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Chapter 1 INTRODUCTION

1.1 Description of the Proposed Action

The Department of Environmental Conservation ("DEC" or "Department") has received applications for permits to drill horizontal wells to evaluate and develop the Marcellus Shale for natural gas production. Wells will undergo a stimulation process known as hydraulic fracturing, which functions to release gas embedded in shale deep below the surface. While the horizontal well applications received to date are for proposed locations in Chemung, Chenango, Delaware and Tioga Counties, the Department expects to receive applications to drill in other areas, including counties where natural gas production has not previously occurred. There is also potential for development of the Utica Shale using horizontal drilling and high-volume hydraulic fracturing, and the Department is aware that this could bring use of those techniques to areas such as Otsego and Schoharie Counties, which would also be new to natural gas development. Other shale and low-permeability formations in New York may be targeted for future application of horizontal drilling and hydraulic fracturing if Marcellus and Utica development using this method is successful and the requisite infrastructure is in place. The Department has prepared this draft Supplemental Generic Environmental Impact Statement ("dSGEIS") to satisfy the requirements of the State Environmental Quality Review Act ("SEQRA") for most of these anticipated operations. In reviewing and processing permit applications for horizontal drilling and hydraulic fracturing in these deep, low-permeability formations, DEC will apply the findings and requirements of the SGEIS, including criteria and conditions for future approvals, in conjunction with the existing Generic Environmental Impact Statement (GEIS) on the Oil, Gas and Solution Mining Regulatory Program.¹

¹ The GEIS is posted on the Department's website at <http://www.dec.ny.gov/energy/45912.html> .

1.2 Regulatory Jurisdiction

The State of New York's official policy, enacted into law, is "to conserve, improve and protect its natural resources and environment . . .,"² and it is the Department's responsibility to carry out this policy. As set forth in Environmental Conservation Law ("ECL") §3-0301(1), the Department's broad authority includes, among many other things, the power to:

- manage natural resources to assure their protection and balanced utilization,
- prevent and abate water, land and air pollution, and
- regulate storage, handling and transport of solids, liquids and gases to prevent pollution.

The Department regulates the drilling, operation and plugging of oil and natural gas wells to ensure that activities related to these wells are conducted in accordance with statutory mandates found in the ECL. In addition to protecting the environment and public health and safety, the Department is also required by Article 23 of the ECL to prevent waste of the State's oil and gas resources, to provide for greater ultimate recovery of the resources, and to protect correlative rights.³ ECL §23-0303(2) provides that DEC's Oil, Gas and Solution Mining Law supersedes all local laws relating to the regulation of oil and gas development except for local government jurisdiction over local roads and the right to collect real property taxes. Likewise, ECL §23-1901(2) provides for supercedure of all other laws enacted by local governments or agencies concerning the imposition of a fee on activities regulated by Article 23.

As reflected by ECL §23-2101, New York is a member of the Interstate Compact to Conserve Oil and Gas, and is bound with other states by statutory adoption of the compact to participate in the mission of the Interstate Oil and Gas Compact Commission ("IOGCC") of promoting conservation and efficient recovery of domestic oil and natural gas resources, while protecting health, safety and the environment. The IOGCC advocates state-level regulation of oil and gas resources and promotes regulatory coordination and government efficiency. New York actively participates in meetings in which states, industry, environmentalists and federal officials share information and perspectives on emerging technologies and environmental issues. The IOGCC's work focuses on developing and implementing sound regulatory practices that maximize oil and natural gas production, minimize the waste of irreplaceable resources, and protect human and environmental health.

1.3 Project Location

The SGEIS and its Findings will be applicable to onshore oil and gas well drilling statewide, as are the existing GEIS and Findings. The prospective region for the extraction of natural gas from Marcellus and Utica Shales has been roughly described as an area extending from

² Environmental Conservation Law (ECL) §1-0101(1)

³Correlative rights are the rights of mineral owners to receive or recover oil and gas, or the equivalent thereof, from their owned tracts without drilling unnecessary wells or incurring unnecessary expense.

Chautauqua County eastward to Greene, Ulster and Sullivan Counties, and from the Pennsylvania border north to the approximate location of the east-west portion of the New York State Thruway between Schenectady and Auburn. However, sedimentary rock formations which may someday be developed by horizontal drilling and hydraulic fracturing exist from the Vermont/Massachusetts border up to the St. Lawrence/Lake Champlain region and west along Lake Ontario to Lake Erie. Drilling will not occur on State-owned lands which constitute the Adirondack and Catskill Forest Preserves because of the State Constitution's requirement that Forest Preserve lands be kept forever wild and not be leased or sold. In addition, the subsurface geology of the Adirondacks, New York City and Long Island renders drilling for hydrocarbons in those areas unlikely.

1.4 State Environmental Quality Review Act

1.4.1 Generic Environmental Impact Statement (GEIS)

The Department's SEQRA regulations, available at <http://www.dec.ny.gov/regs/4490.html>, authorize the use of generic environmental impact statements to assess the environmental impacts of separate actions having generic or common impacts. A generic environmental impact statement and its findings "set forth specific conditions or criteria under which future actions will be undertaken or approved, including requirements for any subsequent SEQR compliance."⁴ When a final generic environmental impact statement has been filed, "no further SEQR compliance is required if a subsequent proposed action will be carried out in conformance with the conditions and thresholds established for such actions" in the generic environmental impact statement.⁵

Drilling and production of separate oil and gas wells, and other wells regulated under the Oil, Gas and Solution Mining Law (Article 23 of the Environmental Conservation Law) have common impacts. After a comprehensive review of all the potential environmental impacts of oil and gas drilling and production in New York, the Department found in the 1992 GEIS that issuance of a standard, individual oil or gas well drilling permit anywhere in the state, when no other permits are involved, does not have a significant environmental impact.⁶ A separate finding was made that issuance of an oil and gas drilling permit for a surface location above an aquifer is also a non-significant action, based on special freshwater aquifer drilling conditions implemented by the Department.

However, the Department also found in 1992 that issuance of a drilling permit for a location in a State Parkland, in an Agricultural District, or within 2,000 feet of a municipal water supply well, or for a location which requires other DEC permits, may be significant and requires a site-specific SEQRA determination. The only instance where issuance of an individual permit to drill an oil or gas well is always significant and always requires a Supplemental Environmental

⁴ 6 NYCRR 617.10(c)

⁵ 6 NYCRR 617.10(d)(1)

⁶ <http://www.dec.ny.gov/energy/45912.html>

Impact Statement ("SEIS") is when the proposed location is within 1,000 feet of a municipal water supply well. Well stimulation, including hydraulic fracturing, was expressly identified and discussed in the GEIS as part of the action of drilling a well, and the GEIS does not recommend any additional regulatory controls or find a significant environmental impact associated with this technology, which has been in use in New York State for at least 50 years.

The 1992 findings were the culmination of a 12-year effort which included extensive public scoping and research by Department staff, followed by public comment and hearings on the Draft GEIS. Major issues identified through the previous scoping process and addressed in the GEIS, as listed on page 3 of the Draft GEIS, were: impacts on water quality; impacts of drilling in sensitive areas, such as Agricultural Districts, areas of rugged topography, wetlands, drinking water watersheds, freshwater aquifers and other sensitive habitats; impacts caused by drilling and production wastes; impacts on land use; socioeconomic impacts; impacts on cultural resources and impacts on endangered species and species of concern.

1.4.2 Supplemental Generic Environmental Impact Statement (SGEIS)

The SEQRA regulations require preparation of a supplement to a final GEIS if a subsequent proposed action may have one or more significant adverse environmental impacts which were not addressed.⁷ ***In 2008, the Department determined that some aspects of the current and anticipated application of horizontal drilling and high-volume hydraulic fracturing warrant further review in the context of a Supplemental Generic Environmental Impact Statement.*** This determination was based primarily upon three key factors: (1) required water volumes in excess of GEIS descriptions, (2) possible drilling in the New York City Watershed, in or near the Catskill Park, and near the federally designated Upper Delaware Scenic and Recreational River, and (3) longer duration of disturbance at multi-well drilling sites. These factors and other potential impacts were listed in a publicly vetted Scope for the SGEIS. Public scoping sessions were held in November and December, 2008, at six venues in the Southern Tier and Catskills. A total of 188 verbal comments were received at these sessions. In addition, over 3,770 written comments were received (via e-mail, mail, or written comment card). All of these comments were read and reviewed by Department staff and the Final Scope was completed in February of 2009, outlining the detailed analysis required for a thorough understanding of the potentially significant environmental impacts of horizontal drilling and high-volume hydraulic fracturing in low-permeability shale.

⁷ 6 NYCRR 617.10(d)(4)

1.4.3 Well Permit Applications and the Environmental Review Process

The Department's 1992 Findings Statement⁸ describes the well permit and attendant environmental review processes. Each application to drill a well is an individual project, and the size of the project is defined as the surface area affected by development. The Department, which has had exclusive statutory authority since 1981 to regulate oil and gas development activities, is lead agency for purposes of SEQRA compliance.

The 1992 Findings authorized use of a shortened, program-specific environmental assessment form ("EAF"), which is required with every well drilling permit application.⁹ The EAF and well drilling application form¹⁰ do not stand alone, but are supported by the four-volume GEIS, the applicant's well location plat, proposed site-specific drilling and well construction plans, Department staff's site visit, and GIS-based location screening, using the most current data available. DEC's Oil and Gas staff consults and coordinates with staff in other Department programs when site review and the application documents indicate an environmental concern or potential need for another Department permit.

When the application documents described above demonstrate conformance with the GEIS, SEQRA is satisfied and no Determination of Significance or Negative or Positive Determination under SEQRA is required. In that event Staff files a record of consistency with the GEIS. For the permit issuance actions identified in the Findings Statement as potentially significant, or other projects where circumstances exist that prevent a consistency determination, the Department's Full Environmental Assessment Form¹¹ is required and a site specific determination of significance is made. Examples since 1992 where this determination has been made include underground gas storage projects, well sites where special noise mitigation measures are required, well sites that disturb more than two and a half acres in designated Agricultural Districts, and geothermal wells drilled in proximity to New York City water tunnels. Wells closer than 2,000 feet to a municipal water supply well would also require further site-specific review, but none have been permitted since 1992.

Following publication of a final SGEIS, application documents that do not demonstrate conformance with both the GEIS and the SGEIS will be subject to further SEQRA determinations, as set forth in the GEIS and SGEIS.

⁸http://www.dec.ny.gov/docs/materials_minerals_pdf/geisfindorig.pdf

⁹http://www.dec.ny.gov/docs/materials_minerals_pdf/eaf_dril.pdf

¹⁰http://www.dec.ny.gov/docs/materials_minerals_pdf/dril_req.pdf

¹¹http://www.dec.ny.gov/docs/permits_ej_operations_pdf/longeaf.pdf