

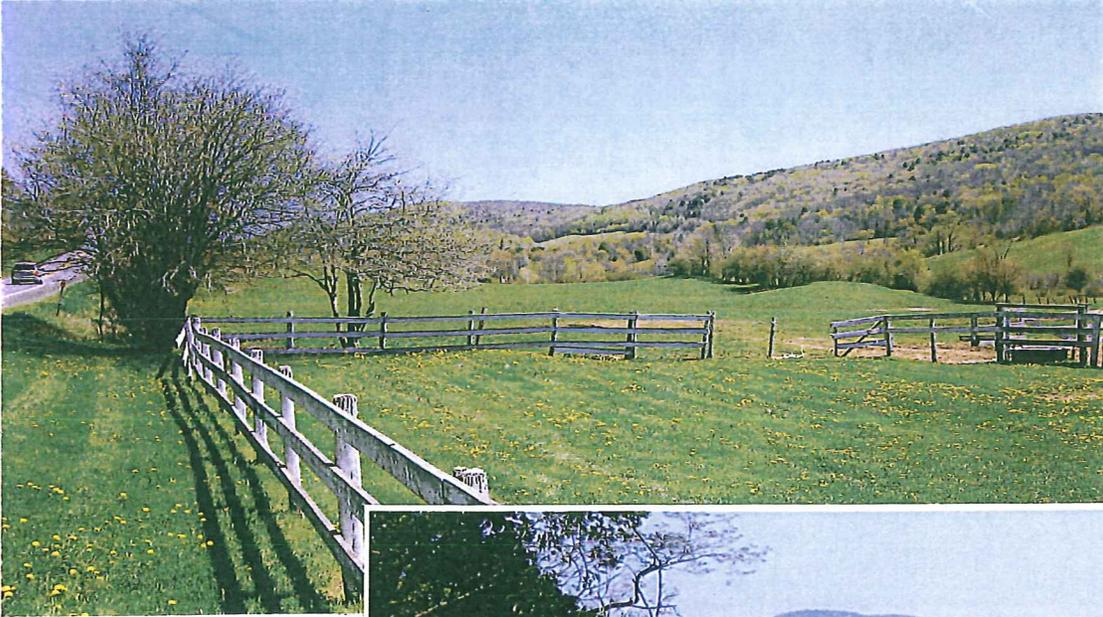
To: Edward Hanlon/DC/USEPA/US@EPA
Date: 04/12/2010 02:33 PM
Subject: Fwd: O2K Natural Gas Drilling Comments

Dear Mr. Hanlon, We at Otsgeo 2000 have devoted enormous resources to studying the potential impacts of horizontal hydraulic fracturing in our region. We believe the current plans by the New York State DEC are legally and factually insufficient to protect the environment in virtually every category of risk including fresh water consumption, water contamination, health effects, air emissions , cumulative impacts, adverse impacts on agricultural lands and endangered species and waste water treatment. In addition, the cumulative impacts of all of the above have not been considered. We submit and request that you consider these comments in connection with your investigation. All of the exhibits referenced in these comments are available at our website at otsego2000.org
Nicole Dillingham

Nicole Dillingham

Otsego 2000

Comments on the Draft Supplemental Generic Environmental
Impact Statement on the Oil, Gas and Solution Mining Program:
Well Permit Issuance for Horizontal Drilling and High-Volume Hydraulic Fracturing
to Develop the Marcellus Shale and Other Low Permeability Gas Resources ("DSGEIS")



ZARIN & STEINMETZ
81 MAIN STREET, SUITE 415
WHITE PLAINS, NEW YORK 10601
(914) 682-7800

Michael D. Zarin, Esq.
Daniel M. Richmond, Esq.
David J. Cooper, Esq.

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INTRODUCTION

On behalf of Otsego 2000, Zarin & Steinmetz respectfully submits the following comments on the Draft Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Program: Well Permit Issuance for Horizontal Drilling and High-Volume Hydraulic Fracturing to Develop the Marcellus Shale and Other Low-Permeability Gas Resources (“DSGEIS”). Otsego 2000 is a private, not-for-profit, charitable foundation devoted to intelligent planning for the environment in Otsego County and neighboring regions, and to preventing irreversible change and damage to the unique and historic resources of the area.

Otsego 2000 recognizes that the responsible development of natural gas resources could play a significant role in bridging the gap between high carbon fossil fuels, and cleaner alternative sources of energy, as well as reducing the Nation’s reliance on imported fuels. Improperly regulated, however, extracting natural gas through horizontal drilling and hydraulic fracturing can cause far more irreparable harm to human health and to the environment than can be justified.

Respectfully, the DSGEIS does not provide the Department of Environmental Conservation (the “Department”) with a rational basis for decisionmaking on horizontal drilling and hydraulic fracturing. The DSGEIS is lacking in information and analysis in many critical areas. The DSGEIS lacks substantial evidence and otherwise fails to take the “hard look” required by the New York State Environmental Quality Review Act (“SEQRA”) at numerous potential significant adverse impacts to Otsego County’s watershed, its rural and pristine character, and its residents’ health and overall quality of life.

These significant substantive and legal “gaps” in the DSGEIS’s assessment and proposed permitting scheme prevent the Department from reaching “an informed decision” of what would be considered by any standard, an extremely complex and far-reaching proposal, and violate the public’s right to a meaningful public hearing:

The DEIS is a starting point. It is a document which should analyze the significant environmental effects of a proposed action and identify how those effects can be avoided or minimized. When a DEIS is accepted as complete, it is complete for the purposes of commencing formal review of the proposal. *The opportunities for public comment, formal review and public hearings are all part of the SEQRA process established to fill in gaps and to provide updated information and analysis in the DEIS in order that an informed decision may ultimately be made regarding the proposal.*

In re Amenia Sand & Gravel, 1997 WL 1879249, at *8 (DEC File No. 3-1320-00030/2 June 16, 1997) (Rulings of the Administrative Law Judge on Party Status and Issues) (emphasis added), appeal denied, 1997 WL 628371 (N.Y. D.E.C. Aug. 27, 1997) (Interim Decision of Deputy Commissioner); see also N.Y. Env’tl. Conserv. L. (“ECL”) § 8-105(8) (defining a DEIS to be “a preliminary statement prepared pursuant to [SEQRA]” (emphasis added)). The Department is simply not in position to engage in informed decisionmaking at this time, and cannot proceed on

this record. Moreover, the public must be given an opportunity to comment on the massive revisions that the Department must make before it can proceed to prepare a final environmental impact statement (“FEIS”). See Webster Assocs. v. Town of Webster, 59 N.Y.2d 220, 464 N.Y.S.2d 431, 433 (1983) (holding that “the omission of a required item from a draft EIS cannot be cured simply by including the item in the final EIS” because the “abbreviated” opportunity for comment on an FEIS “is not a substitute for the extended period and comprehensive procedures for public and agency scrutiny of and comment on the draft EIS”).

The DSGEIS also does not provide a legal pretext for circumventing the applicable Department rulemaking procedures. The Department’s proposal to regulate horizontal drilling and hydraulic fracturing through an Environmental Assessment Form (“EAF”) is fundamentally wrong on policy and legal grounds. It is both inadequate for assessing the impacts of individual hydraulic fracturing and horizontal drilling applications, and also fails to trigger more intense, “site specific” review in a wide range of environmental areas. The limited thresholds it does establish are in many instances simply irrational and inconsistent with the DSGEIS’s own conclusions.

Otsego 2000 joins numerous other stakeholders in urging the Department to immediately commence the more appropriate rulemaking process to establish a uniform constitutionally required regulatory scheme. Such comprehensive permitting standards are necessary to ensure a level of supervision commensurate with the risks posed to human health and the environment by the high volume hydraulic natural gas drilling initiative proposed in New York State.

POINT I

OTSEGO COUNTY

Otsego County is a unique treasure of New York State. It is home to the Baseball Hall of Fame, the Fenimore Art Museum, the Glimmerglass Historic District, the Glimmerglass Opera Company, beautiful Lake Otsego, and numerous other parks and historic places. Otsego’s land, water, and history are internationally renowned. They have been recognized as historically and environmentally significant since James Fenimore Cooper published his *Leatherstocking Tales* novels in the early Nineteenth Century. Otsego County is particularly vulnerable to the intense development posed by the Department’s proposed permitting scheme for hydraulic fracturing operations set forth in the DSGEIS.¹

In the first instance, Otsego’s sources of potable water, as more fully described below, will be significantly jeopardized. The inadequate protection of water resources advanced in the DSGEIS endangers not only its area residents and the thousands of people who regularly visit Otsego County, but also residents of other areas whose water originates in Otsego County. While the total population of Otsego County is 61,000 people, the County is a huge tourist draw.

¹ Otsego County’s resources are further discussed in the letter of Otsego 2000’s Executive Director, Robin Krawitz, dated Dec. 27, 2009 (“Krawitz Letter”), and the comments of historian Jessie Ravage, dated Dec. 28, 2009 (“Ravage Comments”), which are annexed hereto. Photographs of Otsego County are also annexed hereto.

Approximately 550,000 visitors come to the County every year. Most of these visitors and half the permanent population rely on surface water for their water supply.

Moreover, Otsego County is part of the Upper Susquehanna River Basin. A Map showing Conservation Areas in the upper Susquehanna Basin is annexed hereto as Attachment 3 to the Krawitz Letter. Lake Otsego is the source of the Susquehanna River. A Map showing the Aquatic Resources around Lake Otsego and its Watershed is annexed hereto as Attachment 6 to the Krawitz Letter. The Otsego Lake Aquatic Resources Map also shows multiple sensitive receptors in the area, including, high class trout and trout spawning streams and wetlands. Maps showing similar Aquatic Resources, including watershed boundaries around the Upper Otego Creek and the Butternut Valley, are annexed hereto as Attachments 9 and 11 to the Krawitz Letter, respectively. A Map of the entire Susquehanna River Basin is also annexed hereto.

Among the areas relying on surface water sources very similar to the New York City Watershed, for example, are Otsego County's two largest population centers - the Village of Cooperstown, with a population of 2,300, and the City of Oneonta, with a population of 12,300. Cooperstown takes its water from Lake Otsego. Oneonta relies on a reservoir, Wilbur Lake, with back-up wells. Both Cooperstown and Oneonta maintain water filtration and chlorination facilities. Like New York City's water sources, these facilities are not designed to remove industrial wastes with dissolved contaminants or radioactive materials such as are associated with hydraulic fracturing operations.

The rest of the County uses groundwater drinking water sources, including, more than 24,000 individual wells and more than 40 separate water "systems" in local water districts. The County does not maintain records of the locations of all of these private wells used by individual households outside these water districts.

Of concern here, responsibility for safe water supplies in Otsego lies with its Department of Health ("DOH"). Otsego County, however, does not have a fully staffed DOH, and would be incapable of handling the potential contaminant issues that the DSGEIS seeks to foist upon it. To the extent the Department may be under the impression that the Otsego DOH could rely on the State DOH Office to handle concerns about water contamination from hydraulic fracturing, such impression is also misplaced. It is unclear -- and not discussed in the DSGEIS -- how or whether the sole State DOH office in Otsego County would be able to fund or handle the number and complexity of issues that could arise if the hydraulic fracturing operations were allowed to proceed.

The DSGEIS also fails to evaluate other potential adverse impacts of hydraulic fracturing on Otsego County, including its potential impact on tourism. The County's economy is bolstered by the substantial number of seasonal visitors. They are drawn to the cultural and recreational opportunities, which are made more appealing by the bucolic setting of this beautiful rural landscape, with small hamlets dotting the valleys surrounded by agricultural land.

The 2007 Quarterly Census of Employment and Wages of the New York State Department of Labor, indicates tourism accounted for over 1500 jobs in Otsego, generating \$29 million dollars in wages. The area also has a thriving second home market. The 2000 Census

categorized one in ten properties in Otsego County as “Seasonal, Recreational or Occasional Use.” The DSGEIS does not rationally consider potential adverse socioeconomic impacts of hydraulic fracturing on Otsego County, which could result from inadequately mitigated impacts on community character, visual, noise, and traffic. Adverse impacts on drinking water could adversely impact public perceptions of the safety of visiting Otsego County, which could also result in adverse socioeconomic impacts.

Moreover, hydraulic fracturing could adversely impacts agricultural activities, which is also underpins of life in Otsego County. Agriculture remains an important part of Otsego County. There total over 900 active farms, which utilize 27.5% of the land area in the County. The agricultural sector of the Otsego County economy generated over \$50 million in products sold in 2007. The largest part of which is the dairy industry, comprising about 70% of total agricultural production. Thirty percent of the county’s land area is enrolled in agricultural districts through the designation program proscribed in the New York Agriculture and Markets Law § 25AA- Agricultural District Law as coordinated through the Otsego County Department of Planning. A Map showing the designated Agricultural Districts in Otsego is annexed hereto. Maps showing Prime Agricultural Soils around Lake Otsego and Agricultural Districts and Working Farms around Lake Otsego are annexed hereto as Attachments “4” and “5” to the Krawitz Letter, respectively. Hydraulic fracturing, under the scheme set forth in the DSGEIS, could adversely impact Otsego’s agricultural resources by jeopardizing the water supplies upon which it relies, and cause adverse impacts on the public perception of the safety of produce from Otsego County.

Finally, Otsego County contains many recognized historic properties. Approximately 3,956 contributing buildings are recognized in the County’s 61 nominations to the National Register of Historic Places. This includes twelve (12) historic districts, recognizing the historic development of the hamlets, villages, and rural landscapes of the County. Otsego County also contains multiple Native American associated and other historic archaeological sites. As set forth in the annexed comments of Jessie Ravage, an expert in Otsego County’s historic resources, many of the historic assets of Otsego County are yet to be documented. Ravage has identified areas of important, yet undocumented, historic resources in virtually every township in Otsego County, as set forth in the annexed Ravage Map.

As set forth below, and in the annexed Krawitz Letters and the Ravage Comments, hydraulic fracturing could dramatically impact Otsego’s historic resources. The height and footprint of individual wells, for example, far exceed the scale of any buildings and structures in Otsego County, thereby threatening the historic integrity of the entire rural landscape. Inserting much larger structures at regular intervals in this setting would sever these relationships and diminish its coherence as an intact and historically significant landscape. Similarly, substantially increased truck traffic on the County’s roads could literally shake their historic buildings to their foundations.

POINT II

LEGAL STANDARDS

It is axiomatic that one of the essential functions of a GEIS is to set forth either conditions or criteria, such as generic mitigation measures, for the approval of future actions, or alternatively, specific thresholds that would trigger the need for further environmental review. The DSGEIS fails to take the requisite “hard look” in this regard, by both (i) failing to establish conditions or thresholds in certain critical areas of environmental concern, as well as (ii) proposing irrational and inconsistent conditions and/or thresholds for those limited environmental areas identified, including, not offering any rational explanation why Otsego’s water sources, both public and private, should receive any less protections than are proposed or ultimately implemented for the New York City Watershed.

A. Proper Function Of A GEIS

As the DSGEIS recognizes, a GEIS is intended to “set forth specific conditions or criteria under which future actions will be undertaken or approved, including requirements for any subsequent SEQR compliance.” (DSGEIS at 3-1, quoting 6 N.Y.C.R.R. § 617.10(c); see also SEQRA Handbook, Section H (“Generic EISs”)² (noting that GEIS can be useful to “[s]et forth conditions, criteria or thresholds to guide future site-specific actions that may be undertaken,” and that a GEIS should consider “[t]hresholds and conditions that would trigger the need for supplemental determinations of significance or site-specific EISs”). The Department’s regulations implementing SEQRA establish that “[t]his may include thresholds and criteria for supplemental EISs to reflect specific significant impacts, such as site specific impacts, that were not adequately addressed or analyzed in the generic EIS.” 6 N.Y.C.R.R. § 617.10(c).

The DSGEIS further notes that, following the filing of a GEIS, “[n]o further SEQR compliance is required if a subsequent proposed action will be carried out in conformance with the conditions and thresholds established for such actions in the generic EIS or its findings statement.” (DSGEIS at 3-1, quoting 6 N.Y.C.R.R. § 617.10(d)(1).) The DSGEIS fails to mention that the SEQRA regulations further establish that “[a] supplement to the final generic EIS must be prepared if the subsequent proposed action was not addressed or was not adequately addressed in the generic EIS and the subsequent action may have one or more significant adverse environmental impacts.” 6 N.Y.C.R.R. § 617.10(d)(4).)

Of particular relevance here, as the Department’s SEQRA Handbook indicates, “secondary (indirect) impacts should receive particular attention in a generic EIS:”

An example of secondary impacts would be the changes in population growth, *land use patterns or traffic*, and the need for more public services as a result of increased employment opportunities generated by construction of a Planned Unit Development (PUD). Similarly, a generic EIS which examines

² As the Department is aware, this document, which is published by the Department, is available at <http://www.dec.ny.gov/permits/56701.html>.

actions that will occur over a long period of time, sequentially, in phases, or under a proposed master plan or program, *should emphasize long term over short-term impacts*. Finally, a generic EIS allows an agency to examine *cumulative impacts of multiple potential projects on a particular resource*, even if none of the projects considered individually would lead to significant impacts.

(SEQRA Handbook, Section H (emphasis added).)

The Department's SEQRA Handbook further indicates that, particularly with respect to alternatives, a GEIS should provide "flexibility" to "support a range of future agency choices and decisions:"

A generic EIS often addresses actions at the conceptual stage, so, therefore, there is flexibility when developing and analyzing alternatives. The consideration of alternatives at the conceptual stage should be sufficiently broad ranging that the resulting generic EIS will support a range of future agency choices and decisions.

(SEQRA Handbook, Section H.)

A GEIS must also "describe any potential that proposed actions may have for 'triggering' further development." SEQRA Handbook, Section H. "If such a 'triggering' potential is identified, the anticipated pattern and sequence of actions resulting from the initial proposal should be assessed." (Id.) "The generic EIS should identify upper limits of acceptable growth inducement in order to provide guidance to the decision maker." (Id.)

As discussed in greater detail below, the DSGEIS, in the first instance, irrationally fails to consider either meaningful conditions on permit issuance, or specific thresholds triggering more in-depth site-specific review, for a number of critical environmental concerns, including, community character, visual, noise, traffic and cumulative impacts. In contrast, the DSGEIS appears designed to constrain agency decision making in areas of particular concern to Otsego residents, by only triggering more in-depth, site-specific review when thresholds are surpassed in a limited range of environmental areas.

The DSGEIS indicates, for example, that the Department anticipates in-depth site-specific SEQRA review only in seven discrete areas of environmental concern, all essentially relating to the location of fracturing operations or surface impoundments in proximity to potential potable water supplies or water supply infrastructure. (See DSGEIS at 3-12 to 3-13.) As set forth in the DSGEIS, in-depth site-specific review would only potentially be triggered if the EAF Addendum for High-Volume Hydraulic Fracturing shows that the proposed hydraulic fracturing activity would fall into one of these enumerated seven site-specific categories. (See DSGEIS at 3-4.) If not, Department "[s]taff will [simply] file a record of GEIS/SGEIS consistency and process the well application." (Id.)

Thus, while it is clear that horizontal drilling and hydraulic fracturing could have significant impacts in multiple other areas of environmental concerns, such as traffic, socio-economic, cumulative impacts, visual, community character, historic resources, the DSGEIS arbitrarily fails to establish thresholds for in-depth, site specific review for many of them. The DSGEIS also fails to consider the impacts - much less develop conditions for approval or thresholds for further review - for actions that can reasonably be anticipated from hydraulic fracturing, including, the development of substantial gas and water transmission infrastructure. Moreover, of the few conditions and/or thresholds that the DSGEIS does address, some are internally inconsistent, while others lack substantial evidence, such as the putative “set backs” for “site specific review.”

B. SEQRA “Hard Look”

The DSGEIS fails to take the “hard look” required by SEQRA. As the Department knows, “SEQRA’s fundamental policy is to inject environmental considerations directly into governmental decision making.” Coca-Cola Bottling Co. of N.Y. v. Bd. of Estimate of the City of N.Y., 72 N.Y.2d 674, 536 N.Y.S.2d 33, 35 (1988) (citations omitted); see also Jackson v. New York State Urban Dev. Corp., 67 N.Y.2d 400, 503 N.Y.S.2d 298, 303 (1986) (“SEQRA makes environmental protection a concern of every agency.”). In enacting SEQRA, the State Legislature expressly directed that:

All agencies conduct their affairs with an awareness that they are stewards of the air, water, land and living resources, and that they have an obligation to protect the environment for the use and enjoyment of this and all future generations.

N.Y. Env'tl. Conserv. L. §8-0103(8).

SEQRA “is not mere exhortation.” Coca-Cola Bottling Co., 536 N.Y.S.2d at 35. SEQRA affirmatively requires that “all agencies which regulate activities of individuals, corporations, and public agencies which are found to affect the quality of the environment *shall regulate such activities* so that due consideration is given to preventing environmental damage.” N.Y. Env'tl. Conserv. Law §§ 8-0103(9) (emphasis added).

Critically, no agency “may undertake, fund or approve the action until it has complied with the provisions of SEQR.” 6 N.Y.C.R.R. § 617.3(a). “[I]f the statutory environmental review requirements of SEQRA are not met, ‘the governmental action is void and, in a real sense, unauthorized.’” King v. Saratoga County Bd. of Supervisors, 89 N.Y.2d 341, 653 N.Y.S.2d 233, 236 (1996) (citation omitted).

It is well-settled that “[I]t is required that compliance with the letter and spirit of SEQRA is required, and substantial compliance with SEQRA is not sufficient to discharge an agency’s responsibility under the act.” Stony Brook Village v. Reilly, 299 A.D.2d 481, 750 N.Y.S.2d 126, 128 (2d Dept. 2002), as amended, (Jan. 9, 2003); Golten Marine Co., Inc. v. N.Y.S. D.E.C., 193 A.D.2d 742, 598 N.Y.S.2d 59, 61 (2d Dept. 1993). As the Court of Appeals has made clear:

Strict compliance with SEQRA is not “a meaningless hurdle. Rather, the requirement of strict compliance and attendant spectre of de novo environmental review insure that agencies will err on the side of meticulous care in their environmental review. Anything less than strict compliance, moreover, offers an incentive to cut corners and then cure defects only after protracted litigation, all at the ultimate expense of the environment.”

N.Y.C.C.E.L.P. v. Vallone, 100 N.Y.2d 337, 763 N.Y.S.2d 530, 535 (2003), quoting King, 653 N.Y.S.2d at 235.

Strict compliance with SEQRA is particularly important where, as here, potable water may be impacted. See, e.g., Doremus v. Town of Oyster Bay, 274 A.D.2d 390, 711 N.Y.S.2d 443 (2d Dept. 2000) (holding that local board violated SEQRA by failing to order an supplemental environmental review for a site located in an area designated for special groundwater protection); Bryn Mawr Props., Inc. v. Fries, 160 A.D.2d 1004, 554 N.Y.S.2d 721, 722-23 (2d Dept. 1990) (upholding requirement for supplemental environmental review under SEQRA, noting that “[i]t is of critical importance that the petitioner’s proposed development is situated on the shores of Pocantico Lake, a former reservoir which is still a potential source of potable water.”).

“[T]he degree of detail with which each environmental factor must be discussed will necessarily vary and depend on the nature of the action under consideration.” Gernatt Asphalt Prods. v. Town of Sardinia, 87 N.Y.2d 668, 688, 642 N.Y.S.2d 164, 176 (1996). Here, where there is a proposal of such far reaching scope and potential impact for New York State, which could and will have a impact on the environment and quality of life so many New Yorkers, the level of treatment afforded to many of the essential environmental issues is entirely inappropriate.

Ultimately, in order to satisfy SEQRA’s “hard look” requirement, the Department must be able to demonstrate that it took the relevant areas of environmental concerns seriously:

While the term ‘hard look’ may be infelicitous, it recognizes the intent of the Legislature in SEQRA that its concerns that environmental issues are serious and that in making decisions which may have the potential to cause a material adverse environmental effect, they should take such concerns seriously.

Nash Metalware Co., Inc. v. Council of City of N.Y., 14 Misc.3d 1211(A), 836 N.Y.S.2d 487, 2006 WL 3849065 (Sup. Ct. N.Y. Dec. 21, 2006).

Even where an agency prepares an EIS, Courts will find that an agency has failed to take the requisite “hard look” where, notwithstanding an agency’s identification of potentially significant environmental impacts, it nevertheless fails to rationally consider all practical means of avoiding and/or mitigating the adverse impacts identified.

The Second Department, for example, vacated a SEQRA Finding with many of the same deficiencies as here because neither the DEIS nor the FEIS:

- “fully identified the nature and extent of all of the wetlands that would be disturbed or affected by the construction of the proposed water pipeline, how those wetlands would be disturbed, and how such disturbance, if any, would affect the salutary flood control, pollution absorption, groundwater recharge, and habitat functions of those wetlands,”
- “fully identified the location, nature, or extent of the bodies of surface water into which wastewater from the proposed treatment plant would be discharged, and which State classes and standards of quality and purity apply to those water bodies,”
- “adequately identify how much effluent would be discharged into those bodies of water over what periods of time, what the nature of the effluent might be, and what the effect upon those bodies of water are likely to be,” and
- the SEQRA documentation “lacked a site-specific and design-specific phase 1-B archaeological study.”

County of Orange v. Village of Kiryas Joel, 44 A.D.3d 765, 844 N.Y.S.2d 57 (2d Dept. Oct. 9, 2007), aff’g, 11 Misc.3d 1056(A), 815 N.Y.S.2d 494 (Sup. Ct. Orange Co. 2005) (“One cannot presume that the requisite ‘hard look’ was taken based on the thickness of the DEIS or because the [agency’s] consultants were highly regarded in their fields.”); see also Pyramid Co. of Watertown v. Planning Bd. of Watertown, 24 A.D.3d 1312, 807 N.Y.S.2d 243 (4th Dept. 2005), leave to appeal dismissed, 7 N.Y.3d 803, 821 N.Y.S.2d 810 (2006) (invalidating review following issuance of FEIS, including because concerns regarding wetlands were “virtually ignored,” and the agency also irrationally concluded that “there would be no effect on public health and safety” “despite the fact that it was undisputed that the Project’s water and sewer needs would overtax existing infrastructure,” and further finding that agency’s “tentative plans for mitigation measures concerning admittedly significant issues were wholly insufficient”); Waldbaum, Inc. v. Incorporated Village of Great Neck, 2006 WL 250520, at *11-12 (Sup. Ct. Nassau Co. Jan. 9, 2006) (GEIS vacated where Village failed to consider environmental impacts associated with the closure of sewage treatment plants in conjunction with a proposal to rezone for residential use the area where the plants were located).

Respectfully, the present record establishes that the Department has not given due consideration to many of the legitimate issues raised by Otsego 2000 herein, including, but not limited to, visual, noise, traffic, community character, public health and safety issues, cumulative impacts, not to mention the protection of its unique water resources. The DSGEIS indicates, for example, that the Department has failed to identify the nature and extent of all faults and fractures in the areas proposed for hydraulic drilling. As such, it does not take the requisite “hard look” at how hydraulic fracturing operations could exacerbate or integrate these faults and

fractures, and how such disturbances could, consequently, affect drinking water supplies. Nor has the DSGEIS fully identified how flowback water would be handled. The State Department of Health (“DOH”) has indicated that it does not have enough information to advise the Department on how to handle naturally occurring radioactive material (“NORM”) waste in backflow water, which, DOH indicates, “could be a public health concern.” This is not a rational basis upon which for the Department can proceed.

C. “Substantial Evidence”

The Department also lacks “substantial evidence” to develop regulations, conditions on approval or site-specific review thresholds in certain areas of environmental concerns, as well as to support the few conditions or thresholds that are advanced in the DSGEIS. An agency’s land use analysis can only be deemed rational “if it has some objective factual basis.” Halperin v. City of New Rochelle, 24 A.D.3d 768, 809 N.Y.S.2d 98, 105 (2d Dept. 2005); see also SEQRA Handbook at 45 (DEC 1992) (establishing that, under SEQRA, an agency “must have sufficient information to show that the impact will not be significant at the time it makes its negative declaration”). Without an “objective factual basis,” an agency lacks substantial evidence for its decision.

If, an agency fails in a GEIS to develop rational conditions and/or thresholds for further environmental review, it clearly lacks an objective factual basis for determining that the Project had no potential for significant adverse environmental impacts. For this reason, it is axiomatic that by “deferring resolution” of potential environmental issues until after the conclusion of the SEQRA process, an agency “fail[s] to take the requisite hard look at [] area[s] of environmental concern.” Penfield Panorama Area Cmty., Inc. v. Town of Penfield Planning Bd., 253 A.D.2d 342, 688 N.Y.S.2d 848, 854 (4th Dept. 1999) (annulling Planning Board’s approval, following issuance of FEIS for deferring resolution of hazardous waste remediation issue).³ As stated in a seminal SEQRA Decision, H.O.M.E.S. v. New York State Urban Development Corp., an agency simply cannot “[l]ike the proverbial ostrich . . . put out of sight and mind a clear environmental problem.” 69 A.D.2d 222, 418 N.Y.S.2d 827, 831-32 (4th Dept. 1979) (finding that the agency failed to take “hard look” where it “vaguely recognized” the existence of potential adverse environmental impacts, but, in an “Alice-In-Wonderland manner,” simply “relied upon general assurances that after the problems developed [other entities] would adequately mitigate them by some unspecified action”). Here, the DSGEIS irrationally, for example, defers consideration of the potential adverse health impacts of the fracturing fluid,

³ See also Silvercup Studios, Inc. v. Power Auth. of N.Y., 285 A.D.2d 598, 729 N.Y.S.2d 47, 49 (2d Dept. 2001) (vacating negative declaration that “was issued before much of the documentation concerning [critical] areas of environmental concern was submitted to” the reviewing agency); County of Orange v. Village of Kiryas Joel, 10/27/2005 N.Y.L.J. 20, (col. 1) (Sup. Ct. Orange Co. 2005) (vacating SEQRA Findings because, *inter alia*, “[t]he failure to assess the effect of the project upon wetlands, the failure to delineate the location of wetlands and the decision to defer these analyses until the design phase defeats the meaningful review required by SEQRA”); Rewind, Inc. v. Town of Erwin, 9/20/2000 N.Y.L.J. 34 (Sup. Ct. Steuben Co. 2000) (holding that “[b]y issuing a negative declaration on the basis that these issues [including potential wetlands impacts] would be worked out in the future, the Planning Board abdicated its decision making authority”).

conceding that the Department lacks of complete list of the chemicals used for hydraulic fracturing, and that it lacks information for many of the constituents that it does know of.

The Courts have not hesitated to vacate SEQRA determinations that fail to adequately address the issue of potential contamination. See, e.g., Penfield Panorama, 688 N.Y.S.2d at 853-54.⁴ In Penfield, for example, the EIS stated that “‘primary areas of concern’ containing hazardous waste ha[d] been identified, that ‘additional characterization was required,’” and “that ‘some site clean-up may also be required.’” Id. at 853. Rather than requiring full characterization of the problem and the development of a remediation plan, the Planning Board “conditioned its approval of the project on [the Applicant’s] agreement to get approval of a site remediation plan from [the State Department of Environmental Conservation and the County Department of Health] before any construction begins.” Id.

The Penfield Court rejected this approach, holding that “deferring resolution of the remediation was improper because it shields the remediation plan from public scrutiny.” Id. The Court added that “by deferring resolution of the hazardous waste issue, the Planning Board failed to take the requisite hard look at an area of environmental concern.” Id. at 854.

Similarly, in AC I Shore Road, LLC v. Incorporated Village of Great Neck, 43 A.D.2d 439, 841 N.Y.S.2d 344, 347 (2d Dept. 2007), leave to appeal denied, 10 N.Y.3d 779, 857 N.Y.S.2d 14 (2008), the Court found that a “DGEIS, FGEIS, and SEQRA findings statement were insufficient in that they failed to take the requisite ‘hard look’” at two particular areas of environmental concern, one of which being potentially contaminated soil, holding:

[W]hile the DGEIS noted that the soil in the area to be rezoned is potentially contaminated . . . the DGEIS and the SEQRA findings statement simply concluded that the petitioner’s property will be remediated in accordance with applicable standards and requirements, without examining whether the area can be remediated to residential standards.

Id.

⁴ Silvercup Studios, Inc. v. Power Auth. of N.Y., 4/13/2001 N.Y.L.J. 20 (Sup. Ct. Queens Co) (overturning SEQRA determination where documentation recognized that Site was likely contaminated but “did not include a specific remediation plan, and clearly no soil tests were conducted until after the issuance of the Negative Declaration. In view of the fact that the construction of the proposed project could cause a release of hazardous materials, the court finds that [the agency] did not take a hard look at this area of concern”), aff’d, 285 A.D.2d 598, 729 N.Y.S.2d 47 (2d Dept. 2001); Caldor Corp. v. City of Yonkers, Index No. 1302/94, slip op. at 25-26 (Sup Ct. Westchester Cty. 1994) (holding that SEQRA determination was “flawed to the point of irrationality” where, “despite being informed of an otherwise significant environmental impact, to wit, underground water contamination in immediate proximity to the proposed action, [the agency] did not take a hard look at it, let alone explain why it imposed the level of mitigation it did”).

This principle applies with equal force to other aspects of the DSGEIS, such as, for example, its lack of substantial evidence regarding health and safety risks. The Department, for example, does not have complete information pertaining to the health risks hydraulic fracturing operations pose, including, a lack of “[r]eadily available health effects information” on the contaminants in hydrofracturing fluids, and “little information” pertaining to the concentrations of fracturing chemicals in flowback water. The Department cannot rationally regulate hydraulic fracturing on this record.

D. Equal Protection

A major flaw in the DSGEIS, and the substance of the Department's proposed regulatory scheme in general, is that the Department proposes special, more extensive protection to the New York City Watershed and its infrastructure. See DSGEIS Chapter 7.1.10 (Protecting New York City's Subsurface Water Supply) & 7.1.11 (Protecting the Quality of New York City's Water Supply). The record, however, is devoid of any similar protection for the equivalent watersheds linked to Otsego's water supplies. The DSGEIS provides no rational basis for the Department's proposal to distinguish between Upstate and Downstate water quality. It is irrational not to offer the same protections for the potable water supplies of New York City and the upstate counties.

The DSGEIS, for example, would provide a 1,000 foot “protective buffer” around a water tunnel or aqueduct maintained by the New York City Department of Environmental Protection (“DEP”). (DSGEIS at 7-61-62). If an applicant seeks to drill within this buffer, the Department actively engages the DEP in the permitting process. This includes allowing the DEP to determine whether the proposed surface well is within their buffer zone, and if so, requiring the applicant to demonstrate “to DEP's satisfaction . . . that there will be no impact to [its] tunnels or aqueducts.” (Id.).

The same administrative deference is not afforded to other Upstate municipalities when an applicant proposes to drill in close proximity to their water supply infrastructure. Instead, the DSGEIS would leave it to the applicant to demonstrate “evidence of diligent efforts” to contact Upstate municipal officials regarding the location of its ground water resources. (Id. at 7-66-67).

Similarly, the DSGEIS would assign special status to water bodies defined in the DEP's Watershed Regulations, which are applicable only to tributaries of the New York City Watershed. (Id. 7-64 & 7-71). By using the definitions specifically carved out for New York City, which exclude all other resources, the Department would double the radius that triggers site-specific review around these resources. (Id.). Thus, whereas drilling outside of a 150 foot radius of a tributary to a reservoir in Otsego County would be automatically considered “not significant,” the same operation must stay at least 300 feet away from tributaries to the New York City watershed. (Id.).

“The Equal Protection Clause of the Fourteenth Amendment of the United State Constitution ‘is essentially a direction that all persons similarly situated should be treated alike.’” Zahra v. Town of Southhold, 48 F.3d 674, 683 (2d Cir. 1995) (citing City of Cleburne v.

Cleburne Living Center, Inc., 473 U.S. 432, 439, 105 S. Ct. 3249, 3254 (1985); Harlen Assocs. v. Inc. Village of Mineola, 273 F.3d 494, 499 (2d Cir. 2001) (“The Equal Protection Clause requires that the government treat all similarly situated people alike.”). Disparate administrative action, as proposed under the current DSGEIS’s, would violate this Constitutional directive. By providing increased scrutiny for the New York City watershed without affording the same treatment to similarly situated watersheds, the Department would be selectively giving the consumers of New York City’s water supply preferential treatment, premised upon “impermissible considerations.” Crowley v. Courville, 76 F.3d 47, 52 (2d Cir. 1996).

The United States Supreme Court has established that a party need not be part of a larger class, and may, instead, succeed as a “class of one” where it “alleges that [it] has been intentionally treated differently from others similarly situated and that there is no rational basis for the difference in treatment.” Village of Willowbrook v. Olech, 528 U.S. 562, 120 S. Ct. 1073, 1074-75 (2000). The Second Circuit recognizes that in such situations, a showing that the administrative body lacked a “rational basis for the unequal treatment received” may be sufficient to establish a violation of the Fourteenth Amendment. Harlen, 273 F.3d at 50.

In Olech, for example, the Village required plaintiff to provide a thirty-three foot easement in order to connect to the municipal water supply. Other residents seeking a similar connection were required to provide only a fifteen foot easement. 120 S. Ct. at 1074. Plaintiff claimed that the Village’s actions were “irrational and wholly arbitrary” since a fifteen foot easement was “clearly adequate,” and that the Village provided no technical basis to double the requirement for her connection. Id. at 1075. The Supreme Court recognized that plaintiff’s claims were sufficient to obtain relief under a traditional Equal Protection analysis.” Id. Under these circumstances, an inquiry into the municipality’s “subjective motivation” or a showing of “ill will” was deemed unnecessary. Id.

Following this precedent, the Second Circuit has recognized that affording one citizen a lower standard of protection than the level “typically afforded” other similarly situated citizens could rise to the level of disparate treatment under the Fourteenth Amendment. See DeMura v. Hawkes, 328 F.3d 704, 707 (2d Cir. 2003) (upholding equal protection claims in complaint alleging municipality provided plaintiff a different standard of police protection in dispute with neighbor than it provided to other residents).

As discussed in greater detail below, there is no rational basis for the disparate treatment that the DSGEIS indicates will be accorded for the protection of drinking water in the New York City Watershed versus drinking water in Otsego’s watersheds, or for municipal drinking water supplies versus other water supplies.

E. The Improper Use of Stale Data

The DSGEIS improperly relies upon baseline assessments of traffic, noise, air quality, water quality, and conditions set forth in the 1992 GEIS to assess the potential impacts of high-volume hydraulic fracturing. Many of the assessments of baseline conditions or quality modeling methodologies used in the 1992 GEIS are obsolete. At best, the findings of the 1992 GEIS are almost two decades old. Moreover, it took over twelve (12) years to complete the 1992

GEIS. As such, many of the underlying studies and modeling methods used to formulate the 1992 GEIS's findings are "stale," and unreliable as a matter of law. See Schenectady Chems., Inc. v. Flacke, 83 A.D.2d 460, 446 N.Y.S.2d 418, 420 (3d Dept. 1982) (holding Department failed to take a "hard look" at mining operation impacts in vicinity of aquifer since "no current independently obtained data" was collected by Staff before issuing SEQRA findings).

While Otsego 2000 recognizes that the passage of time, standing alone, may not result in the 1992 GEIS's data becoming "stale," substantial changes in the underlying circumstances between their collection and the Department's reliance upon these data undermine their utility. The DSGEIS, for example, merely adopts the 1992 GEIS's finding that siting and set back considerations at the permit level will be adequate to mitigate the "unavoidable" negative noise impacts to those living in "close proximity" to a well site. (DSGEIS at 7-108). This conclusion does not account for population growth and migration patterns, which have increased significantly the number of Upstate inhabitants living near potential well sites.

Whether the agency updated its data during the EIS process, or whether the record demonstrates that conditions in the study area have changed, are two factors that the Court of Appeals suggests are relevant in determining the reliability of data collected years before. Jackson v. New York State Urban Development Corp., 67 N.Y.2d 400, 503 N.Y.S. 298, 310-11 (1986) (refusing to order a new EIS since the record demonstrated that agency "continued to review the conditions effecting the area" by updating its data through the EIS process, and that there was no showing that conditions in the study area changed during this time).

In a case very much on point with the instant matter, in In re Amenia Sand & Gravel, an ALJ ordered new studies in the EIS based specifically upon the staleness of the data. There, the Department's own DEIS assessing the impact of mining and air quality permits was found deficient due to its failure to "account for the changes in circumstances" that occurred in the eight (8) years between the underlying studies, and accepting the DEIS as complete. 1997 WL 1879249 at *8. This included the Department's improper reliance on seven (7) year old traffic data to calculate the baseline levels of service upon which the mining operation would be adding truck trips. Id. at *15. Upon appeal, the ALJ held that due to "a variety of social and economic development changes [that] have occurred" within the study area during the past seven years, the Department was ordered to replace the stale traffic data with "up-to-date" traffic counts and analysis. Id.

Similarly, the ALJ took issue with the Department's failure to revise its air quality impact analysis to reflect updated emission rates for mining equipment, and the EPA's updates to its air pollutant emission factors. Id. at * 16. Since the Department failed to integrate these updated standards into its modeling, the ALJ found that the FEIS was "deficient with respect to its analysis of air quality impacts from the proposed project." Id. at * 17.

Much of the DSGEIS's conclusions about high-volume hydraulic fracturing and horizontal drilling are likewise improperly based upon data obtained twenty (20) years before this technology was developed. As currently presented in the DSGEIS, much of this data has not been updated to reflect the changed conditions in Otsego County, or any other counties in the Marcellus Shale area. It is irrational for the Department to rely upon such stale data.

POINT III

THE DSGEIS IRRATIONALLY ASSESSES A WIDE VARIETY OF ISSUES

A. Irrational And Arbitrary Assessment Of Surface and Ground Water Issues

1. Lack of Geologic Information

Respectfully, the Department lacks substantial evidence on geologic conditions, which must be the cornerstone for its analysis of horizontal drilling and hydraulic fracturing.⁵ Pre-existing fault and fracture networks, which could be exacerbated and/or integrated by hydraulic fracturing, may serve as upward contaminant release vectors for gas and contaminant-laden hydraulic fracturing fluids.⁶ The DSGEIS, however, lacks complete information pertaining to the faults and evidence of seismicity in Otsego County, as well as elsewhere in the Marcellus Shale gas productive fairway. Otsego 2000 respectfully submits that once the Department is fully aware of the range of risks posed by hydraulic fracturing within these sensitive areas, it will agree that drilling activities must be prohibited within both the County's surface water supply watersheds, as well as within the radius of pumping influence of public and private wells and their upgradient recharge areas.

The failure to comprehensively assess risks to water quality is fatal to the legitimacy of the Department's determinations. See Schenectady Chems., Inc., 446 N.Y.S.2d at 420 (annulling Department's SEQRA determination and issuance of mining permit because Staff "failed to consider the effect that [the] proposed mining project would have on the quantity and quality of the area's water"); c.f., Save Southard Road Neighborhood Coalition v. Town of Saratoga Planning Board, 35 A.D.3d 1017, 825 N.Y.S.2d 585 (3d Dept 2006) (finding planning board's assessment of groundwater quality satisfied the "hard look" standard after the board

⁵ Otsego 2000's comments on the DSGEIS's treatment of hydrogeologic and hydrologic issues were prepared in consultation with Paul A. Rubin of HydroQuest. Rubin is a geologist, hydrogeologist, and hydrologist with more than twenty-seven (27) years of experience. His professional experience includes work conducted for the Office of the New York State Attorney General's Environmental Protection Bureau, the Oak Ridge National Laboratory's Environmental Sciences Division, the New York City Department of Environmental Protection, and as an independent environmental consultant as President of HydroQuest. A copy of Paul Rubin's Curriculum Vitae is annexed hereto.

⁶ As stated in the Final Impact Assessment Report: Impact Assessment of Natural Gas Production in the New York City Watershed, December 2009 ("Final Impact Assessment Report"), prepared by Hazen and Sawyer and LBG for the New York City Department of Environmental Protection ("DEP"):

[T]here is a reasonably foreseeable risk to water supply operations from methane, fracking chemicals, and/or poor quality, saline formation water migrating into overlying groundwater, watershed streams, reservoirs, tunnels, and other infrastructure.

(Final Impact Assessment Report at 19-20.)

considered hydrogeologic reports from three different experts, conducted several public hearings on groundwater quality, and convened a “special workshop” on the issue).⁷

Figure 4.13 in the DSGEIS purports to show the mapped geologic faults in New York State. It is, however, based on a 1977 study, which is outdated at best. There are significant and important post-1977 Landsat and other geologic data and documentation regarding the extensive, densely-spaced, fracture and fault network throughout the Appalachian Basin, which the DSGEIS ignores. (See Jacobi, R.D., 2002, “Basement Faults and Seismicity in the Appalachian Basin of New York State,” *Tectonophysics*, v. 353, Issues 1-4, 23 August 2002, p. 75-113 (“Jacobi (2002),” copy annexed hereto)).⁸

Figures 1 and 2 from Jacobi (2002) show that documented and confirmed fractures and faults are far more extensive than indicated in DSGEIS Figure 4.13, and sometimes extend for over a hundred miles. (Copies of Figures 1 and 2 are annexed hereto.) The fractures depicted in Figures 1 and 2 almost certainly represent only a small portion of fractures actually present. Jacobi’s analysis indicates that, even in the absence of deep hydraulic fracturing in the Marcellus shale, these naturally occurring fractures and faults already provide upward gaseous migration pathways.⁹

In particular, documentation by Jacobi of Fracture Intensification Domains (“FIDs”), based partially on methane soil gas anomalies over open fractures, provides evidence that naturally occurring fractures and faults already provide upward gaseous migration pathways.¹⁰ Deep fractures and faults allow natural gas to escape.¹¹ If fracture and fault

⁷ As the Second Department held, in a case that this firm litigated, the Department has no authority to waive its water quality review responsibilities under Section 401 of the Clean Water Act, which covers any permit “that may result in any discharge into [federally defined] navigable waters.” Park Ridge Neighborhood Ass’n v. Crotty, 38 A.D.3d 903, 832 N.Y.S.2d 653, 655 (2d Dept. 2007), quoting 6 N.Y.C.R.R. § 608.9(a).

⁸ Jacobi (2002) points out that it is possible to predict the location and extent of subtly expressed faults, which were previously overlooked. These fractures and basement faults were identified via analysis of Landsat images, digital elevation (DEM) maps, topographic maps, aerial photography, side-looking aperture radar (SLAR), hyperspectral imaging, and soil gas anomalies. Jacobi demonstrates that many of these features are seismically active.

⁹ Seismic activity near hydrofractured wells could compromise the structural integrity of both well casing and gas-rich bedrock, which could provide pathways for the release of gas and contaminated water. The DSGEIS, however, appears to understate the risk of seismic activity in Otsego County. It only states that there were zero seismic events in Otsego County between December 1970 and July 2009, and ignores events outside that timeframe. (See DSGEIS Table 4.2.) Jacobi (2002) notes, for example, that an earthquake of magnitude 4.5-4.9 occurred in Otsego County. (See Fig. 1). In addition, the DSGEIS indicates, in Figure 4.15, that at least two seismic events occurred on the border of Otsego and Schoharie Counties.

¹⁰ Jacobi establishes this by showing that there are anomalous gas concentrations in certain areas, which would not be expected from normal background gas levels:

networks are integrated and enlarged by hydrofracturing processes, it is likely that methane and radioactive gas excursions will increase, not to mention the potential for groundwater contamination.¹²

The DSGEIS's consideration of the potential for contaminant migration is particularly troubling because it admits that "despite ongoing laboratory and field experimentation the mechanisms that limit vertical fracture growth are not completely understood." (DSGEIS at 7-88.) Moreover, naturally occurring, unmapped fissures could be a potential contaminant path. Testimony was provided to the New York City Council indicating that hydraulic fracturing will cause "fractures not just where the gas is meant to escape but along unmapped fissure lines of least resistance - into large and small aquifers, individual's wells, home basements, thus escalating a dangerous situation into an uncontrolled one." (Sierra Club Atlantic Chapter Comments to the New York City Council, Committee on Environmental Protection, October 23, 2009).

Because the density, location, aperture width, and length of all fractures are unknown, it would be imprudent to locate hydraulic fracturing operations, including their chemical storage, impoundment sites, or injection wells anywhere within drinking water watersheds, such as the Upper Susquehanna Watershed, or within the radius of pumping influence of groundwater wells. The gaps in the DSGEIS's geologic analyses, particularly as it relates to the potential for contaminant migration, standing alone, establishes that the Department presently lacks sufficient empirical information to develop a rational policy for hydraulic fracturing in areas where it may impact drinking water supplies.

Certain sets of FIDs are marked by soil gas anomalies commonly less than 50 m wide. In NYS, the background methane gas content in soil is on the order of 4 ppm, but over open fractures in NYS, the soil gas content increases to 40-1000+ ppm.

Jacobi (2002), at 79 (citations omitted).

¹¹ The DEP's Final Impact Assessment Report similarly shows that numerous gas seeps were encountered during tunnel construction, which indicated "a hydraulic connection to naturally occurring pressurized groundwater/fluids from much deeper strata" that "can transmit pressurized fluids (e.g., saline and/or radioactive formation water and residual hydrofracturing chemicals) upward to the vicinity of the freshwater aquifer and tunnels (and to the surface)." (Final Impact Assessment Report at 40.) "New fractures generated during well development and stimulation that propagate vertically beyond the target formation can create or enhance hydraulic pathways between previously isolated formations." (*Id.*)

¹² As the DEP's Final Impact Assessment Report states, "[t]he migration of fracking chemicals and/or poor quality formation water into overlying groundwater, watershed streams, [and] reservoirs . . . is a reasonably foreseeable risk." (Final Impact Assessment Report at 45.) Indeed, "[t]he failures postulated above are not theoretical: they have occurred, at least with respect to impacts on streams and groundwater." (*Id.*)

2. Irrational Effort To Establish “Set Backs” For “Site Specific” Review

The DSGEIS sets forth a series of triggers for in-depth, site specific environmental review relating to the siting of surface impoundments and well pads, which are irrational and arbitrary. As set forth in detail in DEP’s Final Impact Assessment Report, hydraulic fracturing operations -- including both well pads and surface impoundments -- are incompatible with the operation of the New York City Drinking Supply Watershed and present unacceptable risks to its consumers.¹³ The same concerns apply with equal force to all watersheds for surface drinking water supplies. As the State DOH Bureau of Water Supply recommended to the Department, by Memorandum dated July 20, 2009, “the same concepts . . . for [protecting] the New York City water supply [from hydrofracturing] should be applied to other surface waters providing drinking water.” See also DSGEIS at 6-3 (“Except for NYC’s subsurface water supply infrastructure, the same potential impacts exist statewide.”).

The geology of the New York City Watershed and of Otsego County and its environs are so similar that there is no rational basis for subjecting these areas to different regulatory regimes. Geologic formations in the Appalachian Basin are similar over great distances, making them equally vulnerable to excursions of natural gas and hydraulic fracturing fluids.¹⁴ While there is some variability in formation thickness between locations, it is clear that similar geologic formations and stratigraphy are present in Otsego County and the West of Hudson New York City Watershed. Geologically and hydrologically, especially when considering the extensive fracture network documented by Jacobi (2002), all these areas are equally vulnerable to contaminant excursions. As such, they should all be afforded the same stringent environmental protections.

Outside of surface water supply watersheds, consumers of water from wells are equally deserving of protection. Hydraulic drilling operations must not be allowed in areas from

¹³ As set forth in the DEP’s Report:

Intensive natural gas well development in the watershed brings an increased level of risk to the water supply: risk of degrading source water quality, risk to long-term watershed health and the City’s ability to rely on natural processes for what is accomplished elsewhere by physical and chemical treatment processes, risk of damaging critical infrastructure, and the risk of exposing watershed residents and potentially NYC residents to chronic low levels of toxic chemicals. In addition to surface risks to the watershed, extensive hydraulic fracturing of horizontal wells will present subsurface contamination risks via naturally occurring faults and fractures, and potential alteration of deep groundwater flow regimes . . .

(DEP’s Final Impact Assessment Report, at ES-3.)

¹⁴ See Lawrence V. Rickard, 1989 New York State Museum Map and Chart Series Number 39, “Stratigraphy of the Subsurface Lower and Middle Devonian of New York, Pennsylvania, Ohio and Ontario”.

which groundwater is presently drawn for human consumption. Notably, Otsego's geologic formations and stratigraphy are also similar to those present around Dimock, Pennsylvania. As the Department knows, and as set forth in greater detail in DEP's Final Impact Assessment Report, Dimock was the site of a gas excursion following hydraulic fracturing that appears to have impacted a number of wells. Similar gas excursions have been documented in other gas fields in the United States.

Accordingly, for the same reason that surface impoundments should be prohibited from the New York City Watershed, they should be prohibited from other watersheds used for surface drinking water supplies. In fact, the DSGEIS already indicates that the "Department will not approve use of centralized flowback water surface impoundments within the boundaries of primary and principal aquifers or unfiltered water supplies (e.g., the NYC Watershed)." (DSGEIS at 7-51.). At a minimum, consistent with Otsego 2000's disparate treatment complaints, the Department must clarify that this prohibition applies to the watersheds for all surface water supplies throughout the State, such as the Upper Susquehanna Watershed, which serves Cooperstown, Oneonta, Richfield Springs, and other towns and villages in Otsego County and beyond. This prohibition must be set forth in a regulation duly adopted pursuant to SAPA, as discussed in greater detail below.

The prohibition against surface impoundments should also apply to the documented radius of pumping influence of all groundwater supply wells, public or private. The radius of pumping influence represents the area from which ground water is drawn under maximum continuous pumping conditions. It constitutes an area as equally deserving of protection as the aquifers serving surface water supplies. No activities that would jeopardize the quality of drinking water should be allowed in this recharge area.¹⁵ Again, this prohibition must be set forth in a duly adopted regulation.¹⁶

In addition to the reasons set forth above, the DSGEIS's "set backs" for site specific review of impoundments are otherwise irrational. The 300-foot setback for site specific review for surface impoundments proposed in the DSGEIS, for example, fails to consider that the radius of pumping influence of wells vary. (See DSGEIS at 7-68 & 7-69.) Three-hundred feet might be adequate in certain circumstances, but might be entirely insufficient in others. A variety of factors potentially affect the radii of influence of different wells, including, for example, demand and various hydrogeologic factors.

¹⁵ The prohibition against impoundments and well pads within surface watersheds and the pumping radii of wells should, of course, apply with equal force to an plans to allow the development of injection wells for flowback water storage.

¹⁶ Ultimately, there is no rational reason for centralized flowback water surface impoundments to be permitted anywhere in New York State. These holding pits, which are open to the environment, may accidentally become punctured, and are subject to damage and failure depending on their care and maintenance. Each impoundment would be an accident waiting to happen. As the DSGEIS says, "[a]s with all environmental containment systems, it is acknowledged that conservative liner requirements alone do not guarantee groundwater protection." (DSGEIS at 7-52.)

The DSGEIS's proposed 500 foot "setback" of any impoundment from perennial or intermittent streams is also arbitrary, and fails to account for site specific variations. It fails to account for site specific features that could accelerate travel time from a spill to a stream, such as grade or bedrock exposures or conditions when the ground is frozen.¹⁷

The DSGEIS's attempt to establish "set backs" for site specific review of well pads is also irrational. As set forth in the DEP's Final Impact Assessment Report, the public health risk of locating well pads in the New York City Watershed is unacceptable. Since the geology in the New York City Watershed is similar to the geology in and around Otsego County and much of the Appalachian Basin, well pads must not be allowed in surface water supply watersheds in the latter areas, either.

Outside of the watersheds for surface drinking water supplies, site specific review should be required in every instance. As DEP states, site specific review is required to ascertain the risks posed by each hydraulic fracturing operation:

A robust assessment of risks from drilling would consider site-specific factors assessed on a well-by-well basis and would consider detailed knowledge of local fracture, infrastructure, hydrologic, and other conditions at a finer scale than watershed-level analysis.

(DEP's Final Impact Assessment Report at ES-3.)¹⁸ Accordingly, in addition to the prohibition against hydraulic operations in surface watersheds, every application for a hydraulic fracturing operation outside such watersheds must be compelled to undertake site-specific review of all wells and water bodies within one (1) mile of the proposed activity, and including the full horizontal extent of each proposed wellbore. Such review would determine, among other things, determine the radii of pumping influence for all wells within one (1) mile, the thirty (30) day travel time to such radii, the groundwater flow direction(s) in the area, any down gradient receptors, and the location and lateral extent of all fractures and faults.

¹⁷ The 1,000 foot "setback" of locating any impoundment from a defined reservoir is unacceptable. (See DSGEIS at 7-72.) Again, as DEP's Final Impact Assessment Report indicates, the protection of surface water reservoir water supplies is best achieved by precluding all gas development from within the watershed of any reservoir. The risk of flowback contaminants reaching a reservoir is too great a risk, whether it is New York City's reservoirs or watershed, or any other municipality's reservoir or surface drinking water supply.

¹⁸ As the testimony submitted on behalf of the Ground Water Protection Council ("GWPC") indicates, a "one-size-fits-all" approach is inappropriate for regulating hydraulic fracturing. Best Management Practices must be developed to address specific local conditions before the Department can rationally process hydraulic fracturing applications. (See Statement of Scott Kell, on behalf of the GWPC, to the House Subcommittee on Energy and Mineral Resources, June 4, 2009, included in Part A to Appendix 15 of the DSGEIS, at 2.).

3. Disparate Treatment In Other Regards

The DSGEIS sets forth other examples of irrational plans for disparate treatment. The DSGEIS, for example, indicates that the Department will only conduct in-depth, site-specific SEQRA review for proposed well locations within 2,000 feet from *municipal* water supplies, while simply “exercis[ing] its discretion regarding [SEQRA’s] applicability to other public wells (*i.e.*, community and non-community water supply system wells) when information is available.” (DSGEIS at 7-67.) There is no rational basis for providing less protection to municipal versus non-municipal public wells. The State DOH Bureau of Water Supply advised the Department, in its July 20, 2009 Memorandum, that the phrase “municipal water well” was not only meaningless, but, moreover, seemingly inconsistent with the definition of “public water systems,” as defined in DOH regulations. As DOH noted, its definition of public water systems covers any well system with five (5) service connections and/or twenty-five (25) daily users. No well pad should be allowed within radius of pumping influence for *any* public water supply system.

Similarly, the 150 foot “set back” for site specific review related to private wells or domestic-supply springs has no rational basis. (DSGEIS at 7-69.) The only rational goal is to bar well pads from the radius of pumping influence of all wells, public or private. Moreover, because groundwater flows from upgradient recharge areas into the radius of pumping influence or wells at varying rates, an appropriate upgradient buffer distance beyond the radius of pumping influence should also be protected.

Also, the DSGEIS calls for “[s]ite specific SEQRA determination[s] for any proposed well pad within 300 feet of a reservoir, reservoir stem or controlled lake,” but only a 150 foot setback for site specific review for “proposed well pad[s] within 150 feet of a watercourse, perennial or intermittent stream, storm drain, lake or pond.” (DSGEIS at 7-64 & 7-71.) Initially, no hydraulic fracturing operations should be permitted in any surface drinking water watershed. In any event, as the DSGEIS recognizes, the terms “reservoir stem” and “controlled lake” are defined terms pursuant to the Rules and Regulations of the New York City Watershed, which are only applicable in that Watershed.¹⁹ There is no rational basis for excluding from protection reservoir stems and controlled lakes outside of the City’s Watershed.

As noted above, Otsego County’s largest municipality, the City of Oneonta, relies on a reservoir with back-up wells. Its filtration facility is simply not designed to remove

¹⁹ A “controlled lake” is defined in the New York City Watershed Regulations as “a lake from which the City may withdraw water pursuant to rights acquired by the City or as a right of ownership.” The “controlled lakes” are specifically defined as Kirk Lake, Lake Gleneida, and Lake Gilead. (Watershed Regulations § 18-16(20).) There is no rational reason for affording lesser protection to lakes from which other communities may withdraw drinking water.

A “reservoir stem” is defined as “any watercourse segment which is tributary to a reservoir and lies within 500 feet or less of the reservoir.” (Watershed Regulations § 18-16(88).) The Department apparently views this terms as applicable only within the New York City Watershed. (See DSGEIS at 7-64 & 7-71.) There is no rational reason for affording lesser protection to tributaries to reservoirs outside the New York City Watershed.

industrial wastes with dissolved contaminants or radioactive materials. Moreover, the majority of the County's residents rely on groundwater drinking water sources, including, more than 24,000 individual wells and more than 40 separate water "systems," which would also be afforded lesser protection than New York City's drinking supply according to the standards set forth in the DSGEIS.

4. Well Testing

The DSGEIS's proposed sampling protocol for residential wells is inadequate. It fails to recognize that the geographic sampling scope for monitoring should not be measured only from the well pad, but must also include the area 500 hundred feet on either side of the entire length of any horizontal borehole. (See DSGEIS at 7-38.) While establishing a sampling regime measured solely from vertical boreholes might make sense for traditional natural gas drilling, horizontal hydraulic fracturing necessitates the inclusion of horizontal corridors as well. Hydraulic fracturing has the potential to integrate and/or exacerbate existing fractures and faults, thereby providing release pathways for natural gas, as well as fracturing fluids. As such, the test area for potential natural gas and contaminant fluid excursions should extend along a 1,000 foot corridor along the length of every horizontal borehole.

Moreover, the DSGEIS irrationally proposes to end sampling and analysis for residential wells one (1) year after hydraulic fracturing has ended. (See DSGEIS at 7-38.) Because fluid migration may be very slow, sampling and analysis of homeowner wells should be conducted annually for a period of at least ten (10) years after cessation of gas production. Sampling and analysis should be conducted for natural gas and indicator hydraulic fracturing fluids at all residential, business, farm, and other wells within this 2,000 foot distance.

5. Floodplain Protection

The DSGEIS indicates that the Department will rely on flood maps, which it recognizes have questionable accuracy, to limit potential development in floodplains. The DSGEIS notes that "recent flooding has identified concerns regarding the reliability of the existing Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps ("FIRMS"), which depict areas that are prone to flooding with a defined probability or recurrence interval." (DSGEIS at 2-34; see also *id.* at 2-35 ("The FIRMS (as of July 23, 2009) do not reflect recent flood data".)) Notwithstanding the recognized inaccuracy of the FIRMS, the DSGEIS states the "EAF addendum will require the applicant to confirm that [FIRMS] and, if applicable, Flood Boundary and Floodway maps are checked to identify whether a proposed well pad is in a 100-year floodplain and a floodway." (DSGEIS at 7-72.)

The protection against development in floodplains is of particular concern to Otsego residents. Flooding in June 2006 seriously damaged eighteen (18) locations in Otsego County. The DSGEIS admits that "[t]he Susquehanna and Delaware River Basins are vulnerable to frequent, localized flash floods," and that "increased frequency and magnitude of flooding has raised a concern for unconventional gas drilling in the floodplains of these rivers and tributaries." (DSGEIS at 2-34.) No drilling should be allowed in region that lack FIRMS older than five (5) years.

The only protection or mitigation afforded to floodplains appears to be a limitation on centralized flowback water surface impoundments in 100-year floodplains. (DSGEIS at 7-72.) Well pads should also be prohibited in floodplains or in close proximity to them. There should be rationally established, mandatory buffers - or, at a minimum, site specific reviews – from the verified edges of flood boundaries for well pads and impoundments. Horizontal boreholes should also be prohibited from areas beneath streams, rivers or floodplains.

B. Irrational Failure To Address Risks To Public Health and Safety

1. Inadequate Understanding of Fracturing Fluids

The DSGEIS lacks substantial evidence regarding the potential adverse health and safety impacts of fracturing fluid, and irrationally defers the Department’s obligation to address this issue. The DSGEIS recognizes that the chemical additives used in the fracturing process are known to be dangerous to human and animal health, including risks of central nervous system disorders, elevated risk of kidney and lung tumors, increased risk of leukemia, genetic damage and risks to the male and female reproductive systems. (See DSGEIS at 5-61 to 5-65.) The Department concedes, however, that its current list of 260 chemicals used in the process is still incomplete, and that “[r]eadily available health effects information is lacking for many of these constituents.” (DSGEIS at 5-43 & 5-65.)

The DSGEIS goes on to state that there are as many as “40 compounds which require further disclosure” from service providers and/or chemical suppliers, and that other chemicals may be used which the Department has not evaluated because “no chemical information was submitted.” (DSGEIS at 5-34.) The DSGEIS states that “compound specific toxicity data are very limited for many chemical additives to fracturing fluid,” (DSGEIS at 5-52), and that many of the chemicals are “mixtures which require further disclosure to the DEC.” (DSGEIS at 5-59 n. 31.). The DSGEIS does not make any meaningful effort to analyze the various health risks caused by exposure to *combinations* of these chemicals mixed together into the fracturing fluids.

At a minimum, the Department must accumulate a complete knowledge of the chemicals at issue, including, understanding what combinations of chemicals may be used, their attendant risks, and methods to ensure adequate protections.

2. Incomplete Analysis of Flowback Water

The DSGEIS concedes that its discussion of flowback water characteristics is based on incomplete information. The document states that its “discussion [of this topic] is based on a limited number of analyses from out-of-state operations, without corresponding complete compositional information on the fracturing additives that were used at the source wells.” (DSGEIS at 5-99; see also DSGEIS at 5-100 (“[L]ittle information is available to document whether and at what concentrations most fracturing chemicals occur in flowback water”)). The DSGEIS’s claim that it “anticipates” that additional data and analysis will be available by the

time the final SGEIS is published. (DSGEIS at 5-100.) This claim merely serves to highlight the absence of this material from the record now.

In the absence of empirical data pertaining to flowback water, the Department lacks substantial evidence to develop mitigation conditions and/or thresholds for more in-depth site specific review.

3. Deferral of Consideration of Radioactive Waste

The DSGEIS lacks substantial evidence pertaining to potentially dangerous naturally occurring radioactive material (“NORM”) waste in backflow water, and irrationally defers the resolution of this issue. The DSGEIS states that there is “significant variability in NORM content” in drilling conducted to date. (DSGEIS at 7-102.) Rather than conducting any analysis during the SEQRA process, the DSGEIS indicates that this area of environmental concern will be deferred:

During the initial Marcellus development efforts, sampling and analysis will be undertaken in order to assess th[e NORM] variability. These data will be used to determine whether additional mitigation is necessary to adequately protect the public health and environment of the State of New York.

(DSGEIS at 7-102.)

The DSGEIS’s failure to address radiation from Marcellus development is all the more glaring in light of the warnings the Department has received from the State DOH. As the State DOH Bureau of Environmental Protection advised the Department by Memorandum dated July 21, 2009, the “handling and disposal of [radioactive] wastewater from Marcellus Shale could be a public health concern.” “Disposal of the NORM waste produced may be problematic due to the potentially high concentrations of radioactive materials in the waste stream.” (*Id.*)

4. Deficient Analysis of Air Emissions

The DSGEIS, recognizes that the potential for adverse air emissions is not well understood, stating that the “Department recognizes that flowback water chemistry may be preferable for determining impoundment emissions, but to date Department staff has not seen any flowback water analyses that tested for all of the chemicals and compounds that could be present.” DSGEIS at 8-7.) It is irrational for the Department to foreclose the development of conditions and/or thresholds on this basis.

The DSGEIS’s statement that “[t]he *only* exposure pathway to fracturing additives identified by this Supplement is via air emissions from uncovered surface impoundments used to contain flow back water” (DSGEIS at 8-7), ignores the risks posed by the 65-91% of fracturing fluids that experience in the northern tier of the Pennsylvania indicates will be left in the ground after each fracturing cycle (*See* DSGEIS at 5-97.) Exposure pathways could be created if existing faults and fissures are exacerbated or connected by hydraulic fracturing.

5. Irrational Proposal for Handling Complaints

The DSGEIS proposes that complaints from residential well users regarding potential contamination be handled by local departments of health, without any consideration of the resources or expertise available to them. (See DSGEIS at 7-42 and 8-5.) The DSGEIS advances that the local health departments will “retain responsibility for initial response to most water well complaints, referring them to the Department when other causes have been ruled out.” (DSGEIS at 8-5.) There is no discussion of what level of proof or guidance will be used to determine that “other causes have been ruled out” in order for the local department of health to establish that the Department must get re-involved. Indeed, inasmuch as the DSGEIS improperly proposes that full chemical disclosure will be required *only* with respect to “applications that propose the use of an open surface water impoundment,” it is unclear what evidence a local health department could provide to rule out other causes. (DSGEIS at 8-7.)

The Department cannot rationally foist the responsibility for handling complaints onto local health departments without any consideration of their capabilities, financial and otherwise, to perform this task. At best, this appears to be a vast unfunded mandate. The Otsego DOH lacks the resources to address such complaints. This is particularly disconcerting in light of the fact that the Department will likely be overburdened with hydraulic fracturing permit applications, and reluctant to assume any additional review responsibilities.

6. Inadequate Planning for Disposal of Flowback Fluids

The DSGEIS fails to set forth rational conditions relating to the handling and disposal of flowback water. As the Sierra Club Atlantic Chapter testified before the New York City Council, New York has virtually no waste water infrastructure to service the needs of the Marcellus Shale gas extraction industries. According to the Sierra Club, of the 134 eligible pre-treatment plants in New York State referenced by the Department, only three currently accept natural gas production water, and they do so only in a limited capacity. The DSGEIS fails to consider that New York State lacks wastewater treatment facilities capable of handling the quality and quantity of flowback fluids that can be expected from hydraulic fracturing.

The generation, transportation, storage, treatment and disposal of flowback water warrants the same treatment as hazardous waste does under the Federal Resource Conservation and Recovery Act, 42 U.S.C. 6901 *et. seq.* (“RCRA”). The “cradle to grave” system under RCRA ensures that no waste has been lost or is unaccounted for between generation and disposal by mandating registration of small and large quantity generators, and completion of hazardous waste manifests designed to track waste from the time it leaves the generator until it arrives at a permitted disposal facility.

Moreover, drilling permits for each individual well should not be issued unless the applicant can present an enforceable contract to reprocess all flowback liquids from that well within a specified period of time. Without such assured reprocessing of flowback fluids, New York could end up with thousands of open pits holding millions of gallons of toxic wastes waiting to be processed. Under such circumstances a period of heavy rain would be an

unmitigated disaster for millions of people in New York, as well as tens of millions downstream in the Susquehanna/Chesapeake watershed.

7. Failure to Recognize Documented History of Contamination

The DSGEIS contains inaccurate information pertaining to incidents of contamination relating to hydraulic fracturing operations. The DSGEIS states that “no documented instances of groundwater contamination are recorded in the NYSDEC files from previous horizontal drilling or hydraulic fracturing projects in New York” (DSGEIS at 2-26.) This appears to be seriously inaccurate.

There have, in fact, been numerous and serious complaints of reported contamination found in the Department’s own files. (See Natural Gas Quest: “State Files Show 270 Drilling Accidents In The Past 30 Years”, November 8, 2009, citing a survey by Walter Hang of Toxics Targeting, Inc., available at www.toxicstargeting.com.) The confirmed examples of known accidents found in the Department’s files are particularly troubling because many remain entirely unacknowledged by the Department even after years of notice and waiting.

The DSGEIS also mistakenly reiterates the claims of certain out-of-state regulators that “no verified instances of harm to drinking water attributable to hydraulic fracturing” had occurred in their states. (DSGEIS at 5-145.) As the actual statements, which are set forth in DSGEIS Appendix 15, establish, the use of the word “attributable” is a word play, designed to mislead the public. In Appendix 15, the quoted state regulators actually refer to claims of contamination. They simply conclude that these claims are “attributed” to operator errors or equipment failures and “not hydraulic fracturing.” Human error and/or operator failure are entirely foreseeable, and their potential impacts must be considered.

C. Irrational And Arbitrary Assessment Of Other Areas of Concern

1. Community Character

The DSGEIS’s analysis of community character impacts, which is approximately a page-and-a-half, is inadequate and irrationally ignores multiple potential significant adverse impacts related to this concern. (See DSGEIS at 6-139 to 6-141.) The DSGEIS fails to set forth conditions and/or thresholds for site-specific review relating to community character impacts associated with horizontal drilling and hydraulic fracturing applications. The Department lacks substantial evidence to support the development of such conditions and/or thresholds.

It is axiomatic that SEQRA includes not only effects on natural resources and an area’s physical environment, but also includes impacts on community character. See Chinese Staff and Workers Ass’n v. City of New York, 68 N.Y.2d 359, 364-365, 509 N.Y.S.2d 499, 503 (1986) (“[T]he impact that a project may have on population patterns or existing community character, with or without a separate impact on the physical environment, is a relevant concern in an environmental analysis since the [SEQRA] statute includes these concerns as elements of the environment.”); N.Y. Env’tl. Conserv. Law § 8-0105(6) (defining “environment” as “physical conditions which will be affected by a proposed action, including . . . existing patterns of

population concentration, distribution, or growth, and existing community or neighborhood character” (emphasis added)).

Thus, as the Second Department held last year, “[c]ommunity character is specifically protected by SEQRA.” Village of Chestnut Ridge v. Town of Ramapo, 45 A.D.3d 74, 841 N.Y.S.2d 321, 339 (2d Dept. 2007), leave to appeal dismissed, 12 N.Y.3d 793, 879 N.Y.S.2d 39 (2009) . As the Court held in that case:

The power to define the community character is a unique prerogative of a municipality acting in its governmental analysis. All of the other incidents of local government, including its electoral and legislative processes, management policies, and fiscal decisions, are ultimately aimed at determining and maintaining the community that its residents desire.

Id.

Community character is a composite of diverse areas of environmental concerns, which together, affect the quality of life for residents of a particular area. See Matter of Palumbo Block Co., 2001 WL 651613 at * 2, June 4, 2001 (DEC File No. 4-1020-00035/00001) (Interim Decision of Commissioner) (Community character “may include a myriad of diverse components,” including an assessment of “the importance of tourism, recreational and agricultural activities in the economy and social fabric of the area surrounding the proposed mine”); see also Palumbo, 2003 WL 22002602, August 18, 2003 (Decision of Commissioner) (denying permit application, in part, due to applicant’s failure to adequately address impacts upon community character).

The DSGEIS fails to evaluate how community character will be affected by adverse impacts to areas of environmental concern, including, noise, visual and traffic. The DSGEIS claims that horizontal drilling and hydraulic fracturing will have the same impacts as were discussed in the 1992 GEIS. (DSGEIS at 6-139.) Yet, as discussed in greater detail in the sections below pertaining these impact areas, the DSGEIS also acknowledges that horizontal drilling and hydraulic fracturing will have substantially greater and longer lasting impacts.

The Department must conduct studies to meaningfully evaluate potential adverse impacts on community character, and develop conditions and/or thresholds to trigger site-specific review based in these essential environmental areas.

2. Visual Resources

While the DSGEIS recognizes that horizontal drilling and hydraulic fracturing operations will have substantial adverse *visual* impacts, including significantly greater impacts than those studied in 1992, it fails to set conditions and/or thresholds for site-specific review. This violates SEQRA as well as the Department’s own guidance document. Moreover, the Department presently lacks substantial evidence in the DSGEIS to assess the visual impacts of hydraulic fracturing.

The DSGEIS acknowledges that high-volume fracturing will cause significantly greater adverse impacts than the drilling studied in the 1992 GEIS. It recognizes that rigs used for horizontal drilling, for example, “could be 140 feet or greater,” as opposed to the drilling rigs assessed in the 1992 GEIS. The drilling rigs studied in 1992, at most, were “100 feet or greater for a large rotary.” (DSGEIS at 6-132.) Moreover, site clearing for the pad used for high-volume fracturing “will increase from approximately two acres to approximately five acres.” (*Id.*) For multi-well pads, the adverse visual impacts will be even more significant, since this will require “a taller rig with a larger footprint and substructure, 170-foot total height.” (*Id.*)

The hard look mandated by SEQRA includes the potential impacts of towers and similar structures on aesthetic resources. *See, e.g., Sprint Spectrum, L.P. v. Willoth*, 176 F.3d 630 (2d Cir. 1999) (upholding denial of application to construct three cell towers because “the evidence in the record before [the Court was] more than adequate to support the Planning Board's conclusion that Sprint's three tower proposal would have a significant negative aesthetic impact.”); *Brander v. Town of Warren*, 18 Misc. 3d 477, 847 N.Y.S.2d 450 (Sup. Ct. Onondaga Co. 2007) (annulling town board's SEQRA determination for failure to consider aesthetic impacts of proposed 400 foot tall wind turbine); *c.f., Trude v. Town Board of the Town of Cohocton*, 17 Misc. 3d 1104(A), 851 N.Y.S.2d 61 (slip op.) (Sup. Ct. Steuben Co. 2007) (finding town board took requisite “hard look” at potential aesthetic impacts of enacting windmill and turbine siting ordinance in that it “hired a team of engineering, environmental and legal consultants to aid them in determining how to evaluate [wind] projects” and supported its basis with a “detailed analysis contained in the EAF, supplemental EAF and statement of findings”).

The DSGEIS, lacks critical information for assessing the adverse visual impacts of hydraulic fracturing. It contains no realistic photographs or photo simulations pertaining to the impacts of horizontal drilling rigs and other hydraulic fracturing infrastructure. The DSGEIS only provides photographs “of actual well sites in New York,” notwithstanding that fact that horizontal drilling and hydraulic fracturing will have different and acknowledge more significant visual impacts, including in terms of height and area. (DSGEIS at 6-133.) These photographs do not represent the actual adverse impacts that should be subject of the DSGEIS.

The adverse visual impact of horizontal drilling and hydraulic fracturing will also be significantly longer in duration than the drilling studied in 1992, as the DSGEIS states:

The most important difference, however, is in the duration of drilling and hydraulic fracturing. A horizontal well takes four to five weeks of 24 hours per day drilling to complete with an additional 3 to 5 days for the hydraulic fracture. This compares to the approximately one to two weeks or longer drill time as discussed in 1992. There was no mention of the time required for hydraulic fracturing in 1992.

(*Id.*) Thus, even the incomplete record set forth in the DSGEIS demonstrates that the visual impacts from horizontal drilling and hydraulic fracturing could be significantly more adverse.

The DSGEIS also avoids the Department's obligation to address visual impacts in its "site specific" review of individual applications. The Department's own guidance document for assessing visual impacts states that the Department's "environmental analyst, acting as project manager, for a new application, *must assure that visual and aesthetic impacts are properly evaluated* by the applicant." (DEC Guidance Memorandum, "Assessing and Mitigating Visual Impacts," DEP-00-2, at 2 (emphasis added).) "For new permits or significantly modified permits, staff *must* determine the potential significance of the action pursuant to SEQR." (Id. (emphasis added).) Further, "SEQR obligates the Department to mitigate such impacts to the maximum extent practicable." (Id.) The Department has an obligation to mitigate to the maximum extent practicable the significant adverse visual impacts of each hydraulic fracturing application. C.f. Matter of Jointa-Galusha, 2002 WL 974335, May 7, 2002 (DEC File No. 5-5538-00009/00001) (Interim Decision of Commissioner on Issues to be Adjudicated) (directing Staff to assess permit conditions to mitigate potential visual impacts caused by mining operation's visibility from local points of interest).

The DSGEIS, however, contemplates only that an applicant will develop "a visual impacts mitigation plan," for which the Department's official guidance document "should be utilized." This mitigation plan need only be made "available to the Department upon request." (DSGEIS at 7-105 to 7-106.) Incredibly, the proposed hydraulic fracturing EAF, which is produced in the DSGEIS at Appendix 6, indicates that such a visual mitigation would only be available to an inspector "while activities addressed by the plan are occurring." This proposal contravenes the Department's responsibility under SEQRA and its own Visual Guidance Memorandum to affirmatively identify and commit to mitigating potential adverse visual impacts prior to the approval of the action.

The DSGEIS does not even require site-specific analysis for the resources set forth in the Inventory of Aesthetic Resources in the Department's visual impacts guidance. The DSGEIS states only that "[t]he Department *may* require a Visual EAF Addendum and add further, site-specific visual mitigation requirements to individual permits *if necessary* to alleviate impacts to the visual resources listed in [the Inventory of Aesthetic Resources]." (DSGEIS at 7-106 (emphasis added).) This precatory proposal falls short of the Department's own guidance requirements, which affirmatively mandate the Department to address adverse impacts to these resources. (See DEC Guidance Memorandum, "Assessing and Mitigating Visual Impacts," DEP-00-2, at 2.) There is no rational way for the Department to determine "if [visual mitigation is] necessary" without, at a minimum, a Visual EAF.

The DSGEIS does not contemplate adverse visual impacts to resources that are not on the Inventory of Aesthetic Resources. (See DSGEIS at 7-106.) The Inventory only covers certain resources that have been formally recognized to have statewide importance. (See DSGEIS at 2-38.) As the Department's Guidance Memorandum recognizes, however, "[i]t is important to note that all significant scenic and aesthetic resources may not have yet been designated in New York State." (DEC Guidance Memorandum, "Assessing and Mitigating Visual Impacts," DEP-00-2, at 2 (emphasis added)). The DSGEIS, in contrast, only states that "the applicant is encouraged to review any applicable local land use policy documents with the understanding that DEC retains authority to regulate gas development." (DSGEIS at 7-105.) As

such, the DSGEIS patently leaves adverse impacts to local visual, scenic and aesthetic resources from horizontal drilling and hydraulic fracturing unstudied and unmitigated.

The Department must rationally assess the visual impacts posed by hydraulic fracturing, including through computer simulations. The Department must also, at a minimum, mandate the submission of a Visual EAF Addendum with *every* hydraulic fracturing application. Applicants likewise must be compelled to contact the jurisdictions within which they propose to drill to ascertain sensitive local visual, scenic and aesthetic resources in the completion of the Visual EAF. Based on the Visual EAF, the Department must undertake the review and mitigation responsibilities set forth in its own Guidance Memorandum for any operation that would impact such a critical visual resource, whether it be of statewide or local significance.

3. Traffic

The DSGEIS recognizes that horizontal drilling and hydraulic fracturing will cause significant adverse traffic impacts, but fails to develop measures to avoid, minimize, or mitigate these impacts, either as generic mitigations for all hydraulic fracturing applications or as thresholds for more in-depth, site specific review.

As the DSGEIS acknowledges, “[t]here will [] be significantly more trucking and associated noise involved in high volume hydraulic fracturing than was addressed in the 1992 GEIS.” (DSGEIS at 6-137; see also id. at 6-138 (“[T]he water requirement of high volume fracturing could lead to significantly more truck traffic than was discussed in the GEIS.”)). The DSGEIS estimates that truck traffic per multi-well pad could range from approximately 5,850 to 8,505 trucks, which “will take place in weeks-long periods before and after the hydraulic fracturing.” (DSGEIS at 6-138 to 6-139 & 6-142.) These truck deliveries will be hauling heavy drilling rigs, storage tanks, multiple millions of gallons of fresh water, hazardous chemical additives, millions more gallons of toxic flow-back fluids, and countless additional materials. Yet, the DSGEIS fails to even address whether local country roads, overpasses, and bridges can generically or specifically sustain this level of use, how residents and agricultural operations using the same roads will function, and who will bear financial responsibility for the repairs that will be required as a result of such cumulative operations.

The DSGEIS abdicates the Department’s SEQRA responsibility to avoid or mitigate trucking impacts. The DSGEIS simply indicates that “[t]he Department *strongly encourages* operators to attain road use agreements with governing local authorities.” (DSGEIS at 8-4 (emphasis added)).²⁰ In the absence of a road agreement, operators must simply develop a plan “for informational purposes.” (DSGEIS at 7-109.)

The DSGEIS encourages local governments to “be proactive in exercising their authority under New York State Highway Vehicle Traffic Laws,” without any consideration of

²⁰ While the proposed EAF produced in the DSGEIS at Appendix 6 states that applicants would be required to produce “prior to site disturbance” a road use agreement or a trucking plan and documentation of efforts to obtain a road use agreement, this “requirement” contradicts the text of the DSGEIS. Moreover, the language in the EAF requires road use plans far too late in the process. The EAF does not explain what constitutes sufficient “documentation of efforts to obtain a road use agreement.”

their means for accomplishing this. (DSGEIS at 7-109.) The DSGEIS, for example, states that localities' proactive actions could "include the completion of a road system integrity study to potentially assess fees for maintenance and improvements," once again, without any analysis of whether localities have the time, knowledge or resources to conduct such studies. (Id.)

The DSGEIS does not consider how long it could take local communities to undertake such road integrity studies or to implement plans pursuant to them. The significant amount of truck traffic to be generated from an individual drilling operation could commence well before the localities, even with the resources to be proactive, have an opportunity to do so.

This position is completely contrary to the Department's articulation of its responsibility to assess traffic impacts, engage local stakeholders, and determine the proper level of mitigation when it acts as lead agency. In Matter of William E. Dailey, Inc., 1995 WL 394546 June 20, 1995 (DEC File No. 4-3828-00058/00001-0), for example, in an application for a mined land reclamation permit the Commissioner annulled an ALJ's determination to exclude issues pertaining to adequacy of traffic mitigation measures from an adjudicatory hearing since, according to the ALJ, those matters were more properly before the State and local Departments of Transportation. 1995 WL 394546 at *3. The Commissioner directed the ALJ to consider the adequacy of the applicant's proposed measures stating:

In examining an action under SEQRA, the lead agency must consider all the activities and steps that form a part of or result from the project ... [T]he lead agency cannot fail to exercise its judgment with respect to the significance of impacts, preparation of an EIS and a determination on mitigation of those effects. The fact that other agencies may have independent obligations to analyze the potential impacts of the facility has no bearing on the DEC's own obligation, as lead agency to analyze the existing areas of environmental concern.

Id. (citations omitted); see also Matter of Pyramid Crossgates Co., 1981 WL 142251 at **2-5 June 25, 1981 (DEC File No. 401-0113) (Final Decision of the Commissioner) (denying permit due to inadequate SEQRA record, and directing applicant to assess traffic and air quality impacts since "[t]he lead agency has the special responsibility for overseeing the adequate identification of impacts and development of associated mitigation through the EIS process for the benefit of all decision-makers ... SEQRA requires agencies to impose mitigative conditions that minimize adverse environmental impacts, but in order to do so, the mitigation *must be clearly identified and described in the FEIS*") (emphasis added).

The Department must promulgate rules to ensure that trucking impacts from hydraulic fracturing are mitigated to the maximum extent practicable, as SEQRA requires, prior to commencing operations. The Department should consider, for example, creating a traffic EAF, which would consider whether the local road network is capable of sustaining the level of traffic anticipated in connection with hydraulic fracturing. Moreover, similar to the language set forth in the proposed hydraulic fracturing EAF (see note 5 herein), the Department should consider compelling applicants to either produce road agreements prior to permit issuance or

demonstrate good faith efforts to reach such agreements with affected local communities. The latter scenario would require the Department to develop clear and consistent guidelines pertaining to what constitutes adequate documentation of good faith. Moreover, at the request of the impacted community, an applicant should be compelled to either fund or undertake a road integrity study, and provide a reasonable opportunity for the community to act on it, before it is allowed to commence operations in any County. .

4. Noise

The DSGEIS with respect to another element of community character recognizes on the one hand that controlling noise impacts from horizontal drilling and hydraulic fracturing operations is “essential,” but on the other, makes the enforcement of noise mitigation measures by the Department precatory. This is not only irrational, but once again, violates the Department’s own guidance document for noise impacts, entitled “Assessing and Mitigating Noise Impacts.” (DEP-00-01).

The DSGEIS recognizes the drilling associated with hydraulic fracturing will cause more and far longer lasting noise impacts than the drilling studied in 1992:

The largest difference with relation to noise impacts . . . is in the duration of drilling. A horizontal well takes four to five weeks of 24-hours-per-day drilling to complete. The 1992 GEIS anticipated that most wells drilled in New York with rotary rigs would be completed in less than one week, though drilling could extend two weeks or longer.

(DSGEIS at 6-137.) Moreover, as noted above, hydraulic fracturing will cause significantly greater noise associated with trucking than was addressed in the 1992 GEIS. (*Id.*) While the DSGEIS irrationally characterizes this noise impact as “temporary,” it states that “it is possible that someone living in close proximity to the pad will experience adverse noise impacts intermittently for up to three years.” (DSGEIS at 6-138.) As the DSGEIS acknowledges, “[t]he extended time period does make control of the noise impacts, while still temporary, essential.” (DSGEIS at 7-108.)

Nevertheless, the Department irrationally avoids its responsibility to mitigate noise impacts. The Department’s own guidance document for controlling noise impacts, “Assessing and Mitigating Noise Impacts,” (DEP-00-01), establishes that the Department *must assess and mitigate* adverse noise effects:

In the review of an application for a permit, the Department of Environmental Conservation *is to* evaluate the potential for adverse impacts of sound generated and emanating to receptors outside the facility or property. When a sound level evaluation indicates that receptors may experience sound levels or characteristics that produce significant noise impacts or impairment or property use, the Department *is to require* the permittee or applicant to employ

reasonable and necessary measures to either eliminate or mitigate adverse noise effects.

DEC Guidance Memorandum, “Assessing and Mitigating Noise Impacts,” DEP-00-01, at 4 (emphasis added). Despite this clear mandate, the DSGEIS includes no specific procedures for ensuring that the Department fulfills such obligations.

Instead, the DSGEIS indicates that the development of noise mitigation measures will be left to operators, who “should [] utilize[]” the Department’s Noise guidance document, to develop a “noise impacts mitigation plan,” which, again, “shall be available to the Department [only] upon request.” (DSGEIS at 7-109.) Indeed, the proposed hydraulic fracturing EAF produced in the DSGEIS at Appendix 6 indicates that such noise mitigation would only be available to an inspector “while activities addressed by the plan are occurring.”

This procedure would violate SEQRA, inasmuch as any meaningful analysis and mitigation would purportedly occur, if at all, while project development is already occurring. See, e.g., State v. Town of Horicon, 46 A.D.3d 1287, 848 N.S.2d 770 (3d Dep’t 2007) (granting Attorney General’s motion to annul Town’s SEQRA determination that opening up state forest lands to ATV traffic would not have a significant impact, in part, for Town’s failure to assess potential noise impacts or propose *any* mitigation measures to address this clear impact); Matter of Jointa-Galusha, 2002 WL 974335 at * 10 (ordering additional assessments of noise levels created by mining operations at the EIS stage since “further information on noise and its impacts in the surrounding area when tested in the adjudicatory context will allow for the ‘hard look’ required by SEQRA”).

Finally, while the DSGEIS states that “site specific noise impacts will be added to individual permits of a well pad if it is located within 1,000 feet of occupied structures or places of assembly” (DSGEIS at 7-109), it gives no rationale for this cookie-cutter “setback.” As the Department’s own Guidance Document indicates, the distance over which sound levels will cause adverse impacts varies significantly, depending on such factors as whether there are multiple sound sources and land forms and structures, which can cause “sound levels [to] be accentuated or focused.” (See DEC Guidance Memorandum, “Assessing and Mitigating Noise Impacts,” DEP-00-01, at 8-11.)

Similar to the visual impact issues, an applicant in every case should be required to complete an EAF for noise impacts. The EAF must recognize the various factors that potentially contribute to noise impacts. Based upon such a noise EAF, the Department should be obligated to effectuate the review responsibilities set forth in its own Guidance Memorandum, including, taking all measures necessary to ensure that the applicant employs all reasonable and necessary measures to either eliminate or mitigate adverse noise effects prior to development or operation at the particular location.

5. Parks and Historic Resources

To the extent the Department would assert that it sufficiently considered historic districts, parks, and landmarks in its 1992 GEIS, the DSGEIS acknowledges that hydraulic

fracturing operations would have far more significant impacts in areas that could impact parks and historic resources, including visual, noise, and traffic impacts. Moreover, the EAF required by the 1992 GEIS only seeks information pertaining to historic resources eligible for inclusion in the State register. It ignores local historic resources. As drafted, horizontal drilling and hydraulic fracturing, with its attendant significant adverse trucking and other impacts could be conducted immediately abutting parks and in historic districts without any conditions or analysis. In fact drillers have already leased land immediately adjacent to Glimmerglass State Park and within the Glimmerglass Historic District. Otsego County's rich archaeological patrimony is also at risk of destruction from all ground disturbing activities associated with this development. Clearly any drilling should be evaluated on a case by case basis to minimize impacts on these important resources. Any drilling adjoining parks or historic resources, whether or not that are recognized on a State or local level, must be afforded, at a minimum, site-specific SEQRA review.

6. Cumulative Impacts

The DSGEIS also fails to propose either conditions to avoid significant adverse cumulative impacts from hydraulic fracturing, or thresholds for when the cumulative impacts of hydraulic fracturing would require more detailed site-specific review. Inexplicably, part of the rationale the DSGEIS provides for its failure to address cumulative impacts is a self-professed lack of substantial evidence regarding the potential range of cumulative impacts. As the DSGEIS indicates, the Department has no real sense of the rate of development that can be expected for hydraulic fracturing. The DSGEIS states that “[t]iming, rate and pattern or development, on either a statewide or local basis, are very difficult to predict,” and that “[t]he rate of development cannot be predicted with any certainty.” (DSGEIS at 6-145.) Rather than attempting to assess reasonable development scenarios or applying the accepted reasonable worst case standard as a basis for analysis, the DSGEIS simply throws up its hands and defers said analysis to another time or governmental body.

It is well established that under circumstances like the instant action, SEQRA mandates a lead agency to undertake a cumulative impact study assessing:

[R]easonably related long-term, short-term and cumulative effects, including other simultaneous or subsequent action which are: (1) included in any long-range plan of which the action under consideration is a part; (2) likely to be undertaken as a result thereof; or (3) dependent thereon.

6 N.Y.C.R.R. Part 617.15. The “‘relatedness’ element may be satisfied if ‘the project at issue ... is ... part of a larger plan designed to resolve conflicting specific environmental concerns in a subsection of a municipality with special environmental significance.’” Long Island Pine Barrens Society v. Planning Board of the Town of Brookhaven, 80 N.Y.2d 500, 591 N.Y.S.2d 982, 992 (1992) (citing Save the Pine Bush v. City of Albany, 70 N.Y.2d 193, 518 N.Y.S.2d 543 (1987); see also Village of Tarrytown v. Planning Board of the Village of Sleepy Hollow, 292 A.D.2d 617, 741 N.Y.S.2d 44, 49 (2d Dept. 2002) (asserting that where a lead agency is issuing an “overall plan of development” a cumulative impact assessment is required). Where such is the

case, the agency is producing “cohesive framework for mandatory cumulative impact review.” Long Island Pine Barrens Society, 591 N.Y.S.2d at 992.

In Save the Pine Bush v. City of Albany, for example, the City of Albany enacted a series of regulations setting forth “specific criteria” upon which development could occur in the City’s sensitive Pine Barren area. 591 N.Y.S.2d at 945. In connection with one of the ensuing permit applications, the City adopted an EIS, which did not assess the cumulative impacts upon the area if it granted the numerous other pending applications to develop in the Pine Bush region. The Court of Appeals found such action violated SEQRA’s mandate to cumulatively assess “reasonably related” actions, stating:

Where a governmental body announces a policy to reach a balance between conflicting environmental goals - here, commercial development and maintenance of ecological integrity - in such a significant area, assessment of the cumulative impact of other proposed or pending developments is necessarily implicated in the achievement of the desired result. Since SEQRA mandates a rather finely tuned and systematic balancing analysis in every instance ... the City should have considered each of the factors listed in ECL 8-0109 and 6 NYCRR 617.11, identified any factor upon which the proposed action might have a significant effect and taken a ‘hard look’ at it.

Id., at 948-49 (citations omitted).

Similarly, in Segal v. Town of Thompson, 182 A.D.2d 1043, 583 N.Y.S.2d 50 (3d Dept. 1992), a Town’s attempt to establish a water and sewer district was annulled for its failure assess the impacts associated with the development of individual lots within the district. Id., 583 N.Y.S.2d at 53. By relying on a “piecemeal” permit level environmental analysis, the Court held the Town “fail[ed] to take into account the cumulative impact that future development will have ... [on] the areas of environmental concern related to [the implementation of the district].” Id.; see also Sun Co., Inc. v. City of Syracuse Indus. Develop. Agency, 209 A.D.2d 34, 625 N.Y.S.2d 371, 379-81 (4th Dept 1995) (City’s preparation of a “substantive working document that serves as a blueprint” for waterfront development is a larger plan requiring City to assess cumulative impacts “reasonably related” to action).²¹

²¹ In contrast, where the action would not create a framework for “a larger, long-range plan for development,” or presents a situation where other projects are either dependent upon the framework or are “likely to be undertaken as a result of” its enactment, then a cumulative impact assessment is not mandatory. Saratoga Lake Protection and Improvement District v. D.P.W. of Saratoga Springs, 46 A.D.3d 979, 846 N.Y.S.2d 786, 794 (3d Dept 2007) (Finding the City is not required when evaluating an alternate potable water source development plan to assess all current and projected development projects that may impact the water quality to Saratoga Lake in the EIS); North Fork Env’tl Council, Inc. v. Janoski, 196 A.D.2d 590, 601 N.Y.S.2d 178, 179 (the fact that several residential projects were located within the same Critical Environmental Area did not “in and of themselves, provide a sufficiently cohesive framework for mandatory cumulative impact review.”).

The Department is formulating an “overall plan of development” to regulate the high-volume hydraulic fracturing and horizontal drilling process in the State. It must meaningfully assess the cumulative impacts of this action.

a. Failure to Develop Thresholds for Cumulative Impacts

The DSGEIS fails to establish conditions to avoid local or regional significant adverse cumulative impacts, such as limits on development, or thresholds for site-specific review, based upon a lack of meaningful analysis:

Nor is it possible to define the threshold at which development results in adverse noise, visual and community character impacts. Some people will feel that one drilling rig on the landscape is too many, while others will find the changes in the landscape inoffensive and will want full development of the resource as quickly as possible. There is no way to objectify these inherently subjective perspectives. As a result, there is no supportable basis on which to set a limit.

(DSGEIS at 6-145 to 6-146.)

Notwithstanding that State law largely divests localities from any jurisdiction over the subject mining operations, the DSGEIS states that “any limitation on development . . . is more appropriately considered in the context of policy making, primarily at the local level, outside the SGEIS.” (DSGEIS at 6-146.) Initially, it is not clear what local authority over individual or collective hydraulic fracturing applications is being referred to in the DSGEIS. The Department must analyze the issue in the DSGEIS, and must develop definitive thresholds for limiting excessive development based upon the cumulative impacts of horizontal drilling and hydraulic fracturing, as well as specific requirements for local consent. The Department must also identify meaningful thresholds for cumulative impacts beyond which more exhaustive site-specific review would be mandatory.

b. Failure to Consider Cumulative Water Withdrawal Impacts

The DSGEIS also fails to consider the cumulative impacts of freshwater withdrawal. The DSGEIS states that fracturing for a single well would require 2.4 to 7.8 million gallons of water. (DSGEIS at 5-92 to 5-93.) The DSGEIS explains, “withdrawals for hydraulic fracturing[] are considered as 100 percent consumptive losses because this water is essentially lost to the basin’s hydrologic cycle.” (DSGEIS at 6-10.) While the DSGEIS concedes that the Department has no idea what the rate of development for hydraulic fracturing might be, it indicates that at least one company representative “estimated a peak activity for all industry at 2,000 wells per year \pm 25 in the New York Marcellus play.” (DSGEIS at 6-144 to 6-145.) Based on this estimate, it appears that over 16 *billion* gallons of fresh water would be irretrievably consumed *each* year, *i.e.*, “essentially lost to the basin’s hydraulic cycle” (DSGEIS at 6-10).

The Department lacks substantial evidence to evaluate the cumulative impacts of water usage. The Department's analyses of impacts to wetlands, aquifer depletion, and water quality degradation appears to be based only on two hydraulic fracturing applications to date, which are an infinitesimally small fraction of the water demand that wide-ranging hydraulic fracturing would have. (See DSGEIS at 6-10 to 6-12.) Indeed, the DSGEIS states that the "volume of hydraulic fracturing will not be known until applications are recovered and renewed and approved or rejected by the appropriate regulatory agency or agencies." (DSGEIS at 6-10.)

With respect to Otsego County, the DSGEIS represents that the Susquehanna River Basin Commission opined that "the cumulative impact of consumptive use by this new activity . . . while significant, *appears* to be manageable with the mitigation standards currently in place." (DSGEIS at 7-21 to 7-22.) The DSGEIS, however, gives no indication what, if any, estimates of or empirical data describing "consumptive use" supports the statement that the cumulative impacts of water usage "appear manageable."

Moreover, the DSGEIS concedes there is a regulatory gap, which it fails to resolve, stating:

New York State regulations do not address water quantity issues in a manner consistent with those applicable within the Susquehanna and Delaware River Basins with respect to controlling, evaluating, and monitoring surface water and ground water withdrawals for shale gas development.

(DSGEIS at 7-22.) Without any real analysis or explanation, the DSGEIS suggests that the "application of the Natural Flow Regime Method" to address cumulative impacts of water withdrawals for hydraulic fracturing "is an option." (*Id.*) The DSGEIS offers no analysis as to if this could work, how it would work, and/or what thresholds would bar further water withdrawals for hydraulic fracturing. Particularly given the DSGEIS's acknowledgement that there is no other regulatory basis upon which excessive water withdrawal could be avoided, the Department is obligated to develop conditions and/or thresholds to fill this gap.

c. Failure to Consider Cumulative Impacts of Infrastructure That is Reasonably Anticipated

The DSGEIS also fails to consider the cumulative impacts of infrastructure development, which will be an integral part of Marcellus Shale development. SEQRA specifically mandates that "[t]he entire set of activities or steps must be considered the action, whether the agency decision-making relates to the action as a whole or to only a part of it," and that "[c]onsidering only a part or segment of an action is contrary to the intent of SEQRA." 6 N.Y.C.R.R. § 617.3(g).

The DSGEIS, nevertheless, contains no analysis of the impacts associated with the gas transmission pipelines, gas holding facilities, water transmission lines, compressor stations and other utilities that can reasonably be anticipated as part of hydraulic fracturing operations. Instead, the DSGEIS irrationally dispenses with this analysis, under the pretext that the "[s]iting of gas gathering and pipeline systems, including the centralized compressor stations

. . . is not subject to review,” ostensibly because actions requiring certificates of environmental compliance under the Public Service Law are SEQRA Type II actions. (DSGEIS at 5-130, citing 6 N.Y.C.R.R. § 617.5(c)(35).) Because these actions are part of the overall plan of development for hydraulic fracturing, the Department must assess the impacts of installing this infrastructure now.

Development of the infrastructure attendant to hydraulic fracturing clearly poses potential significant adverse impacts. The DSGEIS, for example, indicates that centralized sites are anticipated to compress gas so that it may flow into large transmission lines. (DSGEIS at 5-130.) There will likely be many of these, as the DSGEIS indicates that such centralized facilities could only serve well pads within a four (4) to six (6) mile radius. (Id.) The DSGEIS gives virtually no consideration to the infrastructure necessary to connect either well pads to such centralized facilities, or to connect centralized facilities to main transmission lines, much less to the impacts from such connections. (See *id.* (stating only that “[t]he gathering system from the well to a centralized compression facility consists of buried PVC or steel pipe, and buried lines leaving the compression facility consists of coated steel.”). The Department cannot avoid assessing these impacts, which hydraulic fracturing will clearly trigger, at this time.

POINT IV

FORMAL RULEMAKING IS NECESSARY TO PROMULGATE OBJECTIVE, UNIFORM AND ENFORCEABLE PERMITTING STANDARDS

As the record stands, the DSGEIS would result in inadequate and subjective permitting conditions and/or thresholds for further review. The Department is proposing to deviate from its usual regulatory approach, which considers local impacts, and then promulgates comprehensive rules and regulations providing an objective and uniform framework for subsequent permitting determinations. The Department utilizes this framework in virtually all of its other legally mandated regulatory programs. The important question is why not here?

Indeed, the DSGEIS offers no justification for the Department’s deviation for regulating the ambitious and environmental sensitive hydraulic fracturing program in New York State. The New York State Constitution is clear that in establishing a framework for such a program, the Department must complete the rulemaking procedures set forth in the State Administrative Procedure Act (“SAPA”). Instead, as proposed, the subject DSGEIS would continue the 1992 GEIS’s practice of delegating critical assessments to a permitting scheme that relies upon “conditions [being] added on a site-specific basis to ensure that the permitted activities will not have a significant effect on the environment.” (DSGEIS at 3-4.) Thus, the Department proposes to continue to rely this time on the instant DGEIS to set forth vague and non-enforceable “recommendations for enhanced procedures and permit conditions,” presumably to be applied on a site-specific basis. (*Id.* at 7-2.)

Without formal promulgation of objective and uniform standards, this framework will be nothing more than an administrative “rubber stamp.” The administrative history associated with this practice demonstrates that it is ineffective, as well as fails to ensure that local

or individualized site specific concerns are meaningfully scrutinized (either by the public or the agency) before the respective operation begins.

A. Promulgation Of Regulation Is Constitutionally Mandated

The Department states that it is using the DSGEIS to formulate “Supplementary Permit Conditions” (DSGEIS at 8-8), and “recommendations for enhanced procedures and permitting conditions” (*id.* at 7-7) during site-specific permit reviews. The Department concedes that “the requirements of the SGEIS, including criteria and conditions for future approvals” will be utilized in a statewide “Regulatory Program.” (*Id.* at 1-1). This exercise is the essence of rulemaking. As such, the New York State Constitution requires that the Department must undergo SAPA’s formal promulgation procedures.

Article IV of the State Constitution requires that any “rule or regulation” drafted by an agency be publically vetted, and then formally filed with the Department of State. See N.Y. State Constitution Article IV § 8.²² A “rule or regulation” encompasses any announcement of “an agency’s stated policy of general applicability which proscribes a procedure or practice requirement of the agency.” *Cordero v. Corbisiero*, 80 N.Y.2d 771, 587 N.Y.S.2d 266, 267 (1992); see also *People v. Cull*, 10 N.Y.2d 123, 218 N.Y.S.2d 38, 40 (1961) (“[T]here can be no doubt that as employed in the constitutional provision, [the term “rule or regulation”] embraces any kind of legislative or quasi-legislative norm or prescription which establishes a pattern or course of conduct for the future.”); SAPA § 102.2(a) (defining “rule” as “the whole or part of each agency statement, regulation or code of general applicability that implements or applies law, or proscribes ... [its] procedures or practice requirements”).²³

The essential purpose of rulemaking is to promote objectivity and transparency in agency decision making. By providing notice to the regulated community, the Legislature was “trying to place the information in one place, where anybody who seeks it shall be able to find it.” *Cull*, 218 N.Y.S.2d at 41 (citing statements of 1938 State Constitutional Convention pertaining to enactment of Article IV § 8); see also *New York State Coalition of Public Employers v. N.Y. State Dep’t of Labor*, 60 N.Y.2d 789, 469 N.Y.S.2d 679, 680 (1983) (rulemaking procedures “insure the existence of a common and definite place where the exact content of rules and regulations, including any changes, might be found.”). This is distinct from situations where an agency merely dispenses advisory opinions to the regulated community. *C.f. Henn v. Perales*, 186 A.D.2d 740, 588 N.Y.S.2d 653 (2d Dep’t 1992) (Commissioner of State

²² In order to accomplish this, SAPA requires that the agency, at a minimum: (i) publish notice of its proposed rule; (ii) solicit public comment; and (iii) file the rule (or rules) with the Secretary of State. See SAPA § 202.

²³ This definition embraces an extensive range of administrative actions. See, e.g., *People v. Attco Metal Indus. Co.*, 122 Misc.2d 689, 471 N.Y.S.2d 489 (County Court, Suffolk Co. 1984) (DEC’s promulgation of its hazardous materials inventory); *Timber Point Homes, Inc. v. County of Suffolk*, 155 A.D.2d 671, 548 N.Y.S.2d 250 (2d Dep’t 1989) (County’s standards for granting variances from its sanitary code); *Cull*, 218 N.Y.S.2d 38 (State Highway Commission setting speed statewide speed limits on state highways).

Department of Social Service's interim penalty guidelines not subject to SAPA since it is an "interpretive statement which in itself had no legal effect, but is merely explanatory and advisory.").

Courts provide these principles with the highest priority. They will not hesitate to repeal regulations adopted in violation of SAPA. "[A]nything which the agency does not file and which the courts hold to be a 'rule or regulation' will be denied by the courts the legal effect that would be accorded to it if it were filed." People v. Calabro, 7 Misc.2d 732, 170 N.Y.S.2d 876, 878 (Recorder's Court, Albany Co. 1957) (citing statements of 1938 State Constitutional Convention pertaining to enactment of Article IV § 8); see also People v. Harris Corp., 104 A.D.2d 130, 483 N.Y.S.2d 442 (3d Dep't 1984) (overturning DEC's promulgation of its hazardous materials inventory for failure to file regulation with Secretary of State).

In Harris, for example, the Third Department invalidated the Department's attempt to promulgate regulatory standards incorporating by reference federal lists of regulated hazardous waste. The Court relied on the "plain language" and "purpose" of the state constitution, noting that rulemaking ensures notice to the regulated community of the regulation, and that there is a "definite place" to find them. Harris, 483 N.Y.S.2d at 445-46. The broad policy cited by the Court precluded the Department from merely referencing regulatory standards, such as here, but required that the Department formally articulate them specifically through the rulemaking process. Id.

Similarly, in Cordero, the New York Racing and Wagering Board's suspension "policy," which set forth mandatory post-administrative appeal penalties for any jockey found to have committed an infraction at the Saratoga racetrack, was annulled. 587 N.Y.S.2d 266, 267. The Court found that since the Board sought to implement a "stated policy of general applicability which proscribes a procedure or practice requirement of the agency," the Board was required to formally promulgate rules and regulations in accordance with SAPA's intent and procedures. Id. at 268.

Formal rulemaking and regulations serve a distinct purpose. They cannot be achieved through the current SGEIS in this matter. Indeed, the Court of Appeals specifically endorsed the Department's use of a GEIS to inform subsequent rulemaking, not to replace it. The Court noted that a GEIS is used to assess the "specific scientific standards already in use by the administrative agency and disclosure of the scientific basis for all finally adopted standards" adopted thereafter. Industrial Liaison Committee of the Niagara Falls Area Chamber of Commerce v. Williams, 80 N.Y.2d 500, 591 N.Y.S.2d 982 (1992) (upholding Department's promulgation of water quality standards, which were identified in a GEIS, and formally adopted through rule making). The Court noted, however, the "[i]mportant principles of rule making by the principal environmental administrative agency [must be] . . . at work in a critical regulatory area" (Id. at 795). The Court concluded that the GEIS process serves merely as "a timely opportunity for meaningful comment" from the public, again, not as a replacement for constitutionally mandated rulemaking. Id. at 793.

These priorities are similarly applicable to the Department's purpose here -- i.e., to formulate "Supplementary Permit Conditions" for its statewide well permit "Regulatory

Program.” The same “important principles of rulemaking” must be applied to the “critical regulatory area” of New York’s gas drilling industry. The Department is proposing to use the SGEIS to formulate the regulatory framework under which subsequent site-specific permit conditions will be formulated. This lies at the very core of an agency establishing “a pattern or course of conduct for the future” subject to SAPA rulemaking. Cull, 218 N.Y.S.2d at 40. It is a critical step in ensuring that the permitting process adequately protects the state’s environmental resources by establishing clear, uniform, and enforceable rules and regulations governing the industry. For some reason, this process is arbitrarily being circumvented in the instant matter.

B. The “Recommendations” In The DSGEIS Are Inadequate To Establish An Effective Framework For Future Permitting

Even if rulemaking were not constitutionally mandated, the DSGEIS provides an insufficient basis upon which the Department could base its proposed “Regulatory Program.” The Department normally uses the permitting process to “fine-tune” mitigation in an application. Here, the DSGEIS’s “recommendations for enhanced permitting procedures” pale in comparison to the comprehensive rules and permitting standards normally promulgated by the Department in its other regulatory programs. The DSGEIS proposes a Regulatory Program, which improperly defers critical assessment of environmental conditions to the applicant’s discretion, and promotes the creation of ad hoc mitigation measures.

The DSGEIS, for example, proposes the following so-called “enhanced permitting procedures:”

- Spill Mitigation: “*To the extent practical*, the Department will *encourage* operators to position [rig fuel tanks] more than 500 feet from” private water wells, domestic-supply springs, reservoirs, and other watercourses and wetlands. (DSGEIS at 7-27 (emphasis added));
- Setbacks from Groundwater Resources: “The EAF addendum for high-volume fracturing will require evidence of *diligent efforts* by well operator to determine the existence of public or private water wells and domestic supply springs within a half-mile.” (Id. at 7-66 (emphasis added));
- Invasive Species Transfer: “The measures and protocols adopted by the SRBC and DRBC appear to be sufficient to address the potential for transfer for invasive species of invasive species ... the NYSDEC *may consider* requiring equivalent mitigation measures for both large-scale basins and at smaller scales” in areas outside of the Commissions’ jurisdiction. (Id. at 7-79 (emphasis added));
- Visual Impacts: “The applicant is *encouraged* to review any applicable local land use policy documents ... Municipalities are *encouraged* to identify and/or map other areas of high visual sensitivity and share this information with the operators so they can *potentially* incorporate additional aesthetic mitigations into their visual impacts mitigation plans.” (Id. at 7-105-06 (emphasis added));

- Noise Impacts: “The well operator must operate the site in accordance with a noise impacts mitigation plan that incorporates site specific practices and, *to the extent practicable*, local land use policy documents.” The applicant, however, is only “*encouraged* to review” these local policy documents. (Id. at 7-108 (emphasis added));
- Community Character: “[T]he Department recognizes the concern local communities have regarding the scale and potential effects of the proposed activity; therefore, the EAF Addendum submitted with each well permit application will require the applicant to *attest to having reviewed* any existing comprehensive, open space and/or agricultural plan or similar policy document.” (Id. at 7-111 (emphasis added)).

The above examples, of which there are many others in the DSGEIS, demonstrate the subjectivity proposed under the DSGEIS’s Regulatory Program. More significantly, it exhibits the minimal burden of proof and enormous discretion the Department would provide an applicant - at the expense of objective standards and meaningful site specific input - in designing mitigation measures.

The proposed Regulatory Program stands in stark contrast to the level of oversight employed by the Department’s in its other regulatory programs. An applicant seeking to develop near a tidal wetland, for example, bears the burden of proof to demonstrate that a proposal meets a host of standards meant to ensure that the activity, among other items, “is compatible with the public health.” 6 N.Y.C.R.R. Part 661.9. In order to make this determination, the Department has promulgated extensive review parameters, which include “Use Guidelines,” “Development Restrictions” and standards for variances. 6 N.Y.C.R.R. Parts 661.5, 661.6 & 661.11. See also 6 N.Y.C.R.R. Parts 663.4 & 663.5 (Freshwater Wetland “Regulatory Procedures” and “Standards for Issuance of Permits”); 6 N.Y.C.R.R. Part 608 (setting forth permit review procedures for proposals to disturb protected water bodies); 6 N.Y.C.R.R. Part 201-8 (setting forth permit conditions to prevent air contamination and pollution).

It is also the Department’s normal course to promulgate clear standards to address specific technologies that pose environmental risks. See, e.g., 6 N.Y.C.R.R. Part 361.7 (siting standards of Industrial Waste Facilities); 6 N.Y.C.R.R. Part 216.8 (Equipment Requirements for iron and steel processing); 6 N.Y.C.R.R. Part 208.4 (operational standards for landfill gas collection systems in municipal solid waste landfills).

These are prime examples of the Department’s ability to promulgate a comprehensive framework to guide subsequent permitting decisions, and illustrate the benefit of uniform and objective regulations. Objective rules and permitting criteria provide clear directives to applicants (rather than mere “encouragement”) to design proposed operations in a manner that takes local conditions into account. In addition, where there is a dispute regarding whether an applicant meets the Department’s articulated standards, the adjudicatory process set forth in Part 624 provides a means for all stakeholders to raise their concerns. In such situations, uniform standards provide the adjudicatory body a clear basis upon which to determine the merits of each party’s position.

C. The Administrative Record Establishes That Promulgation Of Permitting Standards Is Necessary

The administrative history associated with implementing the 1992 GEIS's permit-level Regulatory Program exhibits the necessity of including these critical procedural "checks" in a permit-level regulatory program. The 1992 GEIS's regulatory program limits severely the effectiveness of the essential stages of environmental review in the Department's well permitting Program. Permit conditions are negotiated privately between an applicant and Staff, and are then formally stipulated to. To the extent public comment is solicited the scope is limited to issues pertaining to well spacing and integration orders after these agreements are entered into. There is no scrutiny of local environmental issues.

In the first instance, based on a review of the Department's various databases, the vast majority of, if not all, well permit applications for gas drilling under the 1992 GEIS received a Negative Declaration.²⁴ See, e.g., DEC Environmental Notices Bulletin, June 4, 2008, Region 7: Application of Fortuna Energy Inc., Tioga County (Notice of Negative Declaration for well permit application in Tioga County Agricultural District); DEC Environmental Notice Bulletin, July 25, 2007, Region 8: Application of East Resources, Inc., Chemung County (Notice of Negative Declaration for well permit in Chemung County Agricultural District); Matter of Bradley Brook Field, 2004 WL 1944144 (DEC File No. DMN 04-01) (Negative Declaration issued on February 3, 2004; Notice of Negative Declaration and public hearing on proposed well spacing order distributed in April 21, 2004 ENB); DEC Environmental Notices Bulletin, October 4, 2004, Application of Columbia Natural Resources, LLC and Fortuna Energy Inc. (Langdon Hill Field) (Notice of Negative Declaration and Public Hearing circulated on October 20, 2004 whereas Negative Declaration issued on September 24, 2004) Matter of Muck Farm Field, 1999 WL 33283368 (DEC File No. DMN-99-1) (Negative Declaration issued on March 23, 1999, Notice of Negative Declaration published in May 19, 1999 ENB).

Indeed, the research did not result in a single instance where the Department issued a Positive Declaration, or engaged in any open or public substantive environmental review before issuing the Negative Declaration. Moreover, in all of these instances, the Negative Declaration was issued weeks, if not months, before the public received notice of the Department's findings. Unlike its other regulatory programs, there is almost a complete absence of meaningful adjudicatory hearings on substantive permit conditions in connection with gas drilling permits issued in accordance with the 1992 GEIS.

²⁴ The databases searched included: (i) the Department's archived Environmental Notices Bulletin ("ENB") through 1999 (the last available year); (ii) the Department's archived Division of Mineral Resources Environmental Notices Bulletin; (iii) the Department's "Rulings and Decisions database; and (iv) Westlaw's database of Administrative Law Judge Decisions and Commissioner Orders.

Rather than submitting the Department's "tentative" position on a permit application for meaningful adjudication, as is done in most jurisdictional applications,²⁵ the Division of Mineral Resources ("DMN") arrives at these hearings under the 1992 GEIS with a formally executed stipulation with the applicant, supposedly "resolv[ing] all [the substantive] issues" between the Department and the Applicant, including, incorporating the permit conditions. This is all completed prior to any public disclosure. See e.g., Matter of Terry Hill South Field, 2004 WL 1397963 at *1 (DEC File No. DMN-02-03); Bradley Brook Field, 2004 WL 1944144 at *2; Matter of Pine Field Well Spacing and Integration of Interests, 2002 WL 31430820 at *1 (DEC File No. DMN 01-4). And in those limited instances where adjudicatory hearings have been held pursuant to Part 624 of the Department's Regulations regarding gas drilling applications under the 1992 regulatory scheme, they have been limited explicitly to well unit spacing and integration issues. See DEC Program Policy DMN-1: Public Hearing Processes for Oil and Gas Well Spacing and Compulsory Integration, February 22, 2006.²⁶

Thus, it is not surprising that by the time local officials and/or the public are provided with the opportunity to present any site-specific concerns regarding current gas drilling applications normal at most Department hearings, the terms of the permit have become a *fait accompli*, and the hearings are nothing more than *pro forma*. See, e.g., Pine Field 2002 WL 31430820 at *1 (after executing a permit Stipulation, at the subsequent Legislative Hearing two residents raised concerns about the size of the well units, the "less than stellar" communication between the public and the Department, and "the security of potable water and the aquifer," whereby, without any ALJ Decision or explanation, no Issues Conference or Adjudicatory Hearing was held); see also Matter of Muck Farm Field, 1999 WL 33283368 (DEC File No. DMN-99-1) (Notice of the Stipulation is sent to the Supervisors and Clerks of adjacent towns three weeks after stipulation is executed).

The procedure, by its very design, relegates the normally rigorous SEQRA process to a "rubber stamp." The 1992 GEIS's default position that virtually all well permit applications are entitled to a Negative Declaration precludes the opportunity for outside parties to raise concerns and ensure that the Department is properly scrutinizing site-specific issues.

²⁵ See 6 N.Y.C.R.R. Part 621.7(b)(7) (requiring tentative determinations to be included in public notices of complete applications for delegated permits); 6 N.Y.C.R.R. Part 624.3(c) (allowing Staff to "specify the issues of concern" in its notice of a public hearing).

²⁶ In relevant part, the Department's guidance reads:

Hearings pursuant to 6 N.Y.C.R.R. Part 624 are not automatic, because the law provides for statutory statewide spacing and clearly sets forth the integration process and options in considerable detail ... referrals for adjudicatory hearings will only occur when the [DMN] determines that a substantive and significant issue exists regarding a specific proposed non-conforming spacing unit or a proposed integration order, or when an owner who submits a timely and complete challenge to a proposed non-conforming spacing unit requests an adjudicatory hearing to review a DMN determination.

Id. at 1.

The DSGEIS's proposal to continue the 1992 GEIS's procedure without modification is unacceptable. The Department must ensure that the applicant maintains the burden of establishing its operations will be consistent with the public welfare. This includes, at the very least, expanding the instances where more detailed site-specific environmental review is triggered, and mandating that an applicant demonstrate its compliance with local land use policies before a permit is issued. As it stands now, the DSGEIS's reliance on its "recommendations for enhanced permit conditions" would do little to ensure that such a burden is imposed upon an applicant.

Since local communities are divested of virtually all of their ability to protect critical resources at the permit level, the Department should be particularly concerned with ensuring that local stakeholders are engaged in the impact assessment and mitigation determinations are made. The DSGEIS's failure to address these shortfalls is an essential deficiency. It is imperative that the Department take the next administrative step, and promulgate uniform rules and regulations to resolve these deficiencies.

CONCLUSION

Otsego 2000 sincerely hopes that the Department does not abbreviate the breadth of its review, takes the necessary time to fill the substantial and significant omissions in the DSGEIS, and implements a regulatory framework, which recognizes the yet unknown environmental risks attendant to the ambitious and relatively new technology of hydraulic fracturing. The Department, respectfully, must complete the data collection and analytic work that is necessary to complete this task, and should then submit this information and analysis to meaningful public review. Until this record is corrected, the Department cannot proceed.

Please do not hesitate to contact Otsego 2000 should you have any questions or comments concerning these comments, or would like Otsego 2000 to expand on any of the areas discussed herein.

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ZARIN & STEINMETZ

By: _____

Michael D. Zarin
Daniel M. Richmond
David J. Cooper
Attorneys for Otsego 2000
81 Main Street, Suite 415
White Plains, New York 10601
(914) 682-7800