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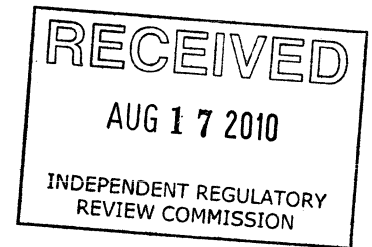
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August 9, 2010



VIA ELECTRONIC MAIL

The Honorable John Hanger
Secretary, Pennsylvania Department of Environmental Protection
Chairperson
Pennsylvania Environmental Quality Board
Rachel Carson State Office Building,
16th Floor
400 Market Street, Harrisburg, Pennsylvania 17101-2301

Re: Proposed Amendments to 25 Pa Code Chapter 78 –
Pennsylvania Oil and Gas Regulations

Dear Secretary Hanger:

On July 10, 2010, the Pennsylvania Environmental Quality Board (“EQB”) published in the Pennsylvania Bulletin proposed amendments to Pennsylvania’s oil and gas regulations codified at 25 Pa. Code Chapter 78. *See* 40 Pa. Bull. 3845 (July 10, 2010). The oil and gas regulations implement the Pennsylvania Oil and Gas Act, 58 P.S. §§ 601.101 - 601.605. The proposed amendments to the oil and gas regulations have been developed by the Pennsylvania Department of Environmental Protection (“PADEP”) to update existing regulatory requirements, many of which have been in place since 1989. The proposed amendments cover a broad spectrum of issues, focusing predominantly on well drilling, operation and plugging requirements contained in 25 Pa. Code Chapter 78, Subchapter D. Publication of the proposed regulations in the Pennsylvania Bulletin has triggered a 30-day public comment period.

The purpose of this letter is to provide the EQB and PADEP with comments on behalf of Halliburton Energy Services, Inc. (“HESI”) regarding certain limited but important provisions contained in the proposed regulations. Specifically, the comments focus on proposed changes to requirements pertaining to the information that is to be included in the stimulation record contained in the well completion report that a well operator must submit to PADEP within 30 days after the



completion of an oil or gas well.¹ In addition, the comments include clarifying recommendations regarding the proposed definition of “cement job log” and the proposed requirements relating to casing and cementing plans.

HESI is a leading provider of services to the oil and gas industry and is the global leader with respect to hydraulic fracturing services. HESI helped pioneer the use of hydraulic fracturing in the 1940s and has been hydraulically fracturing wells in a wide variety of geographic settings and formations for over 60 years. During this time period, HESI has fraced many hundreds of thousands of wells and has been responsible for numerous innovations in the field of hydraulic fracturing. This wealth of experience makes HESI particularly well qualified to comment on the proposed oil and gas regulatory requirements, particularly as they relate to hydraulic fracturing stimulation practices. Additional information concerning HESI and its operations is included in Exhibit A to this letter.

1. Proposed Changes to 25 Pa. Code § 78.122(b)(6)

On January 30, 2010, PADEP published an advanced notice of proposed rulemaking (“ANPR”) in the Pennsylvania Bulletin announcing the availability for public comment of a preliminary draft of proposed amendments to 25 Pa. Code Chapter 78. The ANPR indicated that the comment period regarding the preliminary draft of the proposed regulatory amendments would close on March 2, 2010. *See* 40 Pa. Bull. 623 (Jan. 30, 2010). Almost 90 individuals, organizations and entities submitted comments to PADEP as part of the ANPR process, and PADEP made a number of important changes to the proposed regulatory amendments before submitting them to the EQB for formal consideration. One of the changes that was made involved modifying 25 Pa. Code § 78.122(b)(6) concerning the type of information to be included in the stimulation record contained in the well completion report that a well operator must provide to PADEP within 30 days after completing a well. Specifically, PADEP included a provision proposing to require that a well operator provide a “list of hydraulic fracturing chemicals used” as part of the stimulation record included in a well completion report. According to the summary of comments that PADEP prepared regarding comments that it received in response to the ANPR, this provision was added to address a comment from the Pennsylvania Campaign for Clean Water (“PCCW”) suggesting that PADEP “require a list of additives used in slickwater fracking at sites.”

The stimulation record, which is only one element of the well completion report, is to be prepared by the well operator on forms issued by PADEP. The proposed regulations specify that the stimulation record is to include “pump rates, pressure, total volume and list of hydraulic fracturing chemicals used, the volume of water used and identification of water sources used pursuant to an approved water management plan.” *See* 25 Pa. Code § 78.122(b)(6)(proposed). As such, the stimulation record contains a basic snap-shot of information pertaining to the

¹ The current regulations simply specify that a well completion report include a stimulation record without prescribing the information that is to be included in the stimulation record itself. *See* 25 Pa. Code § 78.122(b)(6).

stimulation process that is used for a particular well. This information must be quickly assembled so that it can be included in the well completion report which must be submitted to PADEP within 30 days after a particular oil or gas well is completed. Accordingly, it appears that the information necessary to prepare the stimulation record is designed to fit within the framework of existing federal and state legal requirements.

Operators and service companies already disclose substantial information regarding the fluids used in hydraulic fracturing operations consistent with the framework of existing federal and state legal requirements. For example, HESI and well operators are required to keep material safety data sheets (“MSDSs”) available on job sites in accordance with the federal Hazard Communication Standard promulgated by the United States Occupational Safety and Health Administration (“OSHA”). *See* 29 C.F.R. § 1910.1200(i). MSDSs specifically contain information regarding any chemicals found in a product at a concentration of greater than 1% that are considered hazardous as well as information concerning the physical properties of the product, the known hazards associated with the product, measures to be taken in response to a release of the product and relevant first aid information. *See* 29 C.F.R. § 1910.1200(e).² These MSDSs contain available information concerning the hazards associated with all constituents in a product even where the MSDSs do not include the specific chemical identity of a constituent because the identity is a trade secret. MSDSs are designed to provide exactly the type of information that first responders, medical personnel and the public need in order to respond to an emergency situation. They include a substantial degree of information regarding the hazards of any products used in the frac work place and provide medical personnel with the key information needed to treat any employee who may have been exposed to a product. MSDS information is readily available to the well operator and can be included in the stimulation record for a particular well without substantively expanding an operator’s obligations under Pennsylvania and federal law.³

To ensure that the information to be included in the well completion report is consistent with the type of information that the well operators are already maintaining, we request on behalf of HESI that the operative phrase in the proposed version of 25 Pa. Code § 78.122(b)(6) be revised to provide that the stimulation record contain the “total volume and list of hydraulic fracturing additives based on information from applicable material safety data sheets” rather than the “total volume and list of hydraulic fracturing chemicals used.” For ease of preparing the stimulation record, the list of hydraulic fracturing additives can be obtained from the MSDSs or

² Any chemicals that are carcinogens must be listed on the MSDS if they are present in a product at a concentration of greater than 0.1%. Chemicals that present physical hazards are listed on the MSDS regardless of concentration.

³ HESI itself undertakes steps to facilitate the availability of information regarding fluids that it uses to hydraulically fracture wells. For example, as part of its overall workplace safety program, HESI places all of the MSDSs for all of the products that it uses in its stimulation activities on its company website, thereby providing ready and timely access to essential product information for all members of the public and for any parties who need this information on a real-time basis. This approach is intended to help facilitate compliance with key reporting obligations for the handling and use of products and provides a very comprehensive review of the products used for frac jobs.

alternatively, the MSDSs could be attached to the stimulation record itself. In either event, the stimulation record that will be provided to PADEP as part of the well completion report will include on a well-specific basis the array of information that is provided by the relevant MSDSs for the hydraulic fracturing additives that are used in the stimulation process. The recommended revision to the proposed version of 25 Pa. Code § 78.122(b)(6) not only harmonizes the proposed provision with the practices and procedures that are already in place but also responds directly to the suggestion by PCCW that the proposed regulations provide for a “list of additives” used in the hydraulic fracturing process for a particular well.⁴

To the extent that the EQB intends the proposed version of 25 Pa. Code § 78.122(b)(6) to require well operators to provide lists of all chemicals contained in each additive used in a hydraulic fracturing job, such a requirement will almost certainly intrude into the arena of trade secrets and proprietary information. Neither PADEP nor the EQB have suggested that the proposed regulatory provision in question (25 Pa. Code § 78.122(b)(6)) is to be construed in a manner contrary to Pennsylvania’s recognized policies that favor protection of confidential proprietary information and trade secrets by requiring operators to obtain and disclose in well completion reports such information with respect to hydraulic fracturing fluids. Moreover, the absence of any mechanism to designate or protect confidential business information within the framework of 25 Pa. Code Chapter 78 generally or 25 Pa. Code § 78.122 specifically indicates that that the well completion reports are not to be used in this manner. HESI strongly opposes any disclosure requirements mandating the release of valuable trade secret information such as the identity of specific proprietary chemicals used in highly specialized frac fluids or the formulaic composition of such fluids and believes that such routine disclosure of trade secret information is neither necessary nor appropriate for the reasons outlined below.⁵

Pennsylvania has longstanding and strong policies that recognize and favor the protection of proprietary information and trade secrets because of the innovation that such protections support. Acknowledging the inherent value of trade secrets, Pennsylvania courts traditionally recognized a cause of action where a person disclosed or used a misappropriated trade secret. *See, e.g., Van Products Co. v. General Welding and Fabricating Co.*, 213 A.2d 769 (Pa. 1965) (adopting Restatement (First), Torts § 757 concerning liability for disclosure or use of a trade

⁴ As used in the context of hydraulic fracturing fluids, an “additive” is a substance or combination of substances having a specific purpose that is combined with a base fluid (typically water) and proppant (typically sand) to create a “fracturing fluid.” Examples of common additives are biocides, surfactants, fluid loss additives and stabilizers. The term “chemicals” can be interpreted to refer to the chemical constituents of an additive.

⁵ Neither PADEP nor the EQB has offered any rationale or justification to support the proposed regulatory language at issue other than that the proposed regulatory language is designed to address PCCW’s comment described above. In light of the information that is already available regarding hydraulic fracturing fluids, the fact that hydraulic fracturing activities in the Marcellus Shale formation are taking place at depths far below potable groundwater sources, and the fact that hydraulic fracturing has been performed for many decades on a vast number of wells across the United States without any confirmed instances where hydraulic fracturing itself has caused contamination of drinking water aquifers, HESI believes that there is simply no basis for mandating disclosure of proprietary information and trade secrets associated with hydraulic fracturing fluids.

secret), *Felmler v. Lockett*, 351 A.2d 273 (Pa. 1976). Subsequently, the General Assembly provided a statutory basis for such claims by enacting the Uniform Trade Secrets Act, 12 Pa.C.S. § 5301 *et seq.*, which allows courts to invoke a broad range of remedies in instances where trade secrets have been, or are threatened to be, misappropriated. Since its passage, the courts in Pennsylvania have considered the Uniform Trade Secrets Act as a basis for state agencies to withhold proprietary information from disclosure under the version of the Pennsylvania Right-to-Know Law in effect until last year, which did not have an explicit exemption for trade secrets. *See Parsons v. Pa. Higher Educ. Assistance Agency*, 910 A.2d 177 (Pa. Commw. Ct. 2006) (ordering the disclosure of travel vouchers and other financial records, but allowing the agency to redact “secret information of a competitive value”). In 2008, the General Assembly adopted a new version of the Right-to-Know Law, which became effective on January 1, 2009. 65 P.S. §§ 67.101 – 67.3104. The new Right-to-Know Law explicitly recognizes the importance and value of trade secrets and confidential proprietary information by exempting from disclosure any record that constitutes or reveals such information. 65 P.S. § 67.708(b)(11).

HESI invests substantial economic resources and efforts to develop its fracturing fluid systems and technologies that deploy these fluids, and consequently treats them as proprietary and valuable trade secrets. HESI therefore believes that any requirement that service companies routinely disclose information concerning the chemical constituents of frac fluid additives so that operators can prepare well completion reports would be inappropriate because it would require the disclosure of trade secret information when it is not needed and would serve as a disincentive to future frac fluid and technical innovation.

It is well recognized that designing an effective frac job requires a sophisticated understanding of the geologic, petrophysical and reservoir parameters of the hydrocarbon-bearing formation and its surrounding layers and the chemistry of the stimulation fluids themselves. In essence, implementing an effective frac job requires the right “tools.” HESI devotes substantial resources to understanding and improving the elements necessary to successfully stimulate a formation while ensuring the integrity of the production and water zones. To achieve these goals, HESI invests substantial resources in developing new fracturing fluids that will make hydraulic fracturing more effective and efficient. HESI also has made a strong commitment toward developing more effective methods of delivering the fracturing fluids to the objective formation and managing the propagation of fractures to maximize the increases in well productivity resulting from fracturing operations.

Given its substantial investment in fracturing fluid chemistry and technology, HESI considers its fluid formulations to be proprietary. HESI believes that these formulations are valuable trade secrets and confidential business information and so should be offered the appropriate protections. HESI’s competitors also view their frac fluids the same way. Accordingly, HESI considers the protection of its proprietary formulas for frac fluids to be critical and indeed necessary in order to encourage the development and use of more effective

methods to stimulate the production of oil and gas supplies.⁶ The protection of HESI's proprietary information is particularly critical because frac fluid formulas may not be patentable and could be copied by any of HESI's competitors if they were to obtain such formulas. Any disclosure of non-protected sensitive chemical information would obviously serve as a substantial disincentive to innovation.

Consistent with this position, HESI believes that the proposed version of 25 Pa. Code § 78.122(b)(6) could create serious risks of exactly such types of disclosure and therefore should be modified as described above to provide for disclosure of hydraulic fracturing additives based on information from applicable MSDSs. While substantial information regarding the chemical composition of hydraulic fracturing fluids is provided by the relevant MSDSs, the framework of requirements relating to MSDSs strikes an appropriate balance between disclosure on the one hand and protection of trade secrets and proprietary information on the other. Accordingly, providing for the identification of additives used in a frac job based on information from the relevant MSDSs will provide substantial information regarding the components of the fracturing fluids used in stimulating a well while protecting the small but critically important universe of propriety chemicals that may have been used. If disclosure of proprietary information – the identity of certain chemical constituents in the fracturing fluids – to PADEP is mandated, the strong potential exists for wider dissemination of the proprietary information that is disclosed. Because HESI's products are used not just in Pennsylvania but worldwide in many cases, if HESI's trade secret information were to be made public in Pennsylvania, that information would lose its trade secret status more broadly, thereby compromising HESI's competitive position on a global basis.⁷

⁶ Based on multiple studies that HESI has performed, the use of advanced proprietary hydraulic fracturing fluids typically results in an increase in production (which often can be quite significant) when compared to the use of non-proprietary, commodity-type fracturing fluids and/or technologies. Accordingly, advanced hydraulic fracturing fluids allow gas wells to be installed and operated more effectively and efficiently. Moreover, a number of HESI's new technologies are designed to provide environmental benefits, such as facilitating the recycling of flowback fluids for reuse in hydraulic fracturing operations. Pennsylvania can reap substantial economic and environmental benefits from the new technologies developed as the result of the investment in research and development undertaken by HESI and other service companies. However, these new technologies are generally proprietary. Requiring the disclosure of valuable proprietary information will discourage the development of these advanced technologies and limit the viability of using such advanced technologies in Pennsylvania.

⁷ Because of the harm that can result, the mandated disclosure of proprietary information may give rise to constitutional concerns. The United State Supreme Court has held that trade secrets are a property right protected by the Takings Clause of the Fifth Amendment. *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1003 (1984). In fact, the courts have held that a list of the ingredients that make up a product, if properly protected by the owner as a trade secret, is a form of property that is specifically protected under the Fifth Amendment. *Philip Morris, Inc. v. Reilly*, 312 F.3d 24, 32 (1st Cir. 2002). Thus, any forced disclosure of trade secret information in order to gain access to Pennsylvania markets could potentially result in an unconstitutional taking of HESI's property without just compensation.

2. Proposed Definition of “Cement Job Log” and Requirements for Casing and Cementing Plans

The proposed amendments to 25 Pa. Code Chapter 78 include a new definition for the term “cement job log” that provides as follows:

A written record that documents the actual procedures and specifications of the cementing operation. The record must include the type of cement with additives, the volume, yield and density in pounds per gallon of the cement and the amount of cement returned to the surface, if any. Cementing procedural information must include a description of the pumping rates in bbls per minute, pressures in psi, time in minutes and sequence of event during the cementing operation.

25 Pa. Code § 78.1(b) (proposed).

We suggest for purposes of clarity that the following two sentences be added at the end of the definition of a “cement job log:”

Cement additives can be identified using the service company’s product names or generic listings of additive types. If a cement system is used that is identified by a single name, the Department may request that supportive information such as information from material safety data sheets, additive product names or generic additive component listings be kept on record or provided for each well.

The additional language presented above is designed to clarify the type of information that is to be included in the cement job log in terms of cement additives, reflecting the nomenclature that is used in the field between the operators and service companies. This approach provides a minimal level of proprietary protection for unique service company cement systems, which are often developed and optimized through extensive laboratory and field testing and may offer competitive advantages to the service company.

We also note that in the proposed version of 25 Pa. Code § 78.83a(a)(4), well operators must prepare casing and cementing plans that include the “cement type, yield, additives and estimated amount.” We suggest that similar clarifying language be added to the end of this clause, consistent with the proposal set forth above.

* * * * *

We very much appreciate the opportunity to provide these comments on behalf of HESI regarding the proposed regulations and would welcome the opportunity to discuss the proposed

The Honorable John Hanger
August 9, 2010
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regulations in more detail with PADEP and the EQB.

Respectfully submitted,

A handwritten signature in black ink, reading "Michael M. Meloy". The signature is written in a cursive style with a large, stylized 'M' and 'L'.

Michael M. Meloy
For MANKO, GOLD, KATCHER & FOX, LLP

MMM/dem/10437/0022
Enclosures

cc: Mr. Scott Perry
Doug Brennan, Esquire
Stuart H. Kemp, Esquire

EXHIBIT A

Halliburton Energy Services, Inc. ("HESI") is a leading provider of services to the energy industry in connection with the development of natural gas wells. HESI provides a variety of services to operators of natural gas wells, including but not limited to providing drilling fluids and cementing services as well as conducting related logging and perforating work and providing various other services related to the development of natural gas resources. In particular, HESI is one of the leading providers of stimulation services for oil and gas wells, having pioneered hydraulic fracturing technology in 1949. HESI provides its services to well operators in many areas of the country, including Pennsylvania.

The science of hydraulic fracturing includes an understanding of the geologic, petrophysical and reservoir parameters of the hydrocarbon-bearing formation and its surrounding layers and the chemistry of the stimulation fluids themselves. HESI spends significant research and development dollars understanding these parameters and their role in order to design stimulation programs that will successfully stimulate a formation in the manner desired, while ensuring the integrity of the production and water-bearing zones. As part of these efforts, HESI has devoted significant resources to develop more effective fracture stimulation fluid systems for a variety of subsurface environments, to ensure that natural gas resources are produced in the most effective manner possible and in accordance with all applicable environmental requirements. HESI's research efforts cover fluids that can be effectively used in conventional and unconventional natural gas wells, including coalbed methane, shales and tight sands.

HESI's innovations are not limited to those that directly increase production through the more effective creation and maintenance of induced fractures. HESI also devotes significant resources to developing effective solutions to issues raised by the industry with respect to other aspects of the hydraulic fracturing process, solutions that often have key environmental benefits. For example, HESI is developing fluid systems to facilitate the use of produced water rather than relying solely on fresh water as the base fluid for hydraulic fracturing. The reuse of produced water may have two benefits where such reuse is feasible: it limits the amount of produced water that must be disposed of while at the same time limiting the amount of fresh water that must be withdrawn from surface waters for hydraulic fracturing operations, thereby minimizing any potential impacts on aquatic ecosystems resulting from water withdrawals.

In addition, HESI is in the process of developing engineering solutions to various other aspects of the hydraulic fracturing process that would minimize the use of chemicals in that process. Among other things, HESI has been working on developing a means of bringing the gelling agent (typically guar) to the well site in dry form and mixing it with the frac fluids without the use of a liquid gel concentrate ("LGC"), thereby eliminating the use of one category of chemicals and reducing the amount of chemicals requiring transport to the well site. HESI also has been in the process of developing the CleanStream system for controlling bacteria growth through the use of ultraviolet light. Thus, when it is allowed to develop and apply new technologies while protecting their proprietary aspects, HESI's product innovations can yield significant environmental benefits when conditions permit their use.

HESI's product development efforts have been viewed by its customers, the industry, various federal and state agencies and other entities as adding significant value. In fact, the Patent Board has recognized HESI as an industry leader and the leader among service companies in product innovation and the development of important solutions for our nation's energy industry. HESI intends to maintain its leadership position as it continues to develop products that will effectively enhance the production of gas from Marcellus Shale wells.

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INDEPENDENT REGULATORY
REVIEW COMMISSION

From: Michael Meloy [MMeloy@mgkflaw.com]
Sent: Monday, August 09, 2010 7:05 PM
To: EP, RegComments
Cc: Perry, Scott; Brennan, Douglas
Subject: 25 Pa. Code Chapter 78 -- Comments Regarding Proposed Regulatory Amendments
Attachments: HESI - Comments Regarding Chapter 78.pdf

Importance: High

I am submitting to the Environmental Quality Board in electronic format comments prepared by Manko, Gold, Katcher & Fox, LLP on behalf of Halliburton Energy Services, Inc. (HESI) regarding proposed changes to 25 Pa. Code Chapter 78 that were published in the Pennsylvania Bulletin on July 10, 2010. The comments are in the form of a letter in a pdf format. My return name and address are set forth below. Please confirm receipt of these comments at your earliest convenience.

Thank you.

Michael

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