291ef79704c5](#);

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3315 (ix) [American Petroleum Institute Recommended Practice, API RP 14B,](#)  
3316 [Design, Installation, Repair, and Operation of Subsurface Safety Valve Systems, \(2012\),](#) referred  
3317 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)  
3318 [0121-4c12-936c-471c97a19f93](https://www.apiwebstore.org/publications/item.cgi?a1711f10-0121-4c12-936c-471c97a19f93);

3319

3320 (x) [American Petroleum Institute Specification, API Spec 5CT, Specification](#)  
3321 [for Casing and Tubing, \(2019\),](#) referred to as “API Specification 5CT”, available at  
3322 <https://www.apiwebstore.org/publications/item.cgi?5b345884-5a3a-4889-8066-60f93e467f29>;

3323

3324 (xi) [American Petroleum Institute Recommended Practice, API RP 5C1,](#)  
3325 [Recommended Practices for Care and Use of Casing and Tubing, \(2020\),](#) referred to as “API RP  
3326 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)  
3327 [b892-ec3e5583c534](https://www.apiwebstore.org/publications/item.cgi?010058af-29b1-412c-b892-ec3e5583c534); and

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3329 (xii) [American Petroleum Institute Specification, API Spec 11D1, Packers and](#)  
3330 [Bridge Plugs, \(2015\),](#) referred to as “API Specification 11D1”, available at  
3331 <https://www.apiwebstore.org/publications/item.cgi?4828a454-0fea-451b-a61b-18304836ea91>.

3332

3333 (b) [For these rules incorporated by reference:](#)

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3335 (i) [The Environmental Quality Council has determined that incorporation of](#)  
3336 [the full text in these rules would be cumbersome or inefficient given the length or nature of the](#)  
3337 [rules;](#)

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3339 (ii) [This Chapter does not incorporate later amendments or editions of](#)  
3340 [incorporated codes, standards, rules, and regulations; and](#)

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3342 (iii) [All incorporated codes, standards, rules, and regulations are available for](#)  
3343 [public inspection at the Department’s Cheyenne office. Contact information for the Cheyenne](#)  
3344 [office may be obtained at <http://deq.wyoming.gov> or from \(307\) 777-7937.](#)

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Appendix A. Risk Activity Table

	Major Risk (Feature, Event, or Process)
1	Mineral Rights Infringement (Trespass)
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
2	Water Quality Contamination
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
3	Single Large Volume CO <sub>2</sub> Release to the Surface – Asphyxiation/Health/Ecological
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)
4	Low Level CO <sub>2</sub> Release to Surface – Ecological damage due to low-level releases; potential asphyxiation of human or ecological receptors
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)

	Major Risk (Feature, Event, or Process)
5	Storage Rights Infringement (CO <sub>2</sub> or other entrained contaminant gases) – Form of Mineral Rights Infringement
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
6	Modified Surface Topography (subsidence or uplift) Resulting in Property/Infrastructure Damage
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.
7	Entrained Contaminant (Non-CO <sub>2</sub> ) Releases
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
8	Accidents/Unplanned Events (Typical Insurable Events)
8.1	Surface infrastructure damage
8.2	Saline water releases from surface storage impoundment.