Overview of State Regulations Affecting Local Citizens and Governments and Corresponding Suggestions for North Carolina’s Evolving Regulatory Regime

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Introduction

Hydraulic fracturing is a controversial process of obtaining sub-surface energy, in the form of oil or natural gas.¹ Companies use water as well as chemical components which they inject into underground rock formations to garner these energy sources from “low-permeability formations.”² This method of energy extraction caused a flurry of controversy in 2012 as the North Carolina General Assembly passed the Clean Energy and Economic Security Act, which opened the door to hydraulic fracturing in North Carolina as of October 1, 2014.³ Concerns remain as to how this bill and the hydraulic fracturing activity it legalizes will impact North Carolina’s economy, environment, and populace.

Because of the large quantity of water used in the hydraulic fracturing process, local communities are often concerned about the balance of water usage between the energy companies and local needs.⁴ Another water-related concern in surrounding areas is whether or not chemical components from the injection fluids may pollute local drinking water.⁵ Additionally, trespass is implicated in a non-traditional way due to the subsurface and horizontal nature of fracturing. A resulting issue is whether or not a concept of subsurface trespass is implicated when effuse from hydraulic fracturing enters

² Id.
⁴ Hall, supra note 1, at 251.
⁵ Id.
the subsurface of an adjoining property.\textsuperscript{6} Other concerns about hydraulic fracturing are based on the fact that the “[d]rilling sites can be noisy, smelly, dusty, brightly lit (to allow drilling around the clock),” and contribute to the “increased [flow of] auto traffic.”\textsuperscript{7} These issues manifest in local concerns in various areas where hydraulic fracturing occurs. State-based regulations and legal recourse may prove necessary in order to mediate the conflict between communities and companies and to help prevent the potential impacts of hydraulic fracturing from harming local citizens.

A significant provision of the Clean Energy and Economic Security Act reforms the Mining Commission into the North Carolina Mining and Energy Commission that is now responsible for “developing a modern regulatory program for the management of oil and gas exploration and development activities in North Carolina, including the use of horizontal drilling and hydraulic fracturing.”\textsuperscript{8} One area to consider when formulating these regulations is the impact they will have in aiding and limiting the citizens and local governments most directly impacted by the influx of hydraulic fracturing in the coming years. This paper focuses on the legal aspects and consequences of hydraulic fracturing on citizens, communities, and local governments. In particular, this paper explores the regulations and case law from states that have legalized hydraulic fracturing which address these topics. It will then address regulatory mechanisms that could be developed by the Mining and Energy Commission to address potential local impacts, followed by a discussion of the likely role for North Carolina environmental attorneys and how the development of this industry may influence North Carolina energy and property law.

\textsuperscript{6} Id. at 252.
\textsuperscript{7} Id.
Overall, this paper analyzes to what extent other states have allowed local governments to act in order to protect their citizens and communities from the localized consequences of hydraulic fracturing, and where North Carolina may position itself along this state-local balancing continuum.

North Carolina: Current Statutory Regime and Potential Regulatory Framework

The trials of other states in enacting a regulatory regime that establishes a balance between state and local interests provide a motivation for North Carolina regulators to promulgate provisions that honor this balance. Terms in the Clean Energy and Economic Security Act that constitute the statutory basis of the Commission’s recommendations mirror the statutes of other states. Specifically, North Carolina’s Act provides that:

- The Mining and Energy Commission . . . shall examine the issue of local government regulation of oil and gas exploration and development activities . . . . The Commission shall formulate recommendations that maintain a uniform system for the management of such activities, which allow for reasonable local regulations, including required setbacks, infrastructure placement, and light and noise restrictions, that do not prohibit or have the effect of prohibiting oil and gas exploration and development activities, and the use of horizontal drilling and hydraulic fracturing for that purpose, or otherwise conflict with State law.9

This language hearkens to a similar Pennsylvania provision, “Uniformity of Local Ordinances,”10 which is examined later in this paper and concerns the interaction between state regulation and local ordinances.11 As such, North Carolina courts will likely face the same challenges as other state courts and will be required to interpret the meaning of “reasonable local regulations” and to determine whether or not particular ordinances “prohibit or have the effect of prohibiting” hydraulic fracturing. Specifically, application

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10 58 PA. CONS. STAT. § 3304 (2012).
11 See infra notes 48–49 and accompanying text.
of this statute will implicate a variety of interpretive issues, including how far-reaching local regulations of “required setbacks, infrastructure placement, and light and noise restrictions” can be before they are legally deemed to “prohibit or have the effect of prohibiting” hydraulic fracturing.

The bill directs the Mining and Energy Commission to include certain regulations that specifically impact and protect local citizens and communities. This mandate includes regulation of the following areas: exploration, management of wells after they are closed, protection of water supply and other environmental services, management of resulting waste and used water, required disclosure of non-trade secret chemicals, institution of infrastructure-protection measures, confirmation of proper post-drilling use and protection, and permission for surrounding owners to investigate thoroughly to see if a company impermissibly drilled into their land. The question remains, however, of how far local governments will be allowed to go in protecting their citizens and supplementing this state regulation. The interpretation of this statute may significantly impact the jurisdiction of local governments. Similarly, there is great potential that the legal topics implicated in other states, including regulatory takings, nuisance, and trespass, will also impact North Carolina’s court system as it mediates such conflicts generated by hydraulic fracturing.

Comparative Analysis of State Regulations and Court Decisions

13 Id. § 113-391(2).
14 Id. § 113-391(3)–(4).
15 Id. § 113-391(5)(e)–(f).
16 Id. § 113-391(5)(h).
17 Id. § 113-391(5)(j).
18 Id. § 113-391(5)(l).
19 Id. § 113-391(6).


An overview of various state regulations affecting local governments and the related case law provides a national framework for North Carolina to reference while it formulates the specifics of its regulatory and statutory framework for hydraulic fracturing. Significantly, analysis of what other states have and have not done allows North Carolina to gain better perspective when weighing the balance between local government action and the potential preemptive power of state regulation.

Despite the strong role federal legislation plays in other areas of environmental law, hydraulic fracturing is virtually uncovered by the federal law.\(^{20}\) As such, the states are responsible for how and when to regulate this emerging industry.\(^{21}\) While many states provide a variety of regulations based on chemical usage and specific practices, fewer states provide regulations that speak directly to the concerns of citizens and actions of local governments.\(^{22}\) General categories of state hydraulic fracturing regulations include “disclosure-based regulations, economic-based regulations, operational regulations, [and] regulatory restrictions.”\(^{23}\) Specifically, regulatory restrictions include activity by some municipal governments to influence hydraulic fracturing within their boundaries.\(^{24}\)

These regulations manifest in different forms depending on the state. State case law also plays an important role in determining the impact and interpretation of these regulations as well as how hydraulic fracturing fits within current legal doctrines. As such, one must consider legal impacts of these regulations in addition to their policy and


\(^{21}\) Id.


\(^{23}\) Id. at 63.

\(^{24}\) Id.
political impacts. A fundamental function of the court system is to provide redress for aggrieved parties. Given the unfortunate but significant impact hydraulic fracturing can have on individuals living and working near these wells, it correlates that individuals most affected by the drilling will seek to use media and legal resources to protect their environmental and health needs and to avoid nuisances.\textsuperscript{25} Significantly, it is important to determine if the environmentally-based conflicts that arise focus on negative consequences that were not addressed by state regulations.\textsuperscript{26}

Instances of citizen action in this context range from those who “are pushing for environmentally-oriented fracing\textsuperscript{27} processes” to those considering taking legal nuisance action based on “exploration activities that precede fracing and drilling . . . .”\textsuperscript{28} Courts formulate their role along the regulatory-citizen concern continuum within legal doctrines such as trespass and nuisance, determination of preemption, and the enforcement and interpretation of local and state regulations.\textsuperscript{29} The next sections proceed by topic to examine the breadth of state regulations and applicable case law that structure hydraulic fracturing’s legal status across the country.

\textit{Costs and Impacts on Local Infrastructure}

Regardless of whether or not local governments and citizens hold the ability to regulate hydraulic fracturing, they still can be impacted by the costs which hydraulic fracturing activity inflicts on its surroundings. A key area where communities may be left footing the bill for the influx and exit of hydraulic fracturing is infrastructure. Very

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\item[{\textsuperscript{25}}] Wiseman, \textit{supra} note 20, at 127.
\item[{\textsuperscript{26}}] \textit{Id}.
\item[{\textsuperscript{27}}] “Fracing” is another colloquial term for hydraulic fracturing.
\item[{\textsuperscript{28}}] Wiseman, \textit{supra} note 20, at 127.
\item[{\textsuperscript{29}}] \textit{Id}.
\textit{at} 146.
\end{itemize}
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heavy equipment is used in the hydraulic fracturing process and has potential to result in negative effects to local roads.\textsuperscript{30} New York addresses this issue through the use of a generic environmental assessment form for all industrial applicants, combined with a drilling attachment mandated by an executive order that specifically addressed hydraulic fracturing.\textsuperscript{31} In addition to various chemical and water measures, this requires the applicant to “explain whether topsoil will be disturbed and whether the applicant will implement erosion control measures as well as whether the applicant will build new access roads or use existing corridors.”\textsuperscript{32}

This policy makes logistical and equitable sense. Particularly in poor or rural areas, local governments struggle to gain enough revenue to address many infrastructure needs. If drilling companies compound the negative impacts on already declining infrastructure, states need to be aware of the increased toll. Additionally, tracking the anticipated impacts can allow states to apportion the costs of infrastructure accordingly should they choose.

\textit{Nuisance}

Nuisance regulation provides a legal option for municipal and local governments use in order to limit and mitigate hydraulic fracturing’s negative results on communities. Louisiana regulations provide an example of state regulations that restrict companies in order to reduce nuisances to local residents. These urban-area regulations “include

\begin{itemize}
  \item \textsuperscript{30} \textit{Id.} at 127.
  \item \textsuperscript{31} \textit{Id.} at 160; N.Y. COMP. CODES R. & REGS. tit. 9, § 7.41 (2010).
  \item \textsuperscript{32} Wiseman, \textit{supra} note 20, at 160.
\end{itemize}
requirements on fencing, noise, dust, work hours, and water use”\textsuperscript{33} and “place specific limits on operating hours, noise pollution, and gas venting related to fracking.”\textsuperscript{34} Specifically, Louisiana’s office of Conservation promulgated Order No. U-HS, which regulates gas exploration in urban areas.\textsuperscript{35} This order provides restrictions for well setbacks, fencing, maintenance of the drillsite, dust, vibration and odors, site lighting, muffling exhaust, venting and flaring of gas, discharge, work hours, noise, water use, and road use.\textsuperscript{36}

New Mexico is another example of a state where local governments have a strong influence on regulations of appropriate drilling hours and noise levels.\textsuperscript{37} These provisions exemplify a means which municipalities in North Carolina could use to protect their communities from negative impacts of hydraulic fracturing.

Additionally, Louisiana limited its regulations to urban areas. As a state with a strong rural presence, North Carolina will have to determine what level of population density will garner the protection of these provisions and which local areas will be left without a shield. Despite their practical importance, these regulations may also face legal challenge and courts may uphold them under applicable nuisance doctrines.


\textsuperscript{36} Id.

\textsuperscript{37} Gradijan, supra note 22, at 85.
Some courts have upheld municipal nuisance regulations of hydraulic fracturing. Examples come from Texas where “lower courts . . . have consistently validated city and other local oil and gas ordinances that protect human populations from the nuisances caused by drilling, such as water supply contamination, the prevention of ‘orderly growth’ of a city, or ‘escaping gas, explosions, fire, cratering, etc.’”38 However, causation standards may render nuisance law ineffective to deal with the full impacts of hydraulic fracturing on local environments and communities.39 North Carolina attempted to address this challenge of proving causation by including a presumptive liability standard in the Clean Energy and Economic Security Act.40 This provision establishes a rebuttable presumption that the company is responsible for contaminated water supplies located within a 5,000-foot radius of the well.41 While nuisance law alone may be insufficient to protect citizens in areas such as well contamination, statutory provisions such as this one serve to supplement local regulations to maintain protection of local citizens.

Preemption

Some scholars argue that these types of local regulations are not a force to block the growth of hydraulic fracturing entirely, but rather are a result of local governments stepping in to fill the regulatory gaps left when the federal and state governments fail to regulate.42 Scholars observe that while “[s]ome cities in Pennsylvania and New Mexico have attempted to regulate or forbid hydraulic fracturing, . . . [i]t is unlikely that

38 Wiseman, supra note 20, at 156 (internal citations omitted).
39 Id. at 156.
41 Id. sec. 4(b), § 113-421(a).
42 Gradijan, supra note 22, at 71.
Pennsylvania cities’ outright blanket bans on the practice will be upheld, especially given some language that is in Pennsylvania's new drilling regulations.”\textsuperscript{43} Some affected localities respond with municipal ordinances regulating the activity and impacts associated with hydraulic fracturing rather than outright bans because “[i]t is unclear whether these city bans will be upheld in court, given that state agencies oversee well permitting.”\textsuperscript{44} The doctrine of preemption may play a significant role in nuancing the balance between state and local regulation. Under this well-known doctrine, if the higher authority (the state) has legislated on an issue to the point that it entirely occupies the field and leaves no area for local regulation, then the lower authority’s (local governments’) regulation is inappropriate.\textsuperscript{45}

Statutory language provides guidelines for determining whether or not the state has thus occupied the regulatory field. For example, the regulatory response in Pennsylvania proscribes:

‘all local ordinances regulating oil and gas operations shall allow for the reasonable development of oil and gas resources.’ Reasonable development includes, not imposing ‘conditions, requirements or limitations on the construction of oil and gas operations that are more stringent than conditions, requirements or limitations imposed on construction activities for other industrial uses within the geographic boundaries of the local government’ and the setting of a maximum period of 120 days for application review.\textsuperscript{46}

While Pennsylvania’s regulations clearly support growth of the hydraulic fracturing industry, the state is also willing to punish, through fines and bans, companies who fail to

\textsuperscript{43} Id. at 63.
\textsuperscript{44} Id. at 76.
\textsuperscript{45} See, e.g., City of Houston v. Hill, 482 U.S. 451, 460 (1987) (holding that a state penal code pre-empted a local ordinance).
\textsuperscript{46} 58 PA. CONS. STAT. § 3304 (2012).
uphold regulations and draw citizen ire. These behaviors suggest a balance between the state’s energy and economic interest and local and citizen concerns.

Judicial determination of whether or not the state has entirely assumed the field of hydraulic fracturing regulation will play a significant role in determining the agency of municipalities in North Carolina as well as how corporations interact with state and local agencies. In West Virginia, the state preemption of local regulation allows corporations to promote their interests at a statewide level rather than being forced to cater to the desires of local governments. As a corollary, West Virginia shows the impact of states where any group, corporation, or individual who wants to impact hydraulic fracturing regulations “must act at the state or federal level rather than through local ordinances.”

West Virginia provides an example of the end of the spectrum that emphasizes wholly state-based regulation. The courts determined that bans are only permissible at the state level “because the State has the primary interest in oil and gas law.” Such a restriction is best illustrated in a 2011 case where the court struck down a municipal ban on hydraulic fracturing within the city and a one-mile radius. The statutory interpretation by West Virginia courts in *Northeast Natural Energy LLC v. City of Morganton* suggests a strong emphasis on state-based, rather than local, regulation.

Regulatory takings and just compensation comprise additional areas of law that may be highlighted in future hydraulic fracturing-related cases within the context of preemption. Ordinances that face challenges under regulatory taking claims will likely

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47 Gradijan, *supra* note 22, at 77–78.
48 *Id.* at 79.
49 *Id.* at 85.
50 *Id.* at 79–80.
52 *Id.*
also have to defend against claims that these ordinances are preempted by state law. For example, despite the fact that there is a state regulatory commission in Texas, “many [Texan] cities have enacted their own regulatory ordinances, which often impose more stringent permitting and site location requirements, or entirely prohibit drilling in certain locations.” The state high courts have not addressed this issue yet, but it will likely arise soon as a constitutional question implicated by the battle over regulatory control between local and state governmental entities. Because of the strength of the Texan regulatory commission, local governments who wish to regulate or ban hydraulic fracturing within their boundaries must also defend their powers against the argument of preemption. Texas illustrates the legal battle, steeped in regulatory takings and preemption doctrines, that any regulations reaching beyond state rules to further limit companies at the local level will likely face.

**Trespass**

States arrive at different conclusions as to whether or not hydraulic fracturing can constitute a form of trespass. In *U.S. Steel Corp. v. Hoge*, the Pennsylvania Supreme Court made a distinction between how gas can be owned and how ownership can be transferred. It determined that whoever owns the coal therefore owns the gas from the coal, “so long as [the coal] remains within his property and subject to his exclusive dominion and control. The landowner, of course, has title to the property surrounding the

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54 *Id.* at 350.
55 *Id.* at 361.
coal, and owns such of the coal bed gas as migrates into the surrounding property.”

This court decision may help to determine when companies trespass on the ownership of the particular or surrounding landowners when drilling for gas.

In contrast, a case from Texas contained an opinion in which the concurring Justice Willett opined that “[s]uch encroachment isn't just 'no actionable trespass'; it's no trespass at all.” In the Texas case, the majority opinion’s view held that damages caused by drainage from fracturing are “not an actionable trespass but rather an activity properly governed by the rule of capture and its associated remedies.” Conversely, in *Gliptis v. Fifteen Oil Co.*, the Louisiana Supreme Court acknowledged the potential for subsurface trespass when drilling. As the contrast between various state courts illustrates, an open area in the case law may be further pressed by hydraulic fracturing on “the extent to which courts may be used to challenge physical damage to property caused by fracing—whether the surface owner's or adjoining property . . . .” The courts’ determination of the relationship between trespass doctrines and hydraulic fracturing will likely impact citizens in North Carolina in the upcoming years.

**Water Quality Concerns and Well Regulations**

The variation in municipalities’ abilities to regulate both the well itself and its potential impacts, in addition to the differences in state power in this area, together

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57 Id. at 1383.
58 Coastal Oil & Gas Corp. v. Garza Energy Trust, 268 S.W.3d 1, 29 (Tex. 2008).
59 Wiseman, *supra* note 20, at 152.
60 16 So. 2d 471 (La. 1943).
61 Id. at 474.
provide an effective touchstone for North Carolina to reference while determining how its regulations will take shape.

Due to the presence of the Marcellus Shale, Pennsylvania is a state with a relatively larger regulatory regime. This regulatory regime provides substantial information North Carolina can analyze and either adopt or avoid while formulating its own new regulations. One power Pennsylvania regulations grant to local governments is the ability to assess fees on unconventional gas wells. Pennsylvania’s regulations are also responsive to issues that are particularly salient to citizens, including allowance of water investigations to search for drilling-related pollution.

Another area of regulation includes the level of chemical disclosure companies must make—specifically whether or not they can refrain from listing certain components the company in question determines to be a “trade secret.” While the Texas administrative code leaves determination of what components are trade secrets largely up to the company, state regulations show some responsiveness to local concerns and allow challenges from “the landowner ‘on whose property’ the well is located, that person's adjacent neighbor, or a department or agency of the state.” As water pollution is a concern that specifically impacts and upsets local citizens who use the potentially affected water, states have shown some responsiveness to these local concerns by allowing for some fees and local regulations. However, as illustrated by these example provisions, state regulation still maintains most control over the impacts and restrictions of hydraulic fracturing.

63 58 PA. CONS. STAT. § 2302 (2012).
64 25 PA. CODE § 78.51 (2011).
65 Gradijan, supra note 22, at 79.
66 Id.; see also 16 TEX. ADMIN. CODE § 91.851(3). (2011) (effective Feb. 29, 2012); 16 TEX. ADMIN. CODE § 3.29(f) (2011).
Suggestions and Implications for North Carolina Regulations

While these cases demonstrate examples of conflicts citizens may face once hydraulic fracturing ensues in North Carolina, history supports the fact that regulatory bodies are not necessarily aware of all hydraulic fracturing-related issues that states may face.67 For example, some health related impacts, ranging from minor headaches and nausea to chemical poisoning, have gone unreported in other states.68 This shows the inadequacy of current regulations and supports an argument for regulations requiring appropriate notice of health and human related impacts from hospitals and attorneys to state agencies. Such notice would allow administrative regulations to continuously adapt to the realities on the ground in North Carolina specifically rather than continue to rely on the theories and case studies of other states used to determine initial regulations.

Because hydraulic fracturing is a new area for North Carolina energy regulation, without any state-specific data for the potency of potential regulations, agencies will attempt to create regulations in a vacuum in order to respond to the anticipated reality which will develop once the moratorium on hydraulic fracturing well permits is lifted. Some of these regulations will likely be helpful and others will likely be insufficient or ineffective. In order to adapt to the unexpected realities and effects of hydraulic fracturing in North Carolina, state agencies must continuously monitor, evaluate, and adapt the regulatory and management regimes. Other states provide a useful starting point when creating regulations in North Carolina. However, reality may shift once the moratorium is lifted and state agencies must be given the flexibility to adapt to such new

68 Id. at 195.
information and circumstances in order to promote human and environmental concerns and to ensure the protection of local interests.

Case law partially answers and also leave open legal questions that will have significance for hydraulic fracturing across the country. North Carolina must determine how and where to fit these regulations and case law within the national framework, an outcome which will likely be largely driven by decisions of the state’s administrative bodies. There is a national trend of “[s]tate courts' general deference to state agency decisions . . . [which] makes sense from the production perspective because it avoids overlapping and potentially conflicting sources of control.”69 While policy justifications exist for this trend, North Carolina will have to decide whether or not to follow it. Significantly, in order to conclusively determine how North Carolina courts will react to the ways in which agencies choose to interpret their statutory mandates in this context, attorneys must first bring hydraulic fracturing related cases, typically those involving citizen plaintiffs, before North Carolina courts.

Attorneys’ Role in the Regulation and Litigation of Hydraulic Fracturing

Attorneys continue to address and resolve conflicts due to the influx of hydraulic fracturing in other states. One way they do this is by taking on citizens and community groups as clients to help protect their health and individual concerns. When these communities bring legal action against corporations for contamination, nuisance, and other issues, attorneys must be prepared to play a role in advocating for local

69 Id. at 155.
communities or defending corporations and industry. Additionally, as North Carolina’s regulations will be without any state legal precedent, attorneys’ role of “advising the industry on state and federal legal laws, regulations, and guidelines” will be particularly salient during this uncertain period as the regulations evolve and are interpreted by the courts. The court system, and by proxy, attorneys, will play a pivotal role as “[s]uccessful litigation will likely focus on enforcement and the interpretation of regulations.” Additionally, upcoming litigation will define how North Carolina interprets the role of issues such as nuisance, trespass, regulatory takings, and state regulatory preemption of local ordinances. In a period of economic downturn, many forces in the state wish to open its doors to new energy sources and the evolving industry of hydraulic fracturing. Attorneys will play a role in ensuring that the regulations neither inappropriately stunt economic growth nor significantly harm local communities, many of whom already suffer from economic distress. Communities and the state must actually benefit from hydraulic fracturing for this to be worthwhile. Conflicts will arise if the costs of fracturing, whether economic or environmental, are disproportionately placed on particular communities rather than dispersed across the state and among the companies.

Conclusion

Within the next two years, the North Carolina Mining and Energy Commission will promulgate significant regulations that will define how hydraulic fracturing takes place and is limited in this state. These regulations can protect North Carolina from some

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71 Id.
72 Gradijan, supra note 22, at 85.
of the issues faced by other states that have already permitted hydraulic fracturing. However, the courts will still play a significant role in interpreting these regulations and in determining which legal doctrines may or may not provide redress for local citizens and communities. Attorneys will be pivotal in formulating the interpretation and impact of the hydraulic fracturing regulatory regime in North Carolina as well as in promoting the avenues open for local regulation and protection.