



January 11, 2012

Attn: dSGEIS Comments
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-6510

Dear Sir or Madam:

Enclosed please find a Joint Legal Memorandum on the Revised Draft Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program and Proposed Regulations for Horizontal Drilling and High Volume Hydraulic Fracturing in the Marcellus Shale and Other Low-Permeability Reservoirs prepared by Catskill Mountainkeeper, Delaware Riverkeeper Network, Earthjustice, the Natural Resources Defense Council, Riverkeeper, and the Sierra Club.

The comments in the enclosed Joint Memorandum are supplemental to and incorporate by reference, the technical and scientific comments submitted under separate cover by the Louis Berger Group on behalf of all but the last of the above organizations.

Sincerely,

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**JOINT LEGAL MEMORANDUM ON THE REVISED DRAFT SUPPLEMENTAL
GENERIC ENVIRONMENTAL IMPACT STATEMENT ON THE OIL, GAS AND
SOLUTION MINING REGULATORY PROGRAM AND PROPOSED REGULATIONS
FOR HORIZONTAL DRILLING AND HIGH VOLUME HYDRAULIC FRACTURING
IN THE MARCELLUS SHALE AND OTHER LOW-PERMEABILITY RESERVOIRS**

Introduction

This joint memorandum is being submitted on behalf of Catskill Mountainkeeper, Delaware Riverkeeper Network, Earthjustice, the Natural Resources Defense Council, Riverkeeper and Sierra Club, and is supplemental to, and incorporates by reference, the technical and scientific comments on the 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 Reservoirs, issued September 7, 2011 (“RDSGEIS”), and draft regulations (Proposed Express Terms 6 NYCRR Parts 52, 190, 550-556, 560, 750.1, and 750.3), issued September 28, 2011 (“Proposed Regulations”), submitted under separate cover by the Louis Berger Group on behalf of all but the last of the above organizations (“Technical Comments”).

The purpose of this memorandum is to provide additional legal comments regarding the sufficiency of the RDSGEIS and Proposed Regulations. In sum, it is our conclusion that, although there have been notable improvements over the 2009 DSGEIS, crucial deficiencies remain that would render it not only unwise, but contrary to law, for the New York State Department of Environmental Conservation (“NYSDEC”) to proceed with its proposed program regarding natural gas development using high volume hydraulic fracturing (“HVHF gas development”) in the Marcellus shale and other low permeability formations. In particular, as discussed below and in the accompanying Technical Comments, a number of critical analyses fall short of what is required under the State Environmental Quality Review Act (“SEQRA”). Many of these deficiencies cannot be adequately addressed in a final SGEIS;¹ rather, new analyses must be prepared and issued for another round of public review and comment before the SGEIS can be finalized.

Further, the Proposed Regulations fall far short of what is required to responsibly regulate HVHF gas development in New York. In addition to analyses in the RDSGEIS that are incomplete or improper, appropriate mitigation is often neither identified nor set forth in the proposed regulations. Where mitigation *is* identified, but not codified in the proposed regulations, it violates the requirements of the State Administrative Procedure Act (“SAPA”). Our organizations strongly urge that – consistent with the spirit and intent of SEQRA and SAPA – NYSDEC refrain from issuing revised proposed regulations for public review until the environmental review process has been completed and a legally sufficient SGEIS issued.

¹See *Webster Assocs. v. Town of Webster*, 59 N.Y.2d 220, 228 (1983) (“[T]he omission of a required item from a draft EIS cannot be cured simply by including the item in the final EIS.”).

The Scope of the Proposed Action Described in the RDSGEIS Is Either Too Broad or the RDSGEIS Has Failed to Consider All Potential Significant Adverse Impacts

By including all low-permeability reservoirs within the scope of the RDSGEIS,² yet limiting review of actual impacts from HVHF gas development only to those that would result from drilling in the Marcellus shale, the RDSGEIS plainly fails to meet NYSDEC's own standard that Environmental Impact Statements ("EISs") must consider all significant adverse impacts within the defined scope of the action.³ In this sense, either the scope of the RDSGEIS is overbroad, and the RDSGEIS must be expressly limited solely to drilling in the Marcellus formation, or the RDSGEIS has failed to address the entire scope of the project and impacts from HVHF gas development in other formations – such as the deeper Utica shale which both underlies and extends beyond the range of the Marcellus – must be evaluated.

SEQRA requires all agencies, including NYSDEC, to prepare or cause to be prepared an EIS for "any action . . . which may have a significant effect on the environment."⁴ The EIS must include an appropriate "description of the proposed action and its environmental setting," as well as identify "any adverse environmental effects which cannot be avoided should the proposal be implemented."⁵ This requires that the EIS "applies to the entire project" as described;⁶ that the agency take a "hard look" at all the relevant areas of environmental concern;⁷ and that the agency take "those concerns into account "to the fullest extent possible."⁷ Evaluating the environmental impacts of only a portion of the action described is contrary to the intent of SEQRA – all elements and phases of an action must be considered.⁸ Where an agency fails to consider the entire scope of a project, its determination will be overturned.⁹

With respect to the RDSGEIS, NYSDEC fails either to accurately describe the action under review, or to properly consider the impacts of that action. While the RDSGEIS purportedly applies to development in the Marcellus shale as well as all "other low-permeability formations" in New York, the RDSGEIS' discussion of other formations, e.g., the Utica shale, is limited to mere mention of such without meaningful impact analysis,¹⁰ and its inclusion in the evaluation of potential socioeconomic

² RDSGEIS at 2-1 ("The proposed action is the Department's issuance of permits to drill, deepen, plug back or convert wells for horizontal drilling and high-volume hydraulic fracturing in the Marcellus Shale and other low-permeability natural gas reservoirs.").

³ 6 N.Y.C.R.R. § 617.9(b)(1).

⁴ Environmental Conservation LAW ("ECL")ECL § 8-0109(2).

⁵ ECL § 8-0109(2)(a), (c).

⁶ *Town of Henrietta v. Department of Environmental Conservation*, 76 A.D.2d 215, 223 (4th Dept. 1980).

⁷ *Glen Head-Glenwood Landing Civic Council, Inc. v. Town of Oyster Bay*, 88 A.D.2d 484, 492 (1982) (citing to *Schenectady Chems., Inc. v. Flacke*, 83 A.D.2d 460 (3rd Dept. 1981) and *Town of Henrietta*, 76 A.D.2d at 223); *Jackson v. New York State Urban Development Corp.*, 67 N.Y.2d 400, 416 (1986) (agency must look at relevant areas of environmental concern and take a "hard look" at them); *H.O.M.E.S. v. New York State Urban Development Corp.*, 69 A.D.2d 222, 232 (4th Dept. 1979).

⁸ See 6 N.Y.C.R.R. § 617.3(g)(1); GERRARD, ET AL., ENVIRONMENTAL IMPACT REVIEW IN NEW YORK, § 3.05(2)(b) (citing to DEC, Final Generic Environmental Impact Statement Including Final Regulatory Impact Statement and Final Regulatory Flexibility Analysis of Revisions to 6 N.Y.C.R.R. Part 617, Feb. 18, 1987, at 9–10).

⁹ See *Village of Westbury v. Department of Transportation*, 75 N.Y.2d 62 (1989) (annulling a negative declaration for the widening of a highway interchange where it was found that the project was closely linked to the widening of a connecting highway there, and the impacts from that project were not considered); *Karasz v. Wallace*, 134 Misc. 2d 1052 (Sup. Ct. Saratoga Ct.) (reversing determination by town zoning board that no EIS was needed for just one apartment house where it was apparent that developers intended more buildings on the same site).

¹⁰ Technical Comments, report of Harvey Consulting LLC ("Harvey Report"), Chap. 2, at 4–9.

benefits. There is no consideration whatsoever as to whether, and if so how, the impacts of HVHF gas development in other low-permeability formations could differ from those associated with development of the Marcellus shale. The RDSGEIS therefore has either failed to correctly describe “the proposed action and its environmental setting” or failed to identify all the “adverse environmental effects” which would occur “should [NYSDEC’s] proposal be implemented.”¹¹

As demonstrated in the Technical Comments, the environmental concerns associated with drilling in the Marcellus shale are distinctive from those associated with drilling other formations, such as the Utica shale. For example, drilling in the Utica, which is almost twice as deep as the Marcellus, will require more resources and equipment, will generate more air pollution, drilling wastes, and transportation and surface impacts, and, given the higher pressure associated with deeper gas reservoirs, will involve an increased blowout risk.¹² In addition, low-permeability gas reservoirs present at depths shallower than the Marcellus and closer to water resources have not been studied at all.¹³ Furthermore, the “environmental setting” of the Marcellus is different from that of other shales, such as the Utica. While the Utica underlies a great portion of the Marcellus, it also extends significantly beyond the Marcellus’ geographic limit.

When applications are filed to conduct HVHF gas development in other formations, SEQRA demands that the unique and significant impacts associated with those applications must be given the requisite “hard look.” Because the RDSGEIS fails to satisfy NYSDEC’s responsibilities in this regard, NYSDEC must (1) expressly limit the scope of the RDSGEIS to match the scope of impacts actually considered – i.e., drilling in the Marcellus shale; or (2) issue a new revised DSGEIS for public comment which adequately identifies other formations where drilling will be permitted and assesses the relevant environmental impacts.

The RDSGEIS Fails to Justify Why It Does Not Consider the Impacts of Hydraulic Fracturing Using Between 80,000 and 300,000 Gallons of Water as High-Volume Hydraulic Fracturing

Although past versions of the DSGEIS suggested that hydraulic fracturing using between 80,000 and 300,000 gallons “may be considered high-volume,”¹⁴ NYSDEC excludes such wells from consideration under the RDSGEIS and its Proposed Regulations. The RDSGEIS provides no justification for this change or its implicit conclusion that the impacts of such drilling have been adequately evaluated, and appropriate mitigation implemented, through the 1992 GEIS and existing regulations.

Because the purpose of the RDSGEIS is to consider new potential impacts from HVHF gas development not addressed by the 1992 GEIS, it focuses on distinct impacts associated with the process, such as those “associated with the large volumes of water required to hydraulically fracture horizontal shale wells.”¹⁵ To this end, the RDSGEIS defines “high -volume hydraulic fracturing” as fracturing that uses “300,000 gallons of water or more per well”¹⁶ and excludes from consideration all wells which fracture using 299,999 or fewer gallons of water. The implication of this omission is that the impacts of such wells were adequately considered under the 1992 GEIS and are appropriately mitigated under the current oil and gas drilling regulations.

¹¹ ECL § 8-0109(2)(a), (c).

¹² Harvey Report, Chap. 2, at 8.

¹³ Harvey Report, Chap. 2 at 9.

¹⁴ 2009 DSGEIS at 3-5.

¹⁵ RDSGEIS at 2-1, 2-2.

¹⁶ *Id.* at 2-1.

The 1992 GEIS, however, only evaluates hydraulic fracturing wells that use up to 80,000 gallons of water, and does not consider the impacts for wells which could use two to four times as much fluid to achieve fracturing.¹⁷ Furthermore, the 2009 version of the DSGEIS provided that wells using between 80,000 and 300,000 gallons of water “may be considered high-volume” and that a potential applicant for such a well would have to “complete the portions of the EAF Addendum related to water source, fracture fluid makeup, distances, water wells and a fluid disposal plan.”¹⁸ Based on this modified EAF submission, NYSDEC would then determine, “based on potential impacts, to what extent SGEIS mitigation measures are required to satisfy SEQRA.”¹⁹

NYSDEC provides absolutely no justification for its apparent determination that such well sites may no longer be considered high volume following site-specific review, or for its implicit reasoning that such wells are adequately considered under the 1992 GEIS and significant adverse impacts mitigated under the existing regulations. NYSDEC must either consider the impacts of such drilling in a reissued DSGEIS or else make clear that such drilling would not be permitted without an additional GEIS assessing the relevant impacts or a site specific SEQRA review for each well site.

The RDSGEIS Should Be Clear That It Only Applies to Hydraulic Fracturing Using Water and Not Other Substances

The RDSGEIS defines its scope as applying to horizontal or vertical wells “using 300,000 gallons of water or more per well.”²⁰ That HVHF as defined by NYSDEC only applies to the use of water as the primary carrier fluid is supported by the proposed regulatory definition of HVHF.²¹ Although the RDSGEIS does not purport to apply to fracturing with other types of substances – such as fracturing with propane gel as is already practiced in other states – NYSDEC should make abundantly clear that the SGEIS is not applicable to use of such other substances and that a separate SGEIS, or site-specific SEQRA review, would be necessary before permitting wells intending to fracture with such other substances.

The RDSGEIS Fails to Evaluate Potential Cumulative Impacts

The RDSGEIS fails to evaluate potential cumulative impacts as mandated by SEQRA and its implementing regulations. NYSDEC’s SEQRA regulations require the preparation of a cumulative impact assessment when, even if no single project’s impact is significant, the aggregated impacts from multiple actions may be significant.²² This is consistent with the principle that all EISs “should deal with the specific significant environmental impacts which can be reasonably anticipated,”²³ including “primary

¹⁷ 1992 GEIS at 9-26 (considering only fracturing wells where “Twenty to eighty thousand gallons of fluid are injected into the producing formation under high pressure”).

¹⁸ 2009 DSGEIS at 3-5, 3-6.

¹⁹ *Id.*

²⁰ RDSGEIS at 2-1 (emphasis added).

²¹ Proposed 6 N.Y.C.R.R. § 560.2(b)(8) (defining HVHF as “the stimulation of a well using 300,000 gallons or more of water as the primary carrier fluid in the hydraulic fracturing fluid.”); Proposed 6 N.Y.C.R.R. § 560.1(a) (“This Part applies to all vertical and directionally drilled wells, including horizontal wells, where high volume hydraulic fracturing is planned.”).

²² 6 N.Y.C.R.R. § 617.7(c)(2) (“agency must consider reasonably related long-term, short-term, direct, indirect and cumulative impacts”); 6 N.Y.C.R.R. § 617.9(b)(5)(iii)(a) (if applicable and significant, draft EIS must include “reasonably related short-term and long-term impacts, cumulative impacts and other associated environmental impacts”).

²³ ECL § 8-0109(2).

(direct) and secondary (indirect) impacts”²⁴ as well as “short-term and long-term effects.”²⁵ Consideration of cumulative impacts is especially important with respect to generic EISs that encompass broad statewide programs, such as NYSDEC’s plan to permit HVHF gas development in the Marcellus shale.²⁶

In our comments on the 2009 DSGEIS, we pointed out that the DSGEIS at that time utterly failed to assess cumulative impacts. While the RDSGEIS marks an improvement over the 2009 draft with respect to certain air quality impacts, the RDSGEIS still falls well short of considering the cumulative impacts which are reasonably foreseeable in many of the RDSGEIS’ build out scenarios. To provide a few examples, the RDSGEIS excludes any meaningful analysis of: the cumulative impacts of land disturbance on water quality from multiple well pads;²⁷ the cumulative impacts of multiple well pads and pipelines with respect to wildlife habitat fragmentation;²⁸ the cumulative noise and vibration impacts of multiple wells being developed concurrently, as well as transportation-related noise on human health and wildlife;²⁹ the cumulative impacts of multiple well pads on sensitive visual resources;³⁰ and the cumulative impacts of well re-fracturing either at one or multiple wells.³¹

The failure to consider such significant and foreseeable impacts clearly violates the requirements of SEQRA and NYSDEC’s own implementing regulations to prepare a meaningful cumulative impact assessment. Accordingly, NYSDEC must issue a further revised DSGEIS for public comment that includes adequate consideration of such impacts.

By Not Considering Impacts of Central Aspects of the HVHF Gas Development Process, the RDGEIS Improperly Segments Review of NYSDEC’s Permitting Program

The RDSGEIS unacceptably segments review of NYSDEC’s proposal to issue permits for HVHF gas development by failing to adequately consider impacts which result from the HVHF process itself and from the anticipated expansion of HVHF gas development in New York State. Under SEQRA, an EIS must consider the full range of environmental impacts associated with an action, including short term and long term impacts.³² For proposals to permit actions which consist of a series of activities or steps, all of the activities and steps must be considered regardless of “whether the agency decision-making relates to

²⁴ NYSDEC, The SEQR Handbook at 80 (2010).

²⁵ ECL § 8-0109(2)(b).

²⁶ 6 N.Y.C.R.R. § 617.10(e) (discussing generic EISs: “In connection with projects that are to be developed in phases or stages, agencies should address not only the site specific impacts of the individual project under consideration, but also, in more general or conceptual terms, the cumulative impacts on the environment and the existing natural resource base of subsequent phases of a larger project or series of projects that may be developed in the future. In these cases, this part of the generic EIS must discuss the important elements and constraints present in the natural and cultural environment that may bear on the conditions of an agency decision on the immediate project.”). *Cf.* *Save the Pine Bush, Inc. v. City of Albany*, 117 A.D.2d 267, 270–272 (3rd Dept. 1986) (identifying generic impact statement as an appropriate form to consider cumulative impacts).

²⁷ Technical Comments, report of Meliora Environmental Design (“Meliora Report”) at 5, 9–10, 13, 22–24.

²⁸ Technical Comments, report of Kevin Heatley, M.EPC (“Heatley Report”) at 2–4, 16–14, 18–19.

²⁹ Technical Comments, report of Louis Berger Group, Inc. (“LBG Report”), §2.5, at 8.

³⁰ LBG Report, § 4.1, at 16–18.

³¹ Harvey Report, Chap. 16, at 105–107.

³² ECL § 8-0109(2).

the action as a whole or to only a part of it.”³³ Contemplation of only a part of an action by an EIS is contrary to the intent of SEQRA.³⁴

The overall HVHF gas development process involves a number of steps, including water withdrawals; rig construction; well drilling; fracturing; wastewater flowback; gas collection; compression and transmission; and ultimate recovery. Although many of these steps are considered in the RDSGEIS, central and significant steps in the process are glossed over or given mere lip service. The clearest example of such a step is wastewater disposal. The RDSGEIS notes that the return of millions of gallons of toxic and radioactive water, in the form of brines and flowback, is an unavoidable consequence of HVHF gas development activities.³⁵ It also acknowledges that “proper disposal of flowback from hydraulic fracturing will be necessary.”³⁶

Yet despite its recognition of the size and significance of impacts from fluid flowback, permissible treatment of the produced flowback water is not adequately addressed in the RDSGEIS or Proposed Regulations.³⁷ While the RDSGEIS discusses a number of short-term solutions to deal with flowback water on site³⁸ and does list various potential treatment options (such as the use of disposal wells and public and private water treatment),³⁹ the RDSGEIS fails to assess the foreseeable impacts associated with the possible treatment options that it identifies. These include the potential for seismic activity associated with deep well injection and air contamination and road infrastructure impacts that would be caused by out of state transport and disposal of waste. Impacts from treatment at publicly or privately owned treatment facilities, including those to receiving water bodies and from anticipated treatment technologies such as those in use in Pennsylvania and elsewhere, are also foreseeable and must be analyzed. Pledges to “promote reuse” of flowback water for fracturing in future wells⁴⁰ are laudable, but the impacts of reuse are similarly both foreseeable and inadequately evaluated, including impacts associated with the unavoidable ultimate disposal of reused, ultraconcentrated flowback.

Ultimately, the state has no plan for how to deal in-state with the inevitable generation of billions of gallons of wastewater containing toxic chemicals and radioactive materials should HVHF gas development be approved, and the possibility of shipping such volume of waste out of state is uncertain.⁴¹ But the lack of such a plan does not excuse NYSDEC from developing a reasonable worst-case scenario – based at least in part on experiences in Pennsylvania, Ohio and elsewhere – that evaluates the impacts from the relatively conscribed, anticipated options for wastewater management.

The RDSGEIS also fails to evaluate other central and highly foreseeable results of a statewide plan for expanding gas drilling in New York, such as the construction of pipelines. The RDSGEIS does not analyze any of the significant impacts of pipelines (such as additional habitat fragmentation, stormwater runoff, etc.) based on flawed reasoning that such an analysis is not required because the

³³ 6 N.Y.C.R.R. § 617.3(g).

³⁴ 6 N.Y.C.R.R. § 617.3(g)(1).

³⁵ RSDGEIS at 5-99 (“Flowback water recoveries reported from horizontal Marcellus wells in the northern tier of Pennsylvania range between 9 and 35 percent of the fracturing fluid pumped. Flowback water volume, then, could be 216,000 gallons to 2.7 million gallons per well”). For toxic characteristics of flowback water see RSDGEIS at 5-100 – 5-116.

³⁶ RSDGEIS at 5-84.

³⁷ See Technical Comments, report of Glenn C. Miller, Ph.D. (“Miller Report”).

³⁸ RSDGEIS at 7-39 – 7-40.

³⁹ *Id.* at 7-63 – 7-66.

⁴⁰ RSDGEIS at 7-39.

⁴¹ RSDGEIS at 5-132 (“The regulatory regimes in other states for treatment of this waste stream are evolving, and it is unknown whether disposal at the listed [out-of-state] plants remains feasible.”).

pipelines would be reviewed under the Public Service Commission's Article VII process. The regulatory review process for pipelines is irrelevant – SEQRA requires state and local agencies to consider all reasonably foreseeable long term impacts of an action.⁴²

By omitting meaningful consideration of central, unavoidable, and foreseeable aspects of the dramatic expansion of HVHF gas development in New York envisioned in the document, the RDSGEIS impermissibly segments review of the proposed action. NYSDEC must therefore issue a further revised DSGEIS that includes consideration of all such aspects.

The RDSGEIS Fails to Properly Evaluate the Impacts of Hazardous Wastes Produced During HVHF Gas Development

The RDSGEIS fails to adequately analyze the adverse environmental impacts that could be caused by the disposal of hazardous wastes produced during drilling, hydraulic fracturing, and production operations in New York State. Drilling muds, residual solids resulting from the treatment of flowback water, and any materials or equipment exposed to drilling muds, flowback, brines, or fluids used during HVHF gas development can contain “contaminants of concern,” including acids, ammonia, benzene, formaldehyde, kerosene, and metals such as magnesium, barium, and strontium;⁴³ yet, the RDSGEIS neither examines the potential impacts of this toxic waste stream nor proposes any mitigation measures to protect human health and the environment from the risks posed thereby.

Although many HVHF gas development wastes satisfy the narrative criteria for hazardous wastes established under New York's ECL,⁴⁴ NYSDEC has categorically excluded all “drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of . . . natural gas” from its regulatory definition of hazardous waste.⁴⁵ Consequently, those wastes are treated as ordinary solid waste or industrial waste, both of which are subject to less stringent environmental controls than hazardous waste.⁴⁶

The ECL defines hazardous waste broadly, as “a waste or combination of wastes, which because of its quantity, concentration, or physical, chemical or infectious characteristics may: a. Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or b. Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed, or otherwise managed.”⁴⁷ Despite the statute's recognition of the toxic components of HVHF gas development wastes,⁴⁸ the RDSGEIS fails to determine whether such wastes may pose a substantial hazard to human health or the environment.

Further, following this analysis, and because the categorical exclusion of gas development wastes from the definition of hazardous waste is inconsistent with New York State law, NYSDEC should amend the Proposed Regulations to revise 6 N.Y.C.R.R. Part 371 to close the improper regulatory loophole and to require that, where HVHF gas development wastes meet the statutory criteria for hazardous wastes,

⁴² ECL § 8-0109. See *Village of Westbury v. Department of Transportation*, 75 N.Y.2d 62, 68–9 (1989); *Long Island Pine Barrens Society, Inc. v. Town Board of Riverhead*, 290 A.D.2d 448, 448–9 (2nd. Dept. 2002); *Farrington Close Condominium Board of Managers v. Village of Southampton*, 205 A.D.2d 623, 624–5 (2nd. Dept. 1994).

⁴³ See RDSGEIS, at 5-101, Table 5.7.

⁴⁴ See ECL § 27-0901(3)(b).

⁴⁵ 6 N.Y.C.R.R. § 371.1(e)(2)(v).

⁴⁶ See RDSGEIS at 5-129 (classifying cuttings from mud drillings as “industrial non-hazardous waste”).

⁴⁷ ECL § 27-0901(3)(b) (emphasis added).

⁴⁸ See RDSGEIS at 5-101, Table 5.7.

they are defined as such and are subject to all pertinent generation, transportation, treatment, storage, and disposal laws and regulations.

NYSDEC Must Address Potential Negative Socioeconomic Impacts in a Revised Socioeconomics Analysis Made Available for Public Comment Before Finalizing the SGEIS

A fundamental deficiency in the RDSGEIS, which NYSDEC recently acknowledged, is its failure to quantify any potential negative socioeconomic and community impacts.⁴⁹ This deficiency cannot be cured, given the significance of this omission, by addressing potential negative impacts in the FSGEIS.⁵⁰ A new draft socioeconomic analysis must be completed, and along with a revised RDSGEIS discussion of socioeconomic impacts based thereon, released with an additional public comment period before the SGEIS is finalized.

Although NYSDEC committed in its Final Scope for its RDSGEIS to consider “any potential positive or negative community impact, including potential environmental justice impacts,”⁵¹ it failed to address all of the impacts directed by the Scope. A complete socioeconomic and environmental justice analysis requires examination of reasonably foreseeable impacts on noise; historic resources; aesthetic resources; traffic; short- and long-term population concentration, distribution, or growth; and community character, all of which are specifically protected by SEQRA.⁵² Additionally, NYSDEC must assess the possible “creation of a material conflict with a community’s current plans or goals as officially approved or adopted.”⁵³ The Court of Appeals has held that failure to consider long-term effects on population patterns, community goals and neighborhood character is fatal to an environmental review under SEQRA.⁵⁴

As detailed in the Technical Comments, NYSDEC’s socioeconomic assessment is grossly insufficient. The RDSGEIS analyzes potential *economic benefits* of HVHF gas development, but provides little analysis and no quantification of the potential *costs* of HVHF development, such as increased public safety requirements, including emergency response measures, monitoring and inspection, and infrastructure maintenance.⁵⁵ The RDSGEIS also fails to consider Pennsylvania’s experience, which has shown that there can be a “ramp up” of the transient population when gas production begins in a community, followed by a sudden drop off in which that population leaves and the permanent residents lose jobs and revenue.⁵⁶ Rather, the RDSGEIS assumes, contrary to evidence from other drilling states, that there will be a steady, predictable roll out of activity that will than slowly taper off and thus there will

⁴⁹ Jon Campbell, *DEC takes closer look at community hydrofracking costs*, Ithaca Journal, Dec. 20, 2011, <http://www.theithacajournal.com/article/20111220/NEWS01/112200346/DEC-takes-closer-look-community-hydrofracking-costs?odyssey=tab|topnews|text|FRONTPAGE> (Commissioner Martens states: “We provided (Ecology & Environment) with feedback on areas that we’d like them to look at, and I think universally it was felt that some of the specific socioeconomic impacts should be expanded upon.”).

⁵⁰ *See Webster Assocs. v. Town of Webster*, 59 N.Y.2d 220, 228 (1983) (“[T]he omission of a required item from a draft EIS cannot be cured simply by including the item in the final EIS.”).

⁵¹ NYSDEC, Final Scope for DSGEIS, § 4.9 (2011).

⁵² *See* ECL § 8-0105 (6).

⁵³ 6 N.Y.C.R.R. § 617.7(c)(1)(iv).

⁵⁴ *See Chinese Staff & Workers Assn. v City of New York*, 68 N.Y.2d 359, 366-68 (1986) (“The potential acceleration of the displacement of local residents and businesses is a secondary long-term effect on population patterns, community goals and neighborhood character such that CEQR [City Environmental Quality Review, implementing SEQRA] requires these impacts on the environment to be considered in an environmental analysis.”).

⁵⁵ *See* Technical Comments, report of Dr. Susan Christopherson (“Christopherson Report”), Part I.A.2, C.4.

⁵⁶ *Id.* at Part I.A.2.

not be any significant negative impacts.⁵⁷ For the RDSGEIS to pass muster under SEQRA, NYSDEC must address such omissions and erroneous assumptions.

The fact that NYSDEC has already acknowledged deficiencies and directed Ecology & Environment, Inc., its socioeconomic expert, to supplement its economic analysis highlights the significance of this gap in the RDSGEIS. As discussed above, NYSDEC cannot cure the firm's previous, completely inadequate report of the costs associated with HVHF gas development by supplementing that report in the FSGEIS. To comply with the requirements of SEQRA, NYSDEC must give the public an opportunity to review and comment on all supplemental analysis prepared by its consultant and revisions to the RDSGEIS based on those materials.

NYSDEC Should Propose Mitigation Measures Consistent with Comptroller DiNapoli's Approach to Addressing Potential Contamination Resulting from HVHF Gas Development

We concur with New York State Comptroller Thomas DiNapoli's determination that the RDSGEIS and Proposed Regulations fail to adequately address the issue of remediation of contamination resulting from HVHF gas development.⁵⁸ This significant gap led the Comptroller to submit legislation to create a Natural Gas Production Contamination Damage Recovery and Remediation Fund (Natural Gas Damage Recovery Fund),⁵⁹ recently introduced in the Assembly as A.8572 by Assemblyman Sweeney.

The need for a Natural Gas Damage Recovery Fund is clear based on the potential for significant contamination from natural gas operations. On April 19, 2011, in Bradford County, Pennsylvania, one of Chesapeake Energy Corporation's many HVHF wells had a catastrophic blowout, leading to contamination of nearby land and waterways with thousands of gallons of chemically-laden water.⁶⁰ Given the large number of oil and gas wells that have already been drilled in New York (70,000), and the additional 40,000 that New York is anticipating,⁶¹ it is foreseeable that a similar event could occur here. As noted by Comptroller DiNapoli in his comment letter, "however careful the industry and regulators may be, accidents are inevitable."⁶²

The Comptroller's recommended program, which is similar to the state's current Oil Spill Fund, would:

- Impose strict liability on owners or operators of drilling sites that cause contamination;
- Empower NYSDEC to order immediate clean-up by owner or operator or take over sites for immediate clean-up;
- Impose a surcharge on drilling permits to create the Natural Gas Damage Recovery Fund similar in structure to the existing Oil Spill Fund;
- Require oil and natural gas companies to post surety bonds to cover any shortfall between Fund resources and remediation costs.

⁵⁷ *Id.*

⁵⁸ Letter from New York State Comptroller to Joe Martens, Commissioner, NYSDEC, Dec. 29, 2011, available at http://www.osc.state.ny.us/press/releases/dec11/NYSDEC_martens_letter.pdf.

⁵⁹ A. 8572, 234th Sess. (N.Y. 2011). A copy of the proposed legislation is available <http://www.osc.state.ny.us/legislation/2011-12/oscb20.htm>.

⁶⁰ *Gas Well Spews Polluted Water*, N.Y. TIMES, April 21, 2011, at A14 available at <http://www.nytimes.com/2011/04/21/us/21frack.html>.

⁶¹ RDSGEIS at 6-6 (2011).

⁶² Letter from New York State Comptroller to Joe Martens, Commissioner, NYSDEC, Dec. 29, 2011, available at http://www.osc.state.ny.us/press/releases/dec11/DEC_martens_letter.pdf.

- Direct DEC to maintain a public registry of sites affected by contamination resulting from natural gas production to enhance the ability of regulators to evaluate the effectiveness of industry regulation.

We applaud Comptroller DiNapoli for his bill and urge NYSDEC to support its passage. We recognize that the Comptroller's proposal would require legislative action and raise this issue not only to encourage NYSDEC's support of the Comptroller's bill, but to highlight our shared concern that the analysis of the potential for contamination in the RDSGEIS is lacking. The potential for damage to or destruction of public and private property, the environment and state natural resources resulting from contamination related to natural gas development presents a significant foreseeable cost associated with that activity. This potential impact should have been analyzed and assessed in the RDSGEIS and appropriate mitigation proposed.

Protections Proposed By The RDSGEIS For Areas Of Special Concern Are Inadequate

All areas of special concern for which NYSDEC has proposed drilling prohibitions focus solely on preventing site (surface) disturbance,⁶³ which mistakenly presumes that there are no subsurface contamination risks during the gas development process. However, as highlighted in the Technical Comments, HVHF gas development poses numerous risks with respect to subsurface migration of contaminants.⁶⁴ Contamination can also occur from, for example, potential long-term subsurface migration of contaminants.⁶⁵ NYSDEC should address this gap by prohibiting subsurface activity in all areas where surface activity is prohibited.

The RDSGEIS Does Not Prohibit Low-Volume Hydraulic Fracturing in Special Areas

All prohibitions proposed in the RDSGEIS apply only to *high-volume* hydraulic fracturing operations, i.e., those operations that use 300,000 gallons of water or more.⁶⁶ Operations that use less than this amount, whether traditional vertical wells or horizontal wells, would still be allowed in prohibited areas such as the New York City and Syracuse watersheds and would not be subject to any of the restrictions set forth in the RDSGEIS and Proposed Regulations. NYSDEC should address this regulatory gap by prohibiting both low- and high-volume hydraulic fracturing in these areas.⁶⁷

Prohibited Buffer Areas Will Be Open for Drilling Reconsideration

Many of the state's "prohibited" buffer areas (e.g., those around primary aquifers, principal aquifers, public water supply wells, and tributaries thereto) include "reconsideration" provisions that would allow the state to consider permitting drilling in these areas and buffer zones within two to three (2-3) years of measuring "actual experience and impacts associated with permit issuance."⁶⁸

⁶³ Proposed 6 NYCRR §750-3.3(b).

⁶⁴ See, e.g., Technical Comments, report of Tom Myers, Ph.D. ("Myers Report") at 12-15.

⁶⁵ *Id.*

⁶⁶ RDSGEIS at 3-16.

⁶⁷ As noted above (*supra* at 3), NYSDEC has not properly evaluated the potential impacts of what it considers to be non-high-volume hydraulic fracturing (i.e., hydraulic fracturing that uses between 80,000 and 300,000 gallons of water), either in the RDSGEIS or the 1992 SGEIS. This is an error that needs to be corrected as explained above. Regardless, the prohibitions discussed in this section should apply to all gas development activities, including vertical and horizontal wells that use less than 300,000 gallons of water.

⁶⁸ RDSGEIS at 9-6.

This approach sounds dangerously like an open door to removing mitigation recommended as a result of the SEQRA process without any additional environmental review or public input, and without basis on the best available scientific evidence. These reconsideration provisions are, moreover, unjustified as they are dependent solely on the date of the issuance of the first HVHF gas development permit in New York. Without knowing the pace and scale of development (and the number of operations that would be evaluated), this date is an arbitrary foundation upon which the evaluation process is built. These reconsideration clauses should therefore be withdrawn and the prohibitions made permanent.⁶⁹

Mitigation Proposed By The RDSGEIS to Protect New York's Drinking Water Are Fundamentally Inadequate

New York City and Syracuse Watersheds – Unfiltered Drinking Water Supplies

In order to ensure that the uniquely unfiltered New York City and Syracuse watersheds remain unscathed, NYSDEC should increase its proposed 4,000-foot buffer to preclude any horizontal drilling under these watersheds sufficient to account for the length of current or future horizontal well bores.⁷⁰ Moreover, it appears that vertical drilling and low-volume hydraulic fracturing would still be permitted in these areas, even though they present the same kinds of risks. NYSDEC should address these issues and clearly prohibit any activities related to natural gas development in *and under* these watersheds and buffer areas.

Water Supply Infrastructure

There are at least two major risks from drilling on or around water supply infrastructure, including tunnels, dams and aqueducts: (1) a threat that seismicity from drilling activities could jeopardize the stability of the tunnels themselves; and (2) a threat that fracking fluids or other contaminants could migrate from drilling sites into the tunnels via small cracks or fissures in the tunnel walls – potentially contaminating NYC's drinking water. The New York City Department of Environmental Protection's ("NYCDEP") extensive technical comments on the 2009 DSGEIS recommended a 7-mile buffer zone around NYC's aging and leaking water supply infrastructure.⁷¹ These tunnels are already compromised; in fact, the Delaware Aqueduct has been leaking 30 million gallons of water per day for more than two decades. However, in a crucial oversight, the state is *not* proposing to put this infrastructure off-limits to new drilling.⁷² Allowing unsafe drilling activities to occur near aging and vulnerable water supply infrastructure poses an unreasonable risk to public health and emergency preparedness.

⁶⁹ Note that many of the proposed buffer areas and other prohibitions are in themselves inadequate, as addressed in NRDC's Technical Comments. See, e.g., Technical Comments, summary report of Louis Berger Group ("LBG Summary Report") at 6.

⁷⁰ See, e.g., Press Release, Chesapeake Energy Corporation, Chesapeake Energy Corporation Discloses Initial Horizontal Well Drilling Results in its Utica Shale Discovery and Announces Achievement of Corporate Production Milestones (Sept. 28, 2011), available at: <http://www.chk.com/news/articles/pages/1610725.aspx> (indicating that of Chesapeake's four completed lateral wells in the Utica Shale of Ohio and Pennsylvania, all extended horizontally over 4,000 feet and two extended over 6,000 feet).

⁷¹ Hazen and Sawyer, Final Impact Assessment Report, December 2009, at D-3, available at: http://www.nyc.gov/html/dep/pdf/natural_gas_drilling/12_23_2009_final_assessment_report.pdf.

⁷² NYSDEC proposed in the RDSGEIS only to notify NYCDEP of any proposed well in counties containing New York City drinking water supply tunnels or aqueducts. RDSGEIS at 7-68. A proposed well would be subject to site-specific review if NYCDEP determined that the proposed well was within a 1,000-foot-wide corridor surrounding tunnels or aqueducts. *Id.*

NYSDEC's current plan makes no mention of protecting Syracuse's water supply infrastructure system; as with the NYC infrastructure, NYSDEC should prohibit drilling within a 7-mile buffer area around Syracuse's water supply infrastructure.

Public Drinking Water Supplies

Scientists recognize that current water filtration systems were not designed to filter out the wide range of chemicals expected to be used in HVHF gas development operations.⁷³ NYSDEC's proposed temporary, 2,000-foot buffer between HVHF operations and the surface of filtered public drinking water supplies (which is also subject to reconsideration after three years)⁷⁴ is inadequate.⁷⁵ Instead, NYSDEC should establish permanent, protective buffer areas in and around all watersheds (such as the Finger Lakes) that serve as public drinking water supplies.⁷⁶

Private Drinking Water Supplies

NYSDEC proposes in the RDSGEIS and Proposed Regulations to prohibit well pad development for HVHF gas development within 500 feet of private drinking water wells and domestic use springs.⁷⁷ However, this "prohibition" can be waived by landowners.⁷⁸ There appear to be no procedural requirements for this waiver and no discussion in the RDSGEIS about how to address potential scenarios where well users may be tenants and/or other neighboring landowners who share the well and do not consent to the waiver. This waiver provision is unjustified and should be eliminated.

Primary and Principal Aquifers

According to NYSDEC's own guidance documents, the only difference between primary and principal aquifers is that primary aquifers are used intensively now and principal aquifers are, in effect, the potential primary aquifers of the future.⁷⁹

Yet the RSDGEIS proposes to treat these aquifers differently, and does not provide adequate protection measures for either one. HVHF operations would be prohibited only on the surface of primary aquifers and within their corresponding 500-foot buffer zones, subject to reconsideration after 2 years.⁸⁰

Principal aquifers fare even worse than primary aquifers under NYSDEC's plan as the Department proposes only to require site-specific review (which does not guarantee an additional environmental impact statement) for drilling on the surface of these potential water supplies.⁸¹ NYSDEC

⁷³ See, e.g., Physician, Scientists and Engineers for Healthy Energy, Letter to Governor Andrew Cuomo, Sept. 15, 2011, available at: <http://www.scribd.com/doc/65121866/Sign-on-Letter-Final>.

⁷⁴ RDSGEIS at 7-73.

⁷⁵ *Id.*; proposed 6 N.Y.C.R.R. §750-3.3(b)(4).

⁷⁶ As noted above (*supra* at 10), NYSDEC should extend these prohibitions to include subsurface activity as well and the protection should be permanent and not subject to reconsideration after three years.

⁷⁷ RDSGEIS at 7-74; proposed 6 N.Y.C.R.R. §560.4(a)(1).

⁷⁸ *Id.*

⁷⁹ NYSDEC, Technical and Operational Guidance Series, 2.1.3, Oct. 23, 1990 at page 2, available at: http://www.dec.ny.gov/docs/water_pdf/togs213.pdf.

⁸⁰ RDSGEIS at 7-41; proposed 6 N.Y.C.R.R. § 750-3.3(b)(2).

⁸¹ RDSGEIS at 7-40 and 7-41; proposed 6 N.Y.C.R.R. §750-3.21(f)(4) (noting that the SPDES HVHF General Permit would not cover operations within 500 feet of a principal aquifer as measured from the closest edge of the gas well pad).

should also establish buffers that explicitly prohibit surface and subsurface HVHF gas development activity on and under principal aquifers.

Mitigation Proposed by the RDSGEIS to Protect Other Special Resources Are Inadequate

Floodplains

Although NYSDEC proposes prohibiting surface disturbances within 100-year floodplains,⁸² this approach is insufficiently protective and must be remedied. NYSDEC should also prohibit subsurface HVHF, as well as any activity related to HVHF gas development (infrastructure, holding ponds, etc.) in these areas.⁸³

Not only does NYSDEC acknowledge that FEMA is currently updating Flood Insurance Rate Maps (FIRMs) in several high-flood areas in the state, but the Department also admits that the increased frequency and magnitude of flooding has raised concerns regarding the reliability of the existing FIRMs in the Susquehanna and Delaware River basins.⁸⁴ Given this acknowledgment, NYSDEC should extend this prohibition to 500-year floodplains.⁸⁵

No permits should be issued anywhere in the state before updated floodplain maps are in place for the entire region and these maps are reflected in NYSDEC's environmental review and regulations. These maps should be reflective of anticipated changes that may result from climate change, namely the increase in frequency and severity of storm events.⁸⁶ To permit any HVHF gas development before properly mapping prohibited areas makes no sense as it could result in permitting activities to occur in prohibited areas that are not now, but may in the near future be classified as floodplains.

State Lands

NYSDEC has stated that HVHF gas development would not be allowed on State lands under its jurisdiction,⁸⁷ and given the potential for adverse impacts to forest habitat and wildlife identified in the RDSGEIS, this proposed protection is justified. However, NYSDEC should also prohibit drilling on *and under* all State-owned land under the Department's jurisdiction to ensure adequate protection.⁸⁸ Location of HVHF gas development ancillary facilities on state lands should also be prohibited.

NYSDEC also noted that land under the jurisdiction of the New York State Office of Parks, Recreation and Historic Preservation ("OPRHP") would be similarly protected under that agency's current policy.⁸⁹ However, in order to stand behind its commitment to fully protect state lands and parks, NYSDEC should prohibit drilling on and under all State-owned forests, reforestation areas, wildlife management areas reforestation areas, wildlife management areas, campgrounds, environmental

⁸² RDSGEIS at 7-76; proposed 6 N.Y.C.R.R. § 750-3.3(b)(3).

⁸³ For instance, proposed 6 N.Y.C.R.R. § 750-3.3(b)(3) defines "Construction phase" as "construction of access roads, wellpad, and other appurtenances," but "appurtenances" is not clearly defined in the draft regulations.

⁸³ RDSGEIS at 2-32, 2-33.

⁸⁴ RDSGEIS at 2-32, 2-33.

⁸⁵ See, e.g., Myers Report at 24.

⁸⁶ See, e.g., Technical Comments, report of Dr. Kimberly Knowlton ("Knowlton Report") at 2.

⁸⁷ RDSGEIS at 2-7 and 2-8.

⁸⁸ Accessing subsurface resources in these areas would clearly be allowed by NYSDEC. RDSGEIS at 7-101.

⁸⁹ RDSGEIS at 7-101.

education centers and public conservation easements, and formally encourage the OPRHP to promulgate similar rules.⁹⁰

Other Areas

In addition to the areas that were specifically highlighted in the RSDSGEIS, NYSDEC should also evaluate other areas that, because of ecological, hydrological, recreational, and/or historic significance, should also be placed permanently off-limits to gas development.⁹¹

The Proposed Regulations Do Not Adequately Address the Need for Full Public Disclosure of Chemical Additives Used in HVHF Gas Development, Which Is Required to Assure Adequate Mitigation of Potential Significant Adverse Impacts

NYSDEC's goal of enacting a disclosure regime that will be "among the most stringent in the country"⁹² is laudable, and we support the proposed requirement of pre-fracturing disclosure of hydraulic fracturing chemicals and mandatory use of safer alternative chemicals. Nonetheless, the proposed regime falls short of its stated goal in several key regards. The regime proposed in the RSDSGEIS (1) fails to clearly require disclosure of each ingredient used in fracturing products, (2) uses an over-broad trade secret protection, and (3) does not make the disclosed information sufficiently available to the public. The NYSDEC should draw on the rules pending in or adopted by other states with respect to these issues and strengthen its proposed disclosure rules.

Prior Disclosure of Chemicals Should Be Required

Prior disclosure is an essential component of any effective disclosure regime. In general, disclosure must occur prior to the commencement of risk-generating activity; specifically, disclosure of fracturing fluid chemical additives must occur prior to drilling so that a baseline contamination level may be determined against which to assess the impacts of the industry's chemical usage on surface and groundwater quality as well as soil contamination levels. The RSDSGEIS proposes to require prior disclosure as part of the SEQRA process, by requiring "identification of additive products, by product name and purpose/type, and proposed percent by weight of water, proppants and each additive" as an addendum to the EAF.⁹³ This key provision must remain in the final rule. Wyoming, a state with considerable oil and gas experience, has demonstrated the feasibility of mandatory prior disclosures.⁹⁴ Wyoming requires operators to file an application for permit to hydraulically fracture a well and to provide notice to nearby landowners. This application must disclose "the anticipated completion and stimulation program, including the base stimulation fluid and its source, the chemical additives and proposed concentrations to be mixed, identified by additive type If this required data is not available at the time of [the application], then it must be submitted [separately] and no stimulation of the well can

⁹⁰ Protection should also be applied to NY's Recommended Open Space Conservation Projects and should recognize and incorporate the priorities set forth in New York's Open Space Plan.

⁹¹ For instance, NYSDEC's 2008 determination that HVHF gas development warranted further review in an SGEIS was based primarily on the concern that drilling would potentially take place in or near the NYC Watershed, the Catskill Park, and the federally-designated Upper Delaware Scenic and Recreational River. While NYSDEC has proposed prohibitions for the NYC Watershed, the RSDSGEIS and Proposed Regulations do not provide comprehensive protection for the Wild and Scenic Upper Delaware River or Catskill Park.

⁹² RSDSGEIS at 1-10.

⁹³ RSDSGEIS § 8.2.1.2, *see also* proposed 6 N.Y.C.R.R. § 560.3(c) (requiring that an "application" include these disclosures without explicitly referring to the SEQRA process).

⁹⁴ Wyo. Admin. Code Oil Gen. Ch. 3 § 45.

occur without approval of the [regulatory agency].”⁹⁵ As discussed below, this pre-fracturing reporting must be promptly made available to the public, so that concerned citizens may, for example, engage in their own baseline testing before fracturing operations proceed in their vicinity. Without prior disclosure, baseline testing is impossible: one would not know for which chemicals to test. Without the ability to conduct baseline testing, it will be difficult if not impossible to establish causal responsibility when chemicals are discovered where they do not belong. Baseline testing equips potentially affected property owners, for example, with the information needed to deny polluters the illegitimate defense that “the contamination was there before we got here.” If fracturing chemicals are safe, and leaks are unlikely, then there should be no resistance from industry to prior disclosure requirements.

Disclosure Must Be Comprehensive

Although the NYSDEC’s proposal takes a strong stand regarding the timing of disclosures, the proposal is overly narrow in regard to the content of disclosure requirements.

Disclosure Must Provide a Basis for Risk Assessment

First, the proposal requires disclosure of “additive products.”⁹⁶ As the proposed regulations acknowledge, additive products are typically composed of multiple chemical ingredients.⁹⁷ Identification of the underlying chemicals is of equal or greater importance than identification of the compound “additive product.”⁹⁸ Disclosing the product’s commercial name without its chemical composition is virtually useless for purposes of risk assessment. Not knowing the composition of the specific additives and the amount of each provides effectively no basis for estimating the risk of these constituents in contaminated water. The approach taken in the RDSGEIS will not be satisfactory with respect to prior disclosures. Tables 5.4 and 5.5 of the RDSGEIS use trade names, and while the New York regulators may have information on the constituents in those products, that information was not available for this review. Additionally, the public does not have access to the ingredient information withheld from the RDSGEIS, and thus the public cannot legitimately understand or evaluate the environmental or human health risks associated with these products.

New York should therefore follow Texas and Colorado in requiring disclosure both of “additive products” and separate disclosure of individual “chemicals.”⁹⁹ For additive products, as with NYSDEC’s proposals, Colorado and Texas require disclosure of, *inter alia*, “each hydraulic fracturing additive used in the hydraulic fracturing fluid and the trade name, vendor, and a brief descriptor of the intended use or function of each hydraulic fracturing additive in the hydraulic fracturing fluid.”¹⁰⁰ Colorado and Texas

⁹⁵ *Id.*, § 8(c)(ix).

⁹⁶ RDSGEIS § 8.2.1.2; proposed 6 N.Y.C.R.R. § 560.3(c)(1)(i).

⁹⁷ See proposed 6 N.Y.C.R.R. § 560.2(b)(2) (“chemical additives’ shall mean a product composed of one or more chemical constituents that is added to a primary carrier fluid to modify its properties in order to form hydraulic fracturing fluid.”); § 560.2(b)(17) (“product’ shall mean a hydraulic fracturing fluid additive that is manufactured using precise amounts of specific chemical constituents and is assigned a commercial name under which the substance is sold or utilized.”).

⁹⁸ See Miller Report.

⁹⁹ See 16 Tex. Admin. Code § 3.29(c)(1). Colorado is updating its disclosure requirements. The Colorado Oil and Gas Conservation Commission released a final draft for updated rules on December 13, 2011. Draft 2 Colo. Code Regs. § 404-1:205A(B)(2)(A)(IX)-(XII) requires disclosure of individual chemical constituents in addition to disclosure of additives. Wyoming’s rules also require disclosure of additives as well as the Chemical Abstracts Number for individual chemicals, without explicitly discussing the relationship between these two requirements. See Wyo. Admin. Code Oil Gen. Ch. 3 § 45(d).

¹⁰⁰ Draft 2 Colo. Code Regs. § 404-1:205A(B)(2)(A)(XII); see also 16 Tex. Admin. Code § 3.29(c)(2)(ix).

exceed New York's proposal by also requiring disclosure of individual chemicals, identified by Chemicals Abstracts Service number, together with the applicable material data safety sheet ("MSDS"), if any, and a statement of the amount of the chemical used.¹⁰¹

Industry members and NYSDEC have expressed unwarranted concerns that linking individual chemicals with additive products would allow competitors to reverse engineer additive products. The Colorado Oil and Gas Conservation Commission explicitly responded to this concern by explaining that the rules require disclosure of all additives and all chemicals, but that each additive need not be tied to a specific list of chemical ingredients.¹⁰² The Texas statute similarly bifurcates disclosure. NYSDEC's own study of the health effects of fracturing chemicals adopted this same approach, finding it sufficient to protect trade secrets.¹⁰³ The NYSDEC should take a similar approach to disclosure, and require disclosure of individual chemical constituents by Chemical Abstracts Service Number, including the amount of each chemical used.

The Disclosure Regime Must Close Existing Loopholes

Second, the NYSDEC should make the related clarification that disclosure obligations are not limited to chemicals for which a MSDS is available. Under the existing proposal, the absence of this requirement creates at least four loopholes that will frustrate the purposes of a disclosure regime. The RDSGEIS and Proposed Regulations confusingly state that a MSDS must be submitted "for every additive product proposed for use, unless the MSDS for a particular product is already on file . . ." ¹⁰⁴ The first loophole stems from the fact that many chemicals used in hydraulic fracturing, including many with potentially harmful effects, do not have an MSDS. Only "hazardous chemicals" need to be disclosed on MSDSs, and a chemical must have been subject to significant testing before it will be considered "hazardous" under the regulations.¹⁰⁵ The second loophole stems from the fact that there is no requirement that exploration and production chemicals ever be tested. Thus, hydraulic fracturing fluid may contain chemicals that are harmful to human health but that have not been tested to determine whether they meet the Occupational Safety and Health Act (i.e., MSDS) definition of "hazardous." The third loophole stems from the fact that even where a chemical that has been sufficiently tested qualifies as "hazardous," the manufacturer may opt not to disclose it on an MSDS if it constitutes less than one percent of the volume of the product (or 0.1 percent of the volume of the product if the chemical is a carcinogen).¹⁰⁶ The fourth loophole in the proposed disclosure regime stems from the fact that a "hazardous chemical" need not be disclosed on an MSDS if the manufacturer claims that its identity is a trade secret.¹⁰⁷ The manufacturer unilaterally may withhold specific chemical information as proprietary if it determines that the trade secret classification can be "supported."¹⁰⁸ Therefore, MSDSs alone are

¹⁰¹ See 16 Tex. Admin. Code § 3.29(c)(1); Draft 2 Colo. Code Regs. § 404-1:205A(B)(2)(A)(IX)-(XII).

¹⁰² See Colorado Dept. of Natural Resources, Oil and Gas Cons. Comm'n, Amendments to 100 Series Definitions, 200 Series General Rules, 300 Series Drilling, Development, Production, and Abandonment Rules and 500 Series Practice and Procedure Rules, Statement of Basis, Specific Statutory Authority, and Purpose, 3-4, *available at*

http://cogcc.state.co.us/RR_HF2011/FinalModifiedStaffProposal12_13_11V4.pdf.

¹⁰³ RDSGEIS at 5-62 ("The chemical constituents . . . are not linked to the product names . . . because a significant number of product compositions have been properly justified as trade secrets within the coverage of disclosure exceptions of the Freedom of Information Law [Public Officers Law §87.2(d)] and the Department's implementing regulation, 6 N.Y.C.R.R. § 616.7.").

¹⁰⁴ RDSGEIS § 8.2.1.2, proposed 6 N.Y.C.R.R. § 560.3(c)(1)(3).

¹⁰⁵ 29 C.F.R. § 1910.1200(c).

¹⁰⁶ *Id.*, § 1910.1200(d)(5)(ii).

¹⁰⁷ *Id.*, § 1910.1200(g)(2)(i).

¹⁰⁸ *Id.*, § 1910.1200(i)(1)(i).

inadequate to identify the full spectrum of hydraulic fracturing chemicals or to evaluate the chemicals' health and environmental effects.

In light of these limitations of the MSDS system as applied to hydraulic fracturing, Colorado and Texas have explicitly required disclosure for chemicals which lack MSDS.¹⁰⁹ This single solution closes each of the four loopholes identified above. New York should follow these states' lead in explicitly requiring disclosure of all chemicals by Chemical Abstract Service number, regardless of whether the chemicals have been determined to be "hazardous" for purposes of the MSDS program.

Chemical Disclosure Requirements Should Apply to Drilling Mud

Third, disclosure should extend to every chemical introduced into the well. The proposed disclosure regime encompasses only hydraulic fracturing fluid.¹¹⁰ Drilling combined with hydraulic fracturing requires the use of both fracturing fluids (which are used to create fractures in the formation, hold the fractures open to release the oil and gas, and stimulate well productivity) and drilling fluids (which are used to shorten drilling time and lubricate the drill bit). Fracturing fluids and drilling muds require similar classes of chemical additives, including proppants, acids, breakers, bactericides, biocides, clay stabilizers, corrosion inhibitors, crosslinkers, friction reducers, gelling agents, iron controls, scale inhibitors, and surfactants.¹¹¹ Because drilling mud uses similar chemicals as hydraulic fracturing fluid, it poses many of the same hazards to the environment and human health as hydraulic fracturing fluid, and should be subject to the same disclosure requirements.

Post-Fracture Reports Must Comprehensively Disclose Chemicals Actually Used

Pre-fracturing reporting should be followed by post-fracturing reporting of the chemicals actually used and the amounts thereof. New York currently requires some such information in the post-fracturing well completion report.¹¹² The RDSGEIS states that the completion report "can be utilized by Department staff to verify that only those additive products proposed at the time of application, or subsequently proposed and approved prior to use, were utilized in a given high-volume fracturing operation."¹¹³ The RDGSEIS refers to the current completion report forms, but these forms are likely to be inadequate for this purpose. For example, the forms do not clearly require disclosure of the volumes of each additive used.¹¹⁴ The proposed regulation, however, does appear to require disclosure of volumes of additives.¹¹⁵ This requirement should remain in place. Moreover, the post-fracturing reporting should be broadened to include individual chemicals, identified by Chemical Abstract Service number and listed regardless of whether they are covered by an MSDS, as explained above. Wyoming, for example, already requires such reporting.¹¹⁶

¹⁰⁹ Draft 2 Colo. Code Regs. § 404-1:100; 16 Tex. Admin. Code § 3.29(c)(1)(B).

¹¹⁰ See RDSGEIS at 8.2.1.2, "Required Hydraulic Fracturing Additive Information."

¹¹¹ Ronald E. Bishop, Ph.D., Chemical and Biological Risk Assessment for Natural Gas Extraction in New York, 11 (Mar. 28, 2011) (stating that "most hydraulic fracturing additives are also used in drilling fluids (or 'muds')"). See also Harvey Report, Chap. 12. Note that the existing Colorado rule 205, which will remain intact after the proposed supplemental disclosure rule is enacted, requires disclosure of MSDS for all drilling muds. 2 Colo. Code Regs. § 404-1:205.

¹¹² 6 N.Y.C.R.R. § 544.7.

¹¹³ RDSGEIS § 8.2.1.2.

¹¹⁴ Available at http://www.dec.ny.gov/docs/materials_minerals_pdf/comp_rpt.pdf and http://www.dec.ny.gov/docs/materials_minerals_pdf/complrptinst.pdf, respectively.

¹¹⁵ Proposed 6 N.Y.C.R.R. § 566.6(c)(26)(vii).

¹¹⁶ Wyo. Admin. Code Oil Gen. Ch. 3 § 45(h)(ii).

Operators Should Be Required to Use the Safest Possible Chemical Additives

NYSDEC proposes to require that operators evaluate less-risky alternatives for the additive products used and to use such alternatives unless it is demonstrated that “they are not equally effective or feasible.”¹¹⁷ We offer tentative support for this provision. We note, however, that the qualifications “equally effective” and “feasible” invite dispute and may limit the efficacy of this rule. Under a strict reading, an operator may reject an alternative chemical additive that poses half the health risks of the original simply because it is 1% less effective. Accordingly, if NYSDEC insists on using this standard, it should explain that near-equivalent efficacy renders a safer alternative mandatory. Additionally, the term “feasible” invites dispute—any increase in operating cost that results from using a safer chemical alternative could provide illicit grounds for rejecting that alternative as infeasible; on the other hand, any chemical alternative that is not prohibitively expensive could be required because it is technically feasible.

In order to avoid the disputes and spurious interpretation of the ambiguous “equally effective or feasible” standard for adopting alternative chemical additives, NYSDEC should simply introduce the bright line rule that the safest chemical alternative must be utilized. The ability of a chemical to be detected and monitored should count as a positive feature, all things being equal, in weighing alternatives, since this will aid in environmental compliance and clean up. NYSDEC could further simplify the alternatives analysis by categorically determining whether certain chemicals or additives have equally effective alternatives, rather than leaving the alternatives analysis to piecemeal adjudication. Additionally, NYSDEC must seriously inquire whether chemicals that pose significant risks to the environment and human health, which have no safe alternative, are indispensable to hydraulic fracturing. If these chemicals are not necessary, then their use is patently unreasonable, and their use should be prohibited.

Trade Secret Rules Must Be Improved

The RDSGEIS provides little discussion of the treatment of purported trade secrets. The proposed regulations incorporate the general trade secret provisions found in 6 NYCRR § 616.7. We encourage NYSDEC to instead adopt the trade secret standards of the federal Emergency Planning and Community Right to Know Act (“EPCRA”). EPCRA’s trade secret standards are particularly tailored to the context of potential environmental contaminants and provide a better fit for the issues arising from hydraulic fracturing.

The NYSDEC Should Incorporate the EPCRA Framework for Designation of Trade Secrets and Challenges to This Designation

As noted, EPCRA provides a trade secret regime well-suited to the problems presented by hydraulic fracturing. EPCRA authorizes public access, making clear that trade secret protections are available only in limited situations.¹¹⁸ The relevant EPCRA regulations can be found at 40 C.F.R. Pt. 350 – a copy is attached. Though we recommend incorporating the majority of these rules by reference, a few are particularly important.

The first of these provisions is 40 C.F.R. § 350.7 (“Substantiating claims of trade secrecy”). As its title suggests, this rule contains a detailed set of questions designed to flesh out the 42 U.S.C. § 11042 standards. For instance, it requires companies to carefully document earlier disclosures of material for

¹¹⁷ RDSGEIS at 8-29, proposed 6 N.Y.C.R.R. §§ 560.3(c)(1)(v), 750-3.4(b)(8).

¹¹⁸ See 42 U.S.C. § 11042(b).

which they claim protection and to substantiate any claimed competitive harm in detail.¹¹⁹ The regulation sets a useful standard for the type and quality of information New York should require in this important public health context. We urge New York to adopt it.

Similarly, 40 C.F.R. §§ 350.9-350.13 describe a reasoned decision-making process which the NYSDEC can use to rule on these claims. The NYSDEC should borrow from the federal system for its structure to ensure public trust is maintained by a valid process. The EPCRA rules lay out a detailed process that assures companies initial confidentiality while the process moves forward, *see* 40 C.F.R. § 350.9(a), while demanding that they carry a significant burden of proof if they are to maintain these claims, *see* 40 C.F.R. § 350.13. This “burden of proof rule” establishes unambiguous, strict standards for making these determinations. Without it, companies, the NYSDEC, and the public will not have a firm standard by which to settle confidentiality questions.

Finally, the rules defend the public’s right to information. First, they require that the “adverse health effects” associated with each secret chemical be released to the public in all circumstances.¹²⁰ They also require companies to submit redacted versions of their confidentiality claims to the public in order to allow members of the public to petition for disclosure of any confidential information that they allege has been incorrectly classified as a trade secret.¹²¹ Decisions on these petitions are judicially reviewable.¹²² This system is crucial: It ensures that the public can assert its rights in the system, and will gradually develop judicial precedent that will help implement the rule.

New York could readily adopt these rules by incorporating them by reference, with minor amendments (such as making clear that appeals will be heard by the New York courts, and so on). We urge NYSDEC to make these improvements, which we believe can be done quickly and with ease.

Trade Secrets and Health and Environmental Emergencies

Whether or not NYSDEC follows our recommendation and adopts EPCRA’s trade secret standards, NYSDEC should retain the proposal’s requirement that all frack fluid constituents be divulged to NYSDEC, regardless of whether these fluids are protected as trade secrets.¹²³ Wyoming has adopted this approach.¹²⁴

One benefit of this approach is that it facilitates emergency response. In the case of a health or environmental emergency, health care providers and other emergency personnel may need access to otherwise confidential information regarding fluid constituents. If this information is on file with the state, the state may provide a single contact point. Absent such prior filing, these individuals would have to determine whether the well operator, servicer, or additive supplier has the needed information, potentially delaying response.

¹¹⁹ *See, e.g.*, 40 C.F.R. § 350.7(a)(2); (a)(4); *see also* 40 C.F.R. § 350.27 (providing a standard form for companies to submit).

¹²⁰ 40 C.F.R. § 350.21.

¹²¹ *See* 40 C.F.R. § 350.15.

¹²² 40 C.F.R. § 350.17

¹²³ *See* proposed 6 N.Y.C.R.R. § 560.3(c)(2) (providing that the effect of trade secret designation will be that NYSDEC does not disclose secrets to the public).

¹²⁴ Wyo. Admin. Code Oil Gen. Ch. 3 § 45(f) (citing Wyo. Stat. Ann. § 16-4-203(d)(v)).

Public Access to Information

The RDSGEIS proposes two routes to public access of disclosed information. First, under existing rules, the applicant must notify “any local government affected” and “any landowner whose surface rights will be affected by drilling operations.”¹²⁵ The NYSDEC should expand the distribution and content of this notification. As to distribution, the NYSDEC should explicitly state that affected surface rights include not just the rights of the landowner where the wellhead is situated, but the rights of all landowners near the lateral, whose groundwater may be at risk. Wyoming, for example, requires operators to notify surface landowners within half a mile of any point along a lateral.¹²⁶ Moreover, notice should not be restricted to landowners. Tenants, lessees, and others living within the affected area also deserve affirmative notification. The NYSDEC should further clarify the content of this notice. The existing statute merely requires notice “of the location of the drilling site.” The NYSDEC should explicitly require that this notice include a copy of the documents disclosing fracturing chemicals or the address of a publicly accessible webpage where these documents may be found. In other words, these documents should be volunteered initially, such that local landowners, tenants, and other citizens will not be required to file a Freedom of Information Law request for every proposed well.

As a second route to public disclosure, the RDSGEIS “proposes to provide a listing of high-volume hydraulic fracturing additive product names and links to the associated MSDSs on an individual basis on [the NYSDEC’s] website.”¹²⁷ This proposal is not reflected in the proposed regulations. NYSDEC should follow others states’ lead and codify the obligation for online disclosure.¹²⁸ Leaving *aside* the issue of codification, we support the NYSDEC’s decision to use its own website rather than FracFocus.org, the industry-sponsored site many other states have relied upon. As recently explained by the Colorado Oil and Gas Conservation Commission, FracFocus.org suffers several crippling limitations, including limiting the ability to search for wells by area and aggregate information.¹²⁹ Data from chemical disclosures displayed online should be compiled in a database that is searchable at least by geographic area, ingredient, Chemical Abstract Service number, time period, and operator. The RDSGEIS’s online disclosure proposal is limited because it appears to rest primarily on disclosure of MSDSs, whereas as explained above, the public should be informed of chemicals for which no MSDS exists.

The RDSGEIS Fails To Fully Consider Alternatives As Required Under SEQRA

The RDSGEIS contravenes SEQRA’s requirement that every EIS discuss “alternatives to the proposed action.”¹³⁰ As NYSDEC’s own regulations specify, an EIS must include “a description and evaluation of the range of reasonable alternatives” to the proposed action.¹³¹ Such an analysis is fundamental to SEQRA’s substantive requirement that agencies “shall act and choose alternatives which, consistent with social, economic and other essential considerations . . . minimize or avoid adverse environmental effects.”¹³²

¹²⁵ ECL § 23-0305(13); *see also* RDSGEIS 8.1.1.3 (discussing NY ECL § 23-0305(13)).

¹²⁶ Wyo. Admin. Code Oil Gen. Ch. 3 § 8(f)(ii).

¹²⁷ RDSGEIS at 8-30.

¹²⁸ *See* Draft 2 Colo. Code Regs. § 404-1:205A(b)(2)(3); 16 Tex. Admin. Code § 3.29(a)(7), (c)(2)(A), .

¹²⁹ *See* Draft 2 Colo. Code Regs. § 404-1:205A(b)(2)(3). The draft Colorado rule provides for disclosures via FracFocus.org in the short term, but identifies missing features that must be implemented by January 1, 2013. These features include allowing “commission staff and the public to search and sort the registry for Colorado information by geographic area, ingredient, chemical abstract service number, time period, and operator.” *Id.*

¹³⁰ ECL § 8-0109.2(d).

¹³¹ 6 N.Y.C.R.R. § 617.14(f)(5).

¹³² E.C.L § 8-0109(1).

Although the statute and regulations do not require that every conceivable reasonable alternative be analyzed as part of the EIS process, the regulations stress that the EIS must examine “the range of reasonable alternatives to the action which are feasible.”¹³³ In addition, “[t]he range of alternatives to be considered in a generic EIS is generally broader than in a site-specific EIS.”¹³⁴

The RDSGEIS’ consideration of alternatives fails to meet these statutory requirements. In a 1,500 plus page document, the entire alternatives discussion is set forth in a mere ten pages. Within those pages, the only alternatives considered are a “No-Action Alternative,” a “Phased Permitting Approach,” and “‘Green’ or Non-Chemical Fracturing Technologies and Additives,”¹³⁵ each of which is inadequately addressed. Not only does the RDSGEIS fail to sufficiently examine these alternatives, it also fails to consider a number of other reasonable and highly plausible alternatives to the current proposal.

At a minimum, the RDSGEIS should consider the following alternatives: a “delayed action” alternative which examines the possibility of withholding action until 2014 when the state would have the benefit of additional information from EPA and other organizations; a “deference to local zoning alternative” that recognizes the right of municipalities to zone gas drilling activities; an “environmental hazard areas off-limits to drilling” alternative, recognizing the risk of drilling in environmentally hazardous areas and placing those areas – such as Superfund sites, hazardous waste sites, historic floodplains, and locations with risks from seismic activity – off-limits to drilling; a “demonstration project” alternative (distinct from the so-called “Phased Permitting Approach” alternative). that would involve permitting a limited number of wells (e.g., 100 annually) in a particular, suitable area for a pilot period; and a meaningful “green” technology alternative that evaluates the potential to require that HVHF operations use no or limited toxic chemicals.

NYSDEC’s proposal as expressed in the RDSGEIS – which envisions as many as 1,484 or even 2,216 horizontal wells developed annually – could result in a sizable number of significant adverse environmental and economic impacts across much of New York State. Given the breadth of this project and its tremendous potential effect on the state, the narrow range of alternatives considered in the RDSGEIS is insufficient to satisfy SEQRA’s requirement that a range of reasonable and feasible alternatives to the proposed action be considered.

NYSDEC Will Violate the State Administrative Procedure Act to the Extent That It Attempts to Enforce Mitigation Measures Contained in the RDSGEIS Which Are Not Contained in the Proposed Regulations

While a number of the proposed mitigation measures outlined in the RDSGEIS are incorporated into the draft regulations, many others are absent. For example, measures for conductor casing requirements, obligatory radiation surveys, and a host of measures related to noise, visual, and transportation impacts, all appear as proposed mitigation measures in the RDSGEIS, but have no enforceable counterpart in the Proposed Regulations.¹³⁶ Holding aside the question of the adequacy or appropriateness of these proposed measures (some of which are addressed below, and many of which are addressed in the accompanying Technical Comments), they appear to be intended as rules, which under New York State law are defined as “fixed, general principle[s] to be applied by an administrative agency

¹³³ 6 N.Y.C.R.R. § 617.9(b)(5)(v).

¹³⁴ GERRARD ET AL., ENVIRONMENTAL IMPACT REVIEW IN NEW YORK, § 5.14[2][a] (Matthew Bender).

¹³⁵ RDSGEIS, Ch. 9.

¹³⁶ Harvey Report, Chap. 5, at 15–16 (discussing conductor casing requirements), Chap. 19, at 141–42 (discussing radiation surveys); LBG Report, Table 2, at 10–12 (noise), Table 3, at 20–22 (visual), Table 4, at 31–35 (transportation).

without regard to other facts and circumstances relevant to the regulatory scheme of the statute it administers.”¹³⁷ Accordingly, they require formal promulgation as regulations pursuant to SAPA, rather than reliance on imposition of discretionary permitting conditions and other *ad hoc* guidance documents as seemingly proposed by the RDSGEIS.¹³⁸

NYSDEC has not indicated that it will propose new regulations pursuant to SAPA for mitigation measures not already contained in the Proposed Regulations released for comment on September 28, 2011. Nor are SEQRA’s procedures a substitute for SAPA’s.¹³⁹ Thus, unless NYSDEC goes through a formal SAPA rulemaking, it will be in violation of state law if it seeks to apply the new mitigation measures identified in the RDSGEIS as rules.¹⁴⁰

On the other hand, if NYSDEC does not intend these measures to be binding as rules on all applicants, it cannot claim that they will function as legally required mitigation for the identified significant adverse environmental impacts of the proposed action. Should NYSDEC opt not to promulgate regulations under SAPA for the mitigation measures not currently addressed in the Proposed Regulations, these measures will not be codified and will be subject to *ad hoc* implementation, change on a case-by-case basis, and modification without public review or debate. Only properly promulgated regulations (or law-making) can ensure that this will not happen. As it stands, NYSDEC therefore cannot base its SEQRA analysis on the assumption that these mitigation measures will be fully implemented. As such, NYSDEC must reissue a draft of the Proposed Regulations for public comment which contains all mitigation measures from the RDSGEIS.

NYSDEC Should Initiate a Comment Period for the Proposed HVHF Gas Development Regulations After Issuing Its The Final SGEIS

NYSDEC’s process of moving forward with permitting HVHF gas development in New York is fundamentally flawed because NYSDEC has issued for comment the Proposed Regulations prior to finalizing its SGEIS. Moreover, it currently plans to finalize the SGEIS and the Proposed Regulations simultaneously. By doing so, NYSDEC has denied New Yorkers the opportunity for their comments on the RDSGEIS to be considered in its drafting of the Proposed Regulations. A core principle of the state’s environmental review process is that NYSDEC must finalize impact statements after incorporating public input and prior to taking an action so that the impact statement findings inform the action.¹⁴¹

By proceeding through the RDSGEIS and the regulation comment process simultaneously, NYSDEC has created a scenario in which modification of proposed mitigation measures between the

¹³⁷ *E.g.*, *Cubas v. Martinez*, 8 N.Y.3d 611, 621 (2007).

¹³⁸ SAPA § 201.

¹³⁹ *See, e.g.*, SAPA §§ 202(1), 202-a, 202-b (requiring submission of “a notice of proposed rule making to the secretary of state for publication in the state register” and issuance of “regulatory impact statement” and “regulatory flexibility analysis”).

¹⁴⁰ *See Matter of Schwartzfigure v. Hartnett*, 83 N.Y.2d 296, 301 (1994) (requirement of 50% setoff for certain overpayments of unemployment insurance benefits held to require rulemaking); *People v. Cull*, 10 N.Y.2d 123, 129 (1961) (holding Art. IV of the New York Constitution required that setting of speed limits pursuant to general statutory authority necessitated rulemaking).

¹⁴¹ *See, e.g.*, *Schenectady Chemicals v. Flacke*, 83 A.D.2d 460, 463 (3rd Dept. 1981) (“[T]he substance of SEQRA cannot be achieved without its procedure, and . . . any attempt to deviate from its provisions will undermine the law’s express purposes.”); *Matter of Town of Henrietta v. Department of Environmental Conservation of the State of N.Y.*, 76 A.D.2d 215, 220 (4th Dept. 1980) (finding an environmental impact statement is “to be viewed as an environmental ‘alarm bell’” whose purpose is to alert public officials to environmental changes before they take action).

RDSGEIS and the FSGEIS could result in changes to the Proposed Regulations implementing those mitigation measures after the close of the comment period on both. Yet, NYSDEC anticipates finalizing the regulations without any additional comment period. Contrary to the spirit and intent of SEQRA, NYSDEC is thereby robbing the public of the opportunity to comment on the actual regulations it ultimately proposes to promulgate. To cure this deficiency, NYSDEC must provide the public with a meaningful opportunity for comment on the proposed HVHF regulations after issuing the FSGEIS.

NYSDEC's Proposed Regulations Fail to Provide for Public Participation in the HVHF Permitting Process

The RDSGEIS fails to provide a clear and accessible process for the public to weigh in on HVHF gas development permitting decisions. NYSDEC should revise its Proposed Regulations to provide for public participation in the HVHF permitting process. In the Oil, Gas and Solution Mining Law, the Legislature declares its intent to regulate the “development, production and utilization of natural resources of oil and gas in this state in such a manner . . . that the correlative rights of all owners and the rights of all persons including landowners and the general public may be fully protected.”¹⁴² Due to HVHF’s heavy industrial nature and the possibility of siting well pads and ancillary facilities in residential areas, to implement this mandate, NYSDEC should integrate the public into the well permit decision-making process.

Public participation is a standard component of other permitting processes under the Uniform Procedures Act (“UPA”).¹⁴³ Pursuant to the UPA’s implementing regulations,¹⁴⁴ public notice and comment is required for all “major projects.” A “major project” is defined as “any action requiring a permit” that is identified in the UPA, with limited exceptions.¹⁴⁵ It is fundamentally inconsistent from a policy perspective that the public will be able to comment on, for instance, the dam safety permit for a freshwater impoundment that a drilling company may need because such permit is listed in the UPA, but not on the drilling permit itself.

NYSDEC’s Proposed Regulations modify existing drilling regulations in ways that make drilling operations subject to even less public and regulatory oversight. For example, applications for well spacing variances formerly automatically required NYSDEC to schedule a public hearing on the variance; under the Proposed Regulations, the default is for NYSDEC to grant the variance request, and a public hearing would only be scheduled if, after a 15 day comment period, the DEC determined that substantive and significant issues were raised.¹⁴⁶ Under the previous regulatory program, a written permit application was required to deviate a vertical well—to drill directionally—and the NYSDEC’s receipt of such an application would trigger a compulsory ten-day waiting period for objections; if objections were received or if NYSDEC was not in accord with the deviation, a public hearing would be scheduled to determine whether directional drilling should take place.¹⁴⁷ Under the Proposed Regulations, no provision for review or public hearing is made; operators must simply notify the NYSDEC of their intention to deviate a vertical well and provide a follow-up angular deviation and directional survey within thirty days of doing so.¹⁴⁸ With respect to spacing unit variance applications and applications to directionally drill, the NYSDEC’s Proposed Regulations severely limit the role of public participation and also limit NYSDEC’s authority to review major drilling operation decisions before they are made.

¹⁴² ECL § 23-0301.

¹⁴³ ECL § 70-0109.

¹⁴⁴ See 6 N.Y.C.R.R. § 621.7.

¹⁴⁵ 6 N.Y.C.R.R. § 621.2(r).

¹⁴⁶ See 6 N.Y.C.R.R. Part 553.4(a)-(b).

¹⁴⁷ See 6 N.Y.C.R.R. Part 554.5(d); 554.5(g); 554.5(f).

¹⁴⁸ *Id.*

Neither NYSDEC's current oil and gas regulations or the Proposed Regulations provide a mechanism for meaningful public input in the permit decision-making process. NYSDEC should require public notice of the availability of HVHF gas development permit applications locally through publication of a notice in a newspaper of general circulation and statewide through a centralized website. The public should have immediate online access to all supporting documentation submitted with each permit application and at least a 30-day timeframe within which to comment on the permit application. Major operational changes such as spacing unit variances and permits to directionally drill a vertical well should allow for public participation as they did under the original regulatory program.

NYSDEC's Proposed SPDES General Permit for HVHF Stormwater Discharges Also Fails to Provide for Public Participation

The lack of public participation in the proposed draft SPDES General Permit for Stormwater Discharges ("General Stormwater Permit" or "Permit") is also a serious deficiency. The ECL specifically requires public notice of, and an opportunity to comment on, applications for SPDES permits, including permit renewals.¹⁴⁹ Yet, the draft General Stormwater Permit only requires NYSDEC to post Notices of Intent to obtain permit coverage ("NOI") on its website, and fails to provide for meaningful review of each NOI, i.e., a minimum 30-day public comment period after the NYSDEC publishes the NOI on its website. This violates the federal Clean Water Act ("CWA"), which guarantees the public an opportunity to participate "in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan or program established by [EPA] or any State under this chapter"¹⁵⁰

In *Waterkeeper Alliance v. EPA*,¹⁵¹ the Second Circuit held that the failure to provide for public comment on effluent limitations within applications for general NPDES permit coverage violated CWA § 101(e).¹⁵² The issue before the court was whether concentrated animal feeding operation ("CAFO") operators could apply for a coverage under a NPDES General Permit after developing a site-specific "nutrient management plan," an individual protocol for minimizing effluents from each CAFO. After holding that the operators could, the court found that each nutrient management plan was the functional equivalent of an effluent limitation, thereby requiring public comment.

Just as the court in *Waterkeeper Alliance* required EPA to provide for public comment on site-specific protocols for minimizing effluents from CAFOs, here NYSDEC must provide the public a meaningful opportunity to comment on the proposed protocols in each HVHF Stormwater Pollution Prevention Plan ("SWPPP"). If it does not allow for public comment prior to granting coverage under a finalized Permit, NYSDEC will be in direct violation of CWA § 101(e). NYSDEC should cure this

¹⁴⁹ ECL § 17-0805(1).

¹⁵⁰ 33 U.S.C. § 1251(e); *see also* 33 U.S.C. §§ 1342(a), 1342(b)(3), 1342(j) (requiring that states' SPDES programs include a public participation component).

¹⁵¹ 399 F.3d 486 (2d Cir. 2005),

¹⁵² Other Circuits have similarly upheld the public participation requirement in NPDES general permits. The Ninth Circuit in *Environmental Defense Center, Inc. v. EPA*, 344 F.3d 843, 856–58 (9th Cir. 2003) held that notices of intent to comply with a municipal separate storm sewer systems general permit are the "functional equivalents" of individual permit applications and require public participation. The Seventh Circuit, however, has held that a general permit for "construction activities" did not have to provide for public review. *See Texas Independent Producers & Royalty Owners Association, et al. v. EPA*, 410 F.3d 964 (7th Cir. 2005). This case is inapposite, however, because the general permit at issue in that case had already established "specific requirements" for permittees, unlike the General Stormwater Permit, in which the specific requirements for drillers will be developed in their own SWPPPs. *See id.* at 968.

deficiency by incorporating a provision for public comment on all SWPPPs into the General Stormwater Permit.

NYSDEC Does Not Have the Regulatory and Enforcement Resources to Implement Its Proposed HVHF Permitting Program Responsibly

A fundamental flaw in NYSDEC's proposed HVHF gas development regulatory scheme is that NYSDEC does not have adequate resources to implement and enforce its proposed statewide program for permitting HVHF in the Marcellus shale. Despite this, NYSDEC has indicated that it may issue HVHF permits as soon as it finalizes the SGEIS.

NYSDEC itself has acknowledged that it does not have the resources required. NYSDEC issued a report on August 16, 2011, which concludes that NYSDEC does not have the necessary regulatory and enforcement staff in place to initiate HVHF permitting successfully, i.e., in a manner that is environmentally protective and economically beneficial.¹⁵³ Indeed, NYSDEC currently has only 13 staff statewide dedicated to oil and gas regulation, including permitting, compliance and enforcement.¹⁵⁴ While acknowledging this shortcoming, NYSDEC also estimates significant well development within five years from the commencement of HVHF permit issuance, projecting as many as 1,300 HVHF permit applications at 650 well pads by the fifth year of activity.¹⁵⁵ This is in line with Pennsylvania's experience, where, after a slow start to HVHF gas development in 2007, permitting activity quickly accelerated; in 2010, the Pennsylvania Department of Environmental Protection (PA DEP) issued 3,314 permits.¹⁵⁶

Based on these projections, NYSDEC has estimated that it needs 142 positions in the short term, and 226 new positions in the first 5 years.¹⁵⁷ NYSDEC has also recognized that it does not currently have the funds to hire the new staff it needs, and it is unlikely to acquire these funds in the next budget cycle – Governor Cuomo has publicly acknowledged that no budget proposals related to HVHF gas development will be in the FY2013 Executive Budget. Even if NYSDEC was completely successful in achieving funding for HVHF gas development staffing in the FY2013 budget, budgeted funds will not be available until spring of 2013 and the earliest that NYSDEC could have staff in place is 2013, when it will have to begin the time consuming process of training that new staff. The more likely outcome is that NYSDEC will have staff in place, at the very earliest, in 2014, after the next budget cycle.

NYSDEC is not the only agency that will have significant resource needs to be able to provide the regulatory oversight necessary for a HVHF permitting program to move forward. The August 16 report explains that several other agencies will have additional workload and oversight responsibilities, including the Departments of Health, Public Service, Transportation, and Agriculture & Markets. In addition, a draft New York State Department of Transportation ("DOT") report strongly suggests that New York is not prepared to expend the resources required to address the expected impacts of HVHF on state and local roads.¹⁵⁸

¹⁵³ Advisory Panel on High-Volume Hydrofracking, State Resource Needs, at 2 (August 16, 2011).

¹⁵⁴ Karen McVeigh, *Fracking will poison New York's drinking water, critics warn*, The Guardian, Jan. 5, 2010, <http://m.guardian.co.uk/environment/2012/jan/05/fracking-new-york-poison-claim?cat=environment&type=article>.

¹⁵⁵ Advisory Panel on High-Volume Hydrofracking, State Resource Needs, at at 1.

¹⁵⁶ *Id.*

¹⁵⁷ Advisory Panel on High-Volume Hydrofracking, "DEC Staffing Needs" spreadsheet.

¹⁵⁸ N.Y. STATE DEP'T OF TRANSP., DRAFT DISCUSSION PAPER; TRANSPORTATION IMPACTS OF POTENTIAL MARCELLUS SHALE GAS (2011) available at <http://www.un-naturalgas.org/NYSDOT%20Transportation%20Impacts%20Paper.pdf>.

NYSDEC should not move forward with HVHF permitting in New York State in the absence of adequate regulatory and enforcement resources. Indeed, to do so would not only be bad policy, it would undermine SEQRA in that identified mitigation for identified significant adverse impacts would be unlikely to be adequately implemented or enforced. NYSDEC has indicated that it will pace permitting of HVHF activities according to the ability of staff to oversee development of those wells and ensure the protection of public health and the environment. But this is a political promise, not a guarantee, and with a change in administration, the agency's policy on this could easily change as well. NYSDEC has also pledged, "[n]o permits will be issued until NYSDEC has the proper enforcement capacity in place to monitor all fracturing activities."¹⁵⁹ We recommend that NYSDEC honor this promise and not issue any permit until it has adequate agency staffing place to process and enforce all aspects of the permit.

NYSDEC's Proposed Regulations Fail to Provide for Denial or Revocation of HVHF Permits Based on a Pattern of Noncompliance

Another critical flaw in NYSDEC's Proposed Regulations for HVHF gas development is that they provide no means for NYSDEC to deny or revoke permits based on a particular company's history of noncompliance with applicable law, regulation or permit conditions. We recommend that NYSDEC revise its regulations to include provisions similar to those promulgated under the UPA, which give NYSDEC the right to deny, suspend, modify or revoke permits for, *inter alia*, materially false statements, failure to comply with permit conditions, or exceeding the scope of the permitted project.¹⁶⁰ Without similar provisions in HVHF permitting regulations, NYSDEC cannot protect New York from companies who chose to engage in purposeful violations or environmentally harmful practices.

Such a provision is particularly needed in light of the low civil penalties available to enforce against HVHF gas development statutory, regulatory or permit violations. ECL Section 71-1307 sets penalties for the enforcement of Article 23 of the ECL, the state's mineral resources law. Pursuant to Section 71-1307(1), NYSDEC may not impose a civil penalty of more than \$8,000 per violation, plus \$2,000 per day for continuing violations. These penalties pale in comparison to the potential damage that HVHF could cause, and more importantly, do not act as a significant deterrent for companies that stand to reap profits exponentially greater than these amounts.¹⁶¹ A key benefit of being able to deny or revoke permits based on a history of noncompliance is that this would enable a resource-strapped NYSDEC to curtail non-compliant regulatory conduct in a more effective way than by pursuing multiple enforcement actions that result in minor penalties.¹⁶²

¹⁵⁹ Press Release, NYSDEC, New Recommendations Issued in Hydraulic Fracturing Review, at 2 (June 30, 2011).

¹⁶⁰ 6 N.Y.C.R.R. §§ 621.10(f), 621.13(a).

¹⁶¹ A recent *Greenwire* review of enforcement data throughout the largest drilling states shows that, in most places, only a small percentage of violations result in penalties, and the penalties that are levied are often insignificant. Pennsylvania, the most aggressive about violations, only sought penalties for about a quarter of the violations found in 2010, and levied penalties for 4 percent of the violations. The largest of those was a \$900,000 penalty against a drilling company that contaminated the water of 16 homes. *Greenwire* reported that this amounted to less profits than the company in violation made in three hours. Mike Soraghan, *Puny fines, scant enforcement leave drilling violators with little to fear*, *Env't & Energy Publishing, LLC*, Nov. 14, 2011, www.eenews.net/public/Greenwire/2011/11/14/1.

¹⁶² Such a provision would also bolster NYSDEC's authority to take administrative steps to stop drillers' ongoing violations. Currently, NYSDEC can order an immediate suspension of drilling operations in violation of the law, but drilling operators have the right to challenge NYSDEC's order in court immediately, and may be able to resume drilling operations as early as three business days following NYSDEC's order. *See* ECL § 23-0305(8)(g).

Conclusion

For the foregoing reasons, the RDSGEIS and Proposed Regulations contain a significant number of crucial deficiencies that require that NYSDEC conduct new and/or proper analyses and issue another RDSGEIS for public review and comment prior to proceeding to permit HVHF gas development in New York State.