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**3745-34-13**      **Class I permit application.**

- (A) For a new class I injection well, the owner shall submit all information listed in this rule as part of the permit application except for those items of information which are current, accurate, and available in the existing permit record.
- (B) In addition to the information required in accordance with rule 3745-34-12 of the Administrative Code, the owner shall include the following in a permit application for a permit to drill or permit to operate a class I injection well:
- (1) A statement of the relative expertise of the owner or operator of the proposed class I injection well in the operation of class I injection wells. Within the statement include the following:
    - (a) A listing of all class I injection wells that the owner or operator has operated and is operating.
    - (b) The date that each listed class I injection well was first placed in service or if the well was placed in service before the applicant acquired the well, the date that applicant acquired the well.
    - (c) The date of issuance, identification number, and expiration date of the permits issued for each listed class I injection well by the United States or the state in which the listed injection well is located and, for each such permit, the name and address of the federal or state agency that issued the permit.
  - (2) The owner or operator of any facility containing one or more active class I injection wells must conduct such preliminary site investigations as are necessary to determine whether a release outside the permitted injection zone is occurring, has occurred, or is likely to have occurred.
  - (3) Owners and operators of facilities with existing class I injection wells or that are re-permitting a currently operating class I injection well shall submit all of the following information:
    - (a) For each active class I injection well at a facility seeking a permit, submit the following:
      - (i) Dates the well was operated.
      - (ii) Specification of all wastes that have been injected into the well.
    - (b) All available information pertaining to any release of hazardous waste or constituents from any active injection well at the facility.
  - (4) Area of review. The owner shall identify the location of all known wells within the proposed injection well's area of review that penetrate the injection zone or confining zone. The owner shall submit the following:
    - (a) A calculation of the area of review of the proposed injection well. This shall include a description of the method of determination of the area of review including all relevant calculations and data used in the calculations. The area of review shall be calculated in accordance with rule 3745-34-32 of the Administrative Code.
    - (b) A description of the procedures that were followed to identify, locate, and ascertain the condition of all wells penetrating the confining zone or injection zone within the area of review and that were followed to determine if the identified wells are adequately completed or plugged.
    - (c) A map showing the class I injection well for which the permit is sought and the applicable area of

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review. The map must show the number or name, and the location of the following within the area of review:

- (i) The location of all known wells that penetrate the injection zone or confining zone within the injection well's area of review.
  - (ii) Actively producing oil and gas wells.
  - (iii) Active, temporarily abandoned, and abandoned injection wells.
  - (iv) Abandoned and temporarily abandoned oil and gas wells including non-producing wells, plugged wells or dry holes, and stratigraphic boreholes.
  - (v) Surface bodies of water.
  - (vi) Springs.
  - (vii) Mines (surface and subsurface).
  - (viii) Quarries.
  - (ix) Water wells.
  - (x) Other pertinent surface features including structures intended for human occupancy, facility boundaries as well as state, tribal, and territory boundaries, and roads.
  - (xi) Seismic areas and faults, if known or suspected.
  - (xii) Boundaries of the facility.
  - (xiii) State-approved or United States environmental protection agency-approved subsurface cleanup sites.
- (d) A tabulation of data on all wells within the area of review that penetrate into the proposed injection zone or confining zone. Such data shall include the following:
- (i) Name of the well.
  - (ii) Name of the owner and operator.
  - (iii) Description of each well's type.
  - (iv) Construction data including casing size, setting depth and cementing data for surface, intermediate and long string casings.
  - (v) Date drilled.
  - (vi) Location in latitude and longitude to the nearest second.
  - (vii) Depth.
  - (viii) Record of plugging or completion.
    - (a) Note the wells that were inadequately plugged or abandoned.

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- (b) Note the wells for which there are incomplete records and include all available records.
- (ix) Any additional information required by the director.
- (e) The drilling logs and completion logs for all known wells within the injection well's area of review that penetrate the injection zone or confining zone.
- (f) A plan and compliance schedule for corrective action consistent with rule 3745-34-30 of the Administrative Code for all wells within the area of review that are improperly sealed, completed, or abandoned. The plan shall consist of such corrective actions and steps or modifications as are necessary to prevent movement of fluid into or between USDWs. The following information, criteria, and factors shall be included in the plan for corrective action and shall be considered by the director when determining the adequacy of the plan:

  - (i) Nature and volume of injected fluid.
  - (ii) Nature of native fluids or by-products of injection.
  - (iii) Potentially affected population.
  - (iv) Geology.
  - (v) Hydrology.
  - (vi) History of the injection operation.
  - (vii) Completion and plugging records.
  - (viii) Abandonment procedures in effect at the time the well was abandoned.
  - (ix) Hydraulic connections with USDW.
  - (x) Surface waste handling operations.
  - (xi) Reliability of the procedures used to identify abandoned wells.
  - (xii) Any other factors which might affect the movement of fluids into or between USDW.
- (g) A report describing all actions taken in implementing the plan of corrective action, including the status of corrective action on defective wells in the area of review and the schedule for completion of all actions described within the plan. This report shall be updated every sixty days after submittal of the permit application until a decision is made by the director on the permit application.
- (h) Any additional information the director deems necessary to protect USDW.
- (5) A demonstration that the class I well shall be sited in such a fashion that injection is into a formation which is beneath the lowermost formation containing, within one-quarter mile of the well bore, an underground source of drinking water. As part of this demonstration the owner shall submit an analysis of the geologic suitability of the proposed location of the well. This analysis shall include the following:

  - (a) An analysis of the structural and stratigraphic geology, the hydrogeology, and the seismicity of the region.

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- (b) An analysis of local geology and hydrogeology of the well site, including, at a minimum, detailed information regarding stratigraphy, structure and rock properties, aquifer hydrodynamics and mineral resources.
- (c) A determination that the geology of the area can be described confidently and that limits of waste fate and transportation can be accurately predicted through the use of models.
- (d) A description of the lithology, permeability, porosity, thickness and areal extent of the injection and confining intervals.
- (e) Maps and cross-sections detailing the geologic structure and stratigraphy of the local area. Maps and cross-sections should note the location of, but not be limited to: seismic areas and faults, major fractures, wetlands, flood hazard areas, carbonate formations that are known to contain or that may contain caverns, and underground mines, both active and abandoned.
- (f) Generalized maps and cross-sections illustrating the regional geologic setting. Maps and cross-sections should note the location of, but not be limited to: seismic areas and faults, major fractures, wetlands, flood hazard areas, carbonate formations that are known to contain or that may contain caverns, and underground mines, both active and abandoned.
- (g) Maps and cross-sections indicating the general vertical and lateral limits of all USDW within the area of review, their position relative to the injection formation and the direction of water movement, where known, in each USDW that may be affected by the proposed injection.
- (6) Information on the geologic structure and hydrogeologic properties of the proposed injection zone and overlying formations, including the following:

  - (a) Maps and cross-sections of the area of review.
  - (b) The location, orientation, and properties of known or suspected faults and fractures that may transect any confining zone in the area of review and a determination that the faults or fractures would not interfere with containment.
  - (c) Data on the depth, areal extent, thickness, mineralogy, porosity, permeability, and capillary pressure of any injection and confining zone; including geology/facies changes based on field data which may include geologic cores, outcrop data, seismic surveys, well logs, names, and lithologic descriptions.
  - (d) Geomechanical information on fractures, stress, ductility, rock strength, and in situ fluid pressures within any confining zone.
  - (e) Information on the seismic history including the presence and depth of seismic sources and a determination that the seismicity would not interfere with containment.
  - (f) Geologic and topographic maps and cross-sections illustrating regional geology, hydrogeology, and the geologic structure of the local area.
- (7) Financial assurance. The owner shall submit certification and evidence of financial responsibility for operation and closure of the well including surety bond or other adequate assurance, such as a financial statement or other materials acceptable to the director. This demonstration shall be consistent with the provisions of rules 3745-34-27, 3745-34-36, and 3745-34-62 of the Administrative Code.

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(8) The final report on the seismic reflection data survey in compliance with rule 3745-34-40 of the Administrative Code.