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## ENVIRONMENTAL LAW

### Flurry of Class II Well Permitting Expands Disposal Options

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*Special to the Legal*

The U.S. Environmental Protection Agency recently issued permits for three Class II underground injection control (UIC) wells in Pennsylvania. Class II UIC wells are permitted for the injection of fluids associated with oil and natural gas production, including produced salt water or brine fluid. The EPA's issuance of these three permits is notable given the relative scarcity of permitted brine disposal wells in Pennsylvania. The permitted wells are located in Brady Township, Highland Township and Cranberry Township and the permittees include Windfall Oil and Gas, Seneca Resources Corp. and Stonehaven Energy Management, respectively.

#### BACKGROUND

Pursuant to a mandate in the Safe Drinking Water Act, the EPA promulgated regulations that constitute the UIC program to ensure that underground injection activities do not endanger sources of drinking water. The UIC program authorizes the construction and operation of six separate classes of UIC wells, including Class II wells. Class II wells can be permitted for three separate purposes: (1) the disposal of salt water or brine fluids brought to the surface in connection with oil and natural gas extraction; (2) enhanced oil recovery to reach residual oil or natural gas; and (3) the storage of liquid hydrocarbons, often as part of the U.S. Strategic Petroleum



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Reserve. Each of the recently issued permits in Pennsylvania is classified as a brine disposal well.

While there are thousands of Class II wells throughout the country, brine disposal wells constitute only a small portion of the total permitted wells. The majority of the approximately 144,000 permitted Class II wells nationwide are classified as enhanced recovery wells. According to the EPA, 20 percent of permitted Class II wells are designated brine disposal wells. In Pennsylvania, there are currently more than 1,800 permitted Class II wells. Prior to the recent flurry of permitting, just seven of those permitted Class II wells were designated for brine disposal.

Class II brine disposal wells have taken on new importance as a result of the increased development of oil and natural gas wells in the Marcellus Shale play. Historically, produced brines could be treated and disposed at publicly owned treatment works, or POTWs, in Pennsylvania. In 2011, the Pennsylvania Department of Environmental Protection, at the request of Gov. Tom Corbett, asked oil and gas producers to

cease sending produced brines to POTWs for treatment due to concern over elevated bromide levels in some state surface waters. As a result, producers now have three options for handling brine disposal: (1) treat and recycle the brine; (2) inject the brine into existing permitted Class II brine disposal wells in Pennsylvania; or (3) transport the brine to neighboring states such as Ohio where permitted Class II brine disposal wells are more abundant.

#### PERMITTING PROCESS

In order to secure a Class II brine disposal permit, applicants must submit a complete application to the permitting authority. While the Safe Drinking Water Act allows for states to implement the UIC program, Pennsylvania has not yet received primacy. Accordingly, the EPA remains the permitting authority in Pennsylvania. Upon receipt of an application, the EPA will review the submission and issue either a notice of deficiency, a notice of intent to deny, or a draft permit accompanied by a written basis explaining the permit conditions. A public notice and comment period will follow the issuance of a draft permit that includes the opportunity to request a public hearing. After the conclusion of the comment period and any public hearing, the EPA will issue a final permit decision. An approved final permit will be issued with a responsiveness summary addressing the public comments received regarding the draft permit. The UIC program provides an appeal mechanism for

those who submit comments or participate in a public hearing. Qualifying individuals may appeal a final permit through a petition seeking review by the Environmental Appeals Board (EAB), the independent administrative court of the EPA.

Class II permits contain requirements applicable over the lifecycle of the well. Initially, a permittee must comply with construction requirements including the proper casing and cementing of the well to prevent the movement of injected fluid into underground sources of drinking water and an initial demonstration of the well's mechanical integrity. During the operation of the well, the permittee must comply with recordkeeping and monitoring requirements in addition to technical criteria specifying the maximum injection pressure at the wellhead and limits on the total volume of injected fluid. Finally, permits include requirements for the plugging and abandonment of the well following the cessation of injection activities.

## SENECA PERMIT

In connection with Seneca's permit application, the EPA issued the draft Class II brine disposal permit Nov. 7, 2012, followed by a public comment period and a public hearing. The EPA subsequently re-opened the public comment period due to commenter concerns that injection activities could result in induced seismicity, or the increased threat of earthquakes. On Jan. 28, the EPA issued the final permit. In its accompanying responsiveness summary, the EPA concluded that the proposed well posed no threat to active drinking water supplies within a mile radius of the proposed well. Additionally, the EPA addressed concerns

of induced seismicity, finding that no known faults are located near the proposed well and citing permit conditions and the high natural permeability of the receiving rock formation as mitigating risk factors. As of publication, a petition appealing the issuance of the final permit has been filed with the EAB.

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## WINDFALL PERMIT

The Class II permit application submitted by Windfall proceeded alongside the Seneca permit application. The draft Windfall permit was issued concurrently with the Seneca draft permit with an ensuing public comment period and a public hearing. The EPA again re-opened the public comment period in the summer of 2013 to address commenter concerns over induced seismicity and the threat that seismic activity could pose to the integrity of the proposed well. Unlike the Seneca well, the Windfall well is located within a quarter mile of several known faults. In its responsiveness summary, the EPA concluded that operational safeguards in the permit and the depth and permeability of the receiving rock formation rendered

the proposed well unlikely to pose a risk of induced seismicity.

## STONEHAVEN PERMIT

The EPA issued the final permit to Stonehaven on Oct. 24, 2013, following an appeal to the EAB. After the EPA initially issued the final permit Sept. 24, 2012, a commenter petitioned for EAB review, asserting that, among other things, the EPA failed to adequately consider the geological formation in the area of the proposed well and the risk of induced seismicity. After consideration, the EAB remanded the permit to the EPA, requiring the EPA to augment the administrative record on these issues. Following another public comment period, the EPA issued the final permit after concluding there are no faults in the injection zone and no history of seismic activity in the well area. As a result of the EAB's review, all administrative appeals have been exhausted and any further challenge to the permit must be made in the appropriate federal appellate court.

## POSSIBLE TREND

It is unclear if the issuance of three Class II brine disposal permits over the last six months is indicative of a broader trend in Pennsylvania or an isolated incident. In the immediate future, oil and natural gas producers now have additional disposal options, and Pennsylvania takes a step closer to permit parity with its neighboring states of West Virginia and Ohio. •

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