

6 NYCRR Parts 52, 190, 550-556, 560, and 750
Regulations for HIGH-VOLUME HYDRAULIC FRACTURING

REVISED REGULATORY IMPACT STATEMENT (RIS)

1. STATUTORY AUTHORITY

The Department is authorized to promulgate regulations to establish requirements for high-volume hydraulic fracturing (HVHF) and associated activities in New York State pursuant to multiple statutes which provide general and specific authority.

General:

The Environmental Conservation Law (ECL) provides statutory authority for guaranteeing beneficial use of the environment without risk to health and safety (ECL Section 1-0101(3)(b)), promoting and coordinating management of water, land, fish, wildlife and air resources to assure their protection, enhancement, and balanced utilization consistent with the environmental policy of the State taking into account the cumulative impact upon all such resources in promulgating any rule or regulation (ECL Section 3-0301(1)(b)), providing for the protection and management of marine and coastal resources and of wetlands, estuaries and shorelines (ECL Section 3-0301(1)(e)), encouraging industrial, commercial, residential and community development which provides the best usage of land areas, maximizes environmental benefits and minimizes the effects of less desirable environmental conditions (ECL Section 3-0301(1)(g)), assuring the preservation and enhancement of natural beauty and man-made scenic qualities (ECL Section 3-0301(1)(h)), providing for prevention and abatement of water, land and air pollution including, but not limited to, that related to hazardous substances, particulates, gases, dust, vapors, noise, radiation, odor, nutrients and heated liquids (ECL Section 3-0301(1)(i)), promoting control of weeds and aquatic growth, and developing methods of prevention and eradication assuring the preservation and enhancement of natural beauty and man-made scenic qualities (ECL Section 3-0301(1)(k)), preventing pollution through the regulation of the storage, handling and

transport of solids, liquids and gases which may cause or contribute to pollution (ECL Section 3-0301(1)(m)), promoting restoration and reclamation of degraded or despoiled areas and natural resources (ECL Section 3-0301(1)(n)), managing the real property under the jurisdiction of the Department for the purpose of preserving, protecting and enhancing the natural resource value for which the property was acquired or dedicated (ECL Section 3-0301(2)(v)), and adopting environmental standards and criteria and rules and regulations to effectuate the purposes and to secure proper enforcement of the ECL (ECL Section 3-0301(2)(a and m)).

Mineral Resources:

Statutory authority for the proposed oil and gas regulations is found in the Oil, Gas and Solution Mining Law at ECL Sections 23-0303, 23-0305, 23-0502 and 23-0503.

ECL Section 23-0303. Title 3, Section 3 of Article 23 provides the Department with the power to administer the Oil, Gas and Solution Mining Law, except for those responsibilities entrusted to other agencies or officers of the state.

ECL Section 23-0305. Title 3, Section 5 of Article 23 provides that the Department shall have the power, pursuant to paragraph 23-0305(8)(c), to: “classify and reclassify pools as oil or gas pools, or wells as oil or gas wells, including the delineation of boundaries for purposes material to the interpretation or administration . . .” of Article 23. Paragraph 23-0305(8)(d) also specifically provides the Department with the power to: “require the drilling, casing, operation, plugging and replugging of wells and reclamation of surrounding land in accordance with rules and regulations of the department in such manner as to prevent or remedy the following, including but not limited to: the escape of oil, gas, brine or water out of one stratum into another; the intrusion of water into oil or gas strata other than during enhanced recovery operations; the pollution of fresh water supplies by oil, gas, salt water or other contaminants; and blowouts, cavings, seepages and fires.” Further, the Oil, Gas & Solution Mining Law authorizes the Department to hold financial security for wells regulated under ECL Article 23 to ensure that such wells are properly plugged and abandoned. The amount of financial security

required to be obtained by owners and operators is provided in statute; however, subparagraph 23-0305(8)(k)(3) provides that: “for wells greater than six thousand feet in depth, the operator may be required to provide additional financial security consistent with criteria contained in rules and regulations to be adopted to implement this subparagraph.”

ECL Section 23-0501. This section establishes the statewide spacing applicable to all oil and gas wells in the state, including horizontal shale wells, and also provides the Department with the authority to issue permits to drill, deepen, plug back and convert a well.

ECL Section 23-0503. This section establishes the conditions under which the Department shall issue a permit to drill, deepen, plug back or convert and provides the Department with the discretion to determine whether a proposed spacing unit meets the policy objectives of Article 23. This section further provides the Department with the authority to issue a spacing order.

Water Resources:

ECL Section 23-0305(8)(d) provides specific authority, as noted above, with respect to natural gas pools or fields, for the Department to require that the drilling, casing, operation, plugging and replugging of wells and reclamation of surrounding land is conducted in accordance with regulations that prevent the pollution of fresh water supplies by oil, gas, salt water or other contaminants.

Broad authority for the protection of the waters of the State is further provided in the ECL. ECL Section 17-0105(2) broadly defines “waters of the State,” and includes groundwaters.

ECL Section 15-0103. This section outlines that it is in the best interests of the State to regulate and supervise activities that deplete, defile, damage, or otherwise adversely affect the waters of the State.

ECL Section 15-0105. This section outlines the policy declaration for the Department regarding the duty to conserve and control its water resources for the benefit of all inhabitants of the state, including that reasonable standards of purity and quality of the waters of the state be maintained consistent with public health,

safety and welfare and the public enjoyment thereof. Section 15-0109. This section provides jurisdiction for the Department to exercise its powers to perform its duties in any matter affecting the water resources of the State for public health, safety or welfare. This includes, but is not limited to, the use of potable water for municipalities and inhabitants of the State.

ECL Section 17-0101. This section declares it to be the public policy of the State is to maintain reasonable standards of water purity; and to "require the use of all known available and reasonable methods to prevent and control the pollution of the waters of the State of NY." Section 17-0103. This section states that it is the purpose of ECL Article 17 to "to safeguard the waters of the State from pollution by preventing any new pollution..."

ECL Section 17-0303. This section states that DEC shall have the jurisdiction to prevent the pollution of the waters of the State in accordance with water quality standards. The water quality standard for ground water is potable/drinkable water.

ECL Section 17-0501. This section states that it shall be unlawful to discharge to any water of the State in violation of a water quality standard.

ECL Section 17-0511. This section makes it illegal to discharge sewage, industrial waste, or other wastes into waters of the state unless in compliance with standards.

ECL Section 17-0807. This section prohibits the discharge of radioactive waste.

ECL Section 17-1709. This section prohibits the discharge of sewage and other offensive matter into Lake George and Skaneateles Lake. These are the only two water bodies that have this distinction in New York. Skaneateles Lake is the water supply for Syracuse.

ECL Section 71-1929. This Section provides for a civil penalty not to exceed \$37,500/day per violation, as well as injunctive relief, for any violations of Article 17, its accompanying regulations, or any permit issued thereunder.

Lands and Forests, Fish, Wildlife and Marine Resources:

Statutory authority for the proposed regulations prohibiting activities associated with HVHF, as defined by proposed regulation Part 560, on State-owned lands, is found in the New York State Constitution, Article XIV, in the Lands and Forest Laws at ECL Sections 9-0105, 9-0301, 9-0501 and 9-0507, in the Fish and Wildlife laws at ECL Sections 11-2101 and 11-2103, and in the State Nature and Historical Preserve Trust Laws at ECL Section 45-0117.

New York State Constitution Article XIV, Section 3(1). This Constitutional provision provides: “Forest and wild life conservation are hereby declared to be policies of the state. For the purposes of carrying out such policies the legislature may appropriate moneys for the acquisition by the state of land, outside of the Adirondack and Catskill parks as now fixed by law, for the practice of forest or wild life conservation.”

New York State Constitution Article XIV, Section 1. This Constitutional provision requires that Forest Preserve lands "shall be forever kept as wild forest lands" and prohibits the sale, removal or destruction of timber situated thereon. Article XIV, Section 1 also provides that Forest Preserve lands "shall not be leased, sold or exchanged, or be taken by any public or private corporation."

ECL Section 9-0301. This section commands the Department to ensure that “all lands within the Adirondack and Catskill parks, except those in the town of Dannemora... shall be forever reserved and maintained for the free use of all the people,” pursuant to conditions set forth in Article XIV of the State Constitution.

ECL Section 9-0105. This section establishes the Department’s jurisdiction to “exercise care, custody and control of the several preserves, parks and other state lands” that are described in the Lands and Forest Laws. This section further authorizes the Department to make “rules and regulations prohibiting any person or persons from entering upon any state-owned lands.” This section also provides that the Department can “receive and accept” lands “for conservation purposes, including but not limited to water-shed protection, forest

management, production of timber or other forest products, silviculture, forest and outdoor recreation and kindred purposes.” Finally, this section authorizes the Department to manage and conserve plants and “ecological communities that are rare in New York state” on state-owned lands under the jurisdiction of the Department.

ECL Section 9-0501. This section authorizes the state to acquire reforestation areas, “which are adapted for reforestation and the establishment and maintenance thereon of forests for watershed protection, the production of timber and other forests products, and for recreation and kindred purposes. . . , which shall be forever devoted to the planting, growth and harvesting of such trees.” This section further provides the Department with authority to adopt “rules and regulations” to manage these lands.

ECL Section 9-0507. This section provides the Department with authority to lease State Forests for oil and gas development. The Department in issuing such leases has the authority to prescribe the terms of the leases and that such “leasehold rights shall not interfere with the operation of such reforestation areas for the purposes for which they were acquired and as defined in Section 3 of article XIV of the Constitution.”

ECL Section 11-2101. This section authorizes the Department to make regulations for the use of Title 21 state owned lands. Specifically, this section provides that the Department may “prohibit, limit and manage hunting, trapping and fishing on lands, water or lands and waters on which such grounds are established,” and may make rules with respect to these lands that it “deems calculated to promote the public interest.”

ECL Section 11-2103. This section authorizes the State to acquire or receive lands “for the purpose of establishing and maintaining public hunting, trapping and fishing grounds.” In order to accept such lands the Department must determine that the lands are “suitable for purposes of fish and wildlife management.” Furthermore, the Department has the authority to improve or develop the lands, provided that the Department deems that such improvement is for the “best” of fish and wildlife management.

ECL Section 45-0117. This section authorizes the Department to “manage and exercise custody and

control of” Article 45 lands -- State Nature and Historical Preserve Trust lands. See ECL Section 45-0117(1). This section further states that lands held under this provision are to be maintained for their “highest, best and most important use,” including, but not limited to, “maintaining plants, animals and natural communities,” and to “provide the public with passive recreational opportunities including, where appropriate, fishing, hunting and trapping, or commercial fishing opportunities that are compatible with protecting the ecological significance, historic features and natural character of the area.”

2. LEGISLATIVE OBJECTIVES

General:

In keeping with Revised Draft Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program (Well Permit Issuance for Horizontal Drilling And High-Volume Hydraulic Fracturing to Develop the Marcellus Shale and Other Low Permeability Gas Reservoirs), the Department is proposing these revised regulations to ensure that potential environmental impacts resulting from HVHF are mitigated to the maximum extent practicable. This is consistent with the legislative objectives of guaranteeing beneficial use of the environment without risk to health and safety (ECL Section 1-0101(3)(b)), promoting and coordinating management of water, land, fish, wildlife and air resources to assure their protection, enhancement, and balanced utilization consistent with the environmental policy of the State taking into account the cumulative impact upon all such resources in promulgating any rule or regulation (ECL Section 3-0301(1)(b)).

Mineral Resources:

The legislative objectives of ECL Article 23, found in Section 23-0301, recognize that it is “in the public interest to regulate the development, production and utilization of natural resources of oil and gas in this state in such a manner as will prevent waste; to authorize and to provide for the operation and development of oil and gas properties in such a manner that a greater ultimate recovery of oil and gas may be had, and that the

correlative rights of all owners and the rights of all persons including landowners and the general public may be fully protected, and to provide in similar fashion for the underground storage of gas, the solution mining of salt and geothermal, stratigraphic and brine disposal wells.” This Section provides a general discussion of the existing oil and gas program and describes the legislative objectives of the draft regulations.

The Division of Mineral Resources (DMN) is responsible for regulating the development of oil and natural gas wells in a manner consistent with the public policy goals provided by the legislature. The first of such goals, found at Section 23-0301, is the prevention of waste. Waste is broadly defined at ECL Section 23-0101(20)(a) as “physical waste, as that term is generally understood in the oil and gas industry. . .” and is further defined at ECL Section 23-0101(20)(b) as “[t]he inefficient, excessive or improper use of, or the unnecessary dissipation of reservoir energy. . .”, and the “locating, spacing, drilling, equipping, operating or producing of any oil or gas well or wells in a manner which causes or tends to cause reduction in the quantity of oil or gas ultimately recoverable from a pool under prudent and proper operations, or which causes or tends to cause unnecessary or excessive surface loss or destruction of oil or gas. . .”

As indicated in the definition of waste, wells which are improperly drilled or operated may injure an oil or natural gas supply to the detriment of the operator, mineral rights owners and the state as a whole. In order to prevent such injury, the legislature adopted the modern Oil, Gas and Solution Mining Law and entrusted the Department with the responsibility to oversee drilling operations for the benefit of the all mineral rights owners, including owners and operators, as well as the rights of the general public.

The Department’s existing rules and regulations are designed, in part, to ensure that an owner or operator does not drill unnecessary wells or drill wells that may injure the common source of supply or the environment. To that end, the Department’s current regulations specify: which activities require a permit (6 NYCRR Part 552); the appropriate spacing of a well from other wells in the same pool and the setbacks applicable to the surface location of a well (6 NYCRR Part 553); appropriate drilling practices to prevent

pollution of the land and/or of surface or ground water (6 NYCRR Part 554); and procedures for plugging and abandonment of a well (6 NYCRR Part 555). Existing regulations also specify the financial security required to be in place before a permit may be issued by the Department to drill, deepen, plug back or convert a well.

The proposed revised rulemaking involves changes to the Department's existing regulations and will also add a new Part 560 specific to HVHF. Several of the changes included in the proposed rules are administrative in nature and are necessary to update existing regulations to current Department and industry practices. Included in this category of changes are the amendments to 6 NYCRR Section 550.2, which describes how personnel are organized, and the language proposed to be added to Section 552.2, which will clarify that the expiration of a permit to drill, deepen, plug back or convert a well does not relieve an operator from compliance with the terms specified in a permit when the operator commences operations in the permit term. Definitions will also be added to Part 550 for the terms hydraulic fracturing, hydraulic fracturing fluid, true measured depth, true vertical depth, well spud, and workover. The administrative changes noted above, as well as the addition of definitions to Part 550, further the public policy goals of ECL Article 23 by promoting consistency in the administration of the program and by clarifying the regulatory scheme for the regulated community and mineral rights owners.

The proposed rules will also modify Section 551.6 to remove the blanket bond available to operators who drill multiple wells. ECL Article 23 requires operators to post financial security to cover the cost of plugging and abandoning wells permitted by the Department and the amount of financial security that must be in place is provided in ECL Article 23. However for wells drilled deeper than six thousand feet, ECL Article 23 directs that the financial security requirements be set in rules and regulations promulgated by the Department. Existing regulations cap financial security for wells greater than six thousand feet at two hundred fifty thousand dollars for individual wells and two million dollars for multiple wells. The Department proposes to remove the cap to require operators to post financial security in an amount that reflects the true costs of plugging a deep

well. Although this change will increase costs to the regulated community, it is necessary to have adequate financial security in place to advance the public policy goals of the statute by ensuring wells are properly plugged and abandoned to prevent such wells from becoming a pathway for contamination.

The proposed revised rules will also modify 6 NYCRR Section 552.2 to extend the term of a permit to drill, deepen, plug back or convert from six months to two years. 6 NYCRR Section 552.3 is proposed to be modified to allow the Department to re-issue a permit to another operator for a location that has already been permitted by the Department. Extending the permit term will save Department time and resources, as it is becoming more common for well permits to expire before an operator is able to commence operations. Department staff spends significant time and resources to review permit application materials, conduct pre-permit site inspections, hold hearings and issue compulsory integration orders related to permits which eventually expire. By extending the period of time in which an operator must commence drilling activities, the Department will avoid the unnecessary expense associated with reviewing applications for a permit to drill, deepen, plug back and convert a well at a location which has already been approved by the Department. The Department's proposal to extend the permit term and to modify Section 552.3 to allow the Department to re-issue a permit to another operator will also reduce costs on the regulated community.

Several provisions in the proposed rules will also modernize the Department's current regulations to make them consistent with statutory changes made to ECL Article 23 in 2005 and 2008. Chapter 386 of the Laws of 2005 made a number of significant changes to the statewide spacing scheme in place for natural gas wells and the proposed rules will incorporate some of those changes. For example, the legislature amended Title 5 of Article 23 to specify the size of the spacing unit based on the depth of the well and/or the target formation, and established a new public hearing and election process to protect the correlative rights of mineral rights owners within the boundaries of a spacing unit established by the Department-issued permit to drill. The Department's proposed rules will retain the Department's ability to issue spacing orders for wells either exempt

from the new definition of statewide spacing or in cases where the spacing unit must be modified to protect correlative rights. Statutory statewide spacing provisions for oil and shale wells were also adopted by the legislature in 2008, and it was this legislative change which prompted the Governor to direct Department staff to update the Department's 1992 GEIS to generically address proposals to drill horizontal shale wells where HVHF is planned. The proposed rules will also promulgate the 2008 legislative changes related to shale well development. The proposed changes to Part 553 discussed above, concerning well spacing, fall squarely in the public policy goals of Article 23 as the spacing of wells is an important feature in a regulatory program designed to prevent waste.

The public policy goals of Article 23 will also be advanced through the proposed changes to 6 NYCRR Part 554, which will impose additional recordkeeping requirements on the regulated community. A requirement will be added to subdivision (a) of Section 554.1 for operators to submit a plan detailing the planned disposal or disposition of drill cuttings. Existing regulations require operators to provide a disposal plan for liquid wastes but operators were not required by existing regulation to identify their plan for disposal or beneficial re-use of drill cuttings. The revised proposed rules would also require an owner or operator to state in the fluid disposal plan that it will maximize the reuse and/or recycling of used drilling mud, flowback water and production brine. As advances in the industry make it possible to drill longer wells, the Department needs to ensure that drill cuttings are being effectively managed. This change advances the Department's mandate to protect the environment.

Additional recordkeeping requirements are included in the proposed rules, including a provision that will require operators to file an interim completion report for any gap in drilling operations lasting longer than thirty days and specifics on Sundry notices. Existing regulations require operators to file a Well Drilling and Completion Report within thirty days of completion of any well. Information provided on the Well Drilling and Completion Report includes the depths of formations encountered during drilling, zones which were perforated

and treated, the true measured depth, and the depths of casing and cement. The proposed rule will require submission of the Well Drilling and Completion Report for any gap in operations longer than thirty days due to events which cause operators to temporarily cease operations. In those circumstances it is important for Department staff to know the status of the well to determine whether the well is being drilled in conformance with the permit to drill issued by the Department.

Plugging and abandonment of wells is covered by a plugging permit issued by the Department, as provided in 6 NYCRR Part 555. The proposed rulemaking includes changes to Part 555 to increase the minimum requirements for the plugging methods specified in Section 555.5 of the regulations. Current regulations specified, for example, that for casing left in the ground a cement plug of at least 15 feet in length shall be placed at the bottom of such casing. In practice, the Department regularly required a longer cement plug to be installed. Although the existing regulations provided a minimum length for cement plugs, updating the regulations to specify that at least a one hundred foot long cement plug is to be installed would better inform the regulated community of the specifications required to properly plug a well. The proposed rules also specify that the plug must span the end of the casing to ensure the casing does not become a pathway for communication with other strata or the surface. Other proposed changes to Section 555.5 would require operators to obtain well logs prior to plugging to aid in determining the appropriate plugging procedures to specify in the plugging permit. The proposed rules will also clarify the density of the fluid that may be utilized between plugs set in the bore hole during plugging of the well and will clarify the reclamation requirements for the land adjacent to the surface location of the well. All of the proposed changes to Part 555 further the policy objectives of both ECL Article 23 and the Department's more general environmental policy goals by ensuring that wells are properly plugged and do not pose public safety concerns and do not contaminate other formations or the surrounding environment.

Operating practices of wells are addressed in 6 NYCRR Part 556. Specifically, the revised proposed

rulemaking sets forth several actions which require that the owner or operator provide notice to the department certain actions for which an owner operator would be required to submit a request for approval to the department on the Sundry Well Notice and Report form, and for which approval of the department must be obtained prior to commencing operations. For example, a request from the operator for approval to flare during a gas well completion or re-completion, including clean-up, stimulation or testing must be submitted on the Sundry Well Notice and Report form, and approval of the department must be obtained prior to commencing flaring. Approval must also be obtained prior to fracturing or re-fracturing after initial completion of a well, or to modify any previously approved plans, such as the fluid disposal plan. The revised rules also provide that the Department may, for good cause, suspend or terminate any approval to a Sundry Notice and Report form request.

A new Part 560 is proposed in the Department's rulemaking to address HVHF. Hydraulic fracturing is the injection of fluids under pressure into a well in order to induce fractures in the target formation. HVHF involves the fracturing of wells utilizing more than three hundred thousand gallons of water as the base fluid for fracturing operations. On September 30, 2009, the Department issued a Draft Supplemental Generic Environmental Impact Statement (2009 dSGEIS) that evaluated the environmental impacts associated with horizontal drilling and HVHF of low-permeability reservoirs, such as the Marcellus Shale. The 2009 dSGEIS, which supplemented the 1992 GEIS, provided a framework for the issuance of permits to drill using HVHF for horizontal wells and detailed the application requirements and supplementary permit conditions that would be included in a Department-issued permit for this activity. The Department has since revised the 2009 dSGEIS and in August 2011 the Department completed a Revised dSGEIS which includes additional environmental mitigation measures identified during the State Environmental Quality Review Act (SEQRA) process. The new Part 560 would promulgate many of the requirements detailed in the SGEIS. Part 560 will consist of seven sections, beginning with section 560.1 which makes Part 560 applicable to all wells where HVHF is planned

and where the objective formation is a low-permeability reservoir, such as the Marcellus or Utica Shale. Section 560.1 also states that Parts 550-558 will continue to apply to the extent not superseded by Part 560. Proposed section 560.2 contains several definitions related to HVHF including chemical additives, chemical constituent, flowback, and HVHF, as well as definitions related to new setbacks specific to HVHF surface activities. The revised proposed Part 560.2 includes definitions for access road entrance, additive (replaces “chemical additive”), base fluid, CAS number, chemical disclosure registry, chemical family, complete application, objective formation, proppant, and safety data sheet.

The revised proposed section 560.3 will promulgate many of the application requirements specified in the SGEIS including: the need for a blowout preventer use and testing plan; detailed mapping requirements; and disclosure of chemical additives proposed to be used during hydraulic fracturing including the proposed volume of each additive and the proposed percent by weight of water, chemical additives and proppants, as well as an alternatives analysis. The regulations will specify that an operator or other persons, such as a chemical supplier, may apply to the Department for trade secret protection for information submitted to the Department pursuant to subdivision 560.3(d). While the Department will be provided chemical additive information, it is important to provide operators or other persons with the option to apply for trade secret protection under 6 NYCRR Part 616 in order to promote innovation in the development of more environmentally friendly chemical additives. The applicant will be required to meet the standards set forth in the Public Officers Law to establish trade secret protections. The revised regulations require that the pre-fracturing chemical disclosure identify each chemical constituent to be intentionally added to the base fluid and its proposed concentration, and include clarifying language and establishment of trade secret protections. Additionally, the revised regulations at 560.3(e) set out a process that the Department will use to evaluate HVHF drilling permit applications, including a fifteen day public notice period. 560.3(f) also provides for collection of fees, including ones that may be charged to the applicant for preparation of GEISs (see 6 NYCRR 617.13 and 6 NYCRR 618.1).

The Department proposes to promulgate additional setbacks for HVHF for surface activities. The setbacks, located in section 560.4 of the proposed rules, are necessary to limit surface disturbance to sensitive environmental resources such as wetlands, primary aquifers, and domestic-supply springs. The setbacks do not apply to subsurface activities, as the mitigation measures contained in the SGEIS adequately mitigate potential environmental impacts from subsurface activities. The revised regulations include an additional 500 foot setback from inhabited dwellings and places of assembly. Additionally, revised Part 560.4 provides that the Department may grant variances from the some of the setbacks to inhabited private dwellings or places of assembly, residential water wells and domestic supply springs and water wells or springs that are used as water supply for livestock or crops, under certain circumstances. In granting a variance, the Department shall impose reasonable and necessary conditions to minimize any adverse impact.

Section 560.5 of the proposed revised rules will promulgate the well testing, recordkeeping and reporting requirements in the SGEIS. This section will include requirements for well operators to test residential water wells and domestic supply springs and water wells or springs that are used as water supply for livestock or crops within one thousand feet of a planned natural gas well or two thousand feet if no residential wells are available for testing within one thousand feet of the planned gas well. The regulations will also authorize the Department to require additional water well testing after the wells permitted under 6 NYCRR Part 552 are completed, to investigate whether drilling activities have impacted residential water well quality. Also, the revised rules require additional hydraulic fracturing fluid disclosure following well completion.

Section 560.6 of the proposed rules contains detailed well construction and operational requirements for HVHF wells and separate subdivisions are included in the rule to specify requirements for: site preparation; site maintenance, such as the design standards for reserve pits; drilling, hydraulic fracturing and flowback, such as the need for intermediate casing and monitoring requirements during fracturing operations; and reclamation requirements that specify how wastes generated on the well pad should be managed and further specifying that

reclamation of the well site should be consistent with an invasive species management plan.

Section 560.7 of the proposed regulations set forth the waste management and reclamation requirements for HVHF wells, including handling of pit fluids, cuttings, and flowback water and production brine; testing of flowback water and production brine for naturally occurring radioactive material (NORM) prior to removal from the well site, and partial and final reclamation. The revised proposed regulations at Section 560.7 add language to clarify several of these requirements.

Although the application, construction and operation requirements contained in the SGEIS were intended to be applied across the state as uniformly as possible through DMN's permitting program, depending on site-specific conditions, promulgating these requirements into regulations will provide the regulated community and the public with more certainty of the regulatory environment. The many detailed well construction and operational requirements contained in the new Part 560 further the policy objectives of Article 23 by ensuring wells are properly constructed for the benefit of well operators, mineral rights owners and the general public. Improperly constructed wells carry environmental costs and have the potential to damage both the supply of natural gas and the supply of potable water. However, a rigorous and robust regulatory program, as provided in Part 560, furthers the state's legislative goals by protecting the environment, human health and the common source of supply while maximizing the ultimate recovery of natural gas with measures to.

Water Resources:

The proposed revised rulemaking at Part 750-3 advances the public policy objectives sought through ECL Section 1-0101(3)(b)) while protecting the water resources of the State of New York. ECL Articles 15 and 17 both state that it is the policy of the State to protect water resources for the safety, use and enjoyment of the citizens of New York State. The proposed revised regulations will ensure that all HVHF is done in accordance with these objectives.

The proposed revised rulemaking also advances the public policy objectives sought through the ongoing

SEQRA process by including additional environmental mitigation measures identified during the associated public review and comment process. Although mitigation measures identified during the SEQRA process would be enforceable through ECL Article 71 when included as permit conditions to a SPDES permit, the new Part 750-3 will promulgate many of the requirements.

This revised rulemaking updates Section 750-1.5 to conform the existing regulation to the current federal process for issuance of Underground Injection Control permits.

Part 750-3 will consist of twelve sections. Unless in conflict, superseded or expressly stated otherwise in this Subpart, the provisions set forth in Subpart 750-1 and Subpart 750-2 of this Part apply to HVHF operations.

Section 750-3.2 incorporates the definitions provided in 750-1.2 and provides additional definitions specific for HVHF operations. These definitions assist with the implementation of the other 750-3 regulations to protect water resources.

Section 750-3.3 prohibits certain HVHF activities and discharges and does not allow the issuance of a SPDES permit for such activities or discharges. These specifically include well pads for HVHF operations: within 4,000 feet of an, and including the, unfiltered surface drinking water supply watersheds; within 500 feet of, and including, a primary aquifer; within 100 year floodplains; within 2,000 feet of any public (municipal or otherwise) drinking water supply well, reservoir, natural lake, man-made impoundment, or spring; within 2,000 feet of any public (municipal or otherwise) drinking water supply intake in flowing water with an additional prohibition of 1,000 feet on each side of the main flowing waterbody and any upstream tributary to that waterbody for a distance of 1 mile from the public drinking water supply intake; and within 500 feet of a private water well or domestic use spring, or water supply for crops or livestock, unless the department has granted a variance. The distances are measured from the closest edge of the HVHF well pad.

These prohibitions are necessary to meet a clear legislative objective - protection of water resources.

HVHF operations are not consistent with the unfiltered watersheds, because these areas present unique issues in terms of resource protection. Unfiltered water supplies depend on strict land use and development controls to ensure that water quality is protected. Eighteen Primary Aquifers have been identified by the NYSDOH, and due to their present use as highly productive water sources by major municipalities and their shallow nature, they are susceptible to contamination from HVHF operations. HVHF operations must not be located in 100 year floodplains due to the potential significant adverse impacts from flooding. To allow for a factor of safety and the necessary response time of the Department, the public water supply operator, and the well pad operator, should a spill or release from HVHF operations occur, HVHF operations must not be located within 2,000 feet of a public drinking water supply. The same rationale applies to HVHF operations located within 2000 feet of a public drinking water supply intake in flowing water, and the extended prohibition for tributaries and for HVHF operations within 500 feet of private water wells or domestic use springs, or water supply for crops or livestock.

For the purposes of obtaining a SPDES permit for HVHF operations, Section 750-3.4 states that HVHF operations cannot commence without a valid HVHF SPDES permit.

Section 750-3.5 provides the minimum information required for the Department to determination that groundwater or surface water quality will not be degraded.

The requirements in Sections 750-3.6, 750-3.7, and 750-3.8 protect water resources by ensuring necessary and adequate stormwater management practices are in place and properly operated and maintained. The requirements of these sections also ensure water resources are protected through the application of the Uniform Procedure Act and SEQRA.

Section 750-3.6 details the requirements for an individual HVHF SPDES permit application. This section provides a list of the certifications required including: disclosure of chemical additives; evaluation and use of less toxic alternatives; on-site maintenance of a list of chemical additives used; residential water well testing; removal of HVHF wastewater from the well site; secondary containment; containment of flowback and

production brine; construction and use of reserve pits; and closed-loop system requirements; These certifications are also regulatory requirements found in Section 750-3.7. Section 750-3.6 also requires the proper handling and disposal of HVHF wastewater; identification of the depth of the HVHF drilling; and the development of a comprehensive stormwater pollution prevention plan (SWPPP), which addresses the construction, HVHF and production phases of natural gas well development through the Construction SWPPP and HVHF SWPPP.

Section 750-3.7 details the requirements of a Comprehensive SWPPP (both the Construction SWPPP and the HVHF SWPPP), including effective implementation, operation and maintenance; recordkeeping; and inspections. The Construction SWPPP must include erosion and sediment control practices and post-construction control practices. The HVHF SWPPP must include the applicable BMPs for HVHF operations, which includes the requirements for certification under Section 750-3.6. Additionally, Section 750-3.7 includes requirements for partial site reclamation, implementation of a Spill Prevention Control and Countermeasure plan, and plugging and abandonment of gas wells prior to termination of a SPDES permit for HVHF operations.

Section 750-3.8 details the monitoring, recording and reporting requirements for a SPDES permit for HVHF operations. Monitoring includes: stormwater discharges; volume of water used at the well site; volume of HVHF and sanitary wastewater generated; amount of chemical additives used in HVHF operations.

Section 750-3.9 details the requirements for the renewal of an existing SPDES permit for HVHF operations.

Section 750-3.10 details the bases upon which the department may deny, suspend, or revoke an existing SPDES permit for HVHF operations. The conditions are necessary to protect water resources by ensuring the Department has the maximum capability to enforce the SPDES permit for HVHF operations and associated regulations.

Section 750-3.11 addresses a general SPDES permit for stormwater discharges associated with HVHF

operations (HVHF general permit). This section includes a detailed list of where HVHF operations are ineligible for coverage and would require an individual SPDES permit, including HVHF operations within: 500 feet of, and including, Principal Aquifers; and 300 feet of wetlands, perennial or intermittent streams, storm drains, lakes, or ponds. This section also includes instances where HVHF operations are also ineligible for coverage under a general SPDES permit consistent other department stormwater general permits.

Where an individual review by the Department is required, such allows a more focused view on water resource protection. Moreover, Section 750-3.11 details the requirements for obtaining coverage under an HVHF general permit, such as: filing of a complete Notice of Intent; and compliance with the regulatory requirements of 750-3.6. Additionally, Section 750-3.11 includes the procedures for administration of an HVHF general permit (e.g. duration; transfer of coverage; renewal; denial, suspension, and revocation; fees; and termination). Section 750-3.11 also includes the authority for the Department to issue a stop work order. These provisions are necessary for the protection of water resources and for an HVHF general permit to regulate the category of discharges, which are controlled by the same set of requirements.

Section 750-12 details the requirements for the permittee to demonstrate that all HVHF wastewater will be treated, recycled or otherwise disposed of over the projected life of the well (Fluid Disposal Plan). This section details the requirements for disposal options, including: disposal at publicly owned treatment works; disposal at privately owned industrial treatment facilities; on-site treatment and recycling; deep well injection; disposal in accordance with the terms of a Department-approved beneficial use determination. The conditions are necessary to protect the water resources by ensuring that there are no contaminated discharges and potential pollutants are properly managed.

Lands and Forests, Fish, Wildlife and Marine Resources:

The SGEIS indicates that it does not apply to New York State Forest Preserve lands given the constitutional restrictions applicable to such lands. Article XVI, section 1 of the State Constitution provides

that Forest Preserve lands "shall not be leased, sold or exchanged, or be taken by any public or private corporation." Since the Department cannot lease such lands for oil and gas development, there is no need to consider such lands in the regulations with respect to HVHF.

The proposed regulation to prohibit the activity of HVHF on State owned lands under the Department's jurisdiction and administered by the Division of Lands and Forests and the Division of Fish, Wildlife and Marine Resources conforms the legislative objectives of acquiring such lands for forest and wildlife conservation, watershed protection, preserving unique ecological communities and providing recreational opportunities found in the New York State Constitution, Article XIV, Section 3, and ECL Sections 9-0105, 9-0301, 9-0501, 9-0507, 11-2101, 11-2103, and 45-0117.

This prohibition is in keeping with the specific legislative objective of ECL Section 9-0507 that the Department issue oil and gas leases under such terms and conditions that the exercise of such leaseholds rights shall not interfere with the operation of such reforestation areas for the purposes for which they were acquired and as defined in Section 3 of article XIV of the Constitution.

Thus, while ECL 9-0507 authorizes oil and gas development on these lands, this development is secondary to "the purposes for which they [reforestation areas] were acquired and as defined in Section 3 of article XIV of the Constitution," and such development cannot interfere with their primary Constitutional purpose. It is reasonable, therefore, for the Department to determine that the surface disturbance associated with HVHF is not in keeping with the primary purpose of acquiring and managing these lands. The prohibition of surface disturbances associated with HVHF will serve to protect the ecological communities and recreational opportunities for which State forests were established.

Article XIV, Section 4 of the State Constitution provides the policy of the state is to "conserve and protect its natural resources and scenic beauty" and directs the legislature to provide for the acquisition of lands and waters outside the Forest Preserve with exceptional natural beauty, wilderness character, or geological,

ecological or historical significance, and directs that such lands be dedicated into a State Nature and Historical Preserve. Article XIV, Section 4 further directs that such lands “shall not be taken or otherwise disposed of except by law enacted by two successive regular sessions of the legislature.” In keeping with these principles, in 1972 Governor Nelson A. Rockefeller signed into law the State Nature and Historical Preserve Trust (the “Trust”) (see ECL Article 45), declaring “the Trust will serve as a vehicle for State action in accordance with the mandate of the Constitution to preserve and protect lands unique in historical, geological and ecological significance.” ECL Section 45-0117(3) states that lands held under this provision are to be maintained for their “highest, best and most important use,” including, but not limited to, “maintaining plants, animals and natural communities,” and to “provide the public with passive recreational opportunities including, where appropriate, fishing, hunting and trapping, or commercial fishing opportunities that are compatible with protecting the ecological significance, historic features and natural character of the area.”

Finally, as stated above, ECL Section 11-2103 empowers the Department to acquire or receive lands “for the purpose of establishing and maintaining public hunting, trapping and fishing grounds.” As its title indicates, the focus of Title 21 -- Conservation Areas and Facilities; Private Refuges and Posted Lands -- is to manage and conserve the area in a manner “calculated to promote the public interest” in wildlife activities. See ECL Section 11-2101. The Department’s enumerated powers all relate to managing the public’s recreational use of these lands. Indeed, while ECL Section 11-2101(2) permits the removal of “trees and other products,” such removal should be “calculated to produce the optimum conditions for fish and wildlife.” Many of these Article 11 lands have additional Federal restrictions on their use because they were purchased with Federal funds. Funds provided under the provisions of the Pittman-Robertson Wildlife Restoration and Dingell-Johnson Sport Restoration Acts (50 C.F.R. Section 80) require that land acquired be suitable for “wildlife habitat or public access” for hunting, fishing or other wildlife-oriented recreation. See 50 C.F.R. 80.50(4); 50 C.F.R. 80.51(b)(1). Thus, the clear intent of the State legislature and Congress was to empower the Department to

acquire and manage these Article 11 lands in manner that is consistent with the public's wildlife-oriented recreational use of the lands.

3. NEEDS AND BENEFITS

The proposed revisions to Parts 550 through 556 stem from the need to update the Department's existing regulations to reflect the current practices of the Department and industry. As detailed above, proposed revisions to the Department's existing oil and gas regulations will reflect changes made by the legislature in Chapter 386 of the Laws of 2005 and Chapter 376 of the Laws of 2008 and will improve regulatory conditions in the state by, among other things: ensuring that well operators obtain adequate financial security to cover the cost of plugging deep wells; providing the regulated community with sufficient time to commence operations; and specifying the minimum requirements for properly plugging and abandoning a well.

The new Part 560 is proposed to respond to applications to drill HVHF wells, in some cases to target the Marcellus Shale. The Marcellus Shale formation is attracting attention as a significant new source of natural gas production. The Marcellus Shale extends from Ohio through West Virginia and into Pennsylvania and New York. In New York, the Marcellus Shale is located in much of the Southern Tier stretching from Chautauqua and Erie counties in the west to the counties of Sullivan, Ulster, Greene and Albany in the east.

The potential significant risks and impacts HVHF poses to New York's water resources, ecosystems, and air quality, as well as the impacts of HVHF on communities where these wells are expected to be drilled, necessitated a thorough review and revision of existing regulations to ensure the proper administration and regulation of these practices. The Department has identified regulatory revisions that will establish by rule some of the mitigation measures and other aspects of the 2011 rdSGEIS, and associated public review process, through a mechanism that will further inform and serve the public and regulated community. These regulatory revisions will supplement the Department's ability to monitor and enforce certain measures identified in the 2011 rdSGEIS, and associated public review process, for the protection of water resources, and will, at the same

time, update some of the Department's regulations to reflect technological advances and current industry practice.

State-owned lands play a unique role in New York's landscape because they are managed under public ownership to allow for sustainable use of natural resources, provide recreational opportunities for all New Yorkers, and provide important wildlife habitat and open space. Given the level of development expected for multi-well horizontal drilling, it is anticipated that there will be additional pressure for surface disturbance on state-owned lands. Surface disturbance associated with gas extraction could have an impact on habitats contained on the state-owned lands, and recreational use of those lands.

The proposed regulations prohibiting HVHF on State owned lands are necessary to protect the natural resource values of State-owned lands, and to ensure that the State fulfills the purposes for which State Forests, State Wildlife Management Areas, and State Parks were created. This prohibition does not include accessing subsurface resources from adjacent private lands; thus the State and industry will be able to realize the economic benefit of subsurface resources. Furthermore, the proposed rule would not prohibit the siting of pipelines on state-owned lands because pipelines would not be considered associated with the drilling of a natural gas well. However, a determination to permit the siting of a pipeline would be subject to its own site-specific review. With that restriction in place, the Department believes that impacts to State lands from HVHF would be minimized.

The need for all of these regulatory revisions and additions stems from observations of the experiences in other states where HVHF is employed, as well as the statutory authority provided in the ECL discussed above. Many benefits associated with HVHF have been realized, such as increased private and public revenues. However, the use of HVHF also raises potentially significant adverse impacts to the environment. DEC proposes these regulations as a means to maximize environmental impacts and costs to the public and to maximize the benefits of natural gas extraction.

Benefits of the adoption of these regulations would accrue to the environment as well as the public. The regulations will provide for a tempered and balanced use of both the surface environment and the natural gas in the subsurface. The regulations promote a greater level of environmental protection than would be the case without the regulations. Greater environmental protection includes minimizing the probability and risk of uncontaminated aquifers and drinking water wells, streams and surface waters, and maintaining the passive use of natural resources, amongst others.

4. COSTS

Costs to Industry:

The costs to the regulated community for the proposed regulations will generally not differ substantially from the potential costs that the regulated community should have expected from the mitigation measures and/or permit conditions that have been identified in the dSGEIS. In January 2012, the Independent Oil and Gas Association of New York (IOGA) submitted cost estimates for the permitting and planning processes proposed by the 2011 rdSGEIS. IOGA estimates that the costs of complying with the mitigation measures in the Revised dSGEIS, which formed the basis for nearly all of the proposed rules, ranges from approximately \$400,000 for the first well drilled on a pad in the least-complex case to approximately \$1,700,000 for the first well drilled on a pad subject to the Delaware River Basin Commission (DRBC)'s jurisdiction in the most complex case. Subsequent wells drilled on these pads would be must less expensive according to IOGA, ranging from approximately \$50,000 to \$440,000. IOGA provided a spreadsheet detailing the costs predicted by IOGA for the various permits and plans required.

The Department conducted its own limited cost assessment, and found that, with respect to at least two categories of cost estimates, IOGA's estimates were excessive and speculative. IOGA estimated that \$55,000 would be required for quarterly and annual stormwater sampling and reporting at an HVHF well. The Department believes these costs estimates are significantly overestimated. The Department estimated the cost,

utilizing best available information, at less than \$1,000 per stormwater sample, and the Department anticipates that the number of stormwater samples required for each HVHF well will be far less than fifty. Additionally, IOGA estimated that baseline residential water well sampling and analysis would cost \$5,000 for an initial well and \$3,500 for each subsequent well on a pad. Estimates from the New York State Department of Health regarding projected costs for laboratory analysis range from \$350-450 per water well sample. The Department anticipates that the number of water well samples required for each HVHF well will be far less than ten, meaning that IOGA's estimated costs in this category are exaggerated. Also note that DRBC has not finalized its regulations, meaning that IOGA's estimates for costs associated with wells in DRBC's jurisdiction are speculative at this point and may be similarly exaggerated.

Unfortunately, despite repeated requests by the Department to industry to provide additional cost of compliance information, industry has refused to provide the Department with any additional cost information. Furthermore, the Department has attempted to locate additional cost estimates for the proposed rules from federal agencies. The Environmental Protection Agency (EPA) website contains cost projections for air emission standards for the oil and gas industry finalized in April 2012, which should give industry a sense of projected costs for some of the air-related mitigation measures detailed in the SGEIS. Beyond that, the Department's review of EPA's available resources did not result in any additional guidance on cost projections for the proposed rules. To the extent that these proposed revised regulations go beyond the measures identified in the 2011 rdSGEIS, there may be additional minor costs of compliance to the regulated community.

In addition, the use of a general permit for stormwater management developed specific for HVHF operations will reduce regulatory fees below what would be required if individual SPDES permits were issued. The HVHF general permit also require less burdensome administration, and potential permit conditions, than would be required under an individual SPDES permit, which result in a cost saving.

To the extent the proposed regulatory prohibition on State-owned lands might render some gas resources

unavailable, there could be potential lost opportunity for industry and leaseholders. In addition, costs to such leaseholders could be driven up if they choose to acquire surface access outside State-owned lands.

Costs to the Department and the State:

The adoption of these revised regulations will create additional costs for several state agencies. It can be expected that the most significant costs would be incurred by the Departments of Environmental Conservation (DEC), Health (DOH), Transportation (DOT), Public Service (DPS) and Agriculture and Markets.

Cost increases for DEC are based on its prior experience with oil and gas drilling and from the experience of other states, for example Pennsylvania. The majority of costs are expected to be personal service costs – the need for additional staff to carry out the large number of activities relating to permits. There are numerous activities that will need to be addressed by DEC staff to allow HVHF exploration of low-permeability reservoirs such as the Marcellus and Utica Shale. These activities fall into three broad categories: permitting, compliance/monitoring, and enforcement. Additionally, a host of support services would be needed, such as indirect and information services. These activities will be carried out by close coordination and without duplication of services by a majority of DEC divisions including Mineral Resources; Water; Environmental Permits; Air Resources; Environmental Remediation; Fish, Wildlife and Marine Resources; Office of General Counsel; Law Enforcement; Hearings and Mediation Services; Information Services; and Lands and Forests. The list of responsibilities is extensive. The discussion that follows provides an overview of DEC's most heavily impacted divisions and does not include each division listed above.

The Division of Mineral Resources (DMN) is the primary division charged with permitting and overseeing oil and gas drilling in New York. DMN's Bureau of Oil and Gas currently employs permitting staff consisting of 8 full-time-equivalent (FTE) staff in the Central Office plus 7.7 regional FTEs. The new requirements and standards for HVHF are significantly more rigorous and complex than traditional well drilling

permit conditions. DMN staff statewide are responsible for the new, more complex application review, drafting permit conditions and inspections. DEC estimates it will take approximately 175 hours to conduct technical reviews for each permit for a well using HVHF. This work time estimate includes site visits to review pre-construction of wells, construction, drilling, casing and hydraulic fracturing operations.

Staff is also needed for additional activities to support oversight of Marcellus and Utica Shale development. These activities include training, supervision, compliance and enforcement, data management support and, with the Office of Hearings and Mediation Services and the Office of General Counsel, conducting well spacing and compulsory integration hearings.

Many of the potential impacts associated with HVHF relate to water: the amount and source of water needed to develop the Marcellus and Utica Shales; the handling and disposal of wastewater generated; and the management of stormwater. Handling these various aspects will require several types of programs, including State Pollution Emission Discharge System (SPDES) permitting, management and permitting of water resources, enforcement and compliance, and water quality monitoring. Accordingly, the Division of Water (DOW) in close consultation with DMR will have a significant regulatory oversight and enforcement role as HVHF moves forward.

The major areas in the Division of Environmental Remediation (DER) that would be affected by the permitting of natural gas drilling using HVHF include: the issuance of waste transporter permits; the Spill Response Program; the Radiation Program; and the Petroleum and Chemical Bulk Storage Program.

DEC's Office of General Counsel (OGC) has several roles related to natural gas well drilling, which will increase with the introduction of HVHF. Attorneys would support development of each of the divisions' responsibilities and programmatic framework prescribed in the SGEIS. These areas include issues related to the breadth of DEC's jurisdiction over HVHF - site preparation, drilling, waste hauling, and wastewater disposal. OGC will assist the divisions to address noncompliance with permits and violations of environmental laws

resulting from well drilling activities. OGC attorneys would also be heavily involved in well spacing and compulsory integration hearings. DEC would need both regional and Central Office attorneys to handle permitting and enforcement cases, provide legal advice to regional program staff and coordinate policy issues, litigation and case management.

Costs are also expected across other state agencies. DOH will incur costs investigating possible public health issues. DOH would also be expected to have a maintain its significant role in human exposure and risk assessment, protection of drinking water supplies, toxic substance assessment, handling of NORM, possibly conducting population health studies, and providing health information and education.

In conjunction with DEC, DOT would review transportation plans that drillers would submit with well applications detailing the proposed routes for truck traffic, an assessment of the road conditions on such routes, and whether any local road use agreements are in place. DOT would require additional staff resources to review those transportation plans and consult with DEC on their sufficiency. Additional staff would also be needed to assess and implement potential mitigation measures on state roads in the event HVHF impacts are identified; to undertake increased oversight for access to state highway rights-of-way, permitting for oversize and weight trucks, and commercial vehicle inspection and enforcement.

The Public Service Commission and DPS staff are involved in all aspects of natural gas transmission pipelines from siting and construction to ensuring the safe operation of the line after it is built. All lines over one thousand feet long and operating at a pressure of 125 psi or greater are subject to the Commission's jurisdiction. Additionally, any related facilities such as compressor stations are subject to review and approval by the Commission.

Cost impacts for Agriculture and Markets expected from these regulations would most likely be focused in the Agricultural District Program. Most counties in New York State have placed agricultural land in state-certified agricultural districts, which are managed by the New York State Department of Agriculture and

Markets. Farmlands within agricultural districts are provided legal protection, and farmers benefit from preferential real property tax assessment and protection from restrictive local laws, government-funded acquisition or construction projects, and private nuisance suits involving agricultural practices. Article 25-AA of Agriculture and Markets Law authorizes the creation of local agricultural districts pursuant to landowner initiative, preliminary county review, state certification, and county adoption.

The specifics and magnitude of actual costs that may be incurred by DEC and other state agencies cannot be estimated at this time. Based on DEC's experience and existing program costs and examination of programs in other states, the implementation of these regulations can be expected to require a significant staff increase from the existing staffing levels of DMR and increase the need for additional staff to all the other divisions listed, as well as create a need for significant staffing increases in the affected regional offices.

The costs of other agencies can be expected to be significant but lower, as the bulk of activities are the responsibility of the DEC.

Costs to Local Governments:

This proposal will also result in increases in costs for local governments. See the discussion of local government mandates below.

5. LOCAL GOVERNMENT MANDATES

This proposal will not directly impose any significant service, duty or responsibility upon any county, city, town, village, school district or fire district. This proposal does not directly mandate the expenditure of funds by any sector of local government. A primary responsibility placed on local governments through this proposal will be to monitor requirements the proposal imposes on operators and owners in the HVHF process, to ensure that health, safety and the environment are adequately protected.

An aspect of this proposal requires operators to notify county emergency management offices or fire

districts of a HVHF well's location, the potential hazards involved prior to drilling a well, the first occurrence of flaring while drilling, prior to HVHF and prior to flaring for well clean-up, treatment or testing. The coordination between operators and local governments on emergency response is essential to properly respond to environmental and health emergencies at well sites related to spills, blow-outs or any other accidents. This notification and coordination process will require some amount of resources at the local government level.

There are a number of substantial indirect effects on local governments. One aspect of this proposal requires operators to test private residential water wells. The testing results then have to be shared with the owner of the water well and provided to NYSDOH. This testing occurs both before and after wells are drilled and fractured. County health departments may need to respond to issues with these residential water wells that may arise as a result of testing. Those costs will be complaint driven and cannot be quantified at this time.

An element of this proposal allows operators to dispose of flowback water and production brine through publically owned treatment works (POTWs) if the operators meet certain requirements. POTWs have the discretion whether or not they wish to accept this water. If POTWs decide to accept this water, they must perform a headworks analysis in order to ensure the POTW can handle the wastewater without upsetting their system or causing a problem in the receiving water. No municipality is being forced to accept HVHF wastewater for disposal, so no mandated costs should be associated with such activities. It is assumed the POTWs would only accept the HVHF wastewater if sufficient fees could be generated to compensate for any costs.

The use of HVHF in the state may lead to increased demand for local services, such as emergency response needs. In addition, heavy truck traffic will result in local costs for road maintenance.

It is projected that HVHF activities would result in a substantial increase in economic activity in the affected areas and also result in a substantial increase in tax revenues to the state and to localities. These

revenues are expected to compensate for the types of responsibilities on local governments which may result from approval to utilize HVHF, as discussed above.

6. PAPERWORK

The proposed rules include new paperwork requirements for all well operators, including the need to notify and receive approval to re-fracture a previously permitted well. The draft revised regulations also require well operators to provide a Well Drilling and Completion Report for any break in operations lasting longer than thirty days. The new Part 560 will also add numerous application and reporting requirements specific to HVHF. However, the Department intends to develop new forms to simplify and standardize reporting requirements to ease the paperwork requirements imposed by the proposed regulations.

The draft regulations will also require certain documentation to be submitted to the Department pursuant to for a SPDES permit for stormwater discharges associated with HVHF operations. However, since the majority of HVHF activities would be done pursuant to an HVHF general permit, using standardized forms, less paperwork will be generated than required by an individual SPDES permit.

7. DUPLICATION

This proposal is not intended to duplicate any other federal or State regulations or statutes. There is no federal regulatory program covering HVHF, and Article 23 of the ECL and its associated regulations govern oil and gas extraction in New York State.

ECL Article 17 provides DEC with additional jurisdiction beyond that contained in Federal Law. In addition, DEC's program has been approved pursuant to the Federal Clean Water Act to act in lieu of EPA in New York State.

8. ALTERNATIVE APPROACHES

The Department examined the no regulatory action or “no-action” alternative, in which mitigation measures and other requirements described in the findings statement for the HVHF environmental review process would stand-alone to direct these operations. Under this alternative, the Department would still have the ability to enforce these mitigation measures and other requirements through the permit process. The Department also would still have discretion in the permitting process, to determine, for example, not to permit HVHF on State-owned lands.

However, the no-action alternative would create uncertainty for the regulated community and the public because controls over HVHF activities would not become a part of state law. In the event that litigation over the environmental review process for HVHF restricts the Department’s ability to impose certain mitigation measures, the no-action alternative would restrict the Department’s ability to impose similar controls that would properly be part of a regulatory framework. Furthermore, during the environmental review process for HVHF, the Department received a significant number of comments urging the Department to make revisions and additions to its current regulatory framework to cover HVHF activities. The no-action alternative does not fulfill the Department’s needs and results in significant uncertainty.

Another alternative the Department has considered is the denial of permits for HVHF in New York State. This alternative would fully protect the environment from any environmental impacts associated with HVHF but it would also eliminate all of the economic benefits that could be generated by the activity. This alternative also contravenes New York State’s declaration of policy in Article 23 of the ECL to develop oil and gas resources that will maximize the ultimate recovery of those resources. A more detailed explanation of this alternative is discussed in Chapter 9 of the Revised dSGEIS for HVHF.

The Department prefers the current proposal because it imposed stringent and certain conditions for environmental protection, provides a consistent and even-handed regulatory framework for HVHF operations,

and allows the potential economic benefits of the efficient extraction of natural gas for the Marcellus and Utica formation.

9. FEDERAL STANDARD

As stated above, there is no federal regulatory framework over HVHF, in April 2012, EPA finalized air emission standards for the entire oil and gas industry.

Similarly, there is no applicable Federal standard for discharges to groundwater, or groundwater protection. Therefore, the proposed amendments exceed minimum federal government standards because New York's Environmental Conservation Law Article 17 provides DEC with additional jurisdiction to protect groundwater from adverse impacts. This is necessary because all groundwater in New York State is classified as potable/drinkable water. There are applicable Federal standards for stormwater discharges. New York's stormwater program meets or exceeds all federal requirements, and New York State's program is authorized under the Federal Clean Water Act to act in lieu of EPA in New York State.

10. COMPLIANCE SCHEDULE

The regulated community will be required to comply upon enactment of the proposed regulations.