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Transparency and the Protection of Trade Secrets in the Fracturing World: The Case for Upfront Substantiation and Immediate Evaluation of Fracturing Fluid Trade Secret Claims in Louisiana

INTRODUCTION

“After years of talking about it, we’re finally poised to control our own energy future.”¹

Due to advances in technology, the future of the oil business within the United States is shining bright. Drilling companies now employ unconventional horizontal hydraulic fracturing² to recover oil and natural gas from shale formations previously perceived to be economically unviable.³ The process of hydraulic fracturing spurs production in oil and gas wells by creating or restoring small fractures in the shale formation.⁴ These fractures result from the high-pressure injection of a mixture of water, sand, and chemical additives.⁵

Typically, oil and natural gas companies keep the exact identity of fracturing mixtures confidential, citing trade secret protection over what the companies perceive to be proprietary information.⁶ However, this confidentiality has led to public backlash.⁷ Several states have enacted mandatory disclosure requirements in response to the growing support for compelled transparency relating to the chemicals included in the mixtures.⁸ By and large, these regulations still limit disclosure of what the public wants to access most—the exact identity and quantity of the chemicals that make up the additive portion of the fracturing fluid mixture.⁹

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1. President Barack Obama, State of the Union Address (Feb. 12, 2013).

2. For the purposes of this comment, the terms “hydraulic fracturing” and “fracturing” will be used interchangeably to mean, “unconventional horizontal hydraulic fracturing.”

3. See *Hydraulic Fracturing: The Process*, FRACFOCUS, <http://fracfocus.org/hydraulic-fracturing-how-it-works/hydraulic-fracturing-process> [<http://perma.cc/QD34-W3CC>] (last visited Sept. 11, 2014).

4. *Id.*

5. *Id.*

6. See Keith B. Hall, *Hydraulic Fracturing: Trade Secrets and the Mandatory Disclosure of Fracturing Water Composition*, 49 IDAHO L. REV. 399, 406 (2013).

7. See *Unchecked Fracking Threatens Health, Water Supplies*, NAT. RES. DEF. COUNCIL, <http://www.nrdc.org/energy/gasdrilling/> [<http://perma.cc/758V-8TVM>] (last visited Jan. 21, 2015).

8. See Hall, *supra* note 6, at 406–07.

9. See *Fracking Disclosure Rules*, ORRICK, <http://reaction.orrick.com/reaction/ebooks/FrackingDisclosureRules/index.html> [<http://perma.cc/K296-M26C>] (last visited Oct. 12, 2014).

In most cases, companies can cite trade secret protection to avoid disclosing this allegedly proprietary information.¹⁰ Even in mandatory disclosure states, overbroad trade secret protections often allow companies to avoid divulgence of specific chemical information. In addition, many of those states lack a process by which to evaluate trade secret claims unless challenged explicitly by a third party.¹¹ Consequently, the newly enacted regulations have not appeased proponents of full, mandatory disclosure.

Like many other states in the face of this public pressure, Louisiana enacted a mandatory disclosure regulation for the ingredients of fracturing fluid mixtures.¹² Although a step in the right direction, Louisiana's regulatory scheme nonetheless remains flawed, providing companies with a very general trade secret protection provision that lacks any form of immediate oversight.¹³ As a result, the regulation gives companies a clear path around actual disclosure.

While a company surely has the right to protect its proprietary information from the inquiring eyes of its competitors, reasonable prudence demands that—in light of the potentially hazardous nature of the chemicals involved in fracturing—some process exists to evaluate trade secret claims at the time they are made, rather than only following a third party challenge. In order to protect this sensitive balance, Louisiana must adopt a comprehensive scheme requiring upfront justification for a trade secret claim and must develop an evaluation process to be carried out by a regulatory agency at the time each claim is made. To effectuate that process, legislators should look to analogous schemes in other states, such as the one adopted by Wyoming, for guidance on how to amend Louisiana's current regulatory scheme.

This comment commences with a foundational survey of trade secret law and a discussion of the hydraulic fracturing process, in Part I. Part II then discusses the sociopolitical movement pressing for mandatory disclosure of the compositional make-up of fracturing fluid mixtures. Next, Part III provides an analysis of the benefits and shortcomings of the current Louisiana regulation and its federal counterpart, the Environmental Protection Agency's (EPA) Toxics Release Inventory (TRI) process, primarily focusing on the trade secret provisions of each. Part IV discusses the advantages of a more comprehensive process for trade secret claim evaluation, and Part V analyzes a model system in Wyoming. Lastly, Part VI outlines a proposed revision of Louisiana's

10. *Id.*

11. See Matthew McFeeley, *State Hydraulic Fracturing Disclosure Rules and Enforcement: A Comparison*, NAT. RES. DEF. COUNCIL (July 2012), <http://www.nrdc.org/energy/files/Fracking-Disclosure-IB.pdf> [<http://perma.cc/BM7T-26ZL>].

12. LA. ADMIN. CODE tit. 43, pt. xix, § 118 (2013).

13. *Id.*

trade secret exemption regulation to balance the need for disclosure on the public's end with the rights of companies to keep proprietary information confidential.

I. BACKGROUND

A. Trade Secrets

A trade secret is any piece of economically valuable information that provides an entity with a competitive advantage over its competitors and for which the entity makes reasonable efforts to maintain confidentiality.¹⁴ The actual origin of trade secret protection is somewhat debatable. Whether traced back to Roman law with the *Actio Servi Corrupti*,¹⁵ to the common law of nineteenth century England, or to somewhere in between¹⁶—it is clear that trade secrets law appeared in United States jurisprudence as early as 1868.¹⁷

Today, all fifty states protect trade secrets, giving the original owner legal recourse against those who misappropriate the confidential information.¹⁸ The Congressional Research Service found, “Trade secret law protects secret, valuable business information from misappropriation by others. Subject matter ranging from marketing data to manufacturing know-how may be protected under the trade secret laws.”¹⁹ Whether it be the recipe for the Colonel's fried chicken or the formula for WD-40, a trade secret is tremendously valuable to the company that invested the time and money to research and develop it.

While the exact definition of what constitutes a trade secret is governed by state law and therefore differs in the precise language depending on the jurisdiction, the Uniform Trade Secrets Act's (UTSA) definition is fundamental to most states' laws. The UTSA has been

14. See Black's Law Dictionary 1724 (10th ed. 2014); see also Roger M. Milgrim & Eric E. Bensen, *Milgrim on Trade Secrets* §1.01 (Matthew Bender & Co, 2014).

15. A. ARTHUR SCHILLER, *AN AMERICAN EXPERIENCE IN ROMAN LAW* 1–9 (Vandenhoeck & Ruprecht 1971); see also Alan Watson, *Trade Secrets and Roman Law: The Myth Exploded*, 11 TUL. EUR. & CIV. L.F. 19 (1996) (for an argument against this theory).

16. See John Cavicchi, *Trade Secrets Have A Long History*, JORDA SECRETS (Oct. 25, 2007, 8:00 AM), http://www.jordasecrets.com/2007/10/jorda_on_trade_secrets_have_a.html.

17. *Id.*

18. See Michael Risch, *Why Do We Have Trade Secrets?*, 11 MARQ. INTELL. PROP. L. REV. 1, 35 (2007).

19. John R. Thomas, Cong. Research Serv., R41391, *The Role of Trade Secrets in Innovation Policy* (2012).

adopted in forty-seven states, Washington D.C., Puerto Rico, and the U.S. Virgin Islands.²⁰ The Act defines trade secrets as

information, including a formula, pattern, compilation, program, device, method, technique, or process, that derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.²¹

On a general level, society accepts trade secret protection as a valuable necessity. Even the most ardent supporters of mandatory disclosure for fracturing chemicals recognize the benefit of trade secret laws and respect the protection of a company's proprietary information.²² The main justifications for protecting trade secrets are rooted in economics, philosophy, and populist opinion.²³

The economic argument in favor of protecting trade secrets may be the most important and persuasive: "[T]rade secrets relate to the economic value of information; it stands to reason that economic analysis is the appropriate way to justify the law."²⁴ Ideally, the legal protection of trade secrets means companies spend less money trying to protect their secrets and competitors likewise spend less money trying to acquire them.²⁵ One would hope that money normally spent on protection and misappropriation would instead fund further research and development. Furthermore, the economic value gleaned from legal protection incentivizes innovation: "Trade secrets may establish incentives to innovate because they provide a mechanism for firms to capture the benefits of their inventions."²⁶ In other words, as long as oil and gas companies know that their hard-earned information will be kept secret and out of the hands of competitors, they will be more likely to keep investing in research, thus creating the potential for increased efficiency and safety.²⁷

20. *Trade Secrets Act*, UNIF. LAW COMM'N, <http://www.uniformlaws.org/Act.aspx?title=Trade+Secrets+Act> [<http://perma.cc/AJ4M-3NQK>] (last visited Oct. 12, 2014) At the time of publication, North Carolina, Massachusetts and New York have not adopted the United Trade Secrets Act.

21. UNIF. TRADE SECRETS ACT § 1(4) (1985).

22. See McFeeley, *supra* note 11.

23. See Risch, *supra* note 18, at 26.

24. *Id.* at 26–28.

25. *See id.* at 26.

26. THOMAS, *supra* note 19.

27. *See id.*; *See also* Risch, *supra* note 18, at 26.

The second justification for trade secret protection revolves around the principle that the person who puts in the time and money to research, develop, or discover new information should be the one who owns it and, therefore, reaps the economic benefit.²⁸ While that exact idea is not faithfully adhered to in modern trade secret law—trade secret protection is provided only to the information for which the owner expends effort to maintain secrecy—the notion manifests itself in the fact that trade secrets are protected on some level.²⁹

Finally, the populist argument for justifying trade secrets is based upon the rationale that what the majority wants, the majority should get. The majority's clear desire for trade secret protection is illustrated by the legal protections enacted in every state.³⁰

B. Horizontal Hydraulic Fracturing

Hydraulic fracturing entails the use of a mixture of “fluid and material to create or restore small fractures in a formation in order to stimulate production from new and existing oil and natural gas wells. This creates paths that increase the rate at which fluids can be produced from the reservoir formations.”³¹ In combination with horizontal drilling, operators of oil and natural gas wells undertake this process both to extend the life of active wells and to reach oil and natural gas surpluses previously thought to be unattainable.³²

Horizontal hydraulic fracturing is a two-step process. The operating company first drills a well “thousands of feet downward and then gradually angle[s] out horizontally through the shale deposit.”³³ By branching the well out horizontally, the operator aims to reach the maximum expanse of the shale formation.³⁴ Once the well is drilled, “[h]igh volumes of fracturing fluid are pumped deep into the well at pressures sufficient to create or restore the small fractures in the reservoir rock needed to make production possible.”³⁵ The fracturing fluid is

28. See Risch, *supra* note 18, at 28–29.

29. See *id.*

30. See *id.* at 35.

31. FRACFOCUS, *supra* note 3.

32. *Id.*; See also Sorell E. Negro, The Thirst of Fracking: Regulating to Protect the Linchpin of the Natural Gas Boom, 77 ALB. L. REV. 725, 725–26 (2013).

33. *Drilling for Natural Gas in the Marcellus and Utica Shales: Environmental Regulatory Basics*, OHIO EPA (Jan. 2014), <http://www.epa.ohio.gov/portals/0/general%20pdfs/generalshale711.pdf> [<http://perma.cc/5DW8-HNMN>].

34. See *id.*

35. FRACFOCUS, *supra* note 3.

composed of a mixture of up to 99.5% water and proppants,³⁶ combined with a blend of chemical additives.³⁷ The amount and type of chemicals used varies depending on the well.³⁸ Chemical additives are typically used to prevent problems “such as bacterial build-up and the formation of scale, mineral deposits and rust” during the production of the oil or gas in the well.³⁹

Many types of chemical additives are used in these fluid mixtures, including acids, corrosion inhibitors, and biocides.⁴⁰ While thousands of different possible chemicals may be used in the fracturing fluid, only a handful are used more routinely than others.⁴¹ Many of the chemicals commonly used in the additive portion of fracturing fluid mixtures are classified as hazardous pollutants regulated by the Safe Drinking Water Act or Clean Air Act.⁴² They may also be found in the Occupational Safety & Health Administration (OSHA) database of regulated chemicals.⁴³

36. “Proppants are sands or other granular substances injected into the formation to hold or “prop” open shale formation fractures created by hydraulic fracturing.” *Hydraulic Fracturing Fluids*, ENVTL. PROT. AGENCY (Jun. 2004), http://www.epa.gov/ogwdw/uic/pdfs/cbmstudy_attach_uic_ch04_hyd_frac_fluids.pdf.

37. See FRACFOCUS, *supra* note 3; See also *Supplemental Generic Environmental Impact Statement On The Oil, Gas and Solution Mining Regulatory Program*, N.Y. STATE DEP’T OF ENVTL. CONSERVATION (Sept. 7 2011), § 5.4.3, <http://www.dec.ny.gov/data/dmn/rdsgeisfull0911.pdf> [<http://perma.cc/FTT5-J5RJ>].

38. See *Chemical Use In Hydraulic Fracturing*, FRACFOCUS, <http://fracfocus.org/water-protection/drilling-usage> [<http://perma.cc/5GT2-H9BV>] (last visited Oct. 13, 2014); See also *Why Chemicals Are Used*, FRACFOCUS, <http://fracfocus.org/chemical-use/why-chemicals-are-used> [<http://perma.cc/X5EM-WGH3>] (last visited Oct. 13, 2014).

39. OHIO EPA, *supra* note 33.

40. See FRACFOCUS, *Why Chemicals Are Used*, *supra* note 38.

41. See *id.*

42. See FRACFOCUS, *Chemicals Used in Hydraulic Fracturing*, *supra* note 38.

43. See *What Chemicals Are Used*, FRACFOCUS, <http://fracfocus.org/chemical-use/what-chemicals-are-used> [<http://perma.cc/HT6S-963Z>] (last visited Oct. 13, 2014); See also *OSHA Occupational Chemical Database*, OCCUPATIONAL SAFETY & HEALTH ADMIN., <https://www.osha.gov/chemicaldata/> [<https://perma.cc/RWD5-8SEG>] (last visited Oct. 13, 2014).

Companies invest millions of dollars to research and develop the optimized mixtures for each shale formation.⁴⁴ These complex mixtures arguably⁴⁵ give the individual companies a competitive advantage, making them wary of other companies attempting to gain access to their investment.⁴⁶

II. THE PUSH FOR FULL MANDATORY DISCLOSURE

The push for mandatory disclosure turns on the fear that these fluid mixtures contain potentially hazardous chemicals. Proponents argue that the public has a right to know the identity of these chemicals due to their potentially hazardous effects on surrounding ecosystems and communities.⁴⁷ Advocates of laws requiring the disclosure of chemicals used in fracturing fluid mixtures “maintain that public disclosure would allow for health professionals to better respond to medical emergencies involving human exposure to the chemicals; assist researchers in conducting health studies on shale gas production; and permit regulators and others to perform baseline water testing to track potential groundwater contamination if it occurs.”⁴⁸ Growing apprehension over the possibility of subterranean water contamination, as well as above-ground exposure, has driven concerned citizens to speak out against the amount of information being withheld in states where hydraulic fracturing takes place.⁴⁹ Much of the public anxiety arises from the nature of chemicals that *are* disclosed by companies, which in their own right “include some that, based mainly on occupational studies or high-level exposures in laboratory animals, have been shown to cause effects such as carcinogenicity, mutagenicity, reproductive toxicity, neurotoxicity or organ damage.”⁵⁰ Such harmful effects only come as the result of an actual

44. See John D. Furlow & John R. Hays Jr., Disclosure With Protection of Trade Secrets Comes To The Hydraulic Fracturing Revolution, 7 TEX. J. OIL GAS & ENERGY L. 289, 306 (2011).

45. The point is arguable because it is possible for companies to all independently develop and use the same product or information without the trade secret protection of that product being compromised and without any of the competing companies even knowing they are doing so. See *Trade Secrets*, WORKMAN NYDEGGER, [http://www.wnlaw.com/ip-information/trade-secrets/\[http://perma.cc/EQC5-JRWS\]](http://www.wnlaw.com/ip-information/trade-secrets/[http://perma.cc/EQC5-JRWS]) (last visited Jan. 18, 2015).

46. See Furlow & Hays Jr., *supra* note 44, at 306.

47. See McFeeley, *supra* note 11.

48. See Brandon J. Murrill & Adam Vann, Cong. Research Serv., R42461, Hydraulic Fracturing: Chemical Disclosure Requirements 1 (2012).

49. See Hannah Wiseman, Trade Secrets, Disclosure, and Dissent in a Fracturing Energy Revolution, 111 COLUM. L. REV. SIDEBAR 1, 8–9 (2011).

50. N.Y. State Dep’t of Env’tl. Conservation, *supra* note 37, at §5.4.

exposure;⁵¹ however, because the potential risk is so great, advocates for full disclosure question the risks associated with the chemical additives the companies are not willing to disclose.

Meanwhile, some of the companies employing these mixtures have been adamant about protecting their alleged proprietary information.⁵² Nine natural gas companies boldly refused to respond to a 2010 letter sent by the EPA requesting disclosure of the chemicals being used in their fracturing fluids for incorporation into a study of the potential impact and harm the fluids cause.⁵³ Particularly, Halliburton—one of the more vocal opponents to the mandatory disclosure regulations—claimed that “it spent ‘tens of millions of dollars’ across five years researching new fracturing fluids . . . [and] that public disclosure of its proprietary formulas could cost it \$375 million.”⁵⁴ In almost direct response to the argument that trade secret protection creates an incentive to innovate, “[c]ompanies also have argued that too much disclosure also could hinder efforts to develop new, less toxic fracturing chemicals. Oil and natural gas companies say they have no incentive to invest in research if their innovations will simply be given away.”⁵⁵

State legislatures have responded almost in unison to this push for mandatory disclosure by adopting disclosure regulations. At the time of publication of this comment, twenty-two states have adopted regulations regarding the disclosure of fracturing fluid chemicals.⁵⁶ However, these regulations differ from state to state in terms of what material they actually require to be disclosed, and they are generally company friendly.⁵⁷ Of the twenty-two states mandating disclosure, Wyoming leads the way with the most comprehensive requirements regarding trade secret protection.⁵⁸

The disclosure movement has also led to a collective response from the oil and gas industry by way of FracFocus, a website where “companies

51. Walter Tsou, *The Big Secret? Fracking Fluids*, PHYSICIANS FOR SOC. RESPONSIBILITY, <http://www.psr.org/environment-and-health/environmental-health-policy-institute/responses/the-big-secret-fracking-fluids.html> [<http://perma.cc/9FGV-DCHR>] (last visited Oct. 13, 2014).

52. Proprietary information is considered another term for trade secret. This information consists simply of that content which a company seeks to keep confidential.

53. See Wiseman, *supra* note 49, at 2.

54. Mike Soragahn, *Hydraulic Fracturing: Two-thirds of Frack Disclosures Omit 'Secrets'*, E&E PUB. LLC (Sept. 26, 2012), <http://www.eenews.net/stories/1059970474> [<http://perma.cc/B5HG-QVJA>].

55. *Id.*

56. See ORRICK, *supra* note 9.

57. See Hall, *supra* note 6, at 406–07; Poe Legette et al., *Trade Secrets and the Regulation of Hydraulic Fracturing: Toward a Global Perspective—Pt 1*, 4 INT'L ENERGY L. REV. 154, 158–67 (2013).

58. See *id.*

[can] voluntarily disclose the composition of fracturing fluid used anywhere in the United States on a well-by-well basis.”⁵⁹ Two organizations, the Ground Water Protection Council and the Interstate Oil and Gas Compact Commission, manage the website.⁶⁰ The purpose of FracFocus is to enable direct disclosure of information from the companies themselves.⁶¹ While the concept behind the website is novel, the actual functioning of the site has its flaws. A recent study by the Harvard Law School gave the site “a failing grade as a disclosure tool,”⁶² underlining the often inaccurate or incomplete quality of FracFocus reports and the fact that the information can only be reviewed one well at a time.⁶³ Moreover, concerns have arisen over discrepancies as to what was actually being claimed as a trade secret.⁶⁴

While the newly enacted disclosure regulations represent a step in the right direction, trade secret protections still obstruct necessary transparency to some extent. The oil and gas industry points to the EPA’s TRI as one regulation allowing companies to withhold the specific identity of chemicals they deem to qualify as trade secret information.⁶⁵ Advocates of disclosure contend that states have given the oil and natural gas industry “special treatment” by not requiring any immediate oversight over trade secret claims while requiring such oversight in other areas.⁶⁶ Indeed, both the federal and state levels provide similar regulations that require other industries to disclose proprietary information to regulators, which is then kept confidential from the public.⁶⁷ While the industry stands behind the protections of the TRI, other federal laws—such as the Clean Air Act or the Food and Drug Act—do require the disclosure of proprietary information to regulatory officials who maintain confidentiality as to the general public.⁶⁸ For example, Louisiana requires coal mining companies seeking to perform exploration or development processes to obtain a permit beforehand. As part of this

59. Hall, *supra* note 6, at 407.

60. *About Us*, FRACFOCUS, <http://fracfocus.org/welcome> [<http://perma.cc/9G2L-GK8Z>] (last visited Oct. 13, 2014).

61. *See id.*

62. *See* Katie Colaneri, *Transparency about fracking chemicals remains elusive*, STATEIMPACT (Aug. 7, 2014, 1:04 PM), <http://stateimpact.npr.org/pennsylvania/2014/08/07/transparency-about-fracking-chemicals-remains-illusive/> [<http://perma.cc/TWM7-Y64R>].

63. *See id.*

64. *See id.*

65. *See* Soragahn, *supra* note 54; *See also infra* Part III.B.

66. *See* McFeeley, *supra* note 11.

67. *See* Hall, *supra* note 6, at 422 n.174 (citing several federal laws such as the Clean Air Act, Food and Drug Act, Resource Conservation and Recovery Act, and the Comprehensive Environmental Response Compensation and Liability Act as examples of laws requiring full disclosure of information with protection for trade secrets from public access).

68. *See* Hall, *supra* note 6, at 421–22.

permitting procedure, Louisiana protects from public view any confidential information submitted to the Office of Conservation.⁶⁹ The oil and gas industry has generally opposed implementing similar processes for the exploration and development of oil and natural gas energy sources.

That is not to say that the oil and gas industry is in full agreement on the issue of disclosure. One of the largest oilfield services companies, Baker Hughes, answered the call for full disclosure of its own accord, declaring that it would begin disclosing the identities of all of the ingredients contained in its fracturing fluids.⁷⁰ Baker Hughes contends that by disclosing only the identities of the chemicals employed, and not the actual amounts used, the company can still protect its proprietary interests and promote “a balance that increases public trust while encouraging commercial innovation.”⁷¹

Still, whether Baker Hughes actually discloses any of these chemical additives depends on the permission of the company’s customers.⁷² These clients may have a considerable stake in the matter of disclosure and may not, for their own business purposes, want a full release of information regarding potentially hazardous fluid ingredients. Although it is unlikely that the entire industry will follow in the footsteps of Baker Hughes, the company’s action can be interpreted as a sign that the industry is, at some level, open to the kind of transparency desired by proponents of disclosure.⁷³

III. THE CURRENT REGULATION

Currently, both Louisiana and the EPA regulate chemical disclosure in regards to oil and natural gas drilling. While these regulations are worthwhile in theory, they ultimately prove to be futile against overbearing trade secret protections.

69. See LA. REV. STAT. ANN. § 30:912 (2014); LA. REV. STAT. ANN. § 30:916 (2014); See also Hall, *supra* note 6, at 422 n.174.

70. See Michael Winter, *Major Firm To Disclose Fracking Chemicals*, USA Today (Apr. 5, 2014, 3:28 PM), <http://www.usatoday.com/story/money/2014/04/24/fracking-fluid-disclosure/8117133/> [<http://perma.cc/D7QS-J3UN>].

71. *Id.*

72. See *id.*

73. Baker Hughes is not the only company in the oil and natural gas industry to support the disclosure movement. The CEO of Breitling Energy Corporation has been another vocal supporter of full disclosure. See Chris Faulkner, *Regulator’s Have to Require Drillers to Come Clean on What’s In Fracking Fluids*, THE PATRIOT NEWS (Dec. 24, 2014, 2:00 PM), http://www.pennlive.com/opinion/2014/12/regulators_have_to_require_dri.html [<http://perma.cc/3TND-K5QX>].

A. Louisiana

In accordance with the push for mandatory disclosure, Louisiana adopted a regulation requiring disclosure of the chemicals contained in the additive portion of the mixture used in wells no later than twenty days after the completion of “hydraulic fracturing stimulation operations.”⁷⁴ Specific to the disclosure of chemicals used in the additive portion of the fluid, the regulation requires the operator to disclose a list of additives used, the specific trade name of each additive type, a list of chemical ingredients along with their associated Chemical Abstracts Service (CAS) numbers,⁷⁵ and the maximum concentration of each respective ingredient.⁷⁶

While a cursory glance may lead the reader to believe the disclosure requirements are comprehensive and detailed, the regulation also includes a generous trade secret exemption. The operator may withhold the “specific identity of [any] chemical ingredient and the chemical ingredient’s associated CAS number” from a disclosure report if it deems that ingredient proprietary information.⁷⁷ Thus, the operator will only need to disclose the “chemical family associated with the ingredient[,] . . . a statement that a claim of trade secret protection has been made . . . [and] the contact information of the entity claiming trade secret protection.”⁷⁸ The regulation provides no express requirement that the claim be evaluated by a regulatory agency prior to an explicit challenge.⁷⁹ The regulation also allows this disclosure report to be submitted through the FracFocus website or a similar service, rendering reporting to a Louisiana state regulatory agency unnecessary.⁸⁰ Without a specific challenge to a company’s trade secret claim, the claim is presumed to be valid.

The actual standard Louisiana requires a company to meet as to what constitutes a fracturing fluid trade secret, is promulgated in the Emergency Planning and Community Right-to-Know Act (EPCRA).⁸¹ In order for information to be considered confidential, a company must prove that it provides a competitive advantage and has not been disclosed to anyone other

74. LA. ADMIN. CODE tit. 43, pt. XIX, § 118 (2013).

75. *CAS REGISTRY and CAS Registry Number FAQs*, CAS, <http://www.cas.org/content/chemical-substances/faqs> [<http://perma.cc/BM8T-7BVY>] (last visited Oct. 13, 2014) A CAS number is a unique identifier for a chemical substance tied to an extensive registry.

76. LA. ADMIN. CODE tit. 43, pt. XIX, § 118 (2013).

77. *Id.*

78. *Id.*

79. *Id.*

80. *Id.*

81. LA. ADMIN. CODE tit. 43, pt. XIX, § 118 (2013) (While Louisiana has adopted the Uniform Trade Secrets Act, the state cites to the trade secret factors of the EPCRA in its fracking disclosure regulation).

than government personnel, employees of the company, or anyone bound by a confidentiality agreement.⁸² Essentially, this trade secret standard mimics the UTSA.⁸³ While this standard is applied in the majority of states, the point of contention lies in its unsupervised application.

Equally problematic, the only chemicals requiring disclosure under the regulation are those that are identified as hazardous by OSHA,⁸⁴ meaning that they “pose a wide range of health hazards (such as irritation, sensitization, and carcinogenicity) and physical hazards (such as flammability, corrosion, and reactivity).”⁸⁵ While the list of chemicals OSHA deems to be hazardous is extensive, whether it actually includes all dangerous chemicals is debatable.⁸⁶ To be identified as hazardous by OSHA, studies must show the chemical to be dangerous in a workplace setting; if no such study has been performed on the particular chemical, OSHA assumes it to be non-hazardous.⁸⁷

The lack of pre-treatment reporting presents another issue with the Louisiana regulation. While post-treatment reporting provides more accurate information as to what exactly was included in the fluid used,⁸⁸ the regulation does not allow for pre-treatment baseline groundwater testing.⁸⁹ The absence of actual oversight at the time the trade secret claims are made is also alarming. With such a broad protection afforded to these companies, many have great opportunity to exploit and circumvent actual disclosure of potentially harmful chemical additives.⁹⁰ Thus, the regulation provides a false

82. 42 U.S.C. §11042(b) (2014).

83. See *supra* note 17 and accompanying text; while the exact language may differ, ultimately, the same premise is behind the standards.

84. LA. ADMIN. CODE tit. 43, pt. XIX, § 118 (2013).

85. *Chemical Hazards and Toxic Substances*, OCCUPATIONAL SAFETY & HEALTH ADMIN., <https://www.osha.gov/SLTC/hazardoustoxicsubstances/> [<https://perma.cc/Q6YX-D92U>] (last visited Oct. 13, 2014).

86. See McFeeley, *supra* note 11.

87. See *id.*

88. The actual makeup of the fluid mixture may be adapted during the process to better suit the well.

89. See *Baseline Water Quality Testing*, WATERSHED COUNCIL, <http://www.watershedcouncil.org/learn/hydraulic-fracturing/baseline-testing/> (last visited Jan. 17, 2015); see also *Groundwater Quality & Testing*, FRACFOCUS, <https://fracfocus.org/groundwater-protection/groundwater-quality-testing> [<https://perma.cc/7J9U-W47Z>] (last visited Jan. 17, 2015) (baseline testing of the groundwater is a process whereby samples are taken from the nearby wells to determine the amount of chemicals in the water prior to the hydraulic fracturing process taking place. This data can then be used to compare to post-treatment testing to determine whether any contamination has occurred to the water as a result of the fracturing).

90. While far from perfect, it is worth noting that the current regulation in Louisiana exceeds its counterparts in other states by leaps and bounds. In particular, Utah and North Dakota have enacted regulations with little actual guidance of what must be disclosed beyond the most basic report to the FracFocus website. There is seemingly very little that is actually required to be disclosed, the

sense of transparency. Because the Louisiana regulation emulates the language and process of the TRI, it correspondingly mimics the same benefits and shortcomings.

B. The EPCRA, TRI, and Louisiana

Section 313 of the EPCRA establishes the TRI as “part of a new approach to environmental protection.”⁹¹ The creation of the TRI program came in response to growing public concern following disasters at chemical plants in India and West Virginia.⁹² Consequently, the EPA constructed the EPCRA to “support and promote emergency planning and to provide the public with information about releases of toxic chemicals in their community,”⁹³ with the TRI tracking “the management of certain toxic chemicals that may pose a threat to human health and the environment. Facilities in the United States in different industry sectors⁹⁴ must report annually how much of each chemical is released into the environment and/or managed through recycling, energy recovery, and treatment.”⁹⁵

The various states’ fracturing fluid disclosure regulations closely resemble the TRI. Generally speaking, the TRI program requires disclosure of chemicals “That cause [c]ancer or other chronic human health effects; Significant adverse acute human health effects; [and] Significant adverse environmental effects.”⁹⁶

reports to the FracFocus website are not mandated to be filed before sixty days post-treatment, and no oversight whatsoever concerning trade secret claims is afforded by the respective regulations. *See* Legette, *supra* note 56, at 159–60 (for a brief discussion on the Utah and North Dakota regulations).

91. *Learn About The Toxics Release Inventory*, ENVTL. PROT. AGENCY, <http://www2.epa.gov/toxics-release-inventory-tri-program/learn-about-toxics-release-inventory> [<http://perma.cc/XJ78-ZXKE>] (last visited Oct. 13, 2014).

92. *See id.*; *See also* Allen Pusey, Dec. 3, 1984: *Bhopal Chemical Leak Kills Thousands in India*, ABA JOURNAL (Dec. 1, 2012, 6:50 AM), http://www.abajournal.com/magazine/article/dec_3_1984_bhopal_chemical_leak_kills_thousands_in_india/ [<http://perma.cc/V7A6-8P7W>] (discussing the plant leak in India which resulted in thousands of deaths as a result of chemical exposure); Ben A. Franklin, *Toxic Cloud Leaks At Carbide Plant In West Virginia*, NY TIMES (Aug. 12, 1985), <http://www.nytimes.com/1985/08/12/us/toxic-cloud-leaks-at-carbide-plant-in-west-virginia.html> [<http://perma.cc/3Q9F-4U49>] (discussing the plant leak in West Virginia which exposed hundreds of nearby residents to potentially harmful chemicals).

93. ENVTL. PROT. AGENCY, *supra* note 91.

94. *Id.* (“[F]acilities that report to TRI are typically larger facilities involved in manufacturing, metal mining, electric power generation, chemical manufacturing and hazardous waste treatment . . .”).

95. ENVTL. PROT. AGENCY, *supra* note 91.

96. *Id.*

Louisiana could do worse than trying to replicate the established system of the TRI. Instead of simply creating standards and rules on how to handle these hazardous materials, a process like the TRI “creates a strong incentive for companies to improve environmental performance.”⁹⁷ Requiring disclosure to the EPA of materials not protected as trade secrets also makes this information publically available. As such, public scrutiny increases and companies are encouraged to research and develop safer alternatives. The level of disclosure required also places the burden on the companies to show that what they are claiming is indeed a trade secret.

Studies show that the level of substantiation required for the TRI serves as a deterrent to companies making trade secret claims and vastly reduces the amount of claims actually made.⁹⁸ It would be reasonable to assume that this benefit applies equally to the Louisiana regulation. However, while the TRI records reflect only seven claims made out of thousands of reports over the course of a year,⁹⁹ the results of a quick search for Louisiana wells on FracFocus shows proprietary information being withheld from the first twenty wells listed.¹⁰⁰ The EPA has not required participants of the oil and gas extraction industry to report to the TRI, stating that “most of the information required under TRI is already reported by producers to state agencies that make it publicly available. Also, TRI reporting from the hundreds of thousands of oil and gas sites would overwhelm the existing EPA reporting system.”¹⁰¹

Despite its noted benefits, the TRI system is not without its shortcomings. For instance, the EPCRA allows companies to claim trade secret protection when filing their TRI disclosure reports. However, only the exact identity of the chemical may be hidden; the company must provide the generic class or family for each chemical.¹⁰² Moreover, no established process exists for evaluating the trade secret claims at the time they are made. Although any third party may challenge a trade secret claim, the EPA neither reviews the

97. *The Emergency Planning and Community Right-to-Know Act*, ENVTL. PROT. AGENCY, http://www2.epa.gov/sites/production/files/2013-08/documents/epcra_fact_sheet.pdf [<http://perma.cc/9BTU-LB8Z>] (last visited Oct. 13, 2014).

98. See Sheila A. Ferguson, et al., *Influence of CBI Requirements on TSCA Implementation*, Hampshire Research Associates, Inc. (March 1992); Richard Denison, *Worse than we thought: Decades of out-of-control CBI claims under TSCA*, ENVTL. DEFENSE FUND (Feb. 12, 2010), <http://blogs.edf.org/health/2010/02/12/worse-than-we-thought-decades-of-out-of-control-cbi-claims-under-tsca/> [<http://perma.cc/LKF8-33M2>].

99. Denison, *supra* note 98.

100. *Find a Well*, FRACFOCUS, <http://www.fracfocusdata.org/DisclosureSearch/SearchResults.aspx> [<http://perma.cc/MG26-TAKR>] (last visited Oct. 13, 2014).

101. *Chemicals & Public Disclosure*, FRACFOCUS, <http://fracfocus.org/chemical-use/chemicals-public-disclosure> [<http://perma.cc/8NYP-XLEY>] (last visited Oct. 13, 2014).

102. See ENVTL. PROT. AGENCY, *supra* note 97.

claim nor rules on its validity unless petitioned to do so,¹⁰³ meaning that no oversight exists absent an explicit challenge of the claim.

IV. THE CASE FOR UPFRONT SUBSTANTIATION AND AN IMMEDIATE EVALUATION PROCESS OF TRADE SECRET CLAIMS

At present, it is simply too easy for a company to make a claim that information is a trade secret and effectively dodge regulation. With little provision for affirmative review procedures, the present system bears the risk of a proliferation of overbroad claims. A new system must be put into effect to serve the best interests of community health, environmental protection, and the oil and gas industry alike.

A. No Oversight

The major issue with the current system is the absence of oversight reviewing what companies actually claim to be proprietary information notwithstanding explicit challenge after the fact. In an industry frequently using potentially harmful chemicals on such a grand scale, the lack of oversight becomes a fundamental problem. Even absent ill intent on the part of the companies, over-claiming trade secret protection on these disclosure reports could result from simple error. Nonetheless, without a process to review claims at the time they are made, companies may—intentionally or unintentionally—claim protection for information that should not qualify as a trade secret.¹⁰⁴

The possibility for intentionally overbroad claims, however, becomes particularly evident when dealing with the hydraulic fracturing process. Because of the heightened public scrutiny and potential liability tied to the hazardous chemicals in play, companies may decide it easier to “over-claim trade secrets to escape responsibility” since the lack of oversight implicitly allows it.¹⁰⁵ With a process in place to evaluate these claims at the time they are made, this concern will be effectively put to rest. Instead, under the present regulation, these companies essentially get a “free pass to avoid disclosure requirements when a company claims trade secrets are involved.”¹⁰⁶

103. *Id.*

104. *Comments On Proposed 20 AAC 25.283 - Fracing*, U. TEX. REG. OVERSIGHT GRP. (Apr. 1, 2013), <http://www.utexas.edu/law/wp/wp-content/uploads/centers/energy/UTROG-Comment-on-AOGCC-Rules.pdf>.

105. *Id.*

106. *See* McFeeley, *supra* note 11.

B. Ability to Challenge Claims

To mitigate the potential for overbroad claims, the state must set up an initial review process to be conducted at the time that claims are made. Under this proposed system, an automatic “challenge” of the claim by a state regulatory agency will take place, which will lead to less trepidation on the part of the public regarding whether companies are making legitimate trade secret claims. The approval of the state agency will, in turn, decrease the public’s desire to bring third party challenges. Both the state and third parties will be more able to challenge trade secret claims if oil and natural gas companies disclose to the regulatory agency the information they believe to be protected.¹⁰⁷ In the case where the claim is still challenged by a third party, the proposed scheme will lead to a more efficient process because the state will already have the information necessary to make the decision; ruling on the challenge will be as simple as conducting a *de novo* review of the information by the state agency.

C. Transparency

In the case of hydraulic fracturing, the industry’s ideal response to advocates for disclosure will be to promote transparency for transparency’s sake. While the hydraulic fracturing boom has led to a figurative “boogeyman” for opponents of the oil and gas industry to publicly attack, no significant studies actually evidence severe environmental defects stemming from the fracturing process.¹⁰⁸ This void does not suggest the nonexistence of potential harm—the use of thousands of gallons of potentially hazardous chemicals could cause significant damage in the case that some mishap occurs.¹⁰⁹ Still, the exaggerated risks of fracturing in public forums means that advocating for broader disclosure is in the industry’s best interest.¹¹⁰ A comprehensive system requiring full disclosure of the chemical identities used in fracturing will “defang the boogeyman,” as one drilling company CEO has so eloquently stated.¹¹¹

107. See Hall, *supra* note 6, at 418.

108. Chris Faulkner, *FRACKING: The Future is Transparency*, BREITLING ENERGY (Jun. 30, 2014), <http://www.breitlingenergy.com/fracking-future-transparency-drill/> [<http://perma.cc/53WF-4S37>].

109. See Seamus McGraw, *Pennsylvania Fracking Accident: What Went Wrong*, POPULAR MECHANICS (Apr. 21, 2011 1:00 PM), <http://www.popularmechanics.com/science/energy/coal-oil-gas/pennsylvania-fracking-accident-what-went-wrong-5598621> (describing one incident that occurred in Pennsylvania, where a leak in the well led to “thousands of gallons of chemical laced water flowing out beyond its protective berms”).

110. Faulkner, *supra* note 108.

111. *Id.*

Congress has determined that “[e]very American has the right to know the chemicals to which they may be exposed in their daily living.”¹¹² While the EPA has not extended the TRI specifically to the oil and gas industry—instead allowing the states to sidestep the EPCRA with their own regulations for fracturing fluid disclosures—the intent behind the EPCRA should be read into these state regulations. Congress established the EPCRA, in part, to increase public awareness of the chemicals used and potentially released into the environment.¹¹³ By enacting the EPCRA, Congress secured the public’s right to know the identity of the hazardous and toxic substances being used in their vicinity.

That policy falls in line with Justice Brandeis’s famous line, “sunlight is said to be the best of disinfectants.”¹¹⁴ In Justice Brandeis’s opinion, great benefits arise from transparency as “[p]ublicity is justly commended as a remedy for social and industrial diseases.”¹¹⁵ Justice Brandeis opined that complete transparency in business dealings would benefit society as a whole.¹¹⁶ While his ultimate objective of full and absolute disclosure with no protected or confidential information, overreaches the present proposal, the underlying idea remains persuasive. The more transparent oil and gas companies become in disclosing what chemicals they are using in hydraulic fracturing treatment, the less adamant the calls of industry detractors will be.

D. Wait-and-See Approach

Put simply, no adequate rationale explains why a disclosure regulation should take a “wait-and-see” approach to trade secret claims. Any argument favoring a system that permits trade secret claims to stand without oversight must logically succumb to the argument for a system mandating oversight. When it comes to balancing the potential health and safety of the public with the monetary desires of the oil and gas industry, the public’s well-being must always triumph.

The protection of the public brings to the forefront the precautionary principle, which demands that, “[w]hen an activity raises threats of harm to the environment or human health, precautionary measures should be

112. *Learn About Your Right to Know*, ENVTL. PROT. AGENCY, <http://www.epa.gov/epahome/r2k.htm> [<http://perma.cc/V3JP-3KAC>] (last visited Oct. 13, 2014).

113. *Id.*

114. LOUIS D. BRANDEIS, *OTHER PEOPLE’S MONEY AND HOW THE BANKERS USE IT* 92 (Frederick A. Stokes Co. 8th ed. 1932) *Other People’s Money* is often cited as a source for any scholar discussing transparency in the business industry as well as in the government.

115. *Id.*

116. *See id.*

taken even if some cause and effect relationships are not fully established scientifically.”¹¹⁷ Under this principle, a society valuing transparency calls for a regulation requiring full disclosure despite the lack of studies proving severe harm directly resulting from fracturing or the chemicals used during treatment.

V. WYOMING AS AN EXAMPLE

In attempting to solve the conundrum of what level of disclosure should be required for fracturing fluid chemicals, a balance of the interests of the public at large and that of the companies must be met. While the task is certainly daunting, a model process is already in place in Wyoming. As such, Louisiana can look to Wyoming as an example that it should emulate.¹¹⁸

In 2010, Wyoming became the first state to enact a mandatory disclosure regulation for hydraulic fracturing fluid chemicals.¹¹⁹ Wyoming’s regulation is different from its Louisiana counterpart in four ways: (1) It requires companies to make both pre- and post-treatment reports; (2) The chemicals for which reporting is required are not limited to only those regulated by OSHA; (3) The companies are required to disclose the identity of the chemicals beyond just their generic chemical families; and (4) The regulation requires that a trade secret claim be evaluated at the time it is made.¹²⁰

While the Louisiana regulation only requires a company to make a disclosure report within twenty days after the end of the hydraulic fracturing process, Wyoming requires this report be made both before and after the treatment process.¹²¹ Reporting prior to the treatment process allows for baseline groundwater testing, which in turn aids in evaluating for contamination.¹²² Wyoming also requires the companies to report post-treatment, which thereby increases the accuracy of the reports as the actual fluid mixtures may be altered during the fracturing process.¹²³ Companies are required to give the Wyoming Oil and Gas Conservation Commission (WOGCC) a complete list of the chemicals that they plan to use for the specific well in the pre-treatment report and then supplement that information with the actual amount of each chemical used in the post-treatment report.¹²⁴

117. *Precautionary Principle*, SCIENCE & ENV’T L HEALTH NETWORK (Jan. 26, 1998), <http://www.sehn.org/wing.html> [<http://perma.cc/ET23-QSJT>].

118. Wyoming is currently the only state carrying out oversight at the level of implementation necessary in Louisiana and therefore provides the ideal foundation for the proposed scheme.

119. See Hall, *supra* note 6, at 406.

120. tit. 55, ch. 3, WYO. CODE R. § 45(d) (LexisNexis Dec 2012).

121. *Id.*

122. See Hall, *supra* note 6, at 424.

123. tit. 55, ch. 3, WYO. CODE R. § 45(d) (LexisNexis Dec 2012).

124. *Id.*; See also Legette, *supra* note 56, at 159.

At the time the report is made, the “party claiming trade secret protection must justify and document the nature and extent of the proprietary information.”¹²⁵ The WOGCC then compares what the company claims to be protected proprietary information to the trade secret standard set forth in the Wyoming Public Records Act (WPRA) and makes a determination as to whether the information is indeed a trade secret deserving protection.¹²⁶ If the WOGCC agrees with the company that the information is indeed a trade secret, the information is then kept on record and deemed confidential by the agency.¹²⁷ Although the information is now under the state’s control, it is under no circumstances subject to a public records request.¹²⁸

The standard for qualifying a trade secret under the WPRA is more exclusive than the Louisiana standard. Recently, this question—specifically regarding whether the chemical identities of the fracturing fluid formulas constituted a trade secret—came before the Wyoming Supreme Court.¹²⁹ The Court determined that the WPRA establishes a more narrow definition of trade secrets than does the UTSA.¹³⁰ Thus, under the WPRA, a trade secret “is a secret, commercially valuable plan, formula, [or] process . . . that is used for the making, preparing, compounding, or processing of trade commodities and that can be said to be the end product of either innovation or substantial effort, with a direct relationship between the trade secret and the productive process.”¹³¹ According to the Wyoming Supreme Court, this definition is designed to be more in line with the intent behind the WPRA and, following in the footsteps of the Freedom of Information Act (FOIA), prefers transparency over opacity in most cases.¹³² However, Wyoming’s definition may not be the most appropriate for the regulation of fracturing fluids. Whether individual chemical identities would be considered trade secrets under the WPRA definition is unclear¹³³ so its use falls short of perfect in a situation seeking to protect such information while still requiring its disclosure.

In theory, the situation created by the Wyoming statute is ideal—the public gets the transparency they want through full disclosure to a regulatory agency, while the companies get the deserved protection for

125. See Brandon J. Murrill & Adam Vann, Cong. Research Serv., R42461, *Hydraulic Fracturing: Chemical Disclosure Requirements* 9 n.62 (2012).

126. See *id.*

127. tit. 55, ch. 3, WYO. CODE R. § 45(d) (LexisNexis Dec 2012).

128. WYO. STAT. ANN. §16-4-203(d)(v).

129. See *Powder River Basin Res. Council v. Wyoming Oil & Gas Conservation Comm’n*, 320 P.3d 222 (2014).

130. See *id.* at 233.

131. *Id.* at 234.

132. See *id.* at 231.

133. See *id.* at 234–35.

their proprietary information. Still, this statute is not without its own faults. Questions remain, however, as to how lenient the trade secret standard being applied by the state agency is and how much assessment is actually going into these trade secret claims in practice.¹³⁴ Another problem persists regarding the burden imposed on the state agency as a result of increased resource expenditure.¹³⁵

VI. SOLUTION

The solution to the glaring hole in the Louisiana fracturing fluid disclosure regulation is clear: Louisiana must adopt a comprehensive scheme similar to that enacted in Wyoming. Instead of a general, post-treatment report provided through the FracFocus website, Louisiana should require companies to make both pre- and post-treatment reports to a state regulatory agency. The pre-treatment report will contain full disclosure of every chemical ingredient a company believes it will use for that well, while the post-treatment report should include what chemicals were actually used in the fluid, as well as the concentration of each individual chemical. Companies will still be able to claim trade secret protection for proprietary information, since Louisiana protects trade secret information from public records requests.¹³⁶ Instead of adopting an approach that only questions and evaluates trade secret claims if they are explicitly challenged, the state regulatory agency should automatically assess claims at the time they are made. The trade secret standard applied to disclosures should remain the same, as the current standard is well recognized by most states and federal agencies.

The Louisiana Office of Conservation will assume the responsibility of assessing fracturing fluid trade secret claims. Currently, the Office of Conservation is “charged with . . . [the] statutory responsibility to regulate the exploration and production of oil, gas and other hydrocarbons and lignite . . . and to protect public safety and the environment from oilfield waste, including regulation of underground injection and disposal practices.”¹³⁷ The oversight of hydraulic fracturing fluid trade secret

134. *Id.* at 222.

135. See Hall, *supra* note 6, at 416; See also Lynda Edwards, *Audit: Louisiana Fails To Plug And Police Abandoned Wells*, THE ADVERTISER (Jun. 3, 2014 9:21 PM), <http://www.theadvertiser.com/story/news/local/louisiana/2014/06/03/audit-louisiana-fails-plug-police-abandoned-wells/9938581/> [<http://perma.cc/KW8R-UT6S>] (providing a brief summary of the current understaffing issues facing the Louisiana Office of Conservation).

136. La. Rev. Stat. Ann. § 44:3.2 (2014).

137. *Office of Conservation*, DEP'T OF NATURAL RES., <http://dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=46> [<http://perma.cc/2MGQ-5ER2>] (last visited Nov. 5, 2014).

claims thus naturally falls under the Office of Conservation's charge, as it is in the purview of the Office's other duties and activities.

This process will limit the frequency of both intentional and unintentional frivolous claims. From a policy perspective, immediate evaluation surpasses the "wait-and-see" approach of withholding claim evaluation until a third party challenge. A proactive approach effectively eliminates mistaken trade secret claims that occur on the companies' end and serves as a surefire deterrent to any company attempting to intentionally circumvent the system.

Arguments against instituting this kind of comprehensive agency review in Louisiana center on the overall cost on state resources, the increased cost to oil and gas companies, and the possibility of inept, rushed processing by the overburdened state agency. Colorado is one state that has been vocal about its doubts concerning a fracturing regulation that mandates immediate oversight of trade secret claims. State leaders cited budget and resource concerns, along with fears of the heightened risk of inadvertent disclosure of protected information innately flowing from the increased number of eyes interfacing with the information.¹³⁸

While it is true that the allocation of more state resources to the Office of Conservation will be necessary, funding can be amassed by requiring companies who wish to file a trade secret claim to pay a specified fee. Although oil and natural gas companies may balk at paying a fee, the public interests must be protected over the monetary interests of companies who already benefit financially from hydraulic fracturing. Furthermore, the risk of exposure of trade secret information does not compel rejection of the system, as legal repercussions are in place to punish perpetrators and prevent such violations. While these arguments are facially legitimate, the deterrent effect of this system against both intentional misuse of trade secret protection by companies and unintentional mistakes must be prioritized on the grounds that the hydraulic fracturing process entails the use of thousands of gallons of potentially hazardous chemicals.

CONCLUSION

The rise of the horizontal hydraulic fracturing process promises great economic gains for the future. Nevertheless, it is clear that the increased use of this process brings with it an abundance of the potentially hazardous chemicals inherently implicated therein. For this reason, disclosure of the

138. See Hall, *supra* note 6, at 416; Legette, *supra* note 56, at 158; Order No.1R-114 (December 13, 2011), codified at 2 COLO. CODE REGS. § 404-1 (LexisNexis 2013).

actual identity of the chemicals used is necessary. However, such disclosure should not come at the expense of the companies who have invested millions of dollars and countless hours into developing the most efficient and proper mixtures for each well. Although Louisiana has attempted to take a step toward transparency regarding hydraulic fracturing fluid ingredients, a loophole nonetheless persists. Under the present system, companies can too easily circumvent actual disclosure of the chemicals and corresponding concentrations that they use for the fracturing fluid. While striking a balance between company interests and the level of disclosure sought by public advocates is a delicate task, Wyoming's existing scheme furnishes an efficacious model for addressing this issue. By adopting a comprehensive scheme similar to Wyoming's, Louisiana can satisfy proponents of disclosure while still keeping the proprietary information of the companies confidential.

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