

DMN-3 / Relief from the Requirement to Furnish and Maintain Financial Security for Closed Loop Stratigraphic Test Wells

New York State Department of Environmental Conservation

DEC Program Policy

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Management

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I. Summary:

The New York State Department of Environmental Conservation Division of Mineral Resources (DEC) supports the reduction of greenhouse gas (GHG) emissions and the transition to cleaner and renewable sources of energy as directed under the Climate Leadership and Community Protection Act of 2019 (Climate Act). To promote the development of renewable geothermal energy projects, DEC has determined that operators of stratigraphic wells drilled deeper than five hundred (500) feet in depth, subject to Article 23 of the Environmental Conservation Law (ECL), designed and constructed with a closed-loop pipe that is fully grouted in place from total depth to surface, and drilled for the sole purpose of testing downhole characteristics, such as thermal conductivity, in order to determine the feasibility of and technical specifications for a potential geothermal energy project, but which are not part of a larger common plan of development¹, are not required to furnish and maintain financial security. This policy shall refer to wells meeting these criteria as closed loop stratigraphic wells.

II. Policy:

This policy has been established to provide guidance to DEC staff on the applicability of ECL §23-0305(14)(f) to closed loop stratigraphic wells. ECL §23-0305(14) provides DEC with the authority to require operators of closed loop wells drilled deeper than five-hundred feet for the purpose of conducting stratigraphic tests to furnish and continuously maintain financial security. DEC has determined that operators of this specific group of wells will not be required to furnish and maintain financial security. This policy does not apply to other well types described in ECL §23-0305(14), including all other stratigraphic wells, brine disposal, open loop geothermal, and standing column geothermal wells.

III. Purpose and Background:

The Climate Act, which went into effect January 1, 2020, includes economy-wide efforts to reduce GHG emissions in New York State by 40% below 1990 levels by 2030, and 85% below 1990 levels by 2050 (ECL §75-0107). The Climate Act also established the Climate Action Council which finalized a scoping plan that provided recommendations for meeting those limits

¹ A larger common plan of development is a contiguous area where multiple separate and distinct construction activities are occurring, or will occur, under one plan.

and requires DEC to promulgate regulations on GHG emission sources that will ensure those limits are met (ECL § 75-0109). It further establishes that by 2040 the electricity generation sector will have zero emissions (Public Service Law (PSL) § 66-p).

In 2019, the buildings sector was the largest source of GHG emissions in New York. To achieve the targets laid out in the Climate Act, GHG emissions from the buildings sector must be reduced significantly. The installation of ground-source (geothermal) heat pumps (GSHPs) in commercial and industrial buildings (both new and existing) is critical to meeting these targets and achieving the widespread decarbonization of buildings.

Prior to designing larger-scale geothermal systems, stratigraphic test wells are typically drilled to evaluate the thermal conductivity of the subsurface. Thermal conductivity testing for geothermal resources measures the ability of the ground to transfer or conduct heat. This conductivity measurement is required to determine the most efficient borehole depth, the total number of boreholes required, and the overall geothermal heat pump system design. After testing is complete, the stratigraphic test well is either converted into a closed loop geothermal borehole as part of the geothermal heat pump system or properly decommissioned and plugged. Drilling stratigraphic test wells to evaluate the viability of a proposed GSHP system is a needed step in this process.

Financial security plays a vital role in ensuring a robust ECL Article 23 regulatory program. The objective of financial security is to guarantee that operators perform proper plugging and abandonment of Article 23 regulated wells at the end of their useful lives to protect public health and safety, and the environment. Unlike other well types however, a properly constructed closed loop stratigraphic well is effectively plugged at the end of construction, since the wellbore is grouted from total depth to surface during construction, sealing any conduit to the subsurface, and thereby preventing the migration of subsurface fluids and/or gas between formations, and the migration of any surface contaminants to the subsurface. If conducted properly this completion method, combined with the implementation of site-specific casing and cementing requirements during well drilling, provides aquifer protection, prevents pollution, and protects public health and safety. As a result, the decommissioning actions necessary at the end of the useful life of a closed loop stratigraphic test well are limited in scope and cost and DEC has determined that operators of closed loop stratigraphic wells are therefore not required to furnish and maintain financial security.

By eliminating the requirement to furnish and maintain financial security for operators of closed loop stratigraphic wells DEC is reducing a portion of the financial and administrative burden to operators installing GSHPs, making geothermal energy more accessible and thereby directly supporting the Climate Act and the decarbonization of the buildings sector in New York.

IV. Responsibility:

The Division of Mineral Resources is responsible for implementing and maintaining this policy, in coordination with DEC's Office of General Counsel (OGC).

V. Procedure:

Operators of closed loop stratigraphic wells shall not be required to furnish and maintain financial security. When DEC staff review and process applications for this subset of stratigraphic wells, financial security shall not be a necessary component of a complete application. If DEC required an operator to furnish financial security for a well subject to this policy, prior to the effective date of this policy, the financial security will be released back to the operator because it is no longer required.

VI. Related References:

- Climate Leadership and Community Protection Act (Chapter 106 of the Laws of 2019)

- CP-49/ Climate Change and DEC Action (Last Revised December 14, 2022)
- ECL Article 23 Mineral Resources
- 6 NYCRR Parts 550 – 559