



Department of
Environmental
Conservation

Chapter 3

Proposed SEQR Review Process

Final

Supplemental Generic Environmental Impact Statement

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Chapter 3 - Proposed SEQRA Review Process

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Chapter 3 PROPOSED SEQRA REVIEW PROCESS

3.1 Introduction – Use of a Generic Environmental Impact Statement

The Department’s regulations to implement SEQRA⁵⁰ authorize the use of a generic environmental impact statement (EIS) to assess the environmental impacts of separate actions having similar types of impacts.⁵¹ Additionally, a generic EIS and its findings “should set forth specific conditions or criteria under which future actions will be undertaken or approved, including requirements for any subsequent SEQRA compliance”⁵² such as the need for a supplemental environmental impact statement (SEIS). The course of action following a final generic EIS depends on the level of detail within the generic EIS, as well as the specific follow-up actions being considered. In considering a subsequent action such as permitting horizontal drilling and high-volume hydraulic fracturing in the Marcellus Shale and other low-permeability reservoirs, the Department must evaluate the generic EIS to determine whether the impacts from the subsequently proposed action (i.e., approval of the permit application) are not addressed, or are inadequately addressed, in the generic EIS, and, in either case, whether the subsequent action is likely to have one or more significant adverse environmental impacts. If significant adverse impacts of the subsequent action are identified, and they are not adequately addressed in the generic EIS, then a site- or project-specific SEIS must be prepared. Under the regulations, generic EISs and their findings should identify the environmental issues or thresholds that would trigger the need for a SEIS. However, if the Department determines that the final generic EIS adequately addresses all potential significant adverse impacts of the subsequently proposed action, then no SEIS is necessary. The SEQRA regulations pertaining to generic EISs (6 NYCRR §617.10[d][1]) provide that when a final generic EIS has been filed, “no further SEQRA compliance is required if a subsequent proposed action will be carried out in

⁵⁰ SEQRA regulations are available at <http://www.dec.ny.gov/regs/4490.html>.

⁵¹ 6 NYCRR §617.10(a). The regulations define the uses and functions of generic EISs. Frequently asked questions on the use of generic environmental impact statements are posted on the Department’s website at <http://www.dec.ny.gov/permits/56701.html>.

⁵² 6 NYCRR §617.10(c).

conformance with the conditions and thresholds established for such actions” in the generic EIS.⁵³

3.1.1 1992 GEIS and Findings

Drilling and production of separate oil and gas wells, and other wells regulated under ECL 23 have common types of impacts. Therefore, the Department issued the 1992 GEIS and Findings Statement to cover oil, gas and solution mining activities regulated under ECL 23. The 1992 GEIS is incorporated by reference into this document.⁵⁴ Based on the 1992 GEIS, the Department found that issuance of a standard, individual oil or gas well drilling permit anywhere in the state, when no other permits are involved, would not have a significant environmental impact.⁵⁵ See Appendix 2.

Also, in the 1992 Findings Statement, the Department found 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 Department permits, may be significant and required a site-specific SEQRA determination. Under the 1992 GEIS, the only instance where issuance of an individual permit to drill an oil or gas well is always deemed significant and therefore always requires an SEIS is when the proposed location is within 1,000 feet of a municipal water supply well.

As part of the 1992 GEIS, the Department also evaluated the action of leasing of state land for oil and gas development and found no significant environmental impacts associated with that action.⁵⁶ Specifically, the Department concluded that lease clauses and the permitting process with its attendant environmental review would result in mitigation of any potential impacts that could result from a proposal to drill. See Appendix 3.

⁵³ 6 NYCRR §617.10(d)(1).

⁵⁴ <http://www.dec.ny.gov/energy/45912.html>.

⁵⁵ http://www.dec.ny.gov/docs/materials_minerals_pdf/geisfindorig.pdf.

⁵⁶ Sovas GH, April 19, 2003 (http://www.dec.ny.gov/docs/materials_minerals_pdf/geisfindsup.pdf).

3.1.2 Need for a Supplemental GEIS

As mentioned above, the SEQRA regulations require preparation of a supplement to a final generic EIS if a subsequent proposed action may have one or more significant adverse environmental impacts that were not addressed in the 1992 GEIS.⁵⁷ In 2008, the Department determined that some aspects of the current and anticipated application of horizontal drilling and high-volume hydraulic fracturing warranted further review in the context of a SGEIS, or Supplement. This determination was based primarily upon three concerns, as follows: (1) high-volume hydraulic fracturing would require water volumes far in excess of generic EIS descriptions (in the 1992 GEIS), (2) the possibility of drilling taking place in the NYC Watershed, in or near the Catskill Park, and near the federally-designated Upper Delaware Scenic and Recreational River, and (3) the longer duration of disturbance likely to take place at multi-well drilling sites.

- 1) *Water Volumes*: Multi-stage hydraulic fracturing of horizontal shale wells may require the use and management of millions of gallons of water for each well. This raised concerns about the volume of chemical additives present on a site, withdrawal of large amounts of water from surface water bodies, and the management and disposal of flowback water;
- 2) *Anticipated Drilling Locations*: While the 1992 GEIS does address drilling in watersheds that are major sources of drinking water supply, areas of rugged topography, unique habitats and other sensitive areas, oil and gas activity in the eastern third of the State was rare to non-existent at the time of publication. Although the 1992 Findings have statewide applicability, the revised draft SGEIS examines whether additional regulatory controls are needed in any of the new geographic areas of interest given the attributes and characteristics of those areas. For example, the 1992 GEIS did not address the possibility of drilling in the vicinity of the NYC watershed area which lies in the prospective area for Marcellus Shale drilling; and
- 3) *Multi-well pads*: Well operators previously suggested that as many as 16 horizontal wells could be drilled at a single well site, or pad. As stated in the following chapters, current information suggests that 6 to 10 wells per pad is the likely distribution. While this method will result in fewer well pads and thus fewer disturbed surface locations, it will also result in a longer duration of disturbance at each drilling pad than if only one well were to be drilled there, and a greater intensity of activity at those sites. ECL §23-

⁵⁷ 6 NYCRR §617.10(d)(4).

0501(1)(b)(1)(vi) requires that all horizontal infill wells in a multi-well shale unit be drilled within three years of the date the first well in the unit commences drilling. The potential impacts of this type of multi-well project were not analyzed in the 1992 GEIS.

3.2 Future SEQRA Compliance

The 1992 Findings Statement describes the well permit and attendant environmental review processes for individual oil and gas wells. Under the 1992 Findings Statement, each application to drill a well is deemed by the Department an individual project, meaning each application requires individual review. In terms of SEQRA compliance, the Department considers itself the appropriate lead agency for purposes of SEQRA review involving such applications inasmuch as the Department is the agency principally responsible under ECL §23-0303(2) for regulating oil and gas development activities with local government jurisdiction being limited to local roads and the rights of local governments under the Real Property Tax Law. The Department does not propose to change these aspects of its review.

3.2.1 Scenarios for Future SEQRA Compliance under the SGEIS

- **FIRST SCENARIO:** Applications that conform with the 1992 GEIS and the SGEIS.

Generally, when application documents⁵⁸ demonstrate conformance with the thresholds and conditions for such actions to proceed under the 1992 GEIS and the SGEIS, SEQRA would be deemed satisfied, and no further SEQRA process would be required. Upon receipt of an application for a well permit, which will be accompanied by the detailed project-specific information described in Appendix 6, Department staff will determine based on detailed project-specific information whether the application conforms to the conditions and thresholds described in the 1992 GEIS and the SGEIS that entitle the application to be covered by the 1992 GEIS and the SGEIS. If the application conforms to the 1992 GEIS and the SGEIS, Department staff will file a record of consistency statement and no further review under SEQRA will occur in connection with the processing of the well permit application. Permit conditions will be added on a site-specific basis to ensure compliance with the requirements of the 1992 GEIS, the SGEIS, and ECL 23.

⁵⁸ See Appendix 4 for a copy of the Application for Permit to Drill, Deepen, Plug Back or Convert a Well Subject to the Oil, Gas and Solution Mining Regulatory Program.

- **SECOND SCENARIO:** Proposed action is adequately addressed in the 1992 GEIS or the SGEIS but not in respective Findings Statement.

A supplemental findings statement must be prepared if the proposed action and impacts are adequately addressed in the 1992 GEIS and the SGEIS but are not addressed in the previously adopted 1992 GEIS Findings Statement or the SGEIS Findings Statement.

- **THIRD SCENARIO:** Permit applications that are not addressed, or not adequately addressed, in the 1992 GEIS or the SGEIS.

If the proposed action and its impacts are not addressed in the 1992 GEIS or SGEIS, then additional information would be required to determine whether the project may result in one or more additional significant adverse environmental impacts not assessed in the 1992 GEIS or the SGEIS. The projects that categorically fall into this category are listed in Section 3.2.3.

Depending on the nature of the action, the additional information would include an environmental assessment form or EAF; topographic, geologic or hydrogeologic information; air impact analysis; chemical information or other information deemed necessary by the Department to determine the potential for a significant adverse environmental impact. A project-specific SEQRA determination will either result in 1) a negative declaration (determination of no potentially significant impact), or 2) a positive declaration (requiring the preparation of a site-specific SEIS for the drilling application).

Examples since 1992 where such site-specific determinations have been made include the following actions: i) underground gas storage projects, ii) well sites where special noise mitigation measures are required, iii) well sites that disturb more than two and a half acres in designated Agricultural Districts, and iv) geothermal wells drilled in proximity to NYC water tunnels. As stated above, under the 1992 GEIS wells closer than 2,000 feet to a municipal water supply well would also require further site-specific review. None have been permitted since 1992. The following sections explain how this Supplement will be used, together with the previous 1992 GEIS, to satisfy SEQRA in certain instances when high-volume hydraulic fracturing is proposed.

3.2.2 Review Parameters

In conducting SEQRA reviews, the Department will handle the topics of i) SGEIS applicability, ii) individual project scope, iii) project size and iv) lead agency as follows.

3.2.2.1 SGEIS Applicability - Definition of High-Volume Hydraulic Fracturing

High-volume hydraulic fracturing is done in multiple stages, typically using 300,000-600,000 gallons of water per stage (Chapter 5). High-volume hydraulic fracturing in a vertical well would be comparable to a single stage. Wells hydraulically fractured with less water are generally associated with smaller well pads and many fewer truck trips, and do not trigger the same potential water sourcing and disposal impacts as high-volume hydraulically fractured wells. Therefore, for purposes of the SGEIS and application of the mitigation requirements described herein, high-volume hydraulic fracturing is defined as hydraulic fracturing that uses 300,000 or more gallons of water, regardless of whether the well is vertical, directional or horizontal. Wells requiring 299,999 or fewer gallons of water to fracture low-permeability reservoirs are not considered high-volume, and will be reviewed and permitted pursuant to the 1992 GEIS and Findings Statement.

Potential impacts directly related to water volume are associated with i) water withdrawals, ii) the volume of materials present on the well pad for fracturing, iii) the handling and disposition of flowback water, and iv) road use by trucks to haul both fresh water and flowback water. The Department proposes the following methodology, applicable to both vertical and horizontal wells that will be subjected to hydraulic fracturing:

$\leq 299,999$ gallons of water: Not considered high-volume; 1992 GEIS mitigation is sufficient; and

$\geq 300,000$ gallons of water: Always considered high-volume. The applicant must complete the EAF Addendum. All relevant procedures and mitigation measures set forth in this Supplement are required to satisfy SEQRA without a site-specific determination.

3.2.2.2 Project Scope

As was the case under the 1992 GEIS, each application to drill a well will continue to be considered as an individual project with respect to well drilling, construction, hydraulic fracturing (including additive use), and any aspects of water and materials management (source, containment and disposal) that vary between wells on a pad. Well permits will be individually issued and conditioned based on review of well-specific application materials. However, location screening for well pad setbacks and other required permits, review of access road location and construction, and the required stormwater permit coverage will be for the well pad based on submission of the first well permit application for the pad.

The only case where the project scope extends beyond the well pad and its access road is when the application documents propose surface water withdrawals that have not been previously approved by the Department. Such proposed withdrawals will be considered part of the project scope for the first well permit application that indicates their use, and all well permit applications that propose their use will be considered incomplete until the Department has approved the withdrawal.

Gathering lines and pipelines are not within the scope of project review as the PSC has exclusive jurisdiction to review these activities under Public Service Law Article VII. Compressor stations associated with gathering lines and pipelines are also under the PSC's Public Service Law Article VII review authority except that the Department has jurisdiction under ECL Article 19 (Air Pollution Control) to review air emissions and ECL Article 17 for the SPDES program. The foregoing is discussed in greater detail in Chapter 3 of the GEIS and Section 1.5 of the Final Scope. Chapter 5 of this Supplement describes the facilities likely to be associated with a multi-well shale gas production site, and Chapter 8 provides details on the PSC's environmental review process for these facilities.

3.2.2.3 Size of Project

The size of the project will continue to be defined as the surface acreage affected by development, including the well pad, the access roads, and any other physical alteration necessary. The Department's well drilling and construction requirements, including the supplementary permit conditions proposed herein, preclude any subsurface impacts other than

the permitted action to recover hydrocarbons. Most wells will be drilled on multi-well pads, described in Chapter 5 as likely an average of 3.5 acres in size, with larger pads possible, during the drilling and hydraulic fracturing stages of operations. Average production pad size, after reclamation, is likely to be 1.5 acres for a multi-well pad. Pads for vertical wells would be smaller. Access road acreage depends on the location, the length of the road and other factors. In general, each 150 feet of access road adds 1/10th of an acre to the total surface acreage disturbance.

Surface water withdrawal sites will generally consist of hydrants, meters, power facilities, a gravel pad for water truck access, and possibly one or more storage tanks. These sites would generally be expected to be rather small, less than an acre or two in size.

3.2.2.4 Lead Agency

For the reasons set out in section 3.2 above, the Department would in most, if not all, instances continue to assert the lead agency role under SEQRA. If the proposed action falls under the jurisdiction of more than one agency, based, for example, on the need for a local floodplain development permit, the lead agency must in the first instance be determined by agreement among the involved agencies. Disputes are decided by the Department's Commissioner pursuant to 6 NYCRR §617.6(b)(5). Where there is an involved agency or agencies other than the Department (meaning another agency with jurisdiction to fund, approve, or undertake the action), to the extent practicable, the Department will seek lead agency designation, which is consistent with the criteria for such designation under SEQRA.

3.2.3 EAF Addendum and Additional Informational Requirements

The 1992 Findings authorized use of a shortened, program-specific environmental assessment form (EAF), which is required with every well drilling permit application.⁵⁹ (See Appendices 2 and 5). The EAF and well drilling application form⁶⁰ do not stand alone, but are supported by the four-volume 1992 GEIS, the applicant's well location plat, proposed site-specific drilling and well construction plans, Department staff's site visit, and geographic information system (GIS) -

⁵⁹ http://www.dec.ny.gov/docs/materials_minerals_pdf/eaf_drill.pdf. Under 6 NYCRR §617.2(m) of the SEQRA regulations, the model full and short EAFs may be modified by an agency to better serve it in implementing SEQR, provided the scope of the modified form is as comprehensive as the model.

⁶⁰ http://www.dec.ny.gov/docs/materials_minerals_pdf/drill_req.pdf.

based location screening, using the most current data available. Oil and gas staff within the Department consults and coordinates with staff in other Department programs administered by the Department when site review and the application documents indicate an environmental concern or potential need for another Department permit.

The Department has developed an EAF Addendum for gathering and compiling the information needed to evaluate high-volume hydraulic fracturing projects ($\geq 300,000$ gallons) in the context of this SGEIS and its Findings Statement, and to identify the required site-specific mitigation measures. The EAF Addendum will be required as follows:

- 1) With the application to drill the first well on a pad constructed for high-volume hydraulic fracturing, regardless of whether the well is vertical or horizontal;
- 2) With the applications to drill subsequent wells for high-volume hydraulic fracturing on the pad if any of the information changes; and
- 3) Prior to high-volume re-fracturing of an existing well.

Categories of information required with the EAF addendum are summarized below, and Appendix 6 provides a full listing of the proposed EAF Addendum requirements.

3.2.3.1 Hydraulic Fracturing Information

Required information will include the minimum depth and elevation of the top of the fracture zone, estimated maximum depth and elevation of the bottom of potential fresh water, identification of the proposed fracturing service company and additive products, the proposed volume of fracturing fluid and percent by weight of water, proppants and each additive.

Documentation of the operator's evaluation of alternatives to the proposed additive products will also be required.

3.2.3.2 Water Source Information

The operator will be required to identify the source of water to be used for hydraulic fracturing, and provide information about any newly proposed surface water source that has not been previously approved by the Department as part of a well permit application. The proposed withdrawal location and type of source (e.g., stream, lake, pond, groundwater, etc.) and other

detailed information will be required to allow the Department to analyze potential impacts and, in the case of stream withdrawals, to ensure the operator's compliance relative to passby flow and the narrative flow standard in 6 NYCRR §703.2.

3.2.3.3 Distances

Distances to the following resources or cultural features will be required, along with a topographic map of the area showing the well pad, well location, and scaled distances from the proposed surface location of the well and the closest edge of the well pad to the relevant resources and features.

- Any known public water supply reservoir, river or stream intake, public or private water well or domestic supply spring within 2,640 feet;
- Any primary or principal aquifer boundary, perennial or intermittent stream, wetland, storm drain, lake or pond within 660 feet;
- Any residences, occupied structures or places of assembly within 1,320 feet.
- Capacity of rig fueling tank(s) and distance to:
 - Any public or private water well, domestic-supply spring, reservoir, river or stream intake, perennial or intermittent stream, storm drain, wetland, lake or pond within 500 feet of the planned location(s) of the fueling tank(s); and
- Distance from the surface location of the proposed well to the surface location of any existing well that is listed in the Department's Oil & Gas Database⁶¹ or any other abandoned well identified by property owners or tenants within a) the spacing unit of the proposed well and/or b) within 1 mile (5,280 feet) of the proposed well location, whichever results in the greatest number of wells. For each well identified, the following information would be required, if available:
 - Well name and API Number;
 - Well type;
 - Well status;

⁶¹ The Department's Oil & Gas Database contains information on more than 35,000 oil, gas, storage, solution salt, stratigraphic, and geothermal wells categorized under Article 23 of the ECL as Regulated Wells. The Oil & Gas database can be accessed on the Department's website at <http://www.dec.ny.gov/cfm/xtapps/GasOil/>.

- Well orientation; and
- Quantity and type of any freshwater, brine, oil or gas encountered during drilling, as recorded on the Department's Well Drilling and Completion Report.

3.2.3.4 Water Well Information

The EAF addendum for high-volume hydraulic fracturing will require evidence of diligent efforts by the well operator to determine the existence of public or private water wells and domestic-supply springs within half a mile (2,640 feet) of any proposed drilling location. The operator will be required to identify the wells and provide available information about their depth, and completed interval, along with a description of their use. Use information will include whether the well is public or private, community or non-community and the type of facility or establishment if it is not a private residence. Information sources available to the operator include:

- direct contact with municipal officials;
- direct communication with property owners and tenants;
- communication with adjacent lessees;
- EPA's Safe Drinking Water Act Information System database, available at http://oaspub.epa.gov/enviro/sdw_form_v2.create_page?state_abbr=NY; and
- The Department's Water Well Information search wizard, available at <http://www.dec.ny.gov/cfm/xtapps/WaterWell/index.cfm?view=searchByCounty>.

Additionally, geodata on water wells in New York State is available from the Department in KML (Keyhole Markup Language) and shape file formats. To access and download water well information, go to: <http://www.dec.ny.gov/geodata/ptk>.

Upon receipt of a well permit application, Department staff will compare the operator's well list to internally available information and notify the operator of any discrepancies or additional wells that are indicated within half a mile of the proposed well pad. The operator will be required to amend its EAF Addendum accordingly.

3.2.3.5 Fluid Disposal Plan

The Department's oil and gas regulations, specifically 6 NYCRR §554.1(c)(1), require a fluid disposal plan to be approved by the Department prior to well permit issuance for "any operation in which the probability exists that brine, salt water or other polluting fluids will be produced or obtained during drilling operations in sufficient quantities to be deleterious to the surrounding environment . . ." To fulfill this obligation, the EAF Addendum will require information about flowback water and production brine disposition, including:

- Planned transport off of well pad (truck or piping), and information about any proposed piping;
- Planned disposition (e.g., treatment facility, disposal well, reuse, or centralized tank facility); and
- Identification and permit numbers for any proposed treatment facility or disposal well located in New York.

3.2.3.6 Operational Information

Other required information about well pad operations will include:

1. Information about the planned construction and capacity of the reserve pit;
2. Information about the number and individual and total capacity of receiving tanks on the well pad for flowback water;
3. Indication of the timing of the use of a closed-loop tank system (e.g., surface, intermediate and/or production hole);
4. Information about any off-site cuttings disposal plan;
5. If proposed flowback vent/flare stack height is less than 30 feet, then documentation that previous drilling at the pad did not encounter H₂S is required;
6. Description of planned public access restrictions, including physical barriers and distance to edge of well pad;
7. Identification of the EPA Tiers of the drilling and hydraulic fracturing engines used, if these use gasoline or diesel fuel. If particulate traps or SCR are not used, a description of

other control measures planned to reduce particulate matter and nitrogen oxide emissions during the drilling and hydraulic fracturing processes;

8. If condensate tanks are to be used, their capacity and the vapor recovery system to be used;
9. If a wellhead compressor is used, its size in horsepower and description the control equipment used for nitrogen oxides (NO_x); and
10. If a glycol dehydrator is to be used at the well pad, its stack height and the capacity of glycol to be used on an annual basis.

3.2.3.7 Invasive Species Survey and Map

The Department will require that well operators submit, with the EAF Addendum, a comprehensive survey of the entire project site, documenting the presence and identity of any invasive plant species. As described in Chapter 7, this survey will establish a baseline measure of percent aerial coverage and, at a minimum, must include the plant species identified on the Interim List of Invasive Plant Species in New York State. A map (1:24,000) showing all occurrences of invasive species within the project site must be produced and included with the survey as part of the EAF Addendum.

3.2.3.8 Required Affirmations

The EAF Addendum will require operator affirmations to address the following:

- passby flow for surface water withdrawals;
- review of local floodplain maps;
- residential water well sampling and monitoring;
- access road location;
- stormwater permit coverage;
- use of ultra-low sulfur fuel;
- preparation of site plans to address visual and noise impacts, invasive species mitigation and greenhouse gas emissions;

- adherence to all well permit conditions; and
- adherence to best management practices for reducing direct impacts to terrestrial habitats and wildlife.

3.2.3.9 Local Planning Documents

The EAF Addendum will require the applicant to identify whether the location of the well pad, or any other activity under the jurisdiction of the Department, conflicts with local land use laws, regulations, plans or policies. The applicant will also be required to identify whether the well pad is located in an area where the affected community has adopted a comprehensive plan or other local land use plan and whether the proposed action is inconsistent with such plan(s).

3.2.3.10 Habitat Fragmentation

Applicants proposing well pads in Forest or Grassland Focus Areas that involve a disturbance in a contiguous forest patch of 150 acres or more in size or a contiguous grassland patch of 30 acres or more in size should not submit the EAF or a well permit application prior to conducting a site-specific ecological assessment in accordance with a detailed study plan that has been approved by the Department. The need and plan for an ecological assessment should be determined in consultation with the Department and will consider information such as existing site conditions, existing vegetative cover and ongoing and historical land management activities. The completed ecological assessment must be attached to the EAF and must include, at a minimum:

- A compilation of historical information about use of the area by forest interior birds or grassland birds;
- Results of pre-disturbance biological studies, including a minimum of one year of field surveys at the site to determine the current extent, if any, of use of the site by forest interior birds or grassland birds;
- An evaluation of potential impacts on forest interior or grassland birds from the project;
- Additional mitigation measures proposed by applicant; and
- Protocols for monitoring of forest interior or grassland birds during the construction phase of the project and for a minimum of two years following well completion.

3.2.4 *Prohibited Locations*

The Department will not issue well permits for high-volume hydraulic fracturing at the following locations:

- 1) Any proposed well pad within the NYC and Syracuse watersheds;
- 2) Any proposed well pad within a 4,000-foot buffer around the NYC and Syracuse watersheds;
- 3) Any proposed well pad within a primary aquifer (subject to reconsideration 2 years after issuance of the first permit for high-volume hydraulic fracturing);
- 4) Any proposed well pad within a 500-foot buffer around primary aquifers (subject to reconsideration 2 years after issuance of the first permit for high-volume hydraulic fracturing);
- 5) Any proposed well pad within 2,000 feet of public water supply wells, river or stream intakes and reservoirs (subject to reconsideration 3 years after issuance of the first permit for high-volume hydraulic fracturing);
- 6) Any proposed well pad within 500 feet of private drinking water wells or domestic use springs, unless waived by the owner; and
- 7) Any proposed well pad within a 100-year floodplain.

3.2.5 *Projects Requiring Site-Specific SEQRA Determinations of Significance*

The Department proposes that site-specific environmental assessments and SEQRA determinations of significance be required for the high-volume hydraulic fracturing projects listed below, regardless of the target formation, the number of wells drilled on the pad and whether the wells are vertical, directional or horizontal.

- 1) Any proposed high-volume hydraulic fracturing where the top of the target fracture zone is shallower than 2,000 feet along any part of the proposed length of the wellbore;
- 2) Any proposed high-volume hydraulic fracturing where the top of the target fracture zone at any point along any part of the proposed length of the wellbore is less than 1,000 feet below the base of a known fresh water supply;

- 3) Any proposed well pad within 500 feet of a principal aquifer;
- 4) Any proposed well pad within 150 feet of a perennial or intermittent stream, storm drain, lake or pond;
- 5) A proposed surface water withdrawal that is found not to be consistent with the Department's preferred passby flow methodology as described in Chapter 7;
- 6) Any proposed water withdrawal from a pond or lake;
- 7) Any proposed ground water withdrawal within 500 feet of a private well;
- 8) Any proposed ground water withdrawal within 500 feet of a wetland that pump test data shows would have an influence on the wetland;
- 9) Any proposed well location determined by NYCDEP to be within 1,000 feet of its subsurface water supply infrastructure; and
- 10) Any proposed centralized flowback water surface impoundment.

The Department will re-evaluate the need for site-specific SEQRA determinations within 500 feet of principal aquifers two years after issuance of the first permit for high-volume hydraulic fracturing.

The Department is not proposing to alter its 1992 Findings that proposed disposal wells require individual site-specific review or that proposed disturbances larger than 2.5 acres in designated Agricultural Districts require a site-specific SEQRA determination. According to the information received to date, the drilling of all high-volume hydraulically fractured wells will create surface disturbances in excess of 2.5 acres. The Department will consult with the Department of Agriculture and Markets to develop permit conditions, best management practices (BMP) requirements and reclamation guidelines to be followed when the proposed disturbance is larger than 2.5 acres on a farm in an Agricultural District. Staff will perform the SEQRA review and publish the results in the Environmental Notice Bulletin (ENB). A large number of agricultural districts are currently located in areas where high-volume hydraulic fracturing drilling is expected to occur but many of these districts have reverted to forestlands and are no longer in agricultural production. Mineral Resources will provide guidance to gas well operators

to achieve the goal of reducing or minimizing the surface disturbance to agricultural farmlands. Examples of the proposed Agricultural District requirements include but are not limited to:

- decompaction and deep ripping of disturbed areas prior to topsoil replacement;
- removal of construction debris from the site;
- no mixing of cuttings with topsoil;
- removal of spent drilling muds from active agricultural fields;
- location of well pads/access roads along field edges and in nonagricultural areas (where possible);
- removal of excess subsoil and rock from the site; and
- fencing of the site when drilling is located in active pasture areas to prevent livestock access.

Proposed projects that require other Department permits will continue to require site-specific SEQRA determinations regarding the activities covered by those permits, with one exception. Required coverage under a general stormwater permit does not result in the need for a site-specific SEQRA determination, as the Department issues its general permits pursuant to a separate process.

3.3 Regulations

The Department's oil and gas well regulations, located at 6 NYCRR Parts 550 - 559, contain permitting, recordkeeping, and operating requirements for oil and gas wells. More detailed requirements applicable to drilling operations are routinely attached as conditions to well drilling permits issued pursuant to the ECL. Additionally, the Department's regulations concerning water withdrawals, stormwater control, and the use of state lands, among others, would apply to various aspects of high-volume hydraulic fracturing operations considered in this revised draft SGEIS. Appendix 10 of this revised draft SGEIS contains proposed supplementary permit conditions for high-volume hydraulic fracturing that will be attached to well drilling permits. Although conditions incorporated into well drilling are enforceable pursuant to ECL Article 71, a number of the application requirements specific to high-volume hydraulic fracturing as well as

many of the mitigation measures discussed in this revised draft SGEIS will be set forth in regulations. Accordingly, draft revisions and additions to the Department's regulations will be considered as part of the SGEIS process, pursuant to the State Administrative Procedures Act (SAPA) for agency rulemaking.

The enactment of revisions or additions to the Department's regulations relating to high-volume hydraulic fracturing would have a positive effect on the environment by mitigating or otherwise addressing potential environmental impacts from this activity. However, because these regulations would be enacted as part of an action that would authorize high-volume hydraulic fracturing the enactment of such regulatory revisions or additions will be considered in conjunction with the Department's consideration of the significant environmental impacts under SEQRA.

SAPA contains other potential impact areas for state agencies to consider, such as the impact of proposed rules on jobs, rural areas and the regulated community. Some of these types of impacts are discussed in this revised draft SGEIS, but a complete examination of those types of impacts will be evaluated within the rulemaking process. The Department will consider all information generated by the SGEIS and SAPA processes to make determinations on how high-volume hydraulic fracturing operations would be regulated.