

UIC PERMIT APPLICATION GUIDANCE

CLASS I AND MAJOR CLASS V WELLS

May 2014

Note: This letter is only meant to be guidance to submitting an application through UIC. This does not address everything required to be addressed by Department rules during the application process, but serves as a guide to the common items that often require further information from the applicant after the application is submitted. Please keep in contact with the FDEP permit processor to ensure the completeness of all necessary parts of the application.

Pre-application Meetings

Class I and Major Class V injection well permits are processed in Tallahassee. Pre-application meetings with the Tallahassee office are strongly encouraged for any new UIC facility, for the addition of new wells at existing facilities, or for first-time operation permits for existing wells. This is likely to be a teleconference. The pre-application meeting is where many of the applicant's/permittee's questions can be answered and the Department can provide guidance prior to the application submittal, which often results in a smoother permit application process.

Application Form and Submittal

Submittals – Class I and Major Class V well applications and fees should be submitted to the Tallahassee office. Electronic submittals are strongly encouraged. A pdf or Adobe document is ideal; if submitting it by CD, enclose 3 CD's. If a hard copy is submitted, 3 copies should be submitted.

Receipt of Application – The application is considered received when a properly completed application form **and** the appropriate fee is received by the Department.

Fee –The fee schedule for injection well processing is found in Rule 62-4.050(4)(m), F.A.C. The application fee is per injection well. However, modification fees are per UIC facility. The check should be made to the Florida Department of Environmental Protection or FDEP; the program name is not needed.

Form – Nearly all major well applications should be using form 62-528.900(1), Application to Construct/ Operate/ Abandon Class I, III, or V Injection Well Systems. The signatory on page 3 must meet the requirements of 62-528.340(1). Also, a professional engineer must sign and seal page 3. The language that appears above the signature lines should not be altered in any way unless prior approval is given by the Department. If the PE certification is a non-ink seal and is not legible on an electronic copy, a hard copy of the form with the applicant's signature included must be submitted with appropriate fee in order to consider the application "received".

Multiple Wells – one application form should be used for multiple wells to be covered under the same permit

Other Programs – Other programs may have permits or authorizations that need to be obtained in connection with the UIC project. This process is the applicant's responsibility, as the UIC permit does not provide authorization for activities that also fall under another Department program.

Permit Application Information

General – The information requirements for obtaining a Class I permit are found on the application form, which are based on the requirements of Rule 62-528.450 (Class I construction), 62-528.455 (Class I operation), and 62-528.460, F.A.C. (Class I plugging and abandonment). Class V application information requirements are found in Rules 62-528.635, .640, and .645, F.A.C. Keep in mind that Major Class V projects usually require more information than what is stated in Rule 62-528 or on the application form. Rule 62-528.605(2) allows the Department to require any of the Class I well criteria for the construction, monitoring, reporting, and permitting of Class V wells. The applicant for a Major Class V well should review the Class I permitting requirements to determine which ones might apply to the Class V project, and submit supporting information as appropriate.

Information Requirements, Class I Construction and Testing Application, 62-528.450

Engineering Design - Rules 62-528.425(1) (a, b), 62-528.450(2) (i, j, k, l), and for municipal wells 62-600.540(4), F.A.C., contain much of the key information requirements for above-ground engineering, including pump type, wet well, pipeline from wet well or pump to the wellhead, flow meters, totalizers, meters and gauges, and wellhead design and materials. Downhole well drawings and casing or tubing materials should also be submitted. Engineering drawings of these surface and subsurface features should be legible, complete, and have proper certification/signatory for both planned construction and as-built drawings should be submitted.

62-528.450 (2)(a), (b) AOR Maps and Tables

Well locations for known wells in area of review (AOR) may be located by showing coordinates or addresses on the table, as is typically obtained from public record searches, rather than to show each well on a map. However, for wells whose total depths are equal to or deeper than the monitor zones, these wells should be listed on a table **and** their locations shown on a map. Well inventory sources should be provided. Typically the local WMD, county records, FDEP Oil and Gas Program, and USGS are queried. The AOR should be calculated using maximum permitted volume for a 10-year period, porosity of 20%, and aquifer thickness of 200 feet. Repermitting for sites with an injection history should include the volume injected. For an exploratory well, a one-mile AOR is adequate in most cases.

62-528.450 (2)(f)3. Wastestream analysis

When different wastestreams are to be permitted, a separate analysis of each is needed. When the flow contribution from a particular wastestream is minimal or when there are many wastestream sources, this requirement may be modified or waived on a case by case basis. For all analyses, the primary and secondary drinking water standards of 62-528.550.310 and .320, F.A.C., should be analyzed. Exceptions are asbestos, dioxin, acrylamide, and epichlorohydrin. The “minimum criteria” requested in the past for municipal effluent is no longer required.

For some facilities, especially municipal effluent, an existing recent comprehensive analysis may be submitted to satisfy this information request. The municipal analysis may be up to 3 years old in conformance with domestic wastewater sampling requirements. Other wastestream samples should be a year old or less.

62-528.450 (2)(i), (j), (k),(l) Above-ground Engineering Aspects

“Contingency plans” includes alternate and emergency discharge. For municipal effluent or blended wells (municipal and desalination/reverse osmosis {RO}) the application should address if the injection well is the backup discharge to reuse of reclaimed water.

62-528.450 (2)(n) Construction and Testing

The well construction and testing program should be adequate to locate the base of the Underground Source of Drinking Water (USDW) with packer tests and geophysical logs. In Southeast Florida, a pilot hole through the Hawthorn Group is generally not needed; a large borehole may be drilled to the bottom of the Hawthorn. Otherwise, with the exception of the very shallow section of surficial deposits, a 12-inch pilot hole should be used for each drilling segment. Geophysical logs should include at a minimum gamma ray, dual induction, BHC sonic, and caliper in all pilot holes that are going to encounter the base of the USDW.

For industrial wells with a tubing, packer, and fluid-filled annulus, the maximum injection velocity of 10 feet/second should be based on the internal diameter (ID) of the final casing. If the annulus is cemented, the velocity is based on the ID of the cemented tubing. Extra mechanical integrity tests of wells with a cemented annulus are no longer required if the final casing and the tubing extend to the top of the injection zone and there are no factors which put the well at risk for a loss of mechanical integrity without the extra testing.

Injection test- timings – Either the injection test or the RTS may be performed first. If injection is to be with effluent, however, the full mechanical integrity must be demonstrated. The level of background water quality of the proposed injection test fluid depends on the type of fluid proposed; the permit will specify the sampling requirement. The injected water should be of a low density to initiate upward movement if a pathway exists.

62-528.450 (2)(o) Financial Responsibility, Plugging and Abandonment Plans

A plugging and abandonment (P&A) plan and estimated cost should be made to support the demonstration of financial responsibility. The cost estimate must be itemized and be current (no more than one year old). The cost estimate must include a contingency amount equal to at least 10% of the total cost. Financial Responsibility is a completeness item for the application and must be demonstrated and approved prior to application completeness.

For the P&A plan, all injection and monitor wells must be covered. The injection well(s) must be cemented from the bottom of the final casing to surface with neat cement. All calculations and costs should be based on neat cement in the injection well. Uncemented tubing must be removed prior to cementing; non-retrievable packer elements may remain in place. Monitor wells may generally be cemented with neat cement at the bottom and the remainder with up to 6% bentonite. Drawings of the plugged wells are not necessary unless the well has an unusual design.

The options for financial responsibility demonstration are contained in the document “[Financial Responsibility Options for Owners and Operators of Injection Wells](#)”, which is posted on the program website. Local Government Guarantee certification forms must be signed by a person who can “bind” the local government to the guarantee, such as Mayor, head of City or County Commission, chief attorney, or chief financial officer. Only a written delegation by the local government may allow another person, such as Utilities Manager, to sign the form. The signature must be notarized using one of the approved formats specified in Chapter 117.05, Florida Statutes.

Information Requirements, Class I First-Time Operation Application, 62-528.455

General - A revised AOR is usually not required for a first-time operation permit. A minimum of six months of operational testing data is required to evaluate the operation permit application.

62-528.455 (1)(c)1. – The monitoring results for operational testing should be submitted in tabular and graphical format. Injection and monitor well physical and chemical parameters should be included. High level disinfection results for domestic effluent should be included where applicable. For industrial wells with annular pressure monitoring, graphs of daily maximum and minimum readings of annular pressure should be included with all instances of addition/removal of annular pressure/fluid noted. Parameters with many results of “undetectable” or less than the laboratory detection limit do not need to be graphed. The period since the last operation permit submittal should be included. For facilities where vertical fluid movement has been questioned in the past, has been identified, or where trends need to be viewed over a longer time period, longer monitoring histories should be submitted (since the beginning of UIC monitoring). A narrative of the data results should be included. Trends, erratic data, or changes in data values should be addressed.

62-528.455 (1)(c)4. Operation and Maintenance Manual – If this was submitted as a draft earlier to obtain operational testing approval, a final version must be submitted for the operation permit application. If no changes were made since the draft version, it should be stated and a revision will not be necessary.

62-528.455 (1)(c)6. Proof of Well Existence – This is the land survey conducted by Florida-certified land surveyor. Proof that it was recorded must be submitted if not previously done so. In most cases this is done by filing at the county courthouse.

Plugging and Abandonment Plan, Cost Estimate, Financial Responsibility – A revised P&A plan and cost estimate based on as-built well details should be submitted. If costs increased since the last approved estimate, a new submittal for financial responsibility approval is necessary. The same guidelines apply as in the construction permit application above.

Information Requirements, Class I Operation Renewal Application, 62-528.455

62-528.455 (3)(b)1. Area of Review - The AOR should have been calculated using maximum permitted volume for the next 10-year period plus the volume injected. Porosity of 20%, and aquifer thickness of 200 feet should be used.

62-528.455 (3)(b)3. Wastestream analysis –Include a recent completed analysis for the same parameters as for a construction permit. If not about a year old or less (three years for WWTP effluent), a new analysis should be submitted. See the construction permit guidelines for more information.

62-528.455 (3)(b)6. Monitoring Results – See above under First-time Operation Permit

62-528.455 (3)(b)8. Plugging and Abandonment Plan, Cost Estimate, Financial Responsibility – as above under Class I Operation Application.

Information Requirements, Class I Plugging and Abandonment Application, 62-528.460

Well Abandonment Method – Neat cement should be used for injection wells and monitor wells in the injection zone unless additives are approved; technical rationale must be included for this. Monitor wells in overlying aquifers may be plugged with neat cement at the bottom and up to 6% bentonite above.

See 62-528.435, F.A.C., for plugging and abandonment criteria and procedures.

Information Requirements, Class V ASR and other Major Class V Construction Applications

DEP may apply any Class I construction requirements to Class V wells when necessary to protect waters of the State [62-528.605(2)]. See General Information section above for more details.

62-528.450 (2)(a), (b) AOR Maps and Tables – The calculation of the AOR may be based on site-specific porosity and thickness plus the expected injected volume of fluid over the next 10-year period, not necessarily 20% porosity or 200 feet of thickness. ASR and aquifer recharge projects should use a minimum of a one mile AOR.

62-528.450 (2)(k) Contingency Plans – not generally appropriate for ASR or aquifer recharge; may be needed for other major Class V projects.

62-528.450 (2)(o) Financial Responsibility, Plugging and Abandonment Plans – Financial responsibility not needed for Class V wells except a few deep wells (not exploratory wells). At a minimum, plugging and abandonment plans should be submitted for all deep wells, ASR and aquifer recharge wells, including exploratory wells.

For ASR and aquifer recharge projects, a scaled map showing the entire property owned by the applicant must be submitted. Distances from each injection well to property boundaries and to monitoring wells should be shown or stated. Any water quality standards which will not be met need to be addressed. Generally, all primary and secondary drinking water standards need to be met in injected water in the USDW. Zones of discharge are normally allowed for secondary standards in ASR and aquifer recharge projects using reclaimed water under Rule 62-610.