

47 (1/4) mile of the well bore, an underground source of drinking water.
 48

49 (i) "Class II well" means a well regulated by the Wyoming Oil and Gas
 50 Conservation Commission, other than a Class II commercial disposal well, which injects fluids:

51
 52 (i) Which are brought to the surface in connection with natural gas storage
 53 operations, or conventional oil or natural gas production. Non-hazardous gas plant wastes may
 54 be disposed of in a class II well pending Environmental Protection Agency co-approval.

55
 56 (ii) For enhanced recovery of oil or natural gas.

57
 58 (iii) For storage of hydrocarbons which are liquid at standard temperature and
 59 pressure.

60
 61 (j) "Class III well" means a well used for in situ mining which injects for extraction
 62 of minerals, or products, or recovers recovery fluids, minerals or products, including a well
 63 used in:

64
 65 (i) Mining of sulfur by the Frasch process.

66
 67 (ii) In situ mining of uranium or other metals; this category includes in situ
 68 production from ore bodies that have not been conventionally mined by means of an open pit or
 69 underground excavation.

70
 71 (iii) In situ mining of salts, trona, or potash.

72
 73 (iv) Underground coal gasification operations.

74
 75 (v) Solution mining of open pits or underground excavations used for the
 76 production of minerals, such as stopes leaching.

77
 78 (vi) Fossil fuel recovery including coal, lignite, oil shale, and tar sands.

79
 80 (vii) Experimental technologies, such as pilot scale in situ mining wells in
 81 previously unmined areas.

82
 83 (k) "Class IV well" means a well used to dispose of hazardous waste or radioactive
 84 waste into or above a formation which contains, within one-quarter (1/4) mile of the well bore,
 85 an underground source of drinking water. Class IV wells are prohibited by this Chapter.

86
 87 Except that a well is not class IV if it is used to inject contaminated groundwater
 88 that has been treated and reinjected into the same formation from which it is drawn for the
 89 purpose of aquifer remediation where the ultimate cleanup criteria is protective of groundwater
 90 standards of these regulations.

91
 92 (l) "Class V facility" means any property which contains an injection well, drywell,

93 or subsurface fluid distribution system which is not defined as a Class I, II, III, or IV well in
94 this chapter. The Class V facility includes all systems of collection, treatment, and control
95 which are associated with the subsurface disposal. Appendix C of this chapter contains a list of
96 Class V facilities.

97
98 (m) "Cone of influence" means that area around a well within which increased
99 discharge zone pressures caused by the injection would be sufficient to force fluids into an
100 under- ground source of drinking water.

101
102 (n) "Confining zone" means the zone in the well designated in the permit
103 application to provide hydrologic separation between the receiver and any underground source
104 of drinking water.

105
106 (o) "Domestic sewage" means liquids or solid wastes obtained from humans and
107 domestic activities including wastewater from activities such as showers, toilets, human wash
108 basins, food preparation, clothes washing, and dishwashers.

109
110 (p) "Draft permit" means a document indicating the tentative decision by the
111 department to issue or deny, modify, revoke and reissue, or terminate a permit. A notice of
112 intent to terminate a permit and a notice of intent to deny a permit are types of draft permits. A
113 denial of a request for modification, revocation and reissuance, or termination is not a draft
114 permit. A draft permit for issuance shall contain all conditions and content, compliance
115 schedules and monitoring requirements required by this chapter.

116
117 (q) "Drywell" means a well, other than an improved sinkhole or subsurface
118 distribution system, completed above the water table so that its bottom and sides are typically
119 dry, except when receiving fluids.

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

125
126 (s) "Endangerment" means exposure to actions or activities which could pollute
127 groundwaters of the State.

128
129 (t) "Fact sheet" means a document briefly setting forth the principal facts and the
130 significant factual, legal, methodological, and policy questions considered in preparing the draft
131 permit. Fact sheets for Class I wells are incorporated into the public notice.

132
133 (u) "Fluid" means any material which flows or moves, whether semisolid, liquid,
134 sludge, gas or any other form or state.

135
136 (v) "General permit" means a permit issued to a class of operators, all of which
137 inject similar types of fluids for similar purposes. General permits require less information to be
138 submitted by the applicant than individual permits and do not require public notice for a facility

139 to be included under the authorization of a general permit.

140

141 (w) "Groundwater" means subsurface water that fills available openings in rock or
142 soil materials such that they may be considered water saturated under hydrostatic pressure.

143

144 (x) "Groundwaters of the state" are all bodies of underground water which are
145 wholly or partially within the boundaries of the state.

146

147 (y) "Hazardous waste" means a hazardous waste as defined in 40 CFR 261.3.

148

149 (z) "Improved sinkhole" means a naturally occurring karst depression which has
150 been modified by man for the purpose of directing and emplacing fluids into the subsurface.

151

152 (aa) "Individual permit" means a permit issued for a specific facility operated by an
153 individual operator, company, municipality, or agency. An individual permit may be
154 established as an area permit and include multiple points of discharge that are all operated by
155 the same person.

156

157 (bb) "Injectate" means the wastewater being disposed of through any underground
158 injection facility after it has received whatever pretreatment is done.

159

160 (cc) "Lithology" means the description of rocks on the basis of their physical and
161 chemical characteristics.

162

163 (dd) "Long string casing" means a casing which is continuous from at least the top of
164 the injection interval to the surface and which is cemented in place.

165

166 (ee) "Log" means to make a written record progressively describing the strata and
167 geologic and hydrologic character thereof to include electrical, radioactivity, radioactive tracer,
168 temperature, cement bond and similar surveys, a lithologic description of all cores, and test
169 data.

170

171 (ff) "Mechanical integrity" means the sound and unimpaired condition of all
172 components of the well or facility or system for control of a subsurface discharge and
173 associated activities.

174

175 (gg) "Permit" means a Wyoming Underground Injection Control permit, unless
176 otherwise specified.

177

178 (hh) "Permit by rule" means an authorization included in these rules which does not
179 require either an individual permit or a general permit. A facility which is permitted by rule
180 must meet the requirements found in this chapter, but is not required to apply for and obtain a
181 permit to construct and operate the facility.

182

183 (ii) "Permittee" means the named permit holder.

184

185 (jj) "Point of compliance" means a point at which the permittee shall meet class of
186 use standards for the receiver.

187

188 (kk) "Point of injection" means the last accessible sampling point prior to waste
189 fluids being released into the subsurface environment through a Class V injection well. For
190 example the 'point of injection' of a Class V septic system might be the distribution box - the
191 last accessible sampling point before the waste fluids drain into the underlying soils. For a dry
192 well, it is likely to be the well bore itself.

193

194 (ll) "Public hearing" means a non-adversary hearing held by the administrator or
195 director of the department. The hearing is conducted pursuant to Chapter 3 of the Wyoming
196 Department of Environmental Quality Rules of Practice and Procedure.

197

198 (mm) "Radioactive waste" means any waste which contains radioactive material in
199 concentrations that exceed those listed in 10 CFR Part 20, Appendix B, Table II, Column 2 as
200 of December 22, 1993.

201

202 (nn) "Receiver" means any zone, interval, formation or unit in the subsurface into
203 which fluids and pollutants are discharged.

204

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

208

209 (pp) "Secondarily affected aquifer" means any aquifer affected by migration of fluids
210 from an injection facility, when the aquifer is not directly discharged into.

211

212 (qq) "Septic system" means a facility that is used solely to emplace domestic sewage
213 below the surface and is comprised of a septic tank and subsurface fluid distribution system.

214

215 (rr) "Source water protection area" means the area delineated for the protection of
216 ground and surface water sources for a public water supply under a department approved plan
217 developed pursuant to Section 1453 of the Safe Drinking Water Act.

218

219 (ss) "Subsurface discharge" means a discharge into a receiver.

220

221 (tt) "Subsurface fluid distribution system" means an assemblage of perforated pipes
222 or drain tiles used to distribute fluids below the surface of the ground. Subsurface fluid
223 distribution systems include but are not limited to drain fields, leach fields, mounded leach
224 fields, leach lines, bed type distribution systems, and gravel-less chamber type distribution
225 systems.

226

227 (uu) "Underground source of drinking water" means those aquifers or portions
228 thereof which have a total dissolved solids content of less than 10,000 mg/L, and are classified
229 as either Class I, II, III, IV (a), or Special (A), pursuant to Chapter 8, Quality Standards for
230 Wyoming Groundwaters, Water Quality Rules and Regulations.

231

232 (vv) "Vadose Zone" means the unsaturated zone in the earth, between the land
 233 surface and the top of the first saturated aquifer which is not a perched water aquifer. The
 234 vadose zone characteristically contains liquid water under less than atmospheric pressure, and
 235 water vapor and air or other gases at atmospheric pressure. Perched water bodies exist within
 236 the vadose zone.

237

238 (ww) "Water quality management area" means the area delineated for the protection
 239 of water quality under a department approved plan developed under Sections 303, 208 and/or
 240 201 of the Federal Clean Water Act, as amended.

241

242 (xx) "Well" means an opening, excavation, shaft or hole in the ground allowing or
 243 used for an underground injection or for the purpose of extracting a fluid, mineral, product or
 244 pollutant from the subsurface or for monitoring.

245

246 (yy) "Wellhead protection area" means the area delineated for the protection of a
 247 public water supply utilizing a groundwater source under a department approved plan
 248 developed pursuant to Section 1428 of the federal Safe Drinking Water Act.

249

250 (zz) "Workover" means to pull the tubing, packer, or any downhole hardware from
 251 the well and inspect, replace, or refurbish it prior to placing that hardware back in service, or to
 252 enter the hole with any drilling tool.

253

254 **Section 3. Applicability.**

255

256 These regulations shall apply to all Class I, Class IV, Class V, commercial oil field waste
 257 disposal wells and those gas plant waste wells not regulated by the Wyoming Oil and Gas
 258 Conservation Commission. In addition, these regulations shall apply to any discharge to the
 259 subsurface, including the vadose zone, for all of the types of discharges listed in Appendix C of
 260 this chapter.

261

262 **Section 4. Timing of Compliance with These Regulations for Class V Wells.**

263

264 Any Class V permit issued under Chapters 9 or 16, Water Quality Rules and Regulations, prior
 265 to the effective date of these regulations shall remain in effect until replaced by an individual
 266 permit, a general permit or permit by rule pursuant to this chapter. Existing individual permits
 267 issued under Chapters 9 or 16 will be reviewed on a five (5) year basis pursuant to Section 6 (c)
 268 of this chapter. Any individual permit issued pursuant to Chapters 9 or 16 prior to the effective
 269 date of these regulations fulfills all of the requirements to obtain a permit under this chapter.

270

271 (a) All operators of existing systems which are required to obtain an individual
 272 permit under these regulations shall obtain a permit by April 14, 2000.

273

274 (b) General permits

275

276 (i) Within two (2) years of the effective date of the general permit, all

277 operators of existing facilities which require coverage shall:

278

279 (A) Apply for coverage under the general permit.

280

281 (B) Apply for an individual permit for the facility.

282

283 (C) Retain an existing permit issued under Chapter 9.

284

285 (D) Cease discharging fluids to the subsurface.

286

287 (ii) All operators of facilities which are required to be covered by a general
288 permit which are constructed after the effective date of these regulations shall apply for and
289 obtain coverage prior to the construction of the facility.

290

291 (iii) Facilities will be covered by general permits as soon as the department
292 has issued a written statement of acceptance to construct and operate the facility under the
293 general permit. The department will issue a statement either accepting the operation for
294 coverage under a general permit, or denying coverage under a general permit within 60 days of
295 the date when the operator has requested coverage.

296

297 (c) Permit by rule

298

299 (i) All operators of existing facilities permitted by rule shall submit
300 inventory information to the department within one (1) year of the effective date of this chapter.

301

302 (ii) All operators of facilities permitted by rule which are to be constructed
303 after the effective date of these regulations shall submit inventory information to the
304 department prior to constructing the facility.

305

306 **Section 5. Control of Class I well subsurface discharges; permit required;**
307 **aquifer exemptions.**

308

309 (a) Class I wells shall be allowed only pursuant to the Wyoming Environmental
310 Quality Act, Chapter 8, Wyoming Water Quality Rules and Regulations, and this chapter.

311

312 (b) Discharges into or construction of Class I wells are prohibited unless a permit
313 has been obtained from the Department of Environmental Quality through the Water Quality
314 Division.

315

316 (c) Injections from Class I wells shall be restricted to those receivers defined as
317 Class VI groundwaters by the department pursuant to Chapter 8, Quality Standards for
318 Wyoming Groundwaters, Water Quality Rules and Regulations and receivers which have
319 obtained an aquifer exemption pursuant to this section.

320

321 (d) Permits may be issued for individual wells or on an area basis except Class I
322 hazardous waste wells, which shall have individual permits.

323
324 (e) The procedure for obtaining an aquifer exemption from the U.S. Environmental
325 Protection Agency shall be as follows:

326
327 (i) Water Quality Division shall submit one complete copy of the
328 application, the Draft Permit, and the public notice to the U.S. Environmental Protection
329 Agency, Region 8. This submission shall be made so that EPA receives the complete
330 application at least twenty (20) days prior to the scheduled start of the public comment period.

331
332 (ii) When the aquifer exemption request is for an aquifer containing 3,000
333 mg/L or more of total dissolved solids, the following procedure shall be used: Within forty five
334 (45) days of EPA receipt of a complete aquifer exemption request, EPA shall provide the
335 department a written interim determination of intention to issue or deny the aquifer exemption
336 pending receipt and review of the results of the public participation process conducted by the
337 department. The interim response will become final if there are no comments relating to the
338 aquifer exemption request during the comment or hearing process. If comments are received
339 during the public comment or hearing process, the interim response will become final if not
340 modified by EPA in writing within thirty (30) days of receipt of all comments.

341
342 (iii) An aquifer exemption request for an aquifer containing less than 3,000
343 mg/L of total dissolved solids requires the aquifer exemption request to be processed as a
344 program revision pursuant to 40 CFR 145.32.

345 **Section 6. Permits and Permit Applications.**

346
347 (a) It is the operator's responsibility to make application for and obtain a permit in
348 accordance with these regulations. Each application must be submitted with all supporting data.

349
350 (b) All permits issued under this chapter, whether individual permits, or general
351 permits, shall be for no more than ten (10) years duration.

352
353 (c) Each permit shall be reviewed by the department at least once every five (5)
354 years for continued validity of all permit conditions and contents. Permits that do not satisfy the
355 requirements of these regulations are subject to modification, revocation and reissuance, or
356 termination pursuant to this chapter.

357
358 (d) Sections of permit applications filed under this chapter which represent
359 engineering work shall be sealed, signed, and dated by a licensed professional engineer as
360 required by Wyoming Statutes, Title 33, Chapter 29.

361
362 (e) Sections of permit applications filed under this chapter which represent geologic
363 work shall be sealed, signed, and dated by a licensed professional geologist as required by
364 Wyoming Statutes, Title 33, Chapter 41.

365
366 (f) A complete application for a Class I well shall include:

367
368 (i) A brief description of the nature of the business and the activities to be

369 conducted that require the applicant to obtain a permit under this chapter.

370

371 (ii) The name, address and telephone number of the operator, and the operator's
372 ownership status and status as a Federal, State, private, public or other entity.

373

374 (iii) The name address and telephone number of the facility. Additionally, the
375 location of the facility shall be identified by section, township, range and county, and whether
376 or not it is located on Indian lands.

377

378 (iv) A calculation of the area of review, which requires the calculation of the
379 cone of influence and the area of the ultimate limit of emplaced waste.

380

381 (A) The formula for determining the cone of influence is:

382

$$r = \left(\frac{2.25 KHt}{S10^x} \right)^{\frac{1}{2}}$$

383

384

$$\text{Where: } x = \left(\frac{W}{G} - B \right) \left(\frac{4PKH}{2.3Q} \right)$$

385

386

387

388 r = Radius of the cone of influence of an injection well (feet)

389 K = Hydraulic conductivity of the injection zone (feet/day)

390 H = Thickness of the injection zone (feet)

391 t = Time of injection (days)

392 S = Storage coefficient (dimensionless)

393 Q = Injection rate (cubic feet/day)

394 B = Original hydrostatic head of injection zone (feet) measured from the base of the
395 injection zone

396 W = Hydrostatic head of underground source of drinking water (feet) measured from
397 the base of the injection zone

398 G = Specific gravity of fluid in the injection zone (dimensionless)

399 P = 3.142 (dimensionless)

400

401 (B) A volume calculation to determine the maximum area that the
402 injected waste could occupy shall be submitted on all new Class I wells. This calculation
403 determines the total amount of void space around the well and assumes that the injected fluid
404 completely displaces the formation water.

404

405 (C) A Class I non-hazardous waste well's area of review shall never be
406 less than one-quarter (1/4) mile, the cone of influence, or the area of emplaced waste,
407 whichever is greatest.

408

409 (D) A Class I hazardous waste well's area of review shall never be less
410 than two (2) miles, the cone of influence, or the area of emplaced waste, whichever is greatest.

411

412 (E) All Areas of Review shall be legally described by township,

413 range and section to the nearest quarter quarter of a section.

414

415 (v) Information about the proposed facility, including:

416

417 (A) A description of the substances proposed to be discharged,
418 including type, source, and chemical, physical, radiological and toxic characteristics; and

419

420 (B) Construction and engineering details in accordance with Section
421 12 of this chapter.

422

423 (vi) Information, including the name, description, depth and geology of the
424 receiver and confining zone and the hydrology, fluid chemistry, fluid pressure, temperature,
425 fracture pressure and the total dissolved solids (TDS) in the receiver.

426

427 (vii) Water quality information, including background water quality data,
428 which will facilitate the classification of any groundwaters which may be affected by the
429 proposed discharge. This must include information necessary for the Water Quality Division to
430 classify the receiver as class VI under Chapter 8 Section 4(d)(9) of the Wyoming Water Quality
431 Rules and Regulations.

432

433 (viii) A topographic and other pertinent maps, extending at least one (1) mile
434 beyond the property boundaries of the facility, but never less than the area of review, depicting:

435

436 (A) The facility and each of its intake and discharge structures;

437

438 (B) Each of its hazardous waste treatment, storage, or disposal
439 facilities;

440

441 (C) Each well where fluids from the facility are injected
442 underground;

443

444 (D) Other wells, springs, and surface water bodies, and drinking
445 water wells listed in public records or otherwise known to the applicant within a minimum one-
446 quarter (1/4) mile of the facility property boundary, or further, as the administrator may
447 determine is necessary; and

448

449 (E) General geology and hydrogeology in the area.

450

451 (ix) A list of other relevant permits, whether federal or state, that the facility
452 has been required to obtain, such as construction permits.

453

454 (x) A listing of all wells that penetrate the confining zone and are within the
455 area of review, and records of plugging or completion, sufficient to satisfy the administrator as
456 to the adequacy of the plugging or completion.

457

458 (A) For those wells that the administrator determines have not been

459 adequately plugged, completed, or abandoned, or for wells which lack supporting information,
 460 the applicant shall also submit a plan to prevent movement of fluids into Underground Source
 461 of Drinking Waters through these wells, and this plan, after approval or modification by the
 462 administrator, shall be incorporated as a permit condition.

463
 464 (xi) Detailed plans for:

465
 466 (A) Monitoring volume and chemistry of the discharge, and water
 467 quality of water wells within the area of review;

468
 469 (B) Monitoring injection and annular pressures in the well, to
 470 minimize the potential for fracturing of the confining zone and below the receiver; and

471
 472 (C) Corrective action to cope with alarms, shut-downs, malfunctions
 473 or well failures, so as to prevent endangerment of groundwater.

474
 475 (xii) Information sufficient to demonstrate mechanical integrity of the well,
 476 and compatibility between the proposed discharge and the well material.

477
 478 (xiii) Information sufficient to demonstrate compliance with Sections 12, 14,
 479 15, 16, 17 and 19 of this chapter.

480
 481 (xiv) All applications for permits shall be signed by a responsible officer as
 482 follows:

483
 484 (A) For a corporation - by a responsible corporate officer. For the
 485 purpose of this section, a responsible corporate officer means:

486
 487 (1) A President, Secretary, Treasurer, or Vice President of the
 488 corporation in charge of a principal business function, or any other person who performs
 489 similar policy or decision making functions for the corporation; or

490
 491 (2) The manager of one or more manufacturing, production,
 492 or operating facilities employing more than 250 persons or having gross annual sales or
 493 expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign
 494 documents has been assigned or delegated to the manager in accordance with corporate
 495 procedures.

496
 497 (B) For a partnership or sole proprietorship -- by a general partner or
 498 the proprietor, respectively;

499
 500 (C) For a municipality, state, federal or other public agency -- by either
 501 the principal executive officer or ranking elected official.

502
 503 (xv) The application shall contain the following certification by the person
 504 signing the application:

505
 506 "I certify under penalty of law that this document and all attachments were prepared under my
 507 direction or supervision in accordance with a system designed to assure that qualified personnel
 508 properly gather and evaluate the information submitted. Based on my inquiry of the person or
 509 persons who manage the system, or those persons directly responsible for gathering the
 510 information, the information submitted is, to the best of my knowledge and belief, true,
 511 accurate, and complete. I am aware that there are significant penalties for submitting false
 512 information, including the possibility of fine and imprisonment for knowing violations."

513
 514 (xvi) All relevant data used to complete permit applications shall be kept for a
 515 minimum of three (3) years from the date of signing.

516
 517 (g) For Class V facilities the following are applicable:

518
 519 (i) A permit is required.

520
 521 (ii) Construction, installation, modifications or operation of Class V facilities
 522 shall be allowed only in accordance with these regulations.

523
 524 (iii) Discharges into, or construction of, any Class V facility are prohibited
 525 unless permitted pursuant to this chapter.

526
 527 (iv) Every facility shall be covered by one of the three types of permitting
 528 systems: individual; general; or permit by rule. The following sections of these regulations
 529 describe the permitting method for and subclasses of facilities. The owner or operator of a
 530 facility that can be covered by a general permit or authorized under permit by rule may apply
 531 for and be permitted by an individual permit if the owner or operator desires. Operators who do
 532 not meet the requirements for a general permit or permit by rule must obtain an individual
 533 permit prior to installation or construction of the Class V facility.

534
 535 (v) Permits may be issued for individual facilities or they may be issued on
 536 an area basis for multiple points of discharge operated by the same person.

537
 538 (vi) A separate permit to construct is not required under Chapter 3, Water
 539 Quality Rules and Regulations for any Class V facility. Requirements of the Chapter 3 permit
 540 to construct will be included in the underground injection control permit issued under this
 541 chapter.

542
 543 (h) Permit conditions and contents.

544
 545 (i) All Class I permits issued under this chapter shall contain the following
 546 conditions:

547
 548 (A) A requirement that the injection pressure shall be limited to the
 549 fracture pressure of the receiver, except as necessary during well stimulation, and, within one
 550 (1) year of the issuance of the permit, the operator shall conduct a step-rate injection test to

551 determine the actual fracture pressure of the receiver.

552

553 (B) A requirement that mechanical integrity shall be maintained
554 continuously and be reviewed at least every five (5) years. The test used to determine
555 mechanical integrity shall be a two-part test approved by the administrator, who shall approve
556 only those tests that have been approved first by the U.S. Environmental Protection Agency's
557 Office of Drinking Water.

558

559 (I) Part one of the mechanical integrity test shall demonstrate
560 the absence of leaks through the packer, tubing, casing, and well head.

561

562 (II) Part two of the mechanical integrity test shall demonstrate
563 the absence of fluid movement behind the casing.

564

565 (III) Proposed mechanical integrity tests that have not yet been
566 approved shall be submitted to the administrator who shall forward the information to the U.S.
567 Environmental Protection Agency's Office of Drinking Water along with a request for approval,
568 if, in the administrator's opinion, it will adequately determine mechanical integrity of the well
569 system. A previously unauthorized mechanical integrity test submitted for approval shall
570 include:

571

572 (1.) The proposed method for demonstrating the lack
573 of significant leaks in the well;

574

575 (2.) The proposed method for showing the absence of
576 significant fluid movement; and

577

578 (3.) Any technical data supporting the use of this test.

579

580 (C) A Class I well that cannot demonstrate mechanical integrity shall
581 be shut down until such time as the mechanical integrity has been restored.

582

583 (D) A requirement that the packer be set within five-hundred (500)
584 feet of the top of the receiver, unless the administrator allows some other specific interval to be
585 used to set the packer, but always within the zone covered by excellent cement bond as shown
586 by the cement bond log.

587

588

589 (ii) Special conditions for Class I hazardous waste wells.

590

591 (A) All Class I hazardous waste wells permitted under this chapter
592 shall be subject to the special permit conditions listed below in addition to the conditions
593 applicable to all Class I well permits in this chapter.

594

595 (B) All hazardous waste injection permits issued under this chapter
596 shall include the following conditions:

597
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642

(I) A requirement that the operator shall maintain a casing/tubing annulus pressure that exceeds the operating injection pressure, unless the administrator determines that such a requirement might harm the integrity of the well. The fluid used in the casing/tubing annulus shall be noncorrosive, and shall contain a corrosion inhibitor.

(II) A requirement that the operator shall follow special procedures when wastes have the potential to react with the injection formation or to generate gases either during or after injection. These procedures may take the form of special permit conditions that limit the temperature or pH of the injected waste and require the operator to follow procedures necessary to assure that pressure imbalances which might cause a backflow or blowout do not occur.

(III) A requirement that the operator shall install, maintain, and use continuous recording devices to monitor the injection pressure, flow rate, temperature, of injected fluids and pressure on the casing/tubing annulus, and shall install and use automatic alarm and shut-off systems designed to shut down the well when pressures, flow rates, and other parameters approved by the administrator exceed the range specified in the permit.

(IV) A requirement that the operator have a trained operator onsite at all times the well is operating.

(V) A requirement that if an automatic alarm or shutdown is triggered, the operator shall immediately investigate and identify as early as possible, the cause of the alarm or shutdown. If, upon such investigation, or if required monitoring indicates, that the well is lacking in mechanical integrity, the operator shall:

(1.) Cease all injections of waste fluids immediately.

(2.) Take all necessary steps to determine the presence or absence of a leak.

(3.) Notify the administrator within twenty-four (24) hours after the alarm or shutdown, using procedures and criteria listed in paragraph (h)(iii)(Q) of this section.

(4.) The operator shall restore and demonstrate, to the satisfaction of the administrator, mechanical integrity prior to resuming injection activities.

(VI) A requirement that whenever the operator obtains evidence that there may have been a release of injected wastes into an unauthorized zone, regardless of whether or not an automatic alarm or shutdown was triggered, the operator shall:

(1.) Immediately cease all injection activities.

(2.) Notify the administrator pursuant to the

643 procedures outlined in paragraph (h)(iii)(Q) of this section. In addition to the information
644 required by paragraph (h)(iii)(Q) of this section, the operator shall also include, as part of the
645 written submission, a proposed remedial action plan, designed to minimize the adverse impact
646 of the unauthorized release.

647
648 (3.) Comply with the requirements of any remedial
649 action plan approved by the administrator.

650
651 (4.) Where the unauthorized release is into a Class I
652 aquifer, as classified under Chapter 8, Quality Standards for Wyoming Groundwaters, Water
653 Quality Rules and Regulations, which is currently serving as a water supply, the operator shall
654 place a notice, describing the unauthorized release and the actions taken, in a newspaper of
655 general circulation in the locality of the release.

656
657 (5.) The administrator may allow the operator to
658 resume injection prior to completion of cleanup operations if the operator demonstrates, to the
659 satisfaction of the administrator, that the injection activity will not endanger any Underground
660 Source of Drinking Waters.

661
662 (VII) A requirement that the operator notify the administrator
663 and obtain his approval prior to conducting any well workover.

664
665 (VIII) A requirement that the operator comply with the
666 following federal regulations contained in 40 CFR 264 or applicable state hazardous waste
667 regulations:

- 668
669 (1.) Identification numbers.
670
671 (2.) Recordkeeping and reporting for manifested
672 wastes.
673
674 (3.) Manifest discrepancies.
675
676 (4.) Operating record requirements.
677
678 (5.) Annual reporting requirements and unmanifested
679 waste reports.
680 (6.) Personnel training requirements.

681
682 (IX) When abandonment is completed, the operator must
683 submit to the administrator certification by the operator and certification by an independent
684 registered professional engineer that the facility has been closed in accordance with the
685 specifications detailed in the closure plan in Section 17 of this chapter.

686
687 (iii) All individual and general permits issued under this chapter shall contain
688 the following conditions:

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(A) A requirement that the permittee comply with all conditions of the permit and any permit noncompliance constitutes a violation of these regulations and is grounds for enforcement action, permit termination, revocation, or modification.

(B) A requirement that if the permittee wishes to continue injection activity after the expiration of the permit, the permittee must apply to the administrator for, and obtain, a new permit.

(C) 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.

(D) 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.

(E) A requirement that the permittee properly operate and maintain all facilities and systems of treatment and control which 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 training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

(F) A stipulation that the filing of a request by the permittee, or at the instigation of the administrator, for a permit modification, revocation, termination, or notification of planned changes or anticipated non-compliance, shall not stay any permit condition.

(G) A stipulation that this permit does not convey any property rights of any sort, or any exclusive privilege.

(H) A stipulation that the permittee shall furnish to the administrator, within a specified time, any information which the administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. The permittee shall also furnish to the administrator, upon request, copies of records required to be kept by the permit.

(I) A requirement that the permittee shall allow the administrator, or an authorized representative of the administrator, upon the presentation of credentials, during normal working hours, to enter the premises where a regulated facility is located, or where records are kept under the conditions of this permit, and inspect the discharge and related facilities, review and copy reports and records required by the permit, collect fluid samples for analysis, measure and record water levels, and perform any other function authorized by law or regulation.

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(J) A requirement that the permittee furnish any information necessary to establish a monitoring program pursuant to Section 15 of this chapter.

(K) A requirement that all samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity, and records of all monitoring information be retained by the permittee. The monitoring information to be retained shall be that information stipulated in the monitoring program established pursuant to the criteria in Section 15 of this chapter.

(L) A requirement that all applications, reports, and other information submitted to the administrator contain certifications as required in Section 6 (f) (xv) of this chapter, and be signed by a person who meets the requirements to sign permit applications found in Section 6 (f) (xiv), or for routine reports, a duly authorized representative;

(M) A requirement that the permittee give advance notice to the administrator as soon as possible of any planned physical alteration or additions, other than authorized operation and maintenance, to the permitted facility and receive authorization prior to implementing the proposed alteration or addition.

(N) A requirement that any modification which may result in a violation of a permit condition shall be reported to the administrator, and any modification that will result in a violation of a permit condition shall be reported to the administrator through the submission of a new or amended permit application.

(O) A requirement that any transfer of a permit must first be approved by the administrator, and that no transfer will be approved if the facility is not in compliance with the existing permit unless the proposed permittee agrees to bring the facility into compliance.

(P) A requirement that monitoring results shall be reported at the intervals specified elsewhere in the permit.

(Q) A requirement that reports of compliance or non-compliance with, or any progress reports on interim and final requirements contained in any compliance schedule, if one is required by the administrator, shall be submitted no later than thirty (30) days following each schedule date.

(R) A requirement that confirmed noncompliance resulting in the migration of injected fluid into any zone outside of the permitted receiver must be orally reported to the administrator within 24 hours, and a written submission shall be provided within five (5) days of the time the permittee becomes aware of the excursion. The written submission shall contain:

(I) A description of the noncompliance and its cause.

781 (II) The period of noncompliance, including exact dates and
782 times, and, if the noncompliance has not been controlled, the anticipated time it is expected to
783 continue; and

784
785 (III) Steps taken or planned to reduce, eliminate, and prevent
786 reoccurrence of the noncompliance.

787
788 (S) A requirement that the permittee report all instances of
789 noncompliance not already required to be reported under paragraphs (h) (iii) (P) through (R) of
790 this section, at the time monitoring reports are submitted. The reports shall contain the
791 information listed in paragraph (h) (iii) (R) of this section.

792
793 (T) A requirement that in the situation where the permittee becomes
794 aware that it failed to submit any relevant facts in a permit application, or submitted incorrect
795 information in a permit application or in any report to the administrator, the permittee shall
796 promptly submit such facts or information.

797
798 (U) A requirement that the injection facility meet construction
799 requirements outlined in Section 10 of this chapter, and that the permittee submit notice of
800 completion of construction to the administrator and allow for inspection of the facility upon
801 completion of construction, prior to commencing any injection activity.

802
803 (V) A requirement that the permittee notify the administrator at such
804 times as the permit requires before conversion or abandonment of the facility.

805
806 (W) A requirement that an abandonment report, detailing the
807 compliance abandonment procedures outlined in the original permit application, or describing
808 any deviations from the original plan, be submitted as soon as practicable after abandonment,
809 and is complete.

810
811 (X) A requirement that injection may not commence until
812 construction is complete.

813
814 (Y) In addition to the conditions required of all permits, the
815 administrator may establish, on a case-by-case basis, conditions as required for monitoring,
816 schedules of compliance, and such additional conditions as are necessary to prevent the
817 migration of fluids into underground sources of drinking water.

818
819 **Section 7. Permit Processing Procedures.**

820
821 (a) For Class I wells the following are applicable:

822
823 (i) The applicant shall file seven (7) copies of the permit application with
824 the Water Quality Division.

825
826 (ii) Within sixty (60) days of submission of the application, the administrator

827 shall make an initial determination of completeness. An application shall be determined
 828 complete when the administrator receives an application and any supplemental information
 829 necessary to determine compliance with these regulations.

830
 831 (iii) An incomplete application will be processed in the following manner:

832
 833 (A) For an extremely incomplete application, additional information
 834 shall be requested in detail or the application will be returned to the applicant. Incomplete
 835 permit applications will result in permit denial.

836
 837 (B) If an application is denied because of incompleteness
 838 necessitating a request for additional information, the applicant shall have a maximum of six
 839 (6) months to comply with the requests. If the applicant fails to provide the requested
 840 information within that period, the entire incomplete application shall be returned.

841
 842 (C) Resubmittal of information by an applicant on an incomplete
 843 application will begin the process described in subsection (a)(ii) of this section.

844
 845 (iv) During any sixty (60) day review period where an application is
 846 determined complete, the administrator shall take one of the following actions:

847
 848 (A) Prepare a draft permit for issuance or denial, prepare a fact sheet
 849 on the proposed operation, and provide public notice pursuant to Section 21; or

850
 851 (B) Provide the applicant notice that the permit is deficient and state
 852 the deficiencies in the application.

853
 854 (v) Determinations of deficiency by the Department are appealable by the
 855 applicant to the Environmental Quality Council. Requests for appeal must be in writing, state
 856 the reasons for appeal, and be made to both the Director and the Chairman of the
 857 Environmental Quality Council. A deficient application is considered a permit denial but is not
 858 subject to the public notice requirements of Section 22 unless a hearing is requested by the
 859 applicant. Resubmittal of information for a deficient application will start the sixty (60) day
 860 review period again.

861
 862 (vi) Denials of permit applications will be pursuant to procedures outlined in
 863 paragraph (d) of this section.

864
 865 (vii) All draft permits for Class I wells require public notice pursuant to
 866 Section 21 of this chapter.

867
 868 (b) For Class V wells that require an Individual Permit, the following are applicable:

869
 870 (i) The applicant shall submit five (5) copies of the permit application to the
 871 division.

872

873 (A) Within 60 days of submission of the application, the
 874 administrator shall make an initial determination of completeness. An application shall be
 875 determined complete when the administrator receives an application and any supplemental
 876 information necessary to determine compliance with these regulations.

877
 878 (ii) Resubmittal of information by an applicant on an incomplete application
 879 will begin the process described in paragraph (b)(i)(A) of this section.

880
 881 (iii) During any 60 day review period where an application is determined
 882 complete, the administrator shall prepare a draft permit for issuance or denial, prepare a fact
 883 sheet on the proposed operation, and provide public notice pursuant to Section 21.

884
 885 (iv) A denial of the application by the department is appealable by the
 886 applicant to the Environmental Quality Council in accordance with the Rules of Practice and
 887 Procedure. Requests for appeal must be in writing, state the reasons for appeal, and be made to
 888 both the director and the chairman of the Environmental Quality Council.

889
 890 (c) For Class V wells that require a General Permit, the following are applicable:

891
 892 (i) In order to be covered by a general permit, an operator must submit all
 893 information required in Section 9 (c) (i), (ii), and (iii), plus any additional information required
 894 to be submitted or reported in the issued general permit. The submittal requesting coverage by a
 895 general permit shall be signed by a person meeting the same signatory requirements of Section
 896 6 (f) (xiv) and shall be certified in accordance with Section 6 (f) (xv). Facilities will be covered
 897 by general permits as soon as the department has issued a written statement of acceptance to
 898 allow the construction and operation of the facility under the general permit. The department
 899 will issue an authorization accepting the operation for coverage under the general permit or
 900 denying coverage under the general permit, within 60 days of the date when the operator
 901 requested coverage. Requests for coverage under a general permit, which do not meet the
 902 requirements for general permit pursuant to this chapter, may be denied by the administrator.

903
 904 (ii) If a general permit has been issued by the department, an operator of a
 905 facility must register the facility with the department and sign a statement agreeing to be bound
 906 by the conditions of that permit. Failure to register for general permit coverage, when available,
 907 is the same as operation of a facility without a permit, unless an individual permit has been
 908 obtained.

909
 910 (iii) Once issued, general permits must remain the same for all persons
 911 covered by the permit. A general permit may be modified in accordance with Section 7 (d)
 912 (vii). Any such modification must cover all persons covered by the permit.

913
 914 (d) Permit modification, denial, revocation, termination and transfer.

915
 916 (i) Permits may be modified, revoked and reissued, or terminated either at
 917 the request of any interested person (including the permittee or licensee) or upon the
 918 administrator's initiative. However, permits may only be modified, revoked and reissued, or

919 terminated for the reasons specified in this section. All requests shall be in writing and shall
 920 contain facts or reasons supporting the request.

921
 922 (ii) If the Administrator decides the request is not justified, he or she shall
 923 send the requester a brief written response giving the reason for the decision. A request for
 924 modification, revocation and reissuance, or termination shall be considered denied if the
 925 Administrator takes no action within 60 days after receiving the written request. Denials of
 926 requests for modification, revocation and reissuance, or termination are not subject to public
 927 notice and comment. Denials by the administrator may be appealed for hearing to the
 928 Environmental Quality Council by a letter briefly setting forth the relevant facts.

929
 930 (iii) If the administrator tentatively decides to modify or revoke and reissue a
 931 permit, a draft permit incorporating the proposed changes shall be prepared. The
 932 administrator may request additional information and, in the case of a modified permit, may
 933 require the submission of an updated application. In the case of revoked and reissued permits,
 934 the administrator shall require the submission of a new application.

935
 936 (iv) In a permit modification under Section 7 (d) (vii) of this chapter, only
 937 those conditions to be modified shall be reopened when a new draft permit is prepared. All
 938 other aspects of the existing permit shall remain in effect for the duration of the unmodified
 939 permit and the modified permit shall expire on the date when the original permit would have
 940 expired. When a permit is revoked and reissued under this section, the entire permit is reopened
 941 as if the permit has expired and is being reissued. When the entire permit is reopened, the
 942 modified permit shall be issued for no more than ten (10) years. During any revocation and
 943 reissuance proceeding, the permittee shall comply with all conditions of the existing permit
 944 until a new final permit is issued.

945
 946 (v) Proposed permit modifications, revocations or terminations shall be
 947 developed as a draft permit and are subject to the public notice and hearing requirements
 948 outlined in Section 21.

949
 950 (vi) For Class I wells the administrator **shall** modify a permit or license
 951 when:

952
 953 (A) Any material or substantial alterations or additions to the facility
 954 occur after permitting or licensing, which justify the application of permit conditions that are
 955 different or absent in the existing permit; or

956
 957 (B) Any modification in the operation of the facility is capable of
 958 causing or increasing pollution in excess of applicable standards or permit conditions.

959
 960 (C) Information warranting modification is discovered after the
 961 operation has begun that would have justified the application of different permit conditions at
 962 the time of permit issuance;

963
 964 (D) Regulations or standards upon which the permit or license was

965 based have changed by promulgation of amended standards or regulations or by judicial
966 decision after the permit was issued;

967
968 (E) Cause exists for termination, as described in this section, but the
969 department determines that modification is appropriate; or

970
971 (F) Modification is necessary to comply with applicable statutes,
972 standards or regulations.

973
974 (vii) For Class V wells the administrator **may** modify a permit when:

975
976 (A) Any material or substantial alterations or additions to the facility
977 occur after permitting or licensing, which justify the application of permit conditions that are
978 different or absent in the existing permit;

979
980 (B) Any modification in the operation of the facility is capable of
981 causing or increasing pollution in excess of applicable standards or permit conditions;

982
983 (C) Information warranting modification is discovered after the
984 operation has begun that would have justified the application of different permit conditions at
985 the time of permit issuance;

986
987 (D) Regulations or standards upon which the permit was based have
988 changed by promulgation of amended standards or regulations, or by judicial decision after the
989 permit was issued;

990
991 (E) Cause exists for termination, as described in this section, but the
992 department determines that modification is appropriate; or

993
994 (F) Modification is necessary to comply with applicable statutes,
995 standards or regulations.

996
997 (viii) Minor modifications of permits may occur with the consent of the
998 permittee without following the public notice requirements. Minor modifications will become
999 final twenty (20) days from the date of receipt of such notice. For the purposes of this chapter,
1000 minor modifications may only:

1001
1002 (A) Correct typographical errors;

1003
1004 (B) Require more frequent monitoring or reporting by the permittee;

1005
1006 (C) Change an interim compliance date in a schedule of compliance,
1007 provided the new date is not more than 120 days after the date specified in the existing permit
1008 and does not interfere with attainment of the final compliance date requirement;

1009
1010 (D) Allow for a change in ownership or operational control of a

1011 facility where the administrator determines that no other change in the permit is necessary,
1012 provided that a written agreement containing a specific date for transfer of permit
1013 responsibility, coverage, and liability between the current and new permittees have been
1014 submitted to the administrator;

1015
1016 (E) Change quantities or types of fluids injected that are within the
1017 capacity of the facility as permitted and, in the judgment of the administrator, would not
1018 interfere with the operation of the facility or its ability to meet conditions described in the
1019 permit and would not change its classification;

1020
1021 (F) Change construction requirements approved by the administrator
1022 pursuant to department rules and regulations provided that any such alteration shall comply
1023 with the requirements of this chapter; or

1024
1025 (G) Amend an abandonment plan.

1026
1027 (ix) For a Class I well the administrator **may** deny a permit for any of the
1028 following reasons:

1029
1030 (A) The application is incomplete; or

1031
1032 (B) Other justifiable reasons necessary to carry out the provisions of
1033 the Wyoming Environmental Quality Act.

1034
1035 (C) If the applicant has been and continues to be in violation of the
1036 provisions of the Wyoming Environmental Quality Act.

1037
1038 (x) For Class I wells the administrator **shall** deny a permit for any of the
1039 following reasons:

1040
1041 (A) The project, if constructed and/or operated, will cause violation
1042 of applicable state surface or groundwater standards;

1043
1044 (B) The application contains a proposed construction or operation
1045 which does not meet the requirements of this chapter; or

1046
1047 (C) The application does not provide documentation to comply with
1048 financial responsibility requirements of Section 19.

1049
1050 (D) The administrator shall deny any permit for which the U.S.
1051 Environmental Protection Agency has denied an aquifer exemption.

1052
1053 (E) When the department intends to deny a permit for any reason
1054 other than an incomplete or deficient application, a draft permit shall be prepared and public
1055 notice issued pursuant to Section 21.

1056

1057 (xi) For Class V wells the director **may** deny an individual permit for any of
1058 the following reasons:

1059 (A) The application is incomplete;

1060
1061 (B) The project, if constructed and/or operated, will cause violation
1062 of applicable state surface or groundwater standards;

1063
1064 (C) The application contains a proposed construction or operation
1065 which does not meet the requirements of this chapter;

1066
1067 (D) The permitted facility would be in conflict with or is in conflict
1068 with a state approved local wellhead protection plan, state approved local source water
1069 protection plan, or state approved water quality management plan; or

1070
1071 (E) Other justifiable reasons necessary to carry out the provisions of
1072 the Wyoming Environmental Quality Act.

1073
1074 (F) If the director intends to deny an individual permit for any reason
1075 other than an incomplete or deficient application, a draft permit shall be prepared and public
1076 notice issued pursuant to Section 21 of this chapter.

1077
1078 (xii) The administrator may revoke and reissue or terminate a permit for any
1079 of the following reasons:

1080 (A) Noncompliance with terms and conditions of the permit;

1081
1082 (B) Failure in the application or during the issuance process to
1083 disclose fully all relevant facts, or misrepresenting any relevant facts at any time; or

1084
1085 (C) A determination that the activity endangers human health or the
1086 environment and can only be regulated to acceptable levels by a permit modification or
1087 termination.

1088
1089 (xiii) The administrator may modify a permit or license to resolve issues that
1090 could lead to the revocation or consider any of the reasons in the preceding paragraph as
1091 sufficient justification to terminate a permit or license. The administrator as part of any
1092 notification of intent to terminate a permit or license shall order the permittee or licensee to
1093 proceed with reclamation on a reasonable time period.

1094
1095 (xiv) Permits for Class I wells will be automatically terminated after closure
1096 and release of the financial responsibility requirements of Section 19 by the department.

1097
1098 (xv) Transfer of a permit is allowed only upon approval by the administrator.
1099 When a permit transfer occurs pursuant to this section, the permit rights of the previous
1100 permittee will automatically terminate.

1101
1102

1103 (A) The proposed permit holder shall apply in writing as though that
1104 person was the original applicant for the permit and shall further agree to be bound by all of the
1105 terms and conditions of the permit.

1106
1107 (B) Transfer will not be allowed if the permittee is in noncompliance
1108 with any term and conditions of the permit, unless the transferee agrees to bring the facility
1109 back into compliance with the permit.

1110
1111 (C) When a permit transfer occurs, the administrator may modify a
1112 permit pursuant to this section. The administrator shall provide public notice pursuant to
1113 Section 21 for any modification other than a minor modification defined by this section.

1114
1115 (D) The potential transferee shall file a statement of qualifications to
1116 hold a permit with the administrator.

1117
1118 **Section 8. Records and Reports.**

1119
1120 (a) Monitoring reports required by the permit shall be submitted to the
1121 administrator.

1122
1123 (b) Monitoring results shall be reported in the annual reports unless otherwise
1124 specified.

1125
1126 (c) The permittee shall submit a written report to the administrator of all remedial
1127 work concerning the failure of equipment or operational procedures which resulted in a
1128 violation of a permit condition, at the completion of the remedial work.

1129
1130 (d) For any aborted or curtailed operation, in lieu of an annual report, a complete
1131 report shall be submitted within thirty (30) days of complete termination of the discharge or
1132 associated activity.

1133
1134 (e) Routine periodic reports required by the permit shall be submitted to the
1135 administrator within thirty (30) days following the end of the period covered in the report.
1136 Reports shall include, if applicable, the following information:

1137
1138 (i) An accounting of the total volume of fluid injected for the period covered
1139 by the report, the year to date, and the life of the well to date.

1140
1141 (ii) An analysis of the physical, chemical and other relevant characteristics
1142 of the injected fluid.

1143
1144 (iii) A complete description of any event that triggered any alarm or
1145 shutdown the well, and the response taken.

1146
1147 (iv) A complete description of any event where maximum annular or
1148 injection pressures, as specified in the permit, were exceeded.

- 1149
- 1150 (v) The average, maximum and minimum injection pressures for each
- 1151 month.
- 1152
- 1153 (vi) Any well workover.
- 1154
- 1155 (f) Quarterly and annual reports for hazardous waste wells shall also include a
- 1156 description of any change in the volume of fluid in the casing/tubing annulus of the well, and an
- 1157 explanation of the temperature/volume relationships covering the fluid. Any addition or
- 1158 withdrawal of fluids from the casing/tubing annulus shall be noted.
- 1159
- 1160 (g) The results of any mechanical integrity test, or any other testing done on a well,
- 1161 shall be submitted to the administrator within thirty (30) days or with the next quarterly report,
- 1162 whichever comes later, following the completion of the test.
- 1163
- 1164 (h) The permittee shall retain all monitoring records required by the permit for a
- 1165 period of three (3) years following facility closure.
- 1166

1167 **Section 9. Individual Permits for Class V Facilities.**

- 1168
- 1169 (a) The operator shall submit an application and obtain a permit prior to the
- 1170 construction, installation, modification or operation of any facility in the following subclasses:
- 1171 5A3; 5B3; 5B5; 5C1; 5C2; 5C3; 5D1; 5D3; 5D4; 5E3, 5E4 and 5F2 unless the facility is
- 1172 covered by a general permit. In addition, any facility not authorized under Sections 10 and 11,
- 1173 and operators directed by the administrator to obtain an individual permit, shall obtain an
- 1174 individual permit under this section.
- 1175
- 1176 (b) The operator is responsible to make application for and obtain a permit. Each
- 1177 application must be submitted with all supporting data required in this chapter.
- 1178
- 1179 (c) A complete application for a Class V facility individual permit shall include:
- 1180
- 1181 (i) A brief description of the nature of the business and the activities to be
- 1182 conducted that require the applicant to obtain a permit under this chapter.
- 1183
- 1184 (ii) The name, address and telephone number of the operator, and the
- 1185 operator's ownership status and status as a federal, state, private, public or other entity.
- 1186
- 1187 (iii) The name address and telephone number of the facility. Additionally, the
- 1188 location of the facility shall be identified by section, township, range and county.
- 1189
- 1190 (iv) A calculation of the area of review including:
- 1191
- 1192 (A) A calculation to determine the maximum area affected by the
- 1193 injected waste for all Class V facilities constructed or modified after the effective date of these
- 1194 regulations. This calculation determines the total amount of void space around and down

1195 gradient from the point of injection and uses accepted groundwater theory to determine the
1196 extent of any affected groundwater around the facility.

1197
1198 (B) A Class V area of review shall never be less than the area of
1199 potentially impacted groundwater.

1200
1201 (C) All areas of review shall be legally described by township, range
1202 and section to the nearest ten (10) acres as described under the general land survey system.

1203
1204 (v) Information about the proposed facility including:

1205
1206 (A) A description of the substances proposed to be discharged,
1207 including type, source, and chemical, physical, radiological and toxic characteristics; and

1208
1209 (B) Construction and engineering details in accordance with Section
1210 13 of this chapter and Chapter 11 Water Quality Rules and Regulations.

1211
1212 (vi) Information, including the name, description, depth, geologic structure,
1213 faulting, fracturing, lithology, hydrology, and fluid pressure of the receiver and any relevant
1214 confining zones. The fracture pressure of the receiver shall be submitted only if the injection is
1215 under pressure into a confined aquifer.

1216
1217 (vii) Water quality information including background water quality data
1218 which will facilitate the classification of any groundwaters which may be affected by the
1219 proposed discharge. This must include information necessary for the division to classify the
1220 receiver and any secondarily affected aquifers under Chapter 8, Wyoming Water Quality Rules
1221 and Regulations.

1222
1223 (viii) A topographic and other pertinent maps, extending at least one (1) mile
1224 beyond the property boundaries of the facility, but never less than the area of review, depicting:

1225
1226 (A) The facility and each of its intake and discharge structures;

1227
1228 (B) Each well, drywell or subsurface fluid distribution system where
1229 fluids from the facility are injected underground;

1230
1231 (C) Other wells, springs, and surface water bodies, and drinking
1232 water wells listed in public records or otherwise known to the applicant within the area of
1233 review; and

1234
1235 (D) Bedrock and surficial geology, geologic structure, and
1236 hydrogeology in the area.

1237
1238 (ix) A list of other relevant permits, whether federal or state, that the facility
1239 has been required to obtain, such as construction permits. This includes a statement as to
1240

1241 whether or not the facility is within a state approved water quality management plan area, a
 1242 state approved wellhead protection area or a state approved source water protection area.

1243
 1244 (x) Detailed plans for monitoring the volume and chemistry of the discharge,
 1245 and water quality of selected water wells within the area of review in accordance with Section
 1246 15 of this chapter.

1247
 1248 (xi) All applications for permits, reports, or information to be submitted to
 1249 the administrator shall be signed by a responsible officer as described in Section 6(f)(xiv) and
 1250 the application shall contain the certification contained in Section 6(f)(xv) of this chapter.

1251
 1252 (xii) All data used to complete permit applications shall be kept by the
 1253 applicant for a minimum of three (3) years from the date of signing.

1254
 1255 **Section 10. General Permits for Class V Facilities.**

1256
 1257 (a) The department may develop and issue general permits pursuant to these
 1258 regulations which cover Class V facilities for the following subclasses: 5A1, 5A2, 5B1, 5C4,
 1259 5C5, 5C6, 5D1, 5D2, 5E1, 5E3, and 5E5. The administrator may issue general permits in other
 1260 categories as the need arises. 5E3 facilities which were permitted as small wastewater systems
 1261 prior to April 14, 1998 are permitted by rule under Section 8(c)(v) and are not covered by this
 1262 section. Facilities in these subclasses which have already been issued individual permits under
 1263 Chapter 9 or Chapter 16, Water Quality Rules and Regulations may continue under these
 1264 permits until they are terminated, revoked and reissued, or canceled at the request of the
 1265 operator. Coverage shall not be extended to any facility if such a facility would be in violation
 1266 of any state approved source water protection area. Facilities in these subclasses not presently
 1267 covered by an individual permit will be authorized by permit by rule until the general permit for
 1268 the specific subclass is issued. The operator of a facility listed in this section shall have two (2)
 1269 years after the date of issuance of the general permit to:

- 1270
 1271 (i) Obtain coverage under the issued general permit;
 1272
 1273 (ii) Submit an application and receive an individual permit under this
 1274 chapter.
 1275 (iii) Continue to be covered by a permit issued pursuant to Chapter 9 of these
 1276 regulations.
 1277
 1278 (iv) Abandon the facility in accordance with Section 18.

1279
 1280 (b) General permits shall also include:

- 1281
 1282 (i) The permit conditions required in Section 6(h)(iii).
 1283
 1284 (ii) A requirement to submit information necessary for the department to
 1285 make an assessment of the vulnerability of the environment and public health to the injection
 1286 from the Class V well. Such information may include the depth to the groundwater table at the

1287 disposal field, groundwater quality or existing available information on the lithology, geology,
 1288 hydrogeology and the location of the following items within 1/4 mile of the Class V facility:

- 1289
- 1290 (A) All water supply wells and the uses of each respective well;
- 1291
- 1292 (B) All property boundaries and land uses;
- 1293
- 1294 (C) All surface water bodies or springs; and
- 1295
- 1296 (D) All known sources of groundwater contamination or pollution.
- 1297
- 1298 (E) All state approved source water protection areas, wellhead
 1299 protection areas, 201 service areas, or water quality management plan areas.
- 1300
- 1301 (iii) Depth below the ground surface for the point of injection and for the well
 1302 screening in all wells within the area of review;
- 1303
- 1304 (iv) A requirement for facilities constructed after April 14, 1998 that the
 1305 operator certifies the facility will meet the design, construction, and operational performance
 1306 requirements in Section 13 for the specific subclass of facility.
- 1307
- 1308 (v) A requirement that the operator submit the disposal capacity of the
 1309 facility in gallons per day as calculated using Tables 1 and 2, Water Quality Rules and
 1310 Regulations Chapter 25. Some facilities may be required to monitor the volume of injectate
 1311 actually disposed of, or the volume of water used in the area served by the Class V facility.
 1312
- 1313 (c) The administrator may require any operator covered by a general permit to
 1314 obtain an individual permit for the facility when a review of the information submitted under
 1315 this section indicates that the general permit would not be protective of groundwater in that
 1316 specific case. Any operator covered by a general permit may at any time apply for and obtain
 1317 an individual permit for the same facility. Once issued, an individual permit will replace
 1318 coverage by the general permit for that facility.
- 1319
- 1320 (d) General permits will contain the subclass of injection facility covered, the
 1321 geographic area covered, the general nature of the fluids to be discharged, and the location of
 1322 the receiver where the discharge will be allowed. General permits will follow the public notice
 1323 requirements of Section 22 of this chapter. During each five (5) year review of a general permit,
 1324 a public notice shall be issued by the department stating that a five (5) year review has been
 1325 done, listing the facilities covered by a general permit, and stating where the public may obtain
 1326 a copy of the permit.
- 1327
- 1328 (e) Operators of new injection facilities who believe that their facility may be
 1329 covered by a general permit in class 5C6 facilities may apply for coverage under the general
 1330 permit for that subclass. If not accepted for coverage under this general permit, the operator
 1331 shall apply for an individual permit under subclass 5C3.
- 1332

1333 (f) Operators of new injection facilities who believe that their facility may be
 1334 covered by a general permit in class 5E5 facilities may apply for coverage under the general
 1335 permit for that subclass. If not accepted for coverage under this general permit, the operator
 1336 shall apply for an individual permit under subclass 5E3.

1337
 1338 (g) In order to obtain coverage under the general permit all operators of class 5C6
 1339 and 5E5 shall submit detailed construction drawings and an abbreviated groundwater study
 1340 showing the approximate depth to groundwater and a list of water wells within one half mile of
 1341 the facility.

1342
 1343 (h) General permits may be written to require the operator to monitor the water
 1344 quality of the injected fluid and to submit the information to the department. Existing facilities
 1345 under this section may be required to monitor injectate quality on a one time basis, on a
 1346 quarterly basis, a semi-annual basis or annual basis depending on the ability of the facility to
 1347 cause adverse environmental damage or affect human health.

1348
 1349 (i) General permits for Class 5C5 coal bed methane injection facilities shall require
 1350 that:

1351
 1352 (i) Each operator provide background information showing that the class of
 1353 use under Chapter 8 for each injection zone will not be violated by the injection of coal bed
 1354 methane produced water.

1355
 1356 (ii) A valid pressure falloff curve be recorded for each well within one (1)
 1357 year of the start of injection into that well.

1358
 1359 (iii) The pressure of injection be continuously recorded and that the pressure
 1360 of injection be limited to no more than the fracture pressure of the receiving formation. This
 1361 requirement can be met by assuming that the fracture gradient of the receiver is .70 psi/foot of
 1362 depth and using the depth of the topmost perforation in making the calculation.

1364 **Section 11. Permit by Rule for Class V Facilities.**

1365
 1366 The types of Class V facilities listed in this section represent minimal threats to pollute
 1367 groundwater. The referenced facilities which meet the requirements of this section are
 1368 permitted by rule. A permit by rule requires the owner or operator to submit information
 1369 contained in this section before construction, installation or modification of a facility and to
 1370 meet the performance standards contained in this section and in Section 13 of this Chapter. No
 1371 facility shall be located within a state approved local wellhead protection area, state approved
 1372 source water protection area or a state approved water quality management area which is in
 1373 conflict with any of those plans.

1374
 1375 (a) A facility permitted by rule under this section shall meet the following
 1376 conditions:

1377
 1378 (i) In addition to the information listed in Section 9 (c) (i), (ii) and (iii) of

1379 this chapter, the operator shall submit the following inventory information to the department
 1380 prior to construction for facilities constructed after the effective date of these regulations and
 1381 within one (1) year of the effective date of these regulations for existing facilities: (Facilities
 1382 which are already registered with the Underground Injection Control Program, or which were
 1383 issued a permit under Chapters 3, 9 or 16, need not send a new registration, but may be asked
 1384 for updated information from time to time.)

1385
 1386 (A) The location of the facility, either a complete legal description or
 1387 latitude and longitude preferably within a (ten) 10 meter accuracy.

1388
 1389 (B) Type and general description of the quality of the injected fluid.

1390
 1391 (C) The disposal capacity of the facility in gallons per day.

1392
 1393 (D) Depth of injection zone.

1394
 1395 (E) Whether or not the facility is operating, temporarily abandoned,
 1396 or permanently abandoned.

1397 (ii) The facility shall be designed, constructed and operated to protect
 1398 groundwater standards contained in Chapter 8, Water Quality Rules and Regulations and
 1399 performance standards found in this section and in Section 13 of this chapter.

1400
 1401 (iii) Chemical, bacteriological, radiological additives, hazardous substances
 1402 or toxic substances additives shall not be mixed in the injected fluid at any time during use of
 1403 the water, prior to injection or during injection.

1404
 1405 (iv) Any violation of the requirements of these regulations by a Class V
 1406 facility operator permitted by rule shall be reported to the department by telephone within
 1407 twenty-four (24) hours of the time when the operator becomes aware of the violation. A written
 1408 report shall be filed by the operator with the department within seven (7) days detailing steps
 1409 which have been taken and will be taken to eliminate the violation.

1410
 1411 (b) All facilities, referenced in this section, which do not meet the requirements of
 1412 subsection (a) shall obtain an individual permit under this chapter. For facilities constructed or
 1413 modified after the effective date of these regulations requiring an individual permit, the owner
 1414 or operator shall obtain the permit prior to any construction.

1415
 1416 (c) The following classes of facilities are permitted by rule under this section:

1417
 1418 (i) 5B2 facilities, except any facility which injects wastewater or contains
 1419 polluted groundwater or surface water in concentrations above the receiver use standards
 1420 contained in Chapter 8, Water Quality Rules and Regulations.

1421
 1422 (ii) After the effective date of these regulations, coal bed methane operators
 1423 cannot be covered by 5B2 aquifer recharge rule authorizations. All coal bed methane disposal
 1424 systems must be covered by a general permit or an individual permit under this chapter if they

1425 inject into an Underground Source of Drinking Water, or a Class II permit issued by the
1426 Wyoming Oil and Gas Conservation Commission if they inject into a Class VI aquifer.

1427
1428 (iii) 5B4 facilities, provided that the water injected will not cause a
1429 groundwater standards violation under Chapter 8, Water Quality Rules and Regulations.

1430
1431 (iv) 5B6 and 5B7 facilities;

1432
1433 (v) 5D5 facilities, except those facilities receiving water polluted above the
1434 receiving groundwater class of use standards contained in Chapter 8, Water Quality Rules and
1435 Regulations and facilities injecting swimming pool wastes into a Class I groundwater.

1436
1437 (vi) 5E3 facilities which were originally permitted under a small wastewater
1438 system permit issued by the Department of Environmental Quality or a local government
1439 delegated the authority to issue small wastewater system permits, located within any five (5)
1440 acres of land where the cumulative maximum peak daily wastewater flow injected from other
1441 small wastewater system permitted facilities under the same ownership would exceed 2,000
1442 gallons per day.

1443
1444 (vii) 5F1 facilities, provided that information contained in Section 13 (m) of
1445 this chapter is submitted.

1446
1447 (d) A permit by rule where the operator has provided the necessary information
1448 shall be valid until the facility is properly closed pursuant to these regulations or until a permit
1449 has been issued or denied under this chapter.

1450
1451 (e) The administrator may request information from the owner or operator of a well
1452 or facility permitted by rule to determine whether the facility may be causing a violation of
1453 groundwater use standards in Chapter 8, Water Quality Rules and Regulations, the construction
1454 standards found in this chapter and in Chapter 11, Water Quality Rules and Regulations, or any
1455 other requirements of this chapter. Such information may include, but is not limited to:

1456
1457 (i) Analysis of injected fluids and periodic submission of reports of such
1458 monitoring.

1459
1460 (ii) Groundwater monitoring and periodic submission of reports of such
1461 monitoring.

1462
1463 (iii) Description of receiving strata.

1464
1465 (iv) Well locations and down gradient use of groundwater.

1466
1467 (f) Any request for information under this section shall be made in writing and
1468 include a brief statement of the reasons for requesting the information. An owner or operator
1469 shall submit the information within the time frames provided in the request for information.

1470

1471 (g) The administrator may require any operator permitted by rule to obtain an
 1472 individual permit for the facility when a review of the information submitted under paragraph
 1473 (e) of this section indicates that the permit by rule would not be protective of groundwater in
 1474 that specific case.

1475

1476 **Section 12. Construction Standards for Class I Wells.**

1477

1478 (a) All existing and new Class I wells shall be constructed to prevent the movement
 1479 of fluids into any underground source of drinking water, permit the use of testing devices and
 1480 workover tools, and permit continuous monitoring of injection tubing and long string casing, as
 1481 required under Sections 6 (h)(i) and 6 (h)(ii) of this chapter.

1482

1483 (b) All well materials shall be compatible with the wastes that may be contacted.
 1484 The applicant shall submit data necessary to document compatibility.

1485

1486 (c) Casing and cement used in the construction of each newly drilled well shall be
 1487 designed for the life expectancy of the well. The applicant shall provide all information
 1488 required to make a determination based on these factors:

1489

1490 (i) Depth to the injection zone.

1491

1492 (ii) Injection pressure, external pressure, internal pressure, and axial loading.

1493

1494 (iii) Hole size.

1495

1496 (iv) Size and grade of all casing strings (wall thickness, diameter, nominal
 weight, length of joints, joint specifications and construction material).

1497

1498 (v) Corrosiveness of injected fluid, formation fluids, and temperatures.

1499

1500 (vi) Lithology of injection and confining intervals.

1501

1502 (vii) Type or grade of cement.

1503

1504 (d) Construction requirements for Class I hazardous waste wells.

1505

1506 (i) For casing and cementing requirements, the applicant shall provide all
 1507 information necessary to make a determination of adequacy based on quantity and chemical
 1508 composition of injected fluids.

1509

1510 (ii) One surface casing string shall, at a minimum, extend into the confining
 1511 zone below the lowest Underground Source of Drinking Water and be cemented by circulating
 1512 cement from the base of the casing to the surface, using a minimum of one-hundred twenty
 1513 percent (120%) of the calculated annular volume. The administrator may require more than
 1514 one-hundred twenty percent (120%) when the geology or other circumstances warrant a greater
 1515 percentage.

1516

1517 (iii) At least one long string casing, using a sufficient number of centralizers,
1518 shall extend to the receiver and shall be cemented by circulating cement to the surface in one or
1519 more stages:

1520
1521 (A) Of sufficient quantity and quality to withstand the maximum
1522 operating pressure.

1523
1524 (B) In a quantity no less than one hundred twenty percent (120%) of
1525 the calculated volume necessary to fill the annular space. The administrator may require more
1526 than one hundred twenty percent (120%) when the geology or other circumstances warrant a
1527 greater percentage.

1528
1529 (iv) Circulation of cement may be accomplished by staging. The
1530 administrator may approve an alternative method of cementing in cases where the cement
1531 cannot be recirculated to the surface, provided the operator can demonstrate by logs that the
1532 cement is continuous and does not allow fluid movement behind the casing.

1533
1534 (v) Casings, including any casing connections, must be rated to have
1535 sufficient structural strength to withstand, for the life the well, the maximum burst and collapse
1536 pressures which may be experienced during the construction, operation, and closure of the well.
1537 Casings shall also be rated to withstand the maximum tensile stress which may be experienced
1538 at any point along the entire length of the casing during construction, operation, and closure of
1539 the well.

1540
1541 (vi) At a minimum, cement and cement additives shall be of sufficient
1542 quantity and quality to maintain mechanical integrity over the design life of the well.

1543
1544 (vii) For tubing and packer, the applicant shall provide all information
1545 necessary to make a determination of adequacy based on these factors:

1546
1547 (A) Depth of setting.

1548
1549 (B) Characteristics of the injection fluid, including chemical content,
1550 corrosiveness, temperature, and density.

1551
1552 (C) Injection pressure.

1553
1554 (D) Annular pressure.

1555
1556 (E) Rate (intermittent or continuous), temperature, and volume of
1557 injected fluid.

1558
1559 (F) Size of casing; and

1560
1561 (G) Tubing tensile, burst, and collapse strengths.

1562

1563 (viii) During the drilling and construction of a Class I hazardous waste well,
1564 appropriate logs and tests shall be run to determine or verify the depth, thickness, porosity,
1565 permeability, and rock type of, and the salinity of any entrained fluids in all relevant geologic
1566 units to assure compliance with the performance standards of Section 16 of this chapter, and to
1567 compile baseline data against which future measurements may be compared. A descriptive
1568 report interpreting results of such logs and tests shall be prepared by the operator and submitted
1569 to the administrator. At a minimum, such logs shall include:

1570
1571 (A) Deviation checks made during drilling of all Class I hazardous
1572 waste wells. Such checks shall be done at sufficiently frequent intervals to determine the
1573 location of the borehole.

1574
1575 (B) Such other logs and tests as may be needed after taking into
1576 account the availability of similar data in the area of the drilling site, the construction plan and
1577 the need for additional information that may arise as construction of the well progresses. At a
1578 minimum, the following logs shall be required:

1579
1580 (I) When installing the surface casing: resistivity,
1581 spontaneous potential, and caliper logs shall be run before the installation of the casing. A
1582 cement bond log and variable density log and temperature log are required after the surface
1583 casing is installed and before the well is deepened.

1584
1585 (II) When installing the long string casing: resistivity,
1586 spontaneous potential, porosity, caliper, gamma ray and fracture finder logs are required before
1587 the casing is installed. After the casing is installed and cemented, a cement bond log and
1588 variable density log are required before the well is completed.

1589
1590 (III) The administrator may allow the use of an alternative to
1591 the logs described above, when, in the administrator's opinion, the alternative will provide
1592 equivalent or better information.

1593 (C) A mechanical integrity test as described in Section 6(h)(i) of this
1594 chapter.

1595
1596 (D) Whole core or sidewall cores of the confining zone and receiver
1597 and formation fluid samples from the receiver shall be taken. The administrator may accept
1598 cores from nearby wells if the operator can demonstrate, to the administrator's satisfaction, that
1599 core retrieval is not possible, and the other cores are representative of the conditions in the well.
1600 The administrator may require the operator to core other formations in the borehole.

1601
1602 (ix) The fluid temperature, pH, conductivity, pressure, and static fluid level
1603 of the discharge zone shall be recorded during construction.

1604
1605 (x) At a minimum, the following information about the injection and
1606 confining zones shall be calculated or determined during construction:

1607
1608 (A) The physical and chemical characteristics of the rock itself; and

1609
1610 (B) Physical and chemical characteristics of the formation fluids.

1611
1612 (C) Upon completion of construction, but still prior to operation, the
1613 operator shall conduct either pump tests or injectivity tests to verify the hydrogeologic
1614 characteristics of the discharge zone.

1615
1616 (e) Fluid seals are not allowed in place of a packer in any Class I well.

1617
1618 **Section 13. Construction and Operation Standards for Class V Wells.**

1619
1620 (a) All Class V facilities must meet or exceed the design standards of these
1621 regulations including Part B of Chapter 11 and Chapter 26, Water Quality Rules and
1622 Regulations.

1623
1624 (b) All Class V facilities shall be constructed to permit the use of testing devices,
1625 and allow monitoring of injected fluid quality. Class V facilities shall be constructed to provide
1626 for metering of the injectate volume if the individual or general permit requires such metering.

1627
1628 (c) All heating and cooling facilities (5A1, 5A2 and 5A3) shall include:

1629
1630 (i) Provision for the use of non-toxic circulating medium in closed loop
1631 systems or an operating system which cannot be made to operate with fluid leaking.

1632
1633 (ii) Provision for operations without the use of corrosion inhibitors, biocides,
1634 or other toxic additives in open loop systems.

1635
1636 (iii) Provisions to control the total dissolved solids of waters injected into
1637 open loop systems to the class of use standard.

1638
1639 (iv) Provisions for automatic shutdown of the system in the event of a fluid
1640 loss from a closed loop system or a loss of any product to an open loop system.

1641
1642 (v) Provisions to ensure that injected water does not come to the surface or
1643 flood any subsurface structure in the immediate vicinity of the injection system.

1644
1645 (vi) Provisions to ensure that known groundwater contamination is not spread
1646 by the direct injection of contaminated water or by movement of contamination from one zone
1647 to another caused indirectly by the injection.

1648
1649 (d) All mining, sand and backfill facilities (5B1) shall include:

1650
1651 (i) Provision for insuring mechanical integrity of any well designed to
1652 remain in service for more than 60 days.

1653
1654 (ii) Provision for controlling the type of material injected and to insure that

1655 no hazardous waste is injected.

1656

1657 (iii) Provision for leak detection in all surface piping.

1658

1659 (iv) Provision for insuring that the backfill remains within the permitted area
1660 of injection.

1661

1662 (v) Provision to insure that the injection does not cause a groundwater
1663 standards violation for the class of use of the receiver.

1664

1665 (e) All beneficial use injection facilities (5B2, 5B3, 5B4, 5B5, 5B6, and 5B7) shall
1666 include:

1667

1668 (i) Plans to insure that contaminants do not enter the injection stream.

1669

1670 (ii) Information to show that the injection will accomplish the desired goal
1671 stated in the application.

1672

1673 (iii) Target restoration values for the groundwater in the affected area being
1674 remediated for 5B5 facilities.

1675

1676 (f) All commercial and industrial Class V facilities (5C1, 5C2, 5C3 and 5C4) shall:

1677

1678 (i) Include a pre-treatment plan to insure that toxic materials (substances)
1679 are not discharged to the groundwater at concentrations higher than the class of use standards
1680 found in Chapter 8, Wyoming Water Quality Rules and Regulations or any primary drinking
1681 water standard found in 40 CFR 141 (as of June 6, 2001), whichever is more stringent;

1682

1683 (ii) Conform to applicable construction standards found in Chapter 25,
1684 Wyoming Water Quality Rules and Regulations; and

1685

1686 (iii) Include, at a minimum, annual sampling of the waste injected as part of
1687 the monitoring plan for the facility.

1688

1689 (g) When a 5C3 facility receiving slaughter house wastes can demonstrate that no
1690 violations of groundwater standards will occur, the facility shall be:

1691

1692 (i) Designed for the following minimum disposal capacities:

1693

1694 (A) 300 gallons per day for plant cleanup plus.

1695

1696 (B) 25 gallons per head of cattle slaughter capacity.

1697

1698 (C) 40 gallons per head of hog slaughter capacity.

1699

1700 (D) 35 gallons per head of sheep slaughter capacity.

- 1701
1702 (E) Appropriate capacity for any other species slaughtered on a per
1703 head basis.
1704
1705 (ii) Designed to prevent the disposal of blood and viscera into the septic
1706 system except as a small incidental portion of the total flow. Blood and viscera shall be sent to
1707 a rendering plant or other approved disposal or recycling system.
1708
1709 (iii) A grease trap shall be provided ahead of the septic system with a total
1710 capacity equal to one half of the total required capacity of the septic tank.
1711
1712 (h) All drainage facilities (those with the code number 5D on Appendix C) shall
1713 include:
1714
1715 (i) A plan to preclude the inadvertent introduction of contaminants into the
1716 wastewater stream.
1717
1718 (ii) An operations and maintenance manual detailing maintenance required,
1719 reporting requirements for known spills affecting the facility, and steps to be taken to prevent
1720 the introduction of contaminants in the event of a spill within the area served by the facility.
1721
1722 (iii) Maps showing the area where runoff will be transported to the drainage
1723 facility.
1724
1725 (i) All agricultural drainage facilities (5D1) injecting surface runoff from animal
1726 waste piles, feedlots, or dairy operations for which a demonstration can be made that the
1727 groundwater standards can be met, shall be designed for treatment in a septic tank, lagoon, or
1728 other treatment technology prior to injection. The following requirements apply to these
1729 systems:
1730
1731 (i) The treatment facility shall be sized for the strength and solids content of
1732 the wastewater to be treated.
1733
1734 (ii) The flow capacity requirements shall include all runoff from operations
1735 within the collection area and all runoff from precipitation up to and including a 25 year, 24
1736 hour design storm.
1737
1738 (iii) The flow capacity requirements for drainage from a fully enclosed dairy
1739 or feeding operation shall be as follows:
1740
1741 (A) 20 gallons per day per animal up to 50 pounds.
1742
1743 (B) 100 gallons per day per animal up to 500 pounds.
1744
1745 (C) 200 gallons per day per animal over 500 pounds.
1746

1747 (iv) The subsurface fluid distribution system shall be designed in accordance
 1748 with general design requirements found in Chapter 25.

1749
 1750 (j) All sewage disposal (5E) facilities shall:

1751
 1752 (i) Conform to applicable construction standards found in Chapter 25,
 1753 Wyoming Water Quality Rules and Regulations;

1754
 1755 (ii) Comply with applicable sections of Chapter 11, Parts B and C, Water
 1756 Quality Rules and Regulations for all piping systems or storage facilities feeding existing or
 1757 Class V facilities constructed after the effective date of these regulations; and

1758
 1759 (iii) Be designed for the maximum daily peak flow determined from Tables 1
 1760 and 2 of Chapter 25, Water Quality Rules and Regulations. In addition, whenever multiple
 1761 points of discharge under one owner within any five (5) acres of land have a design capacity
 1762 under Chapter 25 to inject more than a total of 2,000 gallons per day of domestic sewage, they
 1763 shall be permitted under this chapter in the same manner that they would be permitted if all the
 1764 waste were delivered to a single point of discharge.

1765
 1766 (k) All aquaculture return flow facilities (5E1) shall include pretreatment in a
 1767 lagoon, septic tank, or oxidation ditch sized for the strength and volume of the wastes to be
 1768 disposed of.

1769
 1770 (l) All domestic wastewater treatment plant disposal facilities (5E4) shall also
 1771 include:

1772
 1773 (i) Provisions for filtering of the waste and disinfection of the injectate.

1774
 1775 (ii) An environmental monitoring program, including pre-discharge,
 1776 operational monitoring, and post discharge monitoring.

1777
 1778 (iii) Monitoring of the injectate on at least a weekly basis for nitrate as N,
 1779 ammonia as N, and coliform bacteria.

1780
 1781 (iv) Design to prevent groundwater standards violations as defined by
 1782 Chapter 8, Water Quality Rules and Regulations.

1783
 1784 (v) The points of compliance shall be at down gradient monitor wells
 1785 installed on land owned by the same utility that operates the treatment plant and injection
 1786 facilities whenever the point of injection is not the point of compliance.

1787
 1788 (vi) Requirements for the submission, approval and conformance with an
 1789 operational and maintenance manual.

1790
 1791 (m) All cathodic protection facilities (5F1) shall include:

1792

- 1793 (i) A seal of sodium bentonite or sodium bentonite grout is required from
1794 the surface to a minimum depth of three (3) feet. A second sodium bentonite or sodium
1795 bentonite grout seal is required for a minimum thickness of three (3) feet, just above the top of
1796 the coke breeze. After the sodium bentonite has been placed in the hole, it shall be hydrated to
1797 insure a proper seal. The remainder of the hole between these seals may be backfilled with
1798 cuttings. The above seals may be placed directly in the hole or may be placed outside of a
1799 surface pipe of sufficient length to reach down to the anodes. If a surface pipe is used, no seals
1800 are required inside the pipe except during final abandonment.
1801
- 1802 (ii) All aquifers encountered while drilling shall be isolated from one another
1803 using a bentonite seal of at least two (2) feet in vertical dimension.
1804
- 1805 (iii) The coke breeze shall be a high quality product containing a minimum of
1806 leachable metals or organic pollutants. The coke breeze shall not discharge any pollutant which
1807 will cause a groundwater standard violation.
1808
- 1809 (iv) Surface access to the anode shall be kept sealed and locked at all times
1810 when the anode is not actually being serviced.
1811
- 1812 (v) Each separate aquifer penetrated shall require a separate breather pipe.
1813 Each aquifer shall remain in hydrologic isolation from each other if they were isolated prior to
1814 installation.
1815
- 1816 (vi) If it becomes necessary to wet any anode installed under this section,
1817 only water from a public water supply or water meeting all of the standards for Class I
1818 groundwater of the state shall be used unless the division is first supplied with an analyses of
1819 the water for approval.
1820
- 1821 (vii) Each 5F1 facility shall be marked in the field with a sign showing the
1822 name, address, and telephone number of the operator who installed the system. Upon
1823 abandonment, such markers shall remain in place.
1824
- 1825 (viii) A 5F1 facility shall not be installed within 200 feet of any pipeline,
1826 wellhead, storage tank, mud pit or other potential source of pollution unless the operator's
1827 surface rights prevent this requirement from being met.
1828
- 1829 (n) Except for beneficial use facilities, Class V facilities shall not be located within
1830 200 feet of any active public water supply well, regardless of whether or not the well is
1831 completed in the same aquifer. This minimum distance may increase or the existence of a Class
1832 V facility may be prohibited within a state approved wellhead protection area, source water
1833 protection area or water quality management plan area.
1834
- 1835 (o) Class 5C6 and 5E5 facilities shall meet the construction standards and separation
1836 distances appropriate for the design flow as shown in Chapter 25.
1837
- 1838 (p) Class 5C5 coal bed methane injection facilities shall:

- 1839
- 1840 (i) Provide for metering of water injected into each well.
- 1841
- 1842 (ii) Be constructed to insure that the water injected reaches the intended
- 1843 receiver and only the intended receiver. The intended receiver shall be identified by geologic
- 1844 formation and/or member name as well as the depth of that receiver below ground surface.
- 1845
- 1846 (iii) Provide for disinfection of the water injected if analysis shows that
- 1847 coliform bacteria, sulfate reducing bacteria or iron fixing bacteria are present in the water as
- 1848 pumped from the coal seam. Treatment methods must be methods that would be appropriate for
- 1849 treating water in a public water supply system.
- 1850
- 1851 (iv) Provide for injection at a pressure of less than the fracture pressure of the
- 1852 receiver.
- 1853
- 1854 (v) Provide for monitoring of the quality of the injected water on a periodic
- 1855 basis.
- 1856
- 1857 (vi) Provide notification of the intent to obtain coverage under the general
- 1858 permit to all surface owners, mineral owners or water rights owners, oil and gas owners and the
- 1859 owners of coal leases within one-half mile of the proposed point of injection.
- 1860
- 1861 (vii) Provide for pressure testing of the casing before injection and at least
- 1862 once every five (5) years thereafter. The casing shall be pressure tested up to an indicated
- 1863 surface pressure of 700 psi and held for 15 minutes. A passing result is indicated if the casing
- 1864 still has 690 psi at the end of the 15 minute shut in time.
- 1865

1866 **Section 14. Siting conditions for Class I Wells.**

1867

- 1868 (a) All Class I wells shall be situated such that they inject into a formation that is
- 1869 beneath the lowermost Underground Source of Drinking Water within one-quarter (1/4) mile of
- 1870 the well or within two (2) miles for Class I hazardous waste injection wells, and the discharge
- 1871 zone has sufficient permeability, porosity, thickness, and extends over a sufficient area to
- 1872 prevent migration of fluids into any underground source of drinking water.
- 1873
- 1874 (b) Class I wells shall be limited to areas that are determined by the administrator to
- 1875 be geologically suitable for the prevention of migration of fluids into underground source of
- 1876 drinking waters. In determining geological suitability, the administrator shall consider the
- 1877 following information submitted by the applicant:
- 1878
- 1879 (i) An analysis of the structural and stratigraphic geology, hydrogeology,
- 1880 and seismicity of the region.
- 1881
- 1882 (ii) An analysis of the local geology and hydrogeology of the well site,
- 1883 including, at a minimum, detailed information regarding the stratigraphy, structure, and rock
- 1884 properties, aquifer hydrodynamics, and mineral resources.

1885
1886 (iii) A determination that the geology of the area can be described
1887 confidently, and, for hazardous waste wells only, that the waste fate and transport can be
1888 accurately predicted through the use of models.

1889
1890 (c) The operator shall demonstrate to the satisfaction of the administrator that:

1891
1892 (i) The confining zone is free from faults or fractures over an area sufficient
1893 to prevent the migration of fluids into a underground source of drinking water, and contains at
1894 least one formation of sufficient thickness and characteristics capable of preventing vertical
1895 propagation of fractures; and

1896
1897 (ii) The confining zone is separated from the base of the lowermost
1898 underground source of drinking water by at least one (1) sequence of permeable and less
1899 permeable strata that will provide an added layer of protection in the event of fluid movement
1900 through an unlocated borehole or fault.

1901
1902 (iii) Within the area of review, the piezometric surface of the fluid in the
1903 receiver is less than the piezometric surface of the lowermost underground source of drinking
1904 water considering density effects, injection pressures, and any significant pumping of the
1905 overlying aquifer; or

1906
1907 (iv) There are no underground sources of drinking waters present.

1908
1909 (d) The administrator may approve a site which does not meet the above
1910 requirements, if the operator can demonstrate that because of the site's geology, nature of the
1911 waste, or other considerations, it would not cause endangerment to any underground source of
1912 drinking waters.

1913
1914 **Section 15. Environmental Monitoring Program.**

1915
1916 (a) The monitoring program shall be adequate to ensure knowledge of migration
1917 and behavior of the discharge in the receiver.

1918
1919 (i) Monitoring may be required for any circumstance where groundwaters of
1920 the state could be affected.

1921
1922 (ii) The extent and design of a monitoring system shall be sufficient to deal
1923 with the pollution potential of the proposed discharge.

1924
1925 (iii) Before construction or installation of a Class I or V facility, a monitoring
1926 program, when required, shall be adequate to establish baseline conditions of the receiver.

1927
1928 (b) The monitoring program shall consist of any or all of the following:

1929
1930 (i) Pre-discharge or pre-operational monitoring.

- 1931
1932 (ii) Operational monitoring.
1933
1934 (iii) Post-discharge or post-operational monitoring.
1935
1936 (iv) Record keeping and reporting.
1937
1938 (v) Such additional requirements established by the administrator to meet the
1939 purposes of the Wyoming Environmental Quality Act and these regulations.
1940
1941 (c) Each monitoring program shall include maps and cross-sections, where
1942 appropriate, showing the location, lithology, and screening interval of each monitoring site.
1943
1944 (d) The operator is responsible for properly installing, operating, maintaining and
1945 removing all necessary monitoring equipment.
1946
1947 (e) The operator shall develop and follow a written waste analysis plan that
1948 describes the procedures to be carried out to obtain detailed chemical and physical analyses of a
1949 representative sample of the waste, including quality assurance procedures to be used. Once
1950 approved by the department, the operator shall not deviate from the plan without filing an
1951 amended plan and obtaining department approval for that amended plan. At a minimum, any
1952 plan shall include:
1953
1954 (i) The parameters for which the waste will be analyzed, the rationale for
1955 the selection of these parameters, and the test methods to be used to test for these parameters.
1956
1957 (ii) The sampling method that will be used to obtain a representative sample
1958 of the waste.
1959
1960 (iii) The operator shall repeat the analysis of the injected wastes in the
1961 manner and on the schedule described in the waste analysis plan, and when process or operating
1962 changes occur that may significantly alter the characteristics process, or operating changes
1963 occur that may significantly alter the characteristics of the waste stream.
1964
1965 (A) The operator shall conduct continuous or periodic monitoring of
1966 selected parameters as required by the administrator.
1967
1968 (B) The operator shall ensure that the plan remains accurate and the
1969 analyses remain representative.
1970
1971 (f) Requirements for Class I Wells:
1972
1973 (i) At a minimum, the permittee shall monitor the pressure in the injection
1974 zone annually, including at a minimum, a shutdown of the well for a time sufficient to conduct
1975 a valid observation of the pressure falloff curve.
1976

- 1977 (ii) When prescribing a monitoring system, the administrator may also
 1978 require:
- 1979 (A) Continuous monitoring for pressure changes in the first aquifer
 1980 overlying the confining zone. When such a well is installed, the operator shall, on a quarterly
 1981 basis, sample the aquifer and analyze for constituents specified by the administrator.
 1982
- 1983 (B) The use of indirect, geophysical techniques to determine the
 1984 position of the waste front, the water quality in a formation designated by the administrator, or
 1985 to provide other site specific data.
 1986
- 1987 (C) Periodic monitoring of the groundwater quality in the first aquifer
 1988 overlying the receiver.
 1989
- 1990 (D) Periodic monitoring of the groundwater quality in the lowermost
 1991 underground source of drinking water; and
 1992
- 1993 (E) Any additional monitoring necessary to determine whether fluids
 1994 are moving into or between any aquifers penetrated by the well.
 1995
- 1996 (F) The administrator may require seismicity monitoring when he has
 1997 reason to believe that the injection activity may have the capacity to cause seismic disturbances.
 1998
- 1999 (iii) Testing and monitoring requirements for all Class I hazardous waste
 2000 wells shall include:
- 2001
- 2002 (A) Submission of information by the applicant demonstrating that
 2003 the waste stream and its anticipated reaction products will not alter the permeability, thickness,
 2004 or other relevant characteristics of the confining or discharge zones such that they would no
 2005 longer meet the requirements specified when the area of review was calculated.
 2006
- 2007 (B) Submission of information by the applicant demonstrating that
 2008 the waste will be compatible with the well materials with which the waste is expected to come
 2009 into contact and a description of the methodology used to make that determination.
 2010 Compatibility for purposes of this requirement is established if contact with injected fluids will
 2011 not cause the well materials to fail to satisfy any design requirement imposed under Section 12
 2012 of this chapter.
 2013
- 2014 (C) The administrator shall require continuous corrosion monitoring
 2015 of the construction materials in the well for all wells where the pH of the injection fluid is less
 2016 than two (2) or greater than eleven (11), and may require such monitoring of other wastes. This
 2017 monitoring may be conducted by placing samples of the well construction materials in contact
 2018 with the waste stream or routing the waste stream through a loop constructed of the same
 2019 materials used in the well, or by using an alternative method approved by the administrator.
 2020
- 2021 (D) If a corrosion monitoring program is required, the test shall use
 2022 identical materials to those used in the construction of the well, and such materials shall be

2023 continuously exposed to the operating pressures, temperatures, and flow rates of the injection
2024 operation as measured at the well head. The operator shall monitor the materials for loss of
2025 mass, thickness, pitting, and other signs of corrosion on a quarterly basis to ensure that the well
2026 components meet the minimum standards for material strength and performance set forth in
2027 Section 12 of this chapter.

2028
2029 (iv) In addition to the above-mentioned requirements, operators of Class I
2030 hazardous waste wells shall also conduct mechanical integrity testing as follows:

2031
2032 (A) The long string casing, injection tubing, and annular seals shall be
2033 tested by means of an approved pressure test with liquid or gas on an annual basis and
2034 whenever there has been a well workover.

2035
2036 (B) The bottom-hole cement shall be tested by means of an approved
2037 radioactive tracer survey annually.

2038
2039 (C) An approved temperature, noise, or other approved log shall be
2040 run at least once every five (5) years to test for movement of fluid along the borehole. The
2041 administrator may require such tests whenever the well is worked over.

2042
2043 (D) Casing inspection logs shall be run at least once every five (5)
2044 years, unless the administrator waives this requirement due to well construction or other factors
2045 which limit the test's reliability.

2046
2047 (E) Any other test approved by the administrator may also be used.
2048 Procedures for approval of unauthorized mechanical integrity tests are outlined in Section
2049 6(h)(i)(B) of this chapter.

2050
2051 (F) The administrator shall be given the opportunity to witness all
2052 logging and drill stem testing done by the operator at any time during the permitting of any well
2053 under this chapter. The operator shall submit a schedule of such planned logging and testing to
2054 the administrator at least thirty (30) days prior to the first test.

2055
2056 (g) Requirements for Class V Wells:

2057
2058 (i) All Class V permits shall contain a point of compliance. The point of
2059 compliance shall be the point of injection or specific monitor wells located down gradient of
2060 the injection facilities.

2061
2062 (A) For facilities where the point of compliance is the point of
2063 injection, the fluid to be injected shall be limited to the class of use standards for the receiver as
2064 found in Chapter 8 of these regulations or any primary drinking water standard found in 40
2065 CFR 141, (as of June 6, 2001) whichever is more stringent. The permittee may be required to
2066 maintain monitor wells in the vicinity of the discharge for the purpose of monitoring flow
2067 direction and monitoring groundwater quality in the event of non-compliance with the permit.

2069 (B) For facilities where the point of compliance is at one or more
 2070 down gradient monitor wells, the department shall establish permit limitations at the monitor
 2071 well(s) consistent with the class of use of the receiver or any secondarily affected aquifer or
 2072 surface water. Where necessary to protect existing or future uses, permit limitations may be
 2073 established at the point of compliance which are more stringent than the class of use standard.
 2074

2075 (C) Facilities where subsurface treatment is anticipated may be
 2076 required to monitor the injected fluid at the point of injection. Permit limits may be established
 2077 at the point of injection which exceeds the class of use standard for the affected aquifer,
 2078 provided that a demonstration is made showing that a class of use standards violation will not
 2079 occur at a point of compliance downgradient from the point of injection. Permit limits of this
 2080 nature are intended to provide early warning of possible non-compliance at the point of
 2081 compliance.
 2082

2083 (h) Procedures and methods for sample collection and analyses shall be
 2084 implemented by the permittee to ensure that the samples are representative of the groundwater,
 2085 water, or wastes being sampled.
 2086

2087 (i) Sample collection of groundwater shall be of such frequency and of such variety
 2088 (season, time, location, depth, etc.) to properly describe the groundwater, and shall be
 2089 accomplished by the methods and procedures described in the U.S. Environmental Protection
 2090 Agency manual RCRA Groundwater Monitoring Technical Enforcement Guidance Document,
 2091 September, 1986, unless alternate methods and procedures are approved by the administrator.
 2092

2093 (j) Analysis of all samples shall be accomplished pursuant to Chapter 8, Water
 2094 Quality Rules and Regulations, Sections 7 and 8.
 2095

2096 **Section 16. Quality Assurance and Quality Control for Sample Collection and**
 2097 **Analysis.**
 2098

2099 (a) Procedures and methods for sample collection and analyses shall be
 2100 implemented by the permittee to ensure that the samples are representative of the groundwater,
 2101 water, or wastes being sampled.
 2102

2103 (b) Sample collection of groundwater shall be of such frequency and of such variety
 2104 (season, time, location, depth, etc.,) to properly describe the groundwater, and shall be
 2105 accomplished by the methods and procedures described in the U.S. Environmental Protection
 2106 Agency manual RCRA Groundwater Monitoring Technical Enforcement Guidance Document,
 2107 September, 1986, unless alternate methods and procedures are approved by the administrator.
 2108

2109 (c) Analysis of all samples shall be accomplished pursuant to Chapter 8, Water
 2110 Quality Rules and Regulations, Sections 7 and 8.
 2111

2112 **Section 17. Closure of Hazardous Waste Wells.**
 2113

2114 (a) The operator of a Class I hazardous waste well shall prepare, maintain, and

2115 comply with a plan for closure of the well and post-closure care of the well that meets the
 2116 standards for well closure required in paragraph (d) of this section and post-closure care
 2117 required in paragraph (e) of this section and is acceptable to the administrator. The obligation to
 2118 implement the closure and post-closure plan survives the termination of a permit or the
 2119 cessation of injection activities. The requirement to maintain and implement an approved plan
 2120 is directly enforceable regardless of whether the requirement is a condition of the permit.

2121
 2122 (i) The operator shall submit the plan as part of the permit application, and,
 2123 upon approval by the administrator, the plan shall be incorporated as a condition of any permit
 2124 issued.

2125
 2126 (ii) The operator shall submit any proposed significant revision to the
 2127 method of closure reflected in the plan for approval by the administrator no later than the date
 2128 on which notice of closure is required under paragraph (b) of this section.

2129
 2130 (iii) The plan shall ensure financial responsibility as required in Section 19 of
 2131 this chapter.

2132
 2133 (iv) The closure plan shall include the following information:

2134
 2135 (A) The type and number of plugs to be used.

2136
 2137 (B) The placement of each plug including the elevation of the top and
 2138 bottom of each plug.

2139
 2140 (C) The type, grade, and quantity of material to be used in plugging.

2141
 2142 (D) The method of placement of the plugs.

2143
 2144 (E) Any proposed test or measure to be made.

2145
 2146 (F) The amount, size, and location (by depth) of casing and any other
 2147 materials to be left in the well;

2148
 2149 (G) The method and location where casing is to be parted, if
 2150 applicable.

2151
 2152 (H) The procedure to be used to meet the requirements of paragraph
 2153 (d)(5) of this section;

2154
 2155 (I) The estimated cost of closure.

2156
 2157 (J) Any proposed test or measure to be made.

2158
 2159
 2160 (v) Post-closure plans shall include the following information:

- 2161
- 2162 (A) The pressure in the injection zone before injection began.
- 2163
- 2164 (B) The anticipated pressure in the injection zone at the time of
- 2165 closure.
- 2166
- 2167 (C) The predicted time until pressure in the injection zone decays to
- 2168 the point that the well's cone of influence no longer intersects the base of the lowermost
- 2169 Underground Source Drinking Water.
- 2170 (D) Predicted position of the waste front at closure.
- 2171
- 2172 (E) The status of any required cleanups; and
- 2173
- 2174 (F) The estimated cost of proposed post-closure care.
- 2175
- 2176 (vi) The administrator may modify a closure plan in accordance with the
- 2177 procedures outlined in Section 7 of this chapter governing modification of permits.
- 2178
- 2179 (vii) An operator of a Class I hazardous waste injection well who ceases
- 2180 injection temporarily, may keep the well open provided:
- 2181
- 2182 (A) The operator receives authorization from the administrator.
- 2183
- 2184 (B) The operator has described actions or procedures, satisfactory to
- 2185 the administrator, that the operator will take to ensure that the well will not endanger Under-
- 2186 ground Source of Drinking Waters during the period of temporary disuse. These actions and
- 2187 procedures shall include compliance with the technical requirements applicable to active
- 2188 injection wells unless waived by the administrator.
- 2189
- 2190 (viii) The operator of a well that has ceased operations for more than two years
- 2191 shall notify the administrator at least thirty (30) days prior to resuming operation of the well.
- 2192
- 2193 (b) The operator shall notify the administrator at least sixty (60) days prior to
- 2194 closure of a well. The administrator may allow a closure period of less than sixty (60) days.
- 2195
- 2196 (c) Within sixty (60) days after closure or at the time of the next quarterly report,
- 2197 whichever is less, except if the next quarterly report is due within fifteen (15) days, in which
- 2198 case the sixty (60) day requirement will be used, the operator shall submit a closure report to
- 2199 the administrator.
- 2200
- 2201 (i) Such report shall contain a certification by the operator and the person
- 2202 who performed the closure, if different from the operator, of the accuracy of the report, and:
- 2203
- 2204 (A) A statement that the well was closed in accordance with the
- 2205 closure plan previously submitted and approved by the administrator.
- 2206

2207 (B) Where actual closure differed from the plan previously submitted,
2208 a written statement specifying the differences between the previous plan and the actual closure.

2209
2210 (d) Standards for well closure.

2211
2212 (i) Prior to well closure, the owner or operator shall observe and record the
2213 pressure decay for a time specified by the administrator, who shall then analyze the pressure
2214 decay and the transient pressure observations conducted to determine whether the injection
2215 activity has conformed with predicted values.

2216
2217 (ii) Prior to well closure, appropriate mechanical integrity testing shall be
2218 conducted to ensure the integrity of that portion of the long string casing and cement that will
2219 be left in the ground after closure. Testing methods shall be similar to the mechanical integrity
2220 tests required during the operating life of the well.

2221
2222 (iii) Prior to well closure, the well shall be flushed with a buffer fluid.

2223
2224 (iv) Upon closure, a Class I hazardous waste well shall be plugged with
2225 cement in a manner that will not allow the movement of fluids into or between any
2226 underground source of drinking water.

2227
2228 (v) Placement of the cement plugs shall be accomplished by circulating
2229 cement to the bottom of the well using a working string. The working string shall be removed
2230 as the cement is pumped. The cement used shall be of a variety such that the working string can
2231 be withdrawn while still allowing the well to be filled with cement.

2232
2233 (vi) Each plug used shall be appropriately tagged and tested for seal and
2234 stability before closure is completed.

2235
2236 (vii) The well to be closed shall be in a state of static equilibrium with the
2237 mud weight equalized top to bottom, either by circulating the mud in the well at least once or
2238 by a comparable method described by the administrator, prior to the placement of the cement
2239 plugs.

2240
2241 (e) Post-closure care.

2242
2243 (i) The operator shall continue and complete any required cleanup action.

2244
2245 (ii) The operator shall continue to conduct any groundwater monitoring
2246 required under the permit until pressure in the injection zone decays to the point that the well's
2247 cone of influence no longer intersects the base of the lowermost Underground Source of
2248 Drinking Water. The administrator may extend the period of post-closure monitoring if he or
2249 she determines that the well may endanger an Underground Source of Drinking Water.

2250
2251 (iii) The operator shall submit a survey plat to the local zoning authority
2252 designated by the administrator, indicating the location of the well relative to permanently

2253 surveyed benchmarks. A copy of the plat shall be submitted to the Regional administrator of the
 2254 U.S. EPA Region 8, the Wyoming State Engineer's Office, and to the Wyoming Oil and Gas
 2255 Conservation Commission.

2256

2257 (iv) The operator shall retain for a minimum of three (3) years following well
 2258 closure, records reflecting the nature, composition and volume of all injected fluids. The
 2259 administrator shall require the operator to deliver the records to the administrator at the
 2260 conclusion of this retention period.

2261

2262 (f) Each owner of a Class I hazardous waste well, and the owner of the surface or
 2263 subsurface property on or in which a Class I hazardous waste well is located, must record a
 2264 notation on the deed to the facility property or on some other instrument which is normally
 2265 examined during title search that will in perpetuity provide any potential purchaser of the
 2266 property the following information:

2267 (i) The fact that the land in question has been used to manage hazardous
 2268 waste.

2269

2270 (ii) The name of the State agency or local authority with which the plat was
 2271 filed, as well as the address of the Environmental Protection Agency Region 8 to which it was
 2272 submitted.

2273

2274 (iii) The type and volume of waste injected, the injection interval or intervals
 2275 into which it was injected, and the period over which injection occurred.

2276

2277 **Section 18. Abandonment of Class V Facilities.**

2278

2279 (a) After the effective date of these regulations, Class V facilities may be abandoned
 2280 in place if the following conditions are met and if it can be demonstrated to the satisfaction of
 2281 the administrator that:

2282

2283 (i) No hazardous waste has ever been discharged through the facility.

2284

2285 (ii) No radioactive waste has ever been discharged through the facility.

2286

2287 (iii) All piping allowing for the discharge has either been removed or the ends
 2288 of the piping have been plugged in such a way that the plug is permanent and will not allow for
 2289 a discharge.

2290

2291 (iv) All accumulated sludges are removed from any septic tanks, holding
 2292 tanks, lift stations, or other waste handling structures prior to abandonment.

2293

2294 (b) Facilities which cannot demonstrate compliance with subsection (a) (i) or (a) (ii)
 2295 of this section, may be abandoned in place if:

2296

2297 (i) Tests are run on sludges accumulated in the septic tanks, holding tanks,
 2298 lift stations, or other waste handling structures which shows that none of these materials contain

2299 characteristic hazardous waste or radioactive waste.

2300

2301 (ii) Monitoring of the groundwater in the immediate area of the facility
2302 shows that there are no toxic materials (substances) present in the groundwater at levels higher
2303 than class of use standards, which are present as a result of the injection.

2304

2305 (iii) Some other method is determined to be acceptable to the administrator
2306 which demonstrates compliance with Chapter 8 of these regulations and prevents the movement
2307 of fluid containing any contaminant into an underground source of drinking water, if the
2308 presence of that contaminant may cause a violation of any primary drinking water standard
2309 found in 40 CFR 141 (as of June 6, 2001).

2310

2311 (c) Facilities which cannot make the demonstrations required under either
2312 subsection (a) or (b) of this section shall be excavated to the point where contamination is no
2313 longer visible in the soil. At that point, samples shall be taken of the soil for all hazardous
2314 constituents which may have been discharged through the system. Materials excavated shall be
2315 removed from the site for disposal under approval of the Solid and Hazardous Waste
2316 Management Division.

2317

2318 (d) Cathodic protection (5F1) facilities will be considered to have made the
2319 demonstrations required under subsections (a) and (b) if no waste has been disposed of into the
2320 facility. After they have fulfilled their useful purpose, they shall be abandoned by filling all
2321 breather pipes with an impervious material and removing all surface installations down to a
2322 depth of three (3) feet. All anodes where the construction included a surface casing shall also
2323 have the surface casing cut off three (3) feet below grade and a plug or cap shall be installed on
2324 the surface casing. It is not necessary to remove the coke breeze, anodes, and seals during
2325 abandonment. The administrator may approve other alternatives for abandonment if they
2326 provide adequate environmental protection.

2327

2328 (e) Prior to abandoning any class 5C4 automotive waste disposal facility, the
2329 operator shall provide thirty (30) days notice to the administrator.

2330

2331 **Section 19. Financial responsibility.**

2332

2333 (a) The permittee of any Class I well shall demonstrate and maintain financial
2334 responsibility and resources to close, plug, abandon, reclaim, and maintain post-closure care for
2335 the underground injection operation in a manner prescribed by the Administrator. The permittee
2336 shall show evidence of such financial responsibility to the Administrator.

2337

2338 (b) All Class I hazardous waste and non-hazardous waste underground injection
2339 facilities and Class V coalbed methane produced water underground injection facilities that are
2340 permitted, are issued a permit renewal, or are issued a permit transfer after July 1, 2018, shall
2341 provide financial assurance in accordance with W.S. 35-11-302(a)(viii).

2342

2343 (i) Permittees shall provide financial assurance within ninety (90) days of
2344 the effective date of the rule or as described below, whichever is later:

- 2345
2346 (A) Thirty (30) days prior to drilling of the permitted well(s) for new
2347 facilities; or
2348
2349 (B) Prior to authorization of a permit renewal for existing facilities;
2350 or
2351
2352 (C) Prior to authorization of a permit transfer.
2353

2354 (c) At a minimum, the permittee shall prepare a written estimate, in current dollars,
2355 of the cost of plugging and abandonment of the well, surface reclamation, post-closure care,
2356 removal of infrastructure including but not limited to piping, above and below ground tanks,
2357 buildings, impoundments, access roads, fencing, electrical facilities, or any other physical
2358 materials used in the operation and maintenance of the injection well.
2359

2360 (i) The permittee shall adjust the cost estimate for inflation within sixty (60)
2361 days after each anniversary of the date on which the first cost estimate was prepared.
2362

2363 (ii) The permittee shall revise the cost estimate whenever a change in the
2364 plan increases the cost, and adjust the revised cost estimate for inflation.
2365

2366 (d) The permittee shall keep the following at the facility during the operating life of
2367 the facility:
2368

2369 (i) The latest cost estimate and;
2370

2371 (ii) The latest adjusted cost estimate when the cost estimate in paragraph (i)
2372 above has been adjusted.
2373

2374 (e) The amount of the funds available shall be no less than the amount identified as
2375 the estimated cost.
2376

2377 (f) The obligation to maintain financial responsibility survives the termination of a
2378 permit or the cessation of injection. The requirements to maintain financial responsibility are
2379 enforceable regardless of whether the requirement is a condition of the permit.
2380

2381 (g) The permittee of each facility shall establish financial assurance for each new
2382 and existing Class I hazardous waste or non-hazardous waste underground injection facility or
2383 Class V coalbed methane produced water injection facility and shall choose from the qualifying
2384 instruments below:
2385

2386 (i) Corporate surety bonds,
2387

2388 (ii) Federally insured Automatically Renewable Certificates of Deposit
2389 (C.D.),
2390

- 2391 (iii) U.S. Treasury Bonds, Bills, or Notes,
- 2392
- 2393 (iv) Cash,
- 2394
- 2395 (v) Letters of Credit, or
- 2396
- 2397 (vi) A combination of the above instruments may be submitted.
- 2398

2399 (h) Upon completion of any of the activities identified in the cost estimate, the
2400 amount of the financial surety required may be reduced by the Administrator.

2401

2402 (i) In addition to the other requirements of this section, the permittee of a Class I
2403 well injecting hazardous waste shall comply with the financial responsibility requirements of 40
2404 CFR 144 Subpart F, which are in effect as of July 1, 2018.

2405

2406 **Section 20. Prohibitions.**

2407

2408 (a) In addition to the requirements in W.S. 35-11-301 (a), no person shall:

2409

2410 (i) Conduct any authorized injection activity in a manner that results in a
2411 violation of any permit condition or representations made in the application, the request for
2412 coverage under the general permit, individual permit, or permit by rule. A permit condition
2413 supersedes any application content.

2414

2415 (ii) Construct, install, modify or improve an authorized injection facility
2416 except in compliance with the permit requirements.

2417

2418 (b) All Class IV wells are prohibited.

2419

2420 (c) Requirements for Class I Wells:

2421

2422 (i) No person shall conduct any authorized injection activity in a manner
2423 that results in a movement of fluids out of the receiver, including, but not limited to:

2424

2425 (A) No zone or interval other than that represented as the discharge
2426 zone in the permit shall be used as a receiver for the discharge.

2427

2428 (B) No uncased hole may be used as a conduit for the discharge,
2429 excepting that portion of a hole in the discharge zone.

2430

2431 (C) No annular space between the wall of the hole and casing in the
2432 hole may be used as a conduit for the discharge, excepting in that portion of a hole in the
2433 discharge zone.

2434

2435 (ii) No solvent wastes which are listed hazardous waste numbers F001,
2436 F002, F003, F004, or F005 under 40 CFR 261.31 shall be injected underground in any Class I

2437 well unless those wastes are waste solvent mixtures that do not exceed or are treated to not
2438 exceed the standards listed in Appendix A.

2439
2440 (iii) No dioxin containing wastes which are listed hazardous waste number
2441 F020, F021, F022, F023, F026, F027 or F028 under 40 CFR 261.31 shall be injected
2442 underground in any well unless those wastes do not exceed, or are treated to not exceed the
2443 standards listed in Appendix B.

2444
2445 (iv) Treatment to meet appendix A or B limitations shall be accomplished
2446 according to a state hazardous waste treatment permit issued by the department. Dilution is
2447 prohibited as a substitute for treatment of wastes listed in subsections paragraphs (ii) and (iii)
2448 above.

2449
2450 (v) No person shall inject any hazardous waste which has been banned from
2451 land disposal pursuant to 40 CFR 268.41 or department regulations, as applicable, unless:

2452
2453 (A) The hazardous waste has first been treated to a concentration of
2454 less than the levels specified in 40 CFR 268.41 or 40 CFR 268 Appendix I, or department
2455 regulations, as applicable.

2456
2457 (B) An exemption petition has been submitted and approved by the
2458 U.S. Environmental Protection Agency under 40 CFR 148.20, or department regulations, as
2459 applicable. After approval of such a petition, the operator is required to comply with all
2460 conditions contained as part of the granting of the petition.

2461
2462 (d) Requirements for Class V Wells:

2463
2464 (i) No person shall discharge to any zone except the authorized discharge
2465 zone as described in the permit.

2466
2467 (ii) The construction of any Class 5C4 facility after the effective date of
2468 these regulations is prohibited.

2469
2470 (iii) No person shall inject any hazardous waste which has been banned from
2471 land disposal pursuant to Chapter 1, Wyoming Hazardous Waste Rules and Regulations unless
2472 the disposal conforms to that chapter.

2473
2474 (iv) No drainage facility, subclass 5D1 through 5D5 shall be constructed so
2475 as to directly receive any waste other than natural precipitation or natural groundwater unless
2476 permitted under an individual permit.

2477
2478 (v) No heating and cooling facility, subclass 5A1 through 5A3, shall be
2479 constructed so as to receive any waste other than cooling water. No corrosion inhibitors, scale
2480 inhibitors, biocides, antifreeze agents, salts, or refrigerants shall be added to the water prior to
2481 injection.

2482

2483 (vi) No abandoned drinking water well shall be used as a disposal well unless
 2484 it can be demonstrated that the waste being disposed of will leave the class of use of the
 2485 affected groundwater unchanged. The class of use referred to is determined under Water
 2486 Quality Rules and Regulations, Chapter 8 Quality Standards for Wyoming Ground Waters.
 2487

2488 (vii) No wastewater produced by electric power generation from geothermal
 2489 fluids shall be disposed of in any Class V injection facility. Such wells are Class I injection
 2490 wells and are covered by regulations in this chapter.
 2491

2492 (viii) No wastewater produced by recovery of brines and extraction of
 2493 halogens shall be disposed of in any Class V injection facility. Such wells are Class I injection
 2494 wells and are covered by regulations in this chapter.
 2495

2496 (ix) No person shall construct and/or operate any cesspool after April 14,
 2497 1998. No Class V facility which receives domestic sewage shall be constructed and/or operated
 2498 after April 14, 1998 unless the waste is first treated in a septic tank, or other pre-treatment
 2499 device. Prior to closure of any cesspool, the operator shall notify the administrator thirty (30)
 2500 days in advance.
 2501

2502 (x) The operation of any Class V septic system with liquid waste visible on
 2503 the ground surface shall be considered a failure of the system and a violation of these
 2504 regulations.
 2505

2506 (xi) An operator of a facility which is authorized by rule is prohibited from
 2507 injection into the facility:
 2508

2509 (A) Upon failure to submit inventory information prior to
 2510 construction for facilities constructed after April 14, 1999.
 2511

2512 (B) Upon failure to comply with a request for information under
 2513 Section 11 (e) of this chapter.
 2514

2515 (xii) Pumping domestic sewage out of any Class V facility for any use other
 2516 than disposal to an approved facility is prohibited.
 2517

2518 **Section 21. Public Participation, Public Notice and Public Hearing Requirements.**

2519
 2520 (a) Public notice is not required for minor modifications or for a permit denial
 2521 where the application is determined incomplete or deficient in accordance with Section 7 unless
 2522 the permittee or applicant requests a hearing before the council pursuant to this section.
 2523

2524 (b) The administrator shall give public notice for any of the following actions:
 2525

2526 (i) The administrator has prepared a draft permit which is intended for
 2527 issuance, denial or reissuance.
 2528

- 2529 (ii) The administrator intends to modify a permit.
2530
- 2531 (iii) The administrator intends to revoke or terminate a permit.
2532
- 2533 (iv) Any hearing held as a result of a request for hearing on above actions or
2534 department actions appealable to the council.
2535
- 2536 (c) Public notice is not required for any facility permitted by rule or for any facility
2537 covered under general permit. The department shall issue one public notice creating the general
2538 permit and then notice at each subsequent five (5) year review.
2539
- 2540 (d) The administrator shall include a thirty (30) day public comment period for any
2541 action on items (b)(i), (ii) or (iii) or thirty (30) days notice before any hearing date as part of the
2542 public notice. When two notices are required, they may be given at the same time.
2543
- 2544 (e) Public notice shall be given by:
2545
- 2546 (i) Mailing a copy of the notice to the following persons:
2547
- 2548 (A) The applicant, by certified or registered mail. For general permits
2549 this includes all persons registered as operators of facilities which the department believes will
2550 be covered by the general permit.
2551
- 2552 (B) The U.S. Environmental Protection Agency.
2553
- 2554 (C) Wyoming Game and Fish Department.
2555
- 2556 (D) Wyoming State Engineer.
2557
- 2558 (E) State Historical Preservation Officer.
2559
- 2560 (F) Wyoming Oil and Gas Conservation.
2561
- 2562 (G) Land Quality Division.
2563
- 2564 (H) Persons on the mailing list developed by including those who
2565 request in writing to be on the list and soliciting persons for "area lists" from participants in
2566 proceedings in that area.
2567
- 2568 (I) Any unit of local government having jurisdiction over the area
2569 where the facility is proposed to be located.
2570
- 2571 (ii) Publication of the notice in a newspaper of general circulation in the
2572 location of the facility or operation.
2573
- 2574 (iii) At the discretion of the administrator, any other method reasonably

2575 expected to give actual notice of the action in question to the persons potentially affected by it,
2576 including press releases or any other forum or medium to elicit public participation.

2577
2578 (f) All public notices issued under this chapter shall contain the following minimum
2579 information:

2580
2581 (i) Name and address of the department.

2582
2583 (ii) Name and address of permittee or permit applicant, and, if
2584 different, of the facility or activity regulated by the permit. For general permits, this includes a
2585 list of existing facilities and the location of each facility which will be covered by the general
2586 permit. If new facilities may be covered under a general permit as they are constructed, then
2587 that fact will also be stated.

2588
2589 (iii) A brief description of the business conducted at the facility or
2590 activity described in the permit application or the draft permit. For general permits a generic
2591 statement of the type of facility to be covered is all that is required.

2592
2593 (iv) Name, address and telephone number of a person from whom
2594 interested persons may obtain further information, including copies of the draft permit, as the
2595 case may be, statement of basis or fact sheet, and the application.

2596
2597 (v) A brief description of comment procedures, procedures to request
2598 a hearing, and other procedures which the public may use to participate in the final permit
2599 decision.

2600
2601 (vi) Any additional information considered necessary and proper.

2602
2603 (g) In addition to the information required in (f) of this section, any notice for public
2604 hearing shall contain the following:

2605
2606 (i) Reference to the date of previous public notices relating to the permit.

2607
2608 (ii) Date, time and place of hearing.

2609
2610 (iii) A brief description of the nature and purpose of the hearing, including
2611 applicable rules and procedures.

2612
2613 (h) The department shall provide an opportunity for the applicant, permittee, or any
2614 interested person to submit written comments regarding any aspect of a permit including, but
2615 not limited to, permit issuance, denial, modification, revocation and reissuance, termination, or
2616 transfer and/or to request a public hearing.

2617
2618 (i) All information received on or with the permit application shall be made
2619 available to the public for inspection and copying except such information as has been
2620 determined to constitute trade secrets or confidential information pursuant to W.S. 35-11-1101.

2621 The department shall provide facilities for inspection and copying of all non-confidential
 2622 documents. Copying shall be at the expense of the person requesting copies.

2623

2624 (j) During the public comment period, any interested person may submit written
 2625 comments on the draft permit and may request a public hearing. Requests for public hearings
 2626 on permit applications or modifications must be made in writing to the administrator and shall
 2627 state the reasons for the request. Requests for public hearings on permit issuance, denial,
 2628 revocation, termination, or any other department action appealable to the Council, shall be
 2629 made in writing to the chairman of the council and the department and state the grounds for the
 2630 request.

2631

2632 (i) Requests for public hearings based on contested issues may be filed at
 2633 any stage of the permitting process; and

2634

2635 (ii) After notice is given for public comment, requests for public hearings
 2636 must be filed within thirty (30) days after the last publication of the public notice.

2637

2638 (k) The administrator shall hold a hearing whenever the administrator finds, on the
 2639 basis of requests, a significant degree of public interest in a draft permit. The administrator has
 2640 the discretion to hold a hearing whenever such a hearing may clarify issues involved in a permit
 2641 decision.

2642

2643 (l) The Council shall hold hearings pursuant to the Wyoming Department of
 2644 Environmental Quality Rules of Practice and Procedure.

2645

2646 (m) Public hearings will be held in the geographic area wherein the proposed
 2647 discharge is located, or as nearby as reasonable. Public hearings will be held pursuant to the
 2648 Wyoming Department of Environmental Quality Rules of Practice and Procedure.

2649

2650 (n) The public comment period shall automatically extend to the close of any public
 2651 hearing. The administrator may also extend the comment period by so stating at the public
 2652 hearing.

2653

2654 (o) The director shall render a decision on the draft permit within thirty (30) days
 2655 after the completion of the comment period if no hearing is requested. If a hearing is held, the
 2656 director shall make a decision on any department hearing as soon as practicable after receipt of
 2657 the transcript or after the expiration of the time set to receive written comments.

2658

2659 (p) At the time a final decision is issued, the department shall respond, in writing, to
 2660 those comments received during the public comment period or comments received during the
 2661 allotted time for a hearing held by the department. This response shall:

2662

2663 (i) Specify any changes that have been made to the permit.

2664

2665 (ii) Briefly describe and respond to all comments voicing a legitimate
 2666 regulatory concern that is within the authority of the department to regulate.

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(q) The response to comments shall also be available to the public.

(r) Requests for a contested case hearing on a permit issuance, denial, revocation, termination, or any other final department action appealable to the Council, shall be made in writing to the chairman of the Environmental Quality Council and the director and state the grounds for the request pursuant to the Wyoming Department of Environmental Quality Rules of Practice and Procedure.

Section 22. Class I Permits Issued Before the Effective Date of These Regulations.

Any Class I well permitted before the effective date of these regulations shall be reviewed pursuant to Section 6(h).

APPENDIX A

Parameter	Maximum Allowable Concentration
Acetone	.05 mg/L
N-Butyl alcohol	5.00 mg/L
Carbon disulfide	1.05 mg/L
Carbon tetrachloride	.05 mg/L
Chlorobenzene	.05 mg/L
Cresols and cresylic acid	.75 mg/L
Cyclohexanone	.125 mg/L
1,2-Dichlorobenzene	.65 mg/L
Ethyl acetate	.05 mg/L
Ethyl benzene	.05 mg/L
Ethyl ether	.05 mg/L
Isobutanol	5.00 mg/L
Methanol	.25 mg/L
Methylene chloride	.20 mg/L
Methyl ethyl ketone	.05 mg/L
Methyl isobutyl ketone	.05 mg/L
Nitrobenzene	.66 mg/L
Pyridine	.33 mg/L
Tetrachloroethylene	.05 mg/L
Toluene	.33 mg/L
1,1,1-Trichloroethane	.41 mg/L
1,2,2-Trichloro-1,2,2 Trifluoroethane	.96 mg/L
Trichloroethylene	.062 mg/L
Trichlorofluoromethane	.05 mg/L
Xylene	.05 mg/L
Polychlorinated biphenols	500.00 mg/L

APPENDIX B

Parameter	Maximum Allowable Concentration
HxCDD-All hexachlorodibenzo-p-dioxins	1 ppb
HxCDF-All hexachlorodibenzofurans	1 ppb
PeCDD- All pentachlorodibenzo-p-dioxins	1 ppb
PeCDF-All pentachlorodibenzofurans	1 ppb
TCDD-All tetrachlorodibenzo-p-dioxins	1 ppb
TCDF-All tetrachlorodibenzofurans	1 ppb
2,4,5 Trichlorophenol	50 ppb
2,4,6 Trichlorophenol	50 ppb
2,3,4,6 Tetrachlorophenol	100 ppb
Pentachlorophenol	10 ppb

**APPENDIX C
SUBCLASSES OF CLASS V FACILITIES**

SUBCLASS	DESCRIPTION
HEATING AND COOLING FACILITIES	
5A1	Direct Heat Reinjection Facilities - Reinject geothermal fluids used to provide direct heat for large buildings, developments or aquiculture facilities.
5A2	Heat Pump/Air Conditioner Return Flow Facilities - Reinject groundwater used to heat or cool a building in a ground based heat pump system, or used to inject heat only using a closed loop heat pump system
5A3	Cooling Water Return Flow Facilities - Receive non-contact cooling water from industrial processes, both open and closed loop processes.
BENEFICIAL USE INJECTION FACILITIES	
5B1	Mining, Sand or Backfill Facilities - Used to inject a fluid mixture of sand, cement, fly ash used as a pozzalin, or mill tailings into mined out portions of underground mines.
5B2	Aquifer Recharge Facilities - Receive water specifically for storage of water underground. Must be coupled with the ability to withdraw stored water at a later date for beneficial use. Coal bed methane operators cannot dispose of their produced water in class 5B2 injection wells after the effective date of these rules.
5B3	Saline Water Intrusion Barrier Facilities - Receive fresh water to prevent the continued migration of saline water into a fresh water aquifer. Includes projects installed to control contaminant plumes by injection of clean water.
5B4	Subsidence Control Facilities - Receive fresh water for the purpose of controlling subsidence caused by an overdraft of water, oil or natural gas.
5B5	Facilities which inject fluids and are used to prevent, control or remediate aquifer pollution, which are not owned or controlled by the Department of Environmental Quality. All

SUBCLASS	DESCRIPTION
5B5 facilities are covered under Article 16 of the Environmental Quality Act	
5B6	Department Controlled Facilities - Facilities which inject fluids and are used to prevent, control or remediate pollution, remediate subsiding mine sites, or produce other beneficial results which are owned or controlled by the Department of Environmental Quality. These facilities include but are not limited to, facilities under the supervision of Water Quality Division's Underground Storage Tank Program, facilities under the control and direction of the Abandoned Mined Lands Program, and facilities under the supervision of the Solid and Hazardous Waste Management Division. Control may be exercised through ownership, operation, or by administrative orders, stipulated settlements, consent decrees or other legal methods which result in control of a facility by the department.
5B7	Air sparging facilities - Facilities used to inject only air for the purpose of either encouraging microbial breakdown of hydrocarbons or removing of volatile chemicals by vapor extraction.

COMMERCIAL AND INDUSTRIAL FACILITIES

5C1	Air Scrubber Waste Disposal Facilities - Inject wastes from air scrubbers used to remove sulphur, fly ash, or other contaminants.
5C2	Water Treatment Brine Disposal Facilities - Receive brine from water softening or other water treatment.
5C3	Industrial Process Water and Waste Disposal Facilities - Receive wastes generated by industrial and commercial processes. Examples include but are not limited to wastes from car washing, taxidermy, metal plating, printing, silk screening, refining, slaughter houses, and chemical manufacturing companies.
5C4	Automotive Waste Disposal Facilities - Inject waste from floor drains or sinks where repair work is done on machinery of any description.
5C5	Coal Bed Methane Injection Facilities - Inject groundwater produced in the process of coal bed methane extraction into a

SUBCLASS	DESCRIPTION
5C6	receiving aquifer containing water of the same or lower class of use.
5C6	Small Commercial Disposal Systems - Inject wastewater which is of similar quality to domestic sewage which does not technically meet the definition of domestic sewage, in quantities of less than 2,000 gallons per day.

DRAINAGE FACILITIES

5D1	Agricultural Drainage Facilities - Receive irrigation tailwaters, other field drainage, animal yard, feedlot, or dairy runoff, and other agricultural wastewater.
5D2	Storm Water Drainage Facilities - Receive storm water runoff from paved areas, including parking lots, streets, residential subdivisions, building roofs, highways, etc.
5D3	Improved Sinkholes - Receive storm water runoff from developments located in karst topographic areas.
5D4	Industrial Drainage Facilities - Receive storm runoff from areas susceptible to spills, leaks, and other chemical discharges.
5D5	Special Drainage Facilities - Receive water from sources other than direct precipitation. Examples of this type include landslide control drainage facilities, potable water tank overflow drainage facilities, swimming pool drainage facilities, and lake level control drainage facilities.

SEWAGE DISPOSAL FACILITIES

5E1	Aquaculture Return Flow Facilities - Receive injectate from aquaculture operations.
5E2	Untreated Domestic sewage Disposal Facilities - Receive untreated domestic sewage from single or multiple sources. Does not include subsurface fluid distribution systems with septic tanks ahead of the subsurface fluid distribution system. Includes all cesspools, regardless of capacity.
5E3	Domestic Subsurface Fluid Distribution Systems - Receive more than

SUBCLASS	DESCRIPTION
	2,000 gallons per day of domestic sewage with only primary treatment such as effluent from a septic tank. In addition, any facility injecting domestic sewage within any five (5) acres of land is a class 5E3 facility whenever multiple 5E facilities under one owner inject a cumulative maximum peak design flow of more than 2,000 gallons per day of domestic sewage.
5E4	Domestic Wastewater Treatment Plant Disposal Facilities - Dispose of treated domestic waste after treatment to at least secondary treatment standards.
5E5	Small Domestic Subsurface Fluid Distribution Systems - Receive less than 2,000 gallons per day as an average of a typical week, of domestic sewage with only primary treatment in a septic tank. These systems are designed to accept more than 2,000 gallons per day at a peak and are not small wastewater systems. No class 5E5 system has a required design capacity in excess of 5,000 gallons per day.

MISCELLANEOUS CLASS V FACILITIES

5F1	Cathodic Protection Facilities -Facilities constructed with coke breeze and dust control oil for use as a permanent anode in a cathodic protection system for a fluid conveyor system or fluid containment system composed of metallic material.
5F2	All other facilities that inject fluids into or above an underground source of drinking water which do not fall into Classes I, II, III, or IV injection facilities.

TYPE	DESCRIPTION	TYPE OF PERMIT	WHEN REQUIRED
5C4	Existing Automotive Waste Disposal Facilities	General Permit	2 years after date of general permit
5C4	New Automotive Waste Disposal Facilities	Ban	April 14, 1998
5C5	Coal Bed Methane Injection Facilities	General Permit	Within 6 months of the date of issue for the general permit for existing facilities, and before injection for all new facilities
5C6	Small Commercial Disposal Systems	General Permit	2 years after the date of the general permit
5D1	Agricultural Drainage Facilities	General Permit	2 years after the date of the general permit
5D2	Storm Water Drainage Facilities	General Permit	2 years after the date of the general permit
5D3	Improved Sinkholes	Individual Permit	April 14, 2000
5D4	Industrial Drainage Facilities	Individual Permit	April 14, 2000
5D5	Special Drainage Facilities	Permit by Rule	Register by April 14, 1999
5E1	Aquaculture Return Flow Facilities	General Permit	2 years after date of general permit

5E2	Existing Untreated Domestic sewage Disposal Facilities (Cesspools)	Ban	April 14, 1998
5E3	Existing Domestic Subsurface Fluid Distribution Systems	General Permit	2 years after date of general permit
5E3	Existing Domestic Subsurface Fluid Distribution Systems - Permitted as a small wastewater facility	Permit by Rule	register by April 14, 1999
5E4	New Domestic Wastewater Treatment Plant Disposal Facilities	Individual Permit	April 14, 2000
5E5	Small Domestic Subsurface Fluid Distribution Systems	General Permit	2 years after the date of the general permit

TYPE	DESCRIPTION	TYPE OF PERMIT	WHEN REQUIRED
5F1	Cathodic Protection Facilities	Permit by Rule	register by April 14, 1999
5F2	All other facilities that inject fluids into or above an underground source of drinking water which do not fall into Classes I, II, III, or IV injection facilities	Individual Permit	April 14, 2000