

**Comments on the New York State Department of Environmental Conservation's
Proposed Regulations For High-Volume Hydraulic Fracturing
Submitted by the Independent Oil and Gas Association of New York**

January 11, 2012

The Independent Oil & Gas Association of New York ("IOGA") respectfully submits the following comments and concerns regarding the Proposed Express Terms 6 NYCRR Parts 52 and 190 Use of State Lands Administered by the Division of Fish, Wildlife and Marine Resources and Use of State Lands; Proposed Express Terms 6 NYCRR Parts 550 through 556 and 560 Subchapter B: Mineral Resources; and Proposed Express Terms 6 NYCRR Parts 750.1 and 750.3 Obtaining a SPDES Permit and High-Volume Hydro Fracturing (HVHF) (hereinafter the "Proposed Regulations"). In addition to the comments that follow, attached as Exhibit A is IOGA's proposal on how the proposed regulations should be revised.

IOGA New York supports a high environmental bar and appropriate regulations to achieve environmental protection and public safety. However, several of the regulatory proposals are based upon unrealistic, worst-case scenarios that impose costly and time-consuming requirements that do not meaningfully advance the collective goal of advancing safe and responsible development in the state of New York. Substantial improvements are needed to ensure an effective regulatory program that achieves the dual objectives that we all share, safeguarding the environment and promoting the development of the State's clean burning indigenous natural gas resources, both of which are statutory mandates for the Department of Environmental Conservation ("DEC"). Without the changes recommended below and detailed in Exhibit A, all of which are more cost-effective and still protective of the environment, the Proposed Regulations will render shale gas development in New York non-competitive.

I. GENERAL COMMENTS

Need to Acknowledge and Adopt Proven, Less Costly Alternatives

The DEC has not properly given consideration to identifying proven and more cost-effective alternatives to protecting the environment. Article 2 of the State Administrative Procedure Act ("SAPA") establishes minimum procedures that all agencies must follow when promulgating regulations. Pursuant to SAPA § 202(8), proposed rules must be promulgated in "substantial compliance" with SAPA §§ 202 (general rulemaking procedures), 202-a (regulatory impact statement ["RIS"]), 202-b (regulatory flexibility analysis for small businesses), and 202-bb (rural area flexibility analysis). See *Matter of Medical Society of State of N.Y. v. Serio*, 100 N.Y.2d 854, 869 (2003). These provisions mandate that agencies consider the economic effects of their proposed rules *and* choose approaches that avoid imposing undue economic hardship.

Specifically, SAPA § 202-a(1) directs that, to the extent consistent with other statutes, agencies must "consider utilizing approaches which *are designed to avoid undue deleterious economic effects or overly burdensome impacts upon persons ... directly or indirectly affected by [the rule] or upon the economy ...*" (emphasis added). To this end, the RIS must contain a statement "detailing the projected costs of the rule," including: (1) the costs to the regulated community for implementation of and compliance with the rule, and (2) the information and methodology upon which the cost analysis is based. SAPA § 202-a(3)(c)(i), (iii). If the agency cannot provide a complete statement of costs, it must explain the reasons why *and* provide a

statement setting forth its best estimate of costs, together with the information and methodology upon which that best estimate is based. SAPA § 202-a(3)(c)(iv).

Additionally, the RIS must contain a statement of “alternative approaches” considered by the agency and the reasons why those alternatives were not incorporated into the rule. SAPA § 202-a(3)(g). This mandate to consider alternatives is likewise part of a lead agency’s balancing obligation under the New York State Environmental Quality Review Act (“SEQRA”) to choose alternatives that, “consistent with social, economic and other considerations,” protect the environment to the maximum extent practicable. Environmental Conservation Law (“ECL”) §§ 8-0109(1), (2), (8); 6 NYCRR §§ 617.9(b)(1), (5)(i), 5(v), 617.11(d)(2). Thus, under both statutes, the DEC is obliged to consider economic impacts *and* choose the more cost-effective alternative that will achieve an equal level of environmental protection.

SAPA §§ 202-b and 202-bb likewise echo this view relative to economic impacts on, respectively, (1) small businesses (i.e., businesses resident in the state, independently owned and operated, employing no more than 100 individual), and (2) rural areas (i.e., counties with population less than 200,000 or towns with population density no more than 150 persons per square mile). See SAPA §§ 202-b(1), 202-bb(2)(a) & (b), 102(8), 102(10), Exec. Law § 481(7). Exhibit B includes several letters from IOGA members confirming the direct impact of the regulatory proposals on “small businesses” in New York. To this end, SAPA § 202-b requires agencies to issue a regulatory flexibility analysis which includes, among other things, a description of the types and estimated number of small businesses to which the rule will apply, compliance costs for the various types of small businesses, economic feasibility assessment for compliance, and an indication of how the rule is designed to minimize adverse economic impacts on small businesses (including information regarding different approaches considered). SAPA § 202-b(2). Under SAPA § 202-bb, agencies must evaluate similar considerations in a rural area flexibility analysis relative to impacts on public and private sector interests in rural areas. SAPA § 202-bb(3) (stating rural area flexibility analysis must discuss compliance costs of various types of public and private entities in rural areas and indicate how the rule is designed to minimize adverse impact on rural areas).

Accordingly, SAPA obligates the DEC to “avoid placing unreasonable financial or administrative burdens upon regulated persons...,” small businesses and rural areas and mandates specific procedures to achieve this objective. McKinney’s Cons. Laws of N.Y., SAPA § 202-a, Hist. & Stat. Notes (discussing L. 1983, c. 344, § 1); see *generally*, SAPA § 202, 202-a, 202-b, 202-bb. Failure to abide by SAPA’s requirements will result in invalidation of the regulation. See *Matter of Medical Society of the State of N.Y., Inc. v. Levin*, 185 Misc. 2d 536, 544-48 (Sup. Ct., N.Y. Cty, 2000), *aff’d*, 280 A.D.2d 309 (1st Dep’t 2001).

The DEC’s Proposed Regulations fail to comply with these SAPA mandates. See *NYS Register*, Sept. 28, 2011 (ID No. ENV-39-11-00020-P) (hereinafter, the “Notice”). In violation of SAPA § 202-a, the RIS lacks compliance cost information as to the regulated community and, in fact, acknowledges this omission. See *generally* Notice (stating only that the cost of compliance will be the same as that associated with mitigation measures and permit conditions identified in the draft SGEIS). The RIS also lacks a meaningful alternatives analysis, limiting such solely to the “no action” alternative and permit denial. Significantly, there is no discussion of more cost-effective (but equally protective) regulation or any explanation as to why other such measures were rejected. This deficiency is particularly significant in light of the extremely burdensome compliance costs that will result to the regulated community from the rules as proposed.

These omissions of cost and alternatives are also apparent in the regulatory flexibility analyses for small businesses and rural areas, thus violating SAPA §§ 202-b and 202-bb. These analyses effectively assume, incorrectly, that all HVHF operators are large, well-funded entities. Thus, there is no meaningful consideration of the economic feasibility of compliance for “small business” operators. See Notice (stating conclusorily “[t]here should be no economic ... feasibility issues created by the proposed rules”); see *also* Exhibit B (letters from small businesses operators who will be directly affected by the proposed regulations). Likewise, there is no indication as to what, if any, alternative approaches were considered to minimize economic impact on small business operators or private sector interests in rural areas.

In an effort to complete the record concerning the significant cost impacts of the regulatory proposals, these comments identify a number of less costly alternatives to avoid and/or minimize these impacts to small business that the DEC is mandated by law to consider. In addition, attached as Exhibit C is an assessment of the permitting and planning costs associated with the regulatory proposals. IOGA believes that the high standards being sought by the DEC can be achieved by adoption of more flexible and less onerous requirements. This will reduce the cost of compliance, while simultaneously being protective of the environment and keep New York State competitive with other states throughout the country that are currently enjoying the economic benefits associated with shale development.

Given the foregoing, the RIS and flexibility analyses do not comply with SAPA, which renders legally suspect any final rules that are not based upon an evaluation of cost impacts and the consideration of more cost-effective alternatives. See *Levin*, 185 Misc. 2d at 544-48, *aff'd*, 280 A.D.2d 309. However, IOGA has provided the cost justification for the adoption of more cost-effective alternatives that will be fully protective of the environment and maintain a competitive regulatory environment.

II. DEFINITIONS

In many places, the definitions in the minerals regulations overlap and conflict with definitions in the water-quality regulations. Further, many of the definitions proposed in § 750.1 and § 750.3 go well beyond the SPDES program or the stormwater general permit program. The DEC should decide what definitions are necessary, delete those that are not and then include all of the remaining, essential definitions in the new proposed Part 560 to avoid unnecessary duplication and confusion. In other words, only one set of definitions should be promulgated that will serve as the definitions for all DEC programs and, that set of definitions should reside in the minerals regulations.

Specific issues include:

- The minerals regulations do not define “reserve pit” as used therein (§ 560.3(a)(10)). Instead, “reserve pit” is defined in the proposed water regulations (§ 750-32(44)) as “a mud pit in which a supply of drilling fluid has been stored, or a waste pit, usually an excavated pit. It may be lined to prevent soil contamination.” IOGA recommends that the proposed definition for “reserve pit” be included in § 550.2 rather than § 750-32(44).
- The proposed § 560.2(b)(1) definition of “best management practices” differs from the existing definition in § 750-1.2(12) (“schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment requirements (if determined necessary by the permittee), operating procedures, and practices to control

plant site runoff, spillage and leaks, sludge or waste disposal, or drainage from raw material storage”). IOGA recommends that the DEC adopt a consistent definition of BMPs.

- The proposed § 560.2(b)(12)’s definition of “partial reclamation” differs from the proposed § 750-3.2(35) definition. Moreover, the concept of partial site reclamation is unclear in both. This is a very important issue because of the episodic nature of drilling and completion associated with shale development. The proposed definition of “partial site reclamation” in § 750-3.2(b)(35) should be deleted. And, when clarifying the definition in proposed § 560.2(12), industry needs a reasonable time frame to comply with the “partial reclamation” requirement and recommends six months.
- The proposed § 560.2(b)(17) definition for “product” conflicts with the existing definition in § 550.3(an). Moreover, the proposed definition of “product” in § 750-3.2(b)(38) is similar to the proposed minerals definition in § 560.2(17), but is missing the word “additive” after fluid. It also conflicts with the existing definition in § 550.3 (an). Both proposed definitions should, therefore, be deleted.
- The proposed regulations refer to an operator’s designated representative. However, that term is not defined in any of the regulatory proposals. IOGA, therefore, recommends that a definition be included in § 560.2 as follows: “designated representative means a person employed by the permittee or an agent contracted with the permittee to oversee compliance at the well site.”
- IOGA recommends that the proposed definition in § 750-3.2(b)(16) for “final stabilization” be deleted as unnecessary. To the extent, however, that the DEC elects to move forward with the proposed definition, the reference to “other equivalent stabilization measures” should be defined or examples should be provided to make it clear that other stabilization techniques are allowable during non-growing seasons.
- The proposed regulations do not apply the “formation fluids” definition in § 750-3.2(b)(19). IOGA, therefore, recommends that proposed definition be deleted as unnecessary.
- Defining HVHF Phase and HVHF Operations in the proposed §§ 750-3.2(b)(23)-(24) to include drilling is confusing given the common industry understanding distinguishing drilling and stimulation. It is also counter to the proposed § 560.2(b)(8) definition for “high-volume hydraulic fracturing.” IOGA, therefore, recommends that the defined term of HVHF Phase be revised in both §§ 750-3.2(b)(23) and (24) to be the “Drilling and HVHF Phase,” as well as throughout proposed § 750-3, and, further, that the definition of Drilling and HVHF Phase in subsection (b)(23) be amended as follows: “any subsequent well drilling, stimulation and restimulation event on the same well pad.”
- The proposed definition for a “HVHF general permit” in § 750-3.2(b)(25) is unnecessary. There should be no permits issued; rather there should be qualification for a multisector general permit written for the oil and gas industry. IOGA, therefore, recommends that this definition be deleted.
- The proposed definition at § 750-3.2(b)(34) attempts to combine two terms (i.e., owner and operator). This combined definition conflicts with the existing definitions of these terms set forth in § 560.3(ab) and (ad) and, therefore, should be deleted.

- The proposed definition of “plugged and abandoned in § 750-3.2(b)(36) differs from the existing definition in § 550.3 (af) and, therefore, should be deleted.
- The proposed definition of “production phase” in § 750-3.2(b)(41) is inconsistent with custom and usage in the industry, is confusing and does not take into account the gaps in time that will take place prior to and in between the drilling of infill wells. Further, “all wells planned” needs to be clarified to specify whether this requirement applies to a one-well pad and/or a multi-well-pad permit. IOGA, therefore, recommends that the defined term of “production phase” be revised to mean “the phase after the Drilling and HVHF Phase ...”

III. PROPOSED EXPRESS TERMS 6 NYCRR PARTS 52 AND 190

The proposed 6 NYCRR Part 52 and related amendments to Part 190 conflict with the State’s clearly articulated policy objectives to promote the ultimate recovery of the resource and prevent waste. Indeed, this policy objective is articulated in two separate state statutes.

New York Environmental Conservation Law (“ECL”) § 23-0301 declares that it is in the public interest to “provide for the operation and development of oil and gas properties in such a manner that a greater ultimate recovery of oil and gas may be had, and that the correlative rights of all owners and the rights of all persons including landowners and the general public may be fully protected.” Likewise, New York Energy Law § 3-101(5) declares that it is part of the energy policy of New York State “to foster, encourage and promote the prudent development and wise use of all indigenous state energy resources including, but not limited to on-shore oil and natural gas...[and] natural gas from Devonian shale formations.”¹ In addition Article 23, Title 11 specifically authorizes the Department to lease state lands for natural gas development.

Given the foregoing, IOGA recommends that Part 52 and the proposed regulatory amendments to Part 190 be deleted as they collectively eliminate the efficient development of the State’s indigenous energy resources. Alternatively, IOGA recommends that §§ 52.3 and 190.8(ag) be amended as proposed in Exhibit A to only prohibit development on State lands in the Forest Preserve. .

IV. PROPOSED EXPRESS TERMS 6 NYCRR PARTS 550 THROUGH 556 AND 560

In general, IOGA New York supports the proposed mineral regulations (6 NYCRR Parts 550 through 556 and 560) and the need to modernize some of the regulations as part of the rulemaking process.

Part 551 Reports and Financial Security

The DEC’s proposal to amend § 551.7 of the existing regulations to eliminate the maximum bond required for plugging and abandonment of an individual well and a two million

¹ Notably, the legislative history for section 3-101(5) of the Energy Law expanded the State’s policy declaration to include “fostering, encouraging and promoting the prudent and wise use of all indigenous state energy sources[,]” in order to “counter nationally held misconceptions that the State has unreasonably impeded development of its own resources while encouraging other areas of the country to provide it with energy.” See Bill Jacket for Laws of 1978, ch. 396 (Legislative Memorandum (S-9021), Governor’s Program Bill Memorandum (S-9021), and Energy Office Report on Bills (S-9021)).

dollar cap on bonding for operators that operate multiple wells (i.e., blanket bonding) goes too far. Although industry supports reasonable bonding requirements, it is unreasonable to eliminate bonding limits and not encourage blanket bonds or other funding mechanisms that will be more cost effective to industry. Shale gas wells are expected to be productive for decades. As such, requiring individual bonding for each well will tie up capital unnecessarily. Bonding is only necessary where an operator defaults on its plugging and abandonment obligations. In recent times, there have been no such defaults. Accordingly, the proposed amendment of § 551.7 is unnecessary and unreasonable.

Moreover, the elimination of a limit on the bond required per well and the total bonding required per operator is inconsistent with the bonding requirements of neighboring states, which will render New York non-competitive. For example, Pennsylvania is currently considering increasing the blanket bonding required to \$600,000. Ohio and West Virginia require \$15,000 and \$60,000 bonds respectively.

In addition, given the longevity of bonding with wells that may last for three decades or longer, it is important to provide alternatives for those operators that can meet a financial test for financial security. Accordingly, IOGA recommends including a financial test in the regulations.

Part 552 Permits to Drill, Deepen, Plug Back or Convert Wells

IOGA supports the change in § 552.2 from a six months to a two-year permit term. IOGA supports the need to have a longer permit term given the uncertainties associated with the length of time that it will take to obtain a drilling permit, which will prevent operators from scheduling rigs and other services until a permit is granted. A longer permit term also will allow industry to spread out development more effectively, thereby reducing the potential for short-term cumulative impacts.

Part 553 Well Spacing

New York State has created a detailed statutory scheme for spacing and compulsory integration to promote the greater recovery of the resource and protect correlative rights. See, *generally*, ECL Article 23, Title 5. ECL § 23-0503(2) authorizes the issuance of permits to drill wells if a proposed spacing unit, “conforms to statewide spacing and is of approximately uniform shape with other spacing units within the same field or pool, and abuts other spacing units in the same pool, unless sufficient distance remained between units for another unit be developed.” For the more uniform plays like the Marcellus and the Utica, this is likely to require relatively uniform rectangular-shaped abutting units in order to avoid gaps in the development of the resource.

Section 553.1(a)(6)’s requirement that all horizontal wells be drilled from the “common well pad within three years of the date the first well in the unit commences drilling” may be unrealistic. The same is true for § 553.1(c)’s requirement that infill wells deemed necessary “must be drilled within three years from the date the first well in the unit commences drilling.” IOGA recommends that § 553.1(c) be more flexible to accommodate potential legislative changes and, therefore, should be amended to read as follows: “In a spacing unit established pursuant to paragraph (6) of subdivision (e) of this section, infill wells shall be deemed necessary to satisfy the policy objectives of Part 550 of this Title.”

Also, IOGA recommends that should the DEC decide not to allow waivers from the final prohibitions and setbacks, the variance provisions of § 553.4(a) should be expanded to include

variances from certain of these setbacks and prohibitions and other substantive requirements where waivers are not allowed. Furthermore, IOGA recommends that language be added to § 553.4(b) to require any hearing that is determined by the DEC to be necessary to be scheduled as expeditiously as possible, consistent with the requirements of ECL § 23-0501(3).

Part 554 Drilling Practices and Reports

Section 554.5(a) should be clarified as to what “unreasonably” means where BHA is lost in the hole and a sidetrack is needed. IOGA recommends that the requirement for the DEC to approve a proposed modification to “the well’s path and/or bottomhole location” be modified so as to permit verbal approval in order to facilitate operations. Specifically, IOGA recommends that the following sentence be added to proposed amendment to § 554.5(a): “For good cause shown, verbal approval may be granted in response to emergency of unforeseen circumstances.”

Part 555 Plugging and Abandonment

The DEC needs to maintain flexibility in its regulations. Accordingly, certain suggestions have been made to the proposed changes to Part 555 to accommodate new technologies and otherwise allow flexibility.

Part 556 Operating Practices

The DEC needs to clarify § 556.2(g)(1) to explain what is meant by “any permanent change in the wellbore configuration” and/or why this proposed requirement is necessary. Also, if an operator needs to submit a Sundry Well Notice and Report form (§ 556.2(g)(3)), then the regulations should specify a reporting time requirement. IOGA recommends that operators submit the form quarterly or annual for work done within that period.

Part 560.3 Application Requirements

Proposed § 560.3(a)(13) requires “a description of the drilling and hydraulic fracturing engines to be used, the type of fuel needed for such engines and a description of planned air emission control measures.” This requirement should be conformed to the final version of the SGEIS, given that IOGA has raised serious issues concerning federal preemption and the need for additional mitigation requirements given the aggressive effort by the EPA to regulate emissions from natural gas drilling in stimulation activities.

Proposed § 560.3(a)(16)(iv) which requires that a “copy of the operator’s well control barrier policy that identifies acceptable barriers to be used during identified operations” is vague and should be clarified, as industry standard only requires one barrier for testing purposes.

Finally, the proposed water regulations at § 750-3.4 contemplate similar application requirements to those proposed in § 560.3, but they vary somewhat. IOGA recommends that all of the application requirements be contained in the minerals regulations and the singular application requirements serve as a checklist for a complete application and compliance with the 1992 GEIS and the SGEIS. Simply put, there should be one stop shopping at the DEC.

Part 560.3(c)(1)(v) Frac Fluid Analysis

Proposed section 560.3(c)(1)(v), as well as sections 750-3.4(b)(7) and 750-3.11(e)(1)(i), contemplates requiring a “green” frac fluid analysis for each well permit. While IOGA supports working toward “greener” options, as detailed in IOGA’s Critical Issues Analysis (Tab 1), the proposed analyses are unnecessarily costly and inefficient. The requirements to conduct a green frac fluid analysis for each permit application, therefore, should be deleted.

Alternatively, if an analysis of “green” frac fluid additives is required, IOGA recommends that the DEC change § 560.3(c)(1)(v) to require the service providers to submit the alternatives analysis to the DEC. This is because, it is the service companies providing HVHF stimulation chemicals, and pumping services to operators are the entities most knowledgeable about the relative environmental benefits of both existing additive products and new additives.

Furthermore, the review of additives for alternative “green” chemistry with every new permit application is impractical. When alternative additives with reduced toxicity are developed, these additives become known throughout the industry and also by regulators. Since the introduction of new hydraulic fracturing products is a time-intensive process for service and chemical companies and because operations tend to use a similar set of products when conditions allow within a play, IOGA recommends that a biennial master chemical review by the HVHF service companies be instituted rather than a permit-specific review. This chemical review would focus on the relative toxicity and other environmental attributes of the various additives that are used, or could be used, by a service company in hydraulically fracturing Marcellus Shale wells or wells in other shale gas plays. The service company would include in the review any “green” products it offers that could be used in shale gas wells. The service company could subsequently update its master list when it anticipates using a new chemical, or every two years at a minimum. Each application for permit to drill submitted by an operator would include a permit condition that the operator must use a service company that has an approved filing on record with the DEC. The service company in turn would have already addressed the relative environmental attributes of its additive products under its master (biennial) filing to the DEC.

Such an approach has several benefits. It places the chemicals review responsibility in the hands of the service companies who provide the fracturing fluids. The service companies will be the first to know of new chemical availability and, therefore, are best positioned to notify DEC regarding such products. It will also serve to significantly reduce the review burden on DEC; there will be only a handful of master review lists requiring approval (i.e., a list for each service company), rather than adding to the review and approval process for each.

DEC must also consider that “green” additives may not always be the most suitable for a particular fracture treatment based on local geology or other conditions. The universal use of “green” chemicals which are efficacious but less efficient could result in reduced well efficiency and less efficient production of the resource. The approach currently contemplated by DEC appears not to acknowledge the significant steps that have been taken to improve HVHF chemistry to date (including a trend towards the overall reduction in the number of chemical additives used in a fracture fluid blend), particularly as relates to its use in the Marcellus Shale area.

Moreover, any final regulation concerning this topic (and if there is one it should be located only in the mineral regulations) must consider the efficacy of the proposed frac fluid for

the target formation and taking into account site specific considerations, detail how various options should be compared, and identify who will determine the best alternative.

Part 560.4 Setbacks and Prohibitions

The DEC proposes to codify the setbacks and prohibitions proposed in the rdSGEIS in a new, proposed Part 560.4. For the reasons detailed in IOGA's Critical Issues Analysis (Tab 1 to IOGA Cover Letter) and Comments on the rdSGEIS (Tab 2), IOGA recommends that many of the setbacks be eliminated or reduced to the existing setbacks, or setbacks that are consistent with those in place in other neighboring states. IOGA further recommends that broad waiver provisions be included in the regulations to allow setbacks to be waived by the DEC for good cause shown based upon the application of superior technology. Finally, for the prohibitions or setbacks that the DEC is proposing to revisit in a given period of time, it would be far better to have those provisions automatically sunset in the regulations subject to an emergency rulemaking, if warranted, or, alternatively, unless extended by an order from the Commissioner. This would avoid the need to go through the rulemaking process a second time to eliminate requirements that are already too restrictive.

As is reflected in the Critical Issues Analysis (Tab 1) and the Comments on the rdSGEIS (Tab 2), the cumulative effect of these prohibitions and setbacks comes at significant cost to large operators, small operators, landowners and municipalities. IOGA estimates that the cumulative impact of these prohibitions and setbacks will strand approximately 50% of the acreage that is prospective for shale development in New York State. As a consequence, operators will lose hundreds of millions of dollars already invested in minerals leases, landowners will lose millions of dollars in royalties, the state and local governments will lose significant tax revenue, and very few operators, if any, will be willing to invest their drilling budgets in New York State. The result will be lost economic opportunity for New York totaling billions of dollars. Since a number of small businesses are impacted by these requirements, the DEC is mandated by SAPA to consider less costly alternatives. Reduction and/or elimination of these setbacks and the inclusion of automatic sunset provisions are a legal necessity under the circumstances.

At an absolute minimum, all prohibitions and setbacks – including those that disqualify an operator from operating under the SGEIS or the multisector general stormwater permit applicable to HVHF – should be identified in § 560.4 and not contained in the water regulations (§ 750-3.3) nor the well construction and operation regulations (§ 560.6). Scattering the prohibitions, setbacks and disqualifications around in different sections of the regulations creates regulatory confusion and uncertainty.

For example, § 560.6(b)(1)(ii) regarding the placement of fueling tanks is confusing and an example of a setback that should be contained in § 560.4. There should also be a minimum volume applicable to this requirement and the requirement should expressly state that it does not apply to portable fuel tanks and tankers that are brought to the site for fueling purposes.

Additionally, § 750-3.3 should be moved to § 560.4 and the prohibitions and setbacks therein should have sunset provisions to avoid the need to go through a rulemaking to eliminate the prohibitions. Proposed § 750-3.3(b)(2) regarding surface activities within 500 feet of, and including, a primary aquifer should automatically sunset or be eliminated given the fact that many primary aquifers have been drilled in New York State without incident. And, proposed § 750-3.3(b)(4) is very confusing and should be restructured to make it clear that it is a setback from the intake in any of the water bodies mentioned.

Section 750-3.3 proposes setbacks “in addition” to those listed in § 750-1.3. There should be scientific justification of these setbacks. IOGA’s members’ record of successfully operating in areas that would be eliminated by setbacks should weigh into the DEC’s determination to promulgate additional setbacks. Given industry’s record of environmentally-safe drilling, these setbacks should be eliminated, or, alternatively, minimized. As an example, the § 750-3.3(b)(1)’s prohibition of high-volume hydraulic fracturing “within 4,000 feet of, and including the, unfiltered surface water supply watersheds” is unjustified because, by definition, “watershed” includes additional area beyond actual water sources.

Part 560.5 Testing, Recordkeeping and Reporting Requirements

The proposed requirement in § 560.5(c) addresses when non-routine incidents must be reported to the DEC. IOGA offers the following comments:

- The proposal would require incidents to be reported within two hours. This is too short given the remote nature of drilling operations. IOGA recommends at least four hours instead.
- The proposal does not specify how to document compliance and should be amended to make it clear to the regulated community as to how compliance will need to be documented.
- Because pressure variations occur very often during HVHF operations, they should not be included as reportable non-routine incidents.
- The long list of non-routine incidents may occur sequentially. The DEC, therefore, should clarify when the proposed two-hours reporting limit starts to run.
- The requirement that the operator receive DEC approval prior to recommencing hydraulic fracturing activities in the same well after a suspension in hydraulic fracturing pumping operations should be deleted. An operator can fix certain pump problems within a few hours and would need the authority to resume immediately, not after a protracted DEC review.

Finally, proposed § 560.5(g) needs to be clarified. Specifically, IOGA recommends that the DEC specify how the requirement is met if the “intended destination” is a mobile truck or temporary holding facility.

§ 560.6 Well Construction and Operation

Proposed § 560.6 concerns well construction and operation. IOGA offers the following comments:

Section 560.6(a)(3) concerning the materials permitted for construction of piping, conveyances, valves and tanks in contact with flowback water is vague. IOGA, therefore, seeks clarification as to what is intended.

Section 560.6(a)(4)(ii) regarding total pit volume needs to be clarified to define what is considered a tract of land, i.e., wellpad or 640-acre spacing unit. In addition, IOGA recommends that the reference to “related” tracts of land be revised to be “adjacent” tracts of land.

Section 560.6(b)(1)(i) requires secondary containment for all fueling tanks. IOGA recommends that this be amended to make it specific to storage tanks. Secondary containment around temporary tanks – such as trucks and stimulation equipment – is not necessary to protect the environment.

Section 560.6(b)(1)(ii) imposes, to the extent practicable, a 500 foot setback from perennial or intermittent streams, storm drains, wetlands, lakes or ponds for fueling tanks. The requirement is confusing and includes a vague and undefined practicability standard. IOGA recommends that the DEC clarify the requirement and, in doing so, amend it to include a minimum volume and further expressly state that the requirement does not apply to portable fuel tanks on tankers that are brought to a site for fueling purposes.

Section 560.6(c)(2)(i) requires that an operator or operator's designated representative be present during all drilling and completion operations when a blowout preventer is installed. This requirement should be clarified to specify whether this "designated representative" can be from the drilling company. Part and parcel to this, as noted above, IOGA recommends that "designated representative" be defined in section 560.2.

Section 560.6(c)(2)(ii) requires that a snubbing unit or coiled tubing unit with a blowout preventer be used to enter any well with pressure or to drill out one or more solid-core stage plugs. IOGA recommends that this requirement be deleted as unnecessary because a work over rig with appropriate circulating fluid can handle most interventions.

Section 560.6(c)(3)(i) requires, at a minimum, two mechanical barriers for use during identified operations. IOGA New York recommends that this requirement be deleted. Standard industry practice requires only one barrier for testing purposes.

Section 560.6(c)(5) prohibits the annular disposal of drill cuttings or fluid. IOGA recommends that this provision be changed to prohibit the "intentional" annular disposal of drill cuttings or fluid.

Section 560.6(c)(10)(v) specifies a gas-block additive as a requirement. A gas-block additive should not be required in the surface string since this string is intended to case off water zones where deeper strings would have cement in contact with gas bearing zones. Furthermore, the requirement is too prescriptive. IOGA, therefore, recommends that this requirement be deleted.

Finally, many of the requirements set forth in §560.6 are too prescriptive and do not allow sufficient flexibility to accommodate site-specific conditions and evolving technology. Accordingly, IOGA has suggested waiver language that would allow the DEC to accept alternative technologies that offer the same or greater protection of the environment.

Section 560.7 Waste Management & Reclamation

Proposed section 560.7 concerns waste management and reclamation. IOGA offers the following specific comments:

Section 560.7(c) prohibits the on-site burial and beneficial use of these materials and, in doing so, effectively deems all drilling fluids and cuttings to be waste. IOGA, therefore, recommends that the proposed prohibition be re-addressed so that on-site disposal of drilling fluids and cuttings may occur subject to Department approval. In certain cases, on-site burial

might be a more environmentally-friendly method than disposal at a solid waste facility. Indeed, with respect to drilling fluids, not all oil- and polymer-based drilling fluids are the same. For example, the family of linear synthetic oil-based muds (“LSOBMs”) is currently being developed as a low toxicity, highly biodegradable alternative. The composition of these LSOBMs is such that BTEX and the majority of cyclic hydrocarbons have been eliminated from the formulary. LSOBMs are highly biodegradable and are being created specifically so that onsite burial or land application is practical. They lower, and in some cases even eliminate, the need for salt in the mud system which further ensures their suitability for onsite disposal or land application. Relative to drill cuttings, industry may be able to develop a plan that meets EPA Toxicity Characteristic Leaching Procedure (TCLP) standards for leaching. The regulations, therefore, should allow on-site disposal with DEC approval contingent upon meeting target parameters for the constituents of concern.

Section 560.7(f) requires flowback water to be, “tested for naturally occurring radioactive material prior to removal from the site.” This requirement is vague relative to the frequency of the testing that will be required. Moreover, the requirement should be eliminated due to the amount of time that it will take to get analytical results back. Alternatively, IOGA recommends that the requirement should be changed to clarify that a single representative sample must be taken and analyzed prior to transporting the waste for disposal and there should be no analytical requirement if the water is going to be recycled on-site or at a different location. Also, the § 560.7(f) requirement that “the ground adjacent to the tanks must be measured for radioactivity,” should not be required unless a spill has been reported (and § 750-3.4(b)(8) should be deleted as redundant).

Finally, the DEC needs to clarify § 560.7(h) relative to the approval contemplated for partial and final reclamation. In particular, IOGA recommends that the DEC specify whether the approval would be required prior to work or post-work inspection.

V. PROPOSED EXPRESS TERMS 6 NYCRR PARTS 750.1 AND 750.3

Jurisdiction And Individual SPDES Permit Requirement

The DEC should delete § 750-3.6 as the DEC lacks jurisdiction to require an individual SPDES permit because there are no discharges to the waters of New York State. ECL Article 17 prohibits “discharges” of pollutants into “waters of the state” without a permit (see ECL §§ 17-0701, 17-0803, 17-0807[4]), or if such discharges will result in contravening water quality standards (see ECL §§ 17-0501, 17-0301). The ECL defines “waters of the state,” and such include groundwater as well as surface water. ECL § 17-0105(2) (“waters of the state’ shall be construed to include ... all other bodies of surface or underground water, natural or artificial ... which are wholly or partially within or bordering the state or within its jurisdiction”).

Under the plain language of the statute, hydraulic fracturing a well below any groundwater bearing zones cannot be jurisdictional. Because HVHF would occur in formations well below the groundwater table, there is and can be no direct contact with any state “waters” and, thus, there is no possibility of direct introduction of contaminants (i.e., “discharge”) to such waters. In most areas of New York State, the groundwater table only extends several hundred feet below the ground surface and rarely, if ever, is found below 1,000 feet below ground surface. Notwithstanding this fact, § 750-3.4(b)(6) states, “certification that HVHF operations will be conducted only where the top of the fracture zone at all points along the proposed length of the wellbore is greater than both 2,000 feet below the surface and 1,000 feet below the base of fresh groundwater.” This is too stringent and will have the effect of making many areas

where shale resources are found off-limits to development. Moreover, this requirement has no place in the water regulations, since the water regulations relate to surface activities, not the hydraulic fracturing process itself. In addition to moving this requirement to the minerals regulations, the DEC should allow an applicant to demonstrate that there are sufficient confining geologic layers to prevent contamination of the groundwater bearing zone from the proposed hydraulic fracturing.

If the DEC does attempt to require an individual permit, § 750-3.6(b)(3) needs to be clarified. The DEC assigns the API number, so the number would not be known until the drilling permit is approved. This would further needlessly restrict the industry because it would indicate that the owner/operator could not submit the drilling permit and the HVHF permit concurrently.

Further, the proposed regulations are very confusing in that they seem to imply that a SPDES permit is required for HVHF, whereas the regulations specifically exempt that activity. § 750-1.1(g). To acknowledge the exemption, the HVHF GP should reflect New York's current SPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activities (GP-0-06- 002) by requiring the HVHF GP only for "stormwater discharges associated with industrial activity from oil and gas extraction ... which have had a discharge of a reportable quantity (RQ) of oil or a hazardous substance for which notification is required under [federal regulations]." The DEC also should modify the HVHF GP to mirror Pennsylvania's streamlined Erosion and Sediment Control General Permit (ESCGP-1). The Pennsylvania permit requires robust planning for environmental protection along with expedited permit review and authorization. New York should have a similarly expeditious process, consistent with the process that is currently employed in the Multi-Sector General Permit, to avoid time delays that will put New York at a competitive disadvantage with other shale producing states. IOGA estimates that the cost to comply with the stormwater requirements of the proposed regulations will be between \$50,000 and \$100,000 per well pad. This compares to costs ranging from \$25,000 to \$40,000 per well pad in Pennsylvania for a comprehensive, but streamlined regulatory program. These costs are in addition to the exorbitant costs associated with baseline monitoring, which are more fully addressed below. In addition, IOGA offers the following specific comments.

There should be nothing that is "in addition to" what is set forth in the stormwater general permit applicable to the oil and gas extraction industry. § 750-3.4(a). The general permit should be self-explanatory and self-implementing. (As further clarification, § 750-3.4(b) should be clarified as "individual" HVHF SPDES permit, since the definition of HVHF SPDES permit includes both an individual and a general permit). Finally, it is unreasonable to require certification of disposal capacity for the "life of the well," since shale wells may last for many decades. §§ 750-3.4 (b)(1), 750-3.12. Instead, the time limit on capacity certification should be no greater than five years of disposal.

Unnecessary Duplication

A separate SPDES permit for drilling and completion (§ 750-1.1(g)) is duplicative of the minerals regulations. For the reasons detailed in IOGA's Critical Issues Analysis (Tab 1), the DEC should not require a SPDES permit. Therefore, §§ 750-1.1(b), 750-1.5(a)(6) and 750-3.4 should be deleted. If any separate review is required beyond the review of the qualification for the Multi-Sector General Permit, it should happen contemporaneously with the well permit application, not sequentially.

In addition, any application requirements should be contained in the minerals regulations and the singular application requirements should serve as a checklist for a complete application and compliance with the GEIS and the SGEIS. For example, the following water regulations are already covered in the mineral regulations and should be deleted:

- § 750-3.11(e)(1)(i)
- § 750-3.11(e)(1)(ii)
- § 750-3.11(e)(1)(iii)
- § 750-3.11(e)(1)(v)
- § 750-3.11(e)(1)(vi)
- § 750-3.11(e)(1)(vii)
- § 750-3.11(f)
- § 750-3.11(h)
- § 750-3.11(i)
- § 750-3.11(j)
- § 750-3.13²

6 NYCRR Parts 750.1 and 750.3, Stormwater Permitting

Assuming that the DEC does not remove unnecessary duplication, IOGA offers the following comments on the proposed regulations for stormwater permitting:

The DEC needs to clarify § 750-3.4(b)(4)(ii) regarding the volume of on-site pits to specify what creates “related tracts.” IOGA recommends that this be changed to “well pad.”

Section 750-3.4(b)(4)(viii) should be deleted as an unnecessary requirement. Alternatively, § 750-3.4(b)(4)(viii) should be clarified to explain what “chemically compatible with ... the environment” means.

Section 750-3.4(b)(6), which requires a certification that HVHF operations will be conducted only where the top of the fracture zone at all points along the proposed length of the wellbore is greater than both 2,000 feet below the surface and 1,000 feet below the base of fresh groundwater, needs clarification because geologic names for many sequences may carry through larger areas where the action fracture zone may be a subset of this formation; i.e., is the Point Pleasant a separate section of the Utica Shale?

² If the DEC elects not to delete § 750-3.13(f), alternatively, § 750-3.1(f) must be clarified because a continuous recording device for all production and flowback is technically difficult and does not seem to be a necessary requirement, given the provision to record the volume of all flowback and production brine (see § 750-3.13(g)).

Section 750-3.4(b)(8)'s requirement for a "certification that the applicant will utilize chemical additive products that are efficacious exhibit reduced aquatic toxicity, and pose less risk to water resources and the environment or, as an alternative, documentation to the DEC's satisfaction that the *available alternative products* are not equally effective or feasible" restricts competitive operations between service companies and may force the elimination of a competitive environment for services. The regulations should not dictate a specific product based on a generic goal.

Section 750-3.5(b) unjustly allows the DEC to "change any previously-issued determination in the event that the permittee fails to implement any measure described in the certifications submitted in compliance with 750-3.5." Under this scenario, an operator could invest millions of dollars in a well only to have their general permit revoked, which would mean that the operator could be subject to an extended permit process to obtain an individual SPDES permit. IOGA, therefore, recommends that this provision be deleted.

Section 750-3.6(c), which prohibits an owner or operator from commencing the Construction Phase until its authorization to discharge under the HVHF SPDES permit is effective" should be deleted. This clause indicates that an owner/operator cannot construct a well pad until the DEC approves the discharge plan. There should be one stop shopping for a single permit from the DEC. The Division of Minerals should approve all of these activities in order to avoid timing issues.

The proposed requirements of § 750-3.11(d) that are contemplated prior to submission of the final Notice of Termination appear to be without authority or precedent. IOGA, therefore, recommends that the entire subsection be deleted.

Section 750-3.11(e)(1)(iv)("The owner or operator shall, prior to commencing the HVHF Phase ... (b) ensure that all areas of disturbance have achieved final stabilization") should be clarified because an operator cannot still be developing the site and "achieve[] final stabilization." Instead, IOGA recommends the language "have been stabilized." Further, IOGA recommends that language be inserted into subparagraph (c) to account for ongoing stabilization that may be occurring at the site.

Section 750-3.11(e)(1)(iv)(c) ("ensure that all temporary, structural erosion and sediment control measures have been removed") indicates that there will be no temporary structures during the HVHF phase. There is a need for temporary erosion design near frac tanks and water storage that may be removed post stimulation, making § 750-3.11(e)(1)(iv)(c) impractical unless further defined.

The DEC should delete § 750-3.21, given the detailed requirements set forth in the proposed general stormwater permit. That being said, any necessary regulations that are not transferred to the minerals regulations should be contained in § 750-3.21 alone. In addition, the language should make clear that the regulations govern compliance with the general permit and do not create any new permitting requirements that might be interpreted as being subject to the Uniform Procedures Act and give rise to the right to an adjudicatory hearing.

If the DEC chooses not to delete § 750-3.21, IOGA offers the following specific recommendations:

- Section 750-3.21(f)(3) ("HVHF operations where the top of the target fracture zone at any point along the entire proposed length of the wellbore is shallower

than 2,000 feet below surface; and where the top of the target fracture zone at any point along the entire proposed length of the wellbore is less than 1,000 feet below the base of a known fresh water supply”) needs to be made consistent with the recommendations set forth above that would allow waivers of these depth and separation requirements based upon a demonstration that confining geologic layers exist that will protect the freshwater bearing zone.

- Section 750-3.21(f)(5) cites to “Best Available Technology Economically Achievable (BAT) or Best Practicable Control Technology Currently Available (BPT) guidelines found at 40 CFR Part 435” which applies in subpart C to onshore drilling. The DEC needs to evaluate the scope of this disqualification and put it into the context that contaminated stormwater discharges from oil and gas production sites are not intended.
- Because only stormwater will be discharged from HVHF operations and the DEC has proposed multiple, independent, redundant safeguards to preclude contamination from leaving the site, §§ 750-3.21(f)(9)-(10) should be deleted.
- The proposed § 750-3.21(k) would allow the DEC to “require any discharger authorized to discharge in accordance with the HVHF general permit to apply for and obtain an individual SPDES permit.” Section 750-3.21(k) also would allow the DEC to terminate coverage under the general permit without any basis. As such, an operator could be in the middle of a multimillion dollar investment only to have its general permit coverage revoked, which would require it to obtain an individual SPDES permit that could take an extended period of time and be subject to adjudicatory hearings. This type of unfettered discretion should be eliminated from the regulatory proposal. The DEC has indicated that this is not intended to provide the agency with the right to require an individual SPDES permit after an operator has qualified for a general stormwater permit. IOGA, therefore, suggests that the DEC add clarifying language that is both necessary and appropriate.
- Section 750-3.21(o) states that “[u]nless and until a fee is promulgated specifically for the HVHF general permit, HVHF operations are considered a SPDES permit for stormwater discharges from construction activity for purposes of assessing SPDES general permit fees.” The DEC lacks any legal basis for this provision. IOGA, therefore, recommends that it be deleted.

Section 750-3.25(d) regarding monitoring of stormwater discharges during the Construction, HVHF and Production Phases needs to be clarified to specify what needs to be monitored and recorded and what needs to be effectively operated. Continuous recording of stormwater discharges is unreasonable and not possible. Also, the reporting requirement would need to specify a timeline. For typical SPDES permits, reporting is monthly with permit conditions monitored as required by permits, such as continuous or grab or intermittent. Finally, the DEC needs to clarify how this can apply to temporary facilities.

In addition, the baseline testing contemplated by the stormwater program goes beyond what is required for any other stormwater permit in New York State and exceeds the monitoring requirements for most prominent facilities to manage hazardous substances and hazardous wastes. IOGA estimates the cost to conduct all of the benchmark monitoring contemplated by the stormwater regulatory program to be \$50,000 per well pad. This compares to \$5,000 per

well pad for compliance with the benchmark testing required under the existing multisector general permit. As noted in other sections of comments, any contamination coming from a well pad is likely to contain chlorides, which is why chlorides is the most common benchmark testing parameter for discharges from a well site. The benchmark testing contemplated by the proposed stormwater program is designed to require each operator to prove the negative; i.e. that no contaminants have been discharged from the site, but that same objective can be met with the existing benchmark testing requirements. Since a number of small businesses are implicated in this requirement, the DEC is legally obligated to look for more cost-effective alternatives, the most logical of which is to continue the existing benchmark testing requirements.

750-3.12 Disposal of HVHF flowback and production water

Proposed section 750-3.12 concerns disposal of flowback and production water from high-volume hydraulic fracturing. IOGA offers the following specific comments:

Sections 750-3.12(b)(4),(6) regarding the required elements of the proposed Disposal Plan do not provide for confidential business information, which is inconsistent with the way the issue is treated elsewhere in the proposed regulations (see § 750-3.13(e)). To resolve this omission, the following should be added to the proposed section 750-3.12: “This Disposal Plan may exclude any information that has been identified as confidential business information.” A similar concern exists relative to Section 750-3.12(d)(1)(vi)(c) regarding the documentation required for a discharge of flowback water and production brine to the headworks of a POTW. Thus, the following should be added to section 750-3.12(d)(1)(vi): “This documentation may exclude any information that has been identified as confidential business information.”

The DEC should not specify disposal options and should encourage recycling and beneficial reuse. § 750-3.12(d). Further, § 750-3.12(d) should be deleted because it applies to wastewater treatment plant operations rather than oil and gas operations. Alternatively, if the DEC does not delete this requirement, § 750-3.12(d)(1)(vi), regarding the required demonstration, should be limited to POTW’s permitted limits.

Section 750-3.12(d)(1)(vi)’s requirement that “[t]he headworks analysis must demonstrate, among other things, that the POTW is capable of removing the contaminants expected to be present in the flowback water and production brine, including but not limited to Total Dissolved Solids, NORM, barium, bromides, BTEX, and chemicals present in the additives used in the development of the wells[]” is too open ended and too restrictive. POTWs are required to treat influent to meet discharge limitations and not to remove all of the contaminants in the influent. IOGA, therefore, recommends that the DEC revisit this requirement to narrow the requisite demonstration and the requisite level of treatment.

Section 750-3.12(d)(1)(vi)(c) regarding “each discharge of flowback water” should be plural. Otherwise, it would limit flowback to individual wells with no comingling on a multiple well pad. In addition, § 750-3.12 (d)(1)(vi)(c)(3) suggests that the regulations will require a listing of the concentrations of each chemical in the flowback relating to the same list of chemicals supplied as used in HVHF treatment. This is unnecessary given the chemical analysis proposed in this section.

Section 750-3.12(d)(3)(ii) which prohibits any remaining residuals at the site following completion of well development is unclear. IOGA recommends that the section be clarified to indicate whether this is the “completion phase” or the “production phase.”

Section 750-3.12(d)(5) regarding the injection of production brine into the strata from which it was produced pursuant to a SPDES permit is unnecessary and should not be applied to well stimulation. IOGA, therefore, recommends that it be deleted.

Section 750-3.12(d)(5)(v), which purports to require a long-term monitoring program should be deleted, as a monitoring well is not required under the regular underground program, as outlined in § 750-3.12(d)(5). Alternatively, long-term monitoring should only be required where there has been a spill that requires reporting and the nature and extent of the monitoring should be based upon the site specific circumstances.

Section 750-3.12 (d)(5) notes that “[n]otwithstanding the requirements listed in 6 NYCRR 556.5, the injection of production brine described in 6 NYCRR 556.5 is regulated pursuant to this Subpart and requires a SPDES permit”. This is demonstrative of a lack of coordination between divisions within the DEC. It would be less confusing and provide greater regulatory certainty to include all of the substantive requirements in one place. That one place should be in the mineral regulations. If a particular document needs to be certified to be consistent with the requirements of the water program, that requirement can be contained in the minerals regulations.