Singh, Angela K (DOA)

From: Fisher, Samantha J (DOA)
Sent: Monday, April 01, 2013 4:28 PM
To: Singh, Angela K (DOA)
Cc: Colombie, Jody J (DOA)
Subject: Fwd: AOGA Comments on Proposed Hydraulic Fracturing Regulations
Attachments: AOGA Comments - Proposed Hydraulic Fracturing Regulations.pdf

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Sent via the Samsung Galaxy S™III, an AT&T 4G LTE smartphone

-------- Original message --------
From: Nikki Martin <martin@aoga.org>
Date:
To: "Colombie, Jody J (DOA)" <jody.colombie@alaska.gov>
Cc: "Fisher, Samantha J (DOA)" <samantha.fisher@alaska.gov>,Kara Moriarty <moriarty@aoga.org>,sheffield@aoga.org,Nikki Martin <martin@aoga.org>
Subject: AOGA Comments on Proposed Hydraulic Fracturing Regulations

Jody,

Please find attached AOGA's comments regarding the Commission's proposed amendments to 20 AAC 25.280, 20 AAC 25.990 and proposed addition of 20 AAC 25.283 relating to the regulation of hydraulic fracturing operations. Please let me know if you have any questions or have any difficulty opening the attached document.
Thank you,

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April 1, 2013

Commissioner Cathy P. Foerster, Chair
Alaska Oil & Gas Conservation Commission
333 W. 7th Avenue, Suite 100
Anchorage, AK 99501
Submitted by E-Mail to: jody.colombie@alaska.gov

Re: Proposed Revisions to 20 AAC 25.005, 20 AAC 25.280, 20 AAC 25.990 and proposed addition of 20 AAC 25.283 – Regulation of Hydraulic Fracturing Operations

Dear Commissioner Foerster:

Thank you for the opportunity to comment on the Alaska Oil and Gas Conservation Commission's ("AOGCC" or "Commission") proposed regulation of hydraulic fracturing in revisions to 20 AAC 25.005—20 AAC 25.990 and the addition of 20 AAC 25.283. The 15 members of the Alaska Oil and Gas Association ("AOGA") account for the majority of oil and gas exploration, development, production, transportation, refining, and marketing activities in Alaska. AOGA's members are supportive of hydraulic fracturing chemical disclosure and the increased transparency it will provide to Alaskans.

Hydraulic fracturing has been safely conducted to increase and enhance production of Alaska's oil and gas resources for decades. As AOGCC has reported, "[i]n over fifty years of oil and gas production, Alaska has yet to suffer a single documented instance of subsurface damage to an underground source of drinking water."[1] Through the Commission's efforts, we will have the opportunity to provide Alaskans information regarding hydraulic fracturing operations that will help dispel any misconceptions or false impressions regarding the safety and chemical makeup of materials used in hydraulic fracturing. While many of our members already voluntarily supply this information on the chemical disclosure registry, FracFocus, AOGA supports the development and careful consideration of practical regulations that address public concerns regarding processes used for the benefit of all Alaskans.

[1] Alaska Oil and Gas Conservation Commission, Hydraulic Fracturing White Paper, (April 6, 2011) ("AOGCC White Paper").

The Commission's proposed regulations are the latest in a progression of various states' efforts to address public concerns regarding hydraulic fracturing within their borders. There are significant differences between the proposed regulations before us today and those of the states who have adopted hydraulic fracturing chemical disclosure regulations to date, including Colorado, Wyoming, Louisiana, Oklahoma, Pennsylvania, and Texas. AOGCC's proposed regulations differentiate from these states in that:

- Alaska would require pre-approval before conducting hydraulic fracturing activities;
- Alaska would require a more substantial preliminary investigation into other wells in the area and groundwater monitoring before and after hydraulic fracturing operations;
- Alaska would require direct notification to nearby land owners and well operators, including certification that a full copy of the application has been provided to owners and operators within one-quarter mile; and
- Alaska would provide no trade secret protection for proprietary information.

We feel there are specific areas in which Alaska's proposed regulations can be improved, which are detailed in our "Explanation of Suggested Revisions" below, corresponding to our enclosed suggested red-line revisions.

1. Application and Approval Process

AOGA supports the chemical disclosure and reporting requirements for hydraulic fracturing operations, but the application for approval process outlined in 20 AAC 25.005 and 20 AAC 25.283(a) will result in unnecessary delay, burden AOGCC staff resources, and in many instances, require information that is either premature or impractical and at an unnecessary level of detail. In our enclosed red-line revisions, we have suggested that many of the provisions of subsection (a) could be codified as rules or requirements rather than required in an application for Commission approval. For example, in subsection (a)(14), the Commission requests operators submit volumes and concentrations of chemical ingredients and additives that may be yet undetermined prior to the start of a hydraulic fracturing operation and subject to change during the course of the operation. As AOGCC notes in its own "white paper" on hydraulic fracturing from 2011, "completion interval thickness, permeability and other characteristics that determine required fluid volumes generally are not known before the well is drilled."[2] It is evident that requiring this information in an application prior to hydraulic fracturing is premature.

In addition, we are concerned that the volume of detailed applications required of the proposed regulations would swamp AOGCC staff, causing further delays to resource development projects critical to Alaska's economic and energy needs. In addition to operations on the North Slope, hydraulic fracturing has also treated a variety of natural gas producing wells in the Cook Inlet basin. Current plans for maintaining and increasing the natural gas supply to South Central Alaska involve operations in the Cook Inlet covered by these proposed regulations. It is imperative that AOGCC's proposed rulemaking results in regulations that are timely, efficient, and that provide certainty to the process for the exploration and development of South Central Alaska's gas supply.

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[2] *Id.*

AOGA appreciates and recognizes the Commission's exemplary oversight of oil and natural gas production in Alaska. With current statutes and regulations, Cook Inlet and North Slope wells are already held to stringent well construction and mechanical integrity requirements. The statute authorizing AOGCC to regulate hydraulic fracturing, AS 31.05.030(j)(2)(A), proscribes that the Commission "shall regulate hydraulic fracturing in nonconventional gas wells *to ensure protection of drinking water quality*." (emphasis added). By the Commission's own admission, current "mechanical integrity requirements are the primary means for protecting drinking water"[3] and AOGCC's "[c]urrent well construction standards used in Alaska properly protect fresh drinking waters."[4] It is unclear what the proposed application and approval process intends to further accomplish. We strongly urge the Commission to reconsider the application and approval process for hydraulic fracturing operations.

We understand that AOGCC intends to require an Application for Sundry Approval for all hydraulic fracturing operations. If after the Commission's careful consideration, the final promulgation of these regulations still require application and approval, we respectfully request an exception for hydraulic fracturing operations where there is no freshwater aquifer present within one-quarter mile or 1,000 vertical feet of the proposed wellbore trajectory, or as identified by the Commission as Freshwater Aquifer Exemptions pursuant to 20 AAC 25.440.[5]

An exception for these operations, where there is no threat to drinking or freshwater, would not exacerbate AOGCC's purpose to provide disclosure in areas where contamination of freshwater might be a public concern. As AOGCC has previously stated, there is no freshwater or drinking water present in the North Slope where the majority of hydraulic fracturing operations occur and, therefore, "freshwater is not a concern."[6] Only monitoring and a Report of Sundry Well Operations, including hydraulic fracturing chemical disclosure, should be required of operations meeting this exception.

In addition, many Conservation Orders specifically allow hydraulic fracturing operations without a Sundry Application.[7] This new regulation does not act as to modify current approvals. The application and approval requirement will exacerbate the inconsistent regulatory requirements administered by the Commission. 20 AAC 25.280(a)(1),(2),(3) & (5) are specifically cited in the various conservation orders that allow use of the document "Wellwork Operations and Sundry Notice/Reporting Requirements for Pools Subject to Sundry Waiver Rules," dated July 15, 2005, informally known as the "sundry matrix." In correlation with the promulgation of hydraulic fracturing regulations, we suggest the matrix and possibly the references in those conservation orders be modified to remove inconsistencies with the proposed regulations. Currently, the matrix specifically allows stimulations, including hydraulic fracturing, in development wells to be undertaken without a Sundry Application.

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[3] *Id.*
[4] Statement of AOGCC Commissioner Cathy Foerster, Interstate Oil & Gas Compact Commission, Regulatory Statements on Hydraulic Fracturing (June 2009).
[5] *See, e.g.*, EPA's Aquifer exemptions for Class II injection activities, 40 CFR 147.102.
[6] *Supra*, n.1.
[7] *See, e.g.*, C.O. 556, dated July 15, 2005.

2. Proposed Disclosures Required in Report of Sundry Well Operations

Our members support the disclosure and reporting of materials pumped during hydraulic fracturing operations on the chemical disclosure registry, FracFocus. However, we suggest the required disclosure of concentrations and types of material pumped be consistent with the disclosures routinely submitted on FracFocus, and not require disclosure that would compromise proprietary information or otherwise expose trade secrets. Health, safety and environmental concerns can be addressed without jeopardizing this information.

The current absence of any protection of proprietary information is of concern to AOGA's members and their service providers. Technological advancements in hydraulic fracturing have not only significantly increased and enhanced production, but have made it more environmentally sound, reducing water use as well as the use of biocides and chemicals. As you have heard and will hear from our members' service providers and vendors, these technologies are highly proprietary and the result of years of expensive research and development efforts. Waiving intellectual property rights to these technologies in the Alaskan market may jeopardize the value of the rights globally, which means many suppliers may simply elect to withhold new products from the Alaskan market. As Colorado's Governor John Hickenlooper recently said, "if we were overzealous enforcing them to disclose what they had created, they wouldn't bring it into our state."[8]

The continuation of these technologies in hydraulic fracturing treatments is important to the oil and gas industry in Alaska. AOGA's members have substantiated concerns that any requirement to force disclosure of this proprietary information, including product formulations, will create a disincentive for the service providers' development and use of these technologies in our state. To this end, we urge the Commission to adopt subsections (h) – (o) in the enclosed red-line revisions.

In addition, to the extent the proposed regulations require the reporting or disclosure of information stage by stage, interval by interval or well by well, we suggest and respectfully request that reporting and disclosure be instead required for each hydraulic fracturing treatment or for each pool, resulting in a more efficient and streamlined reporting process.

3. Explanation of Suggested Revisions

Please find enclosed AOGA's suggested red-line revisions of the proposed hydraulic fracturing regulations. In addition to our concerns above, the summaries that follow provide our explanation and requests regarding each section of the proposed regulations.

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[8] Ben Wolfgang, *I drank fracking fluid, says Colorado Gov. John Hickenlooper*, THE WASHINGTON TIMES, February 12, 2013, *available at* http://www.washingtontimes.com/blog/inside-politics/2013/feb/12/colorado-gov-hickenlooper-i-drank-fracking-fluid/.

20 AAC 25.005. Permit to Drill
(13)
Pursuant to the discussion above, AOGA respectfully requests removal of the requirement to submit a request for approval of hydraulic fracturing operations.

20 AAC 25.280. Workover Operations
(f)
Again, we respectfully request deletion of this provision and removal of the approval and application process requirement.

20 AAC 25.283. Hydraulic Fracturing
(a)
While we are concerned that the approval process, as drafted, will result in unnecessary delays and unduly burden the administration of Sundry Approvals, AOGCC appears intent on requiring an Application for Sundry Approval for all hydraulic fracturing operations. If the final promulgation of these regulations require application and approval, we respectfully request the adoption of our proposed exception to 20 AAC 25.283(a) for hydraulic fracturing operations where there is no freshwater aquifer present within ¼ mile or 1,000 vertical feet of the current or proposed wellbore trajectory, or as identified by the Commission as Freshwater Aquifer Exemptions pursuant to 20 AAC 25.440 (e.g., EPA's Aquifer exemptions for Class II injection activities is 40 CFR 147.102). Only monitoring, hydraulic fracturing chemical dislcosures, and a Report of Sundry Well Operations should be required of operations meeting this exception.

In addition, we request the addition of language limiting the number of days the Commission has to respond to an Application for Sundry Approval of hydraulic fracturing, so that an operator can reasonably plan on the timeline of operations. If the Commission takes no action within ten business days, the application will be deemed approved.

(a)(1)
Deletes "complete copy of the application" and replaces with "notice of operations." We support providing notice of operations to landowners and surface owners within one-quarter mile. Notice of the intended operations to the owners listed and a general description should, however, be sufficient. If the requirement of application for Sundry Approvals stands, the application required in proposed 20 AAC 25.283 would be quite voluminous and technical in nature, likely including confidential geologic information. The public should be able to rely upon the Commission's expertise to regulate wellbore integrity and provide appropriate oversight that operators should not be required to submit details to a surface owner. The complete application could be made available to an interested landowner or surface owner by the Commission upon request.

(a)(2)
Revises to require identification of any water wells located within one-quarter mile of "the current or proposed wellbore trajectory" rather than within a one-quarter mile "radius" of the well's surface location. The "radius" of a well's surface location is not the appropriate measurement; a well trajectory distance is more appropriate. In addition, we request that

AOGCC adopt language clarifying that the operator must make good faith efforts to identify any water wells in the defined project area relying on publicly available records and notice to neighboring surface owners.

(a)(3)
Revises to require identification of freshwater aquifers within one-quarter mile of the "current or proposed wellbore trajectory."

(a)(5)
We request the removal of the requirement to sample water wells within one-quarter mile of a hydraulic fracturing operation. Sampling of private water wells will pose unnecessary logistical, administrative and legal hurdles, including seeking the consent and cooperation of the private well owner. Many states with new fracturing regulations have decided not to require water sampling of personal drinking wells in regulation for these reasons. Each test can add an awkward logistics problem in Alaska.

Several of the metals listed are complicated and expensive to test for. According to Analytica Group, the contractor AOGCC has contacted regarding baseline water well testing services,[9] the costs for analyzing just one set of tests requested in the proposed regulations will cost approximately $1,000 - $1,300.00. That estimate does not include the costs for sampling and transport to Anchorage. Hiring a contractor to sample the well would likely cost up to $10,000.00 per well. This cost varies greatly depending on the distance from the road system and need to hire aircraft for access.

While it may be costly, the problem with the well sampling requirements as written is in the indefinite amount of time that a well's production could be delayed while obtaining permission of each landowner or well required, in addition to the delay in turnaround and testing of the well samples. Analytica Group estimates that the holding time for the tests requested in AOGCC's proposed regulations are in the 7 day or longer category. Often water sampling laboratories are not nearby to Alaska oil wells; as Analytica Group indicated in its response to AOGCC's inquiry, some tests would need to be shipped to a lab in Colorado or sub-contracted to other approved laboratories,[10] likely causing additional delay. At times, it is difficult to fit large coolers of multiple 1L bottles of acidified water in air cargo on small planes and keep the samples from freezing. In addition, some chemical components listed are not used in fracturing treatment operations so their inclusion is unwarranted.

If the water sampling requirement stands, we respectfully suggest AOGCC replace (a)(5) with our suggested revised language that limits the number of water wells sampled in an area before and after treatment to no greater than four, removes some sampling requirements, and includes a liability provision regarding the use of sampling results. In addition, the suggested provision should be added to address and provide a waiver in a situation where access to test a private well is not granted by the well owner.

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[9] *See* Email from Chris Wallace, Sr. Petroleum Engineer, AOGCC, to Elizabeth Rensch, Business Development Manager, Analytica Group, dated January 23, 2013.
[10] *Id.*

(a)(7)
We respectfully suggest deletion of subsection (a)(7). For many wells, a Sundry application will be prepared and submitted before the well is drilled. The fracture operation will, in many instances, immediately follow the drilling of the well. The requested information will not be available at the time of application and the Commission should not be expected to review and analyze such information and deliver its consent within hours of when the data is submitted. Requiring this information for Commission approval will cause unnecessary delay. A more workable solution would be to simply proscribe, as suggested in the attached red-line revisions at proposed section 20 AAC 25.283 (g), that well casings must be cemented sufficiently below the base of the lowermost freshwater aquifer and according to 20 AAC 25.030 and that all hydrocarbon zones penetrated by the well must be isolated to prevent the treatment from negatively impacting the surface environment, fresh water aquifer, or water well.

It should be noted that not all wells have cement bond logs. It is not clear if the promulgation of this new regulation will require such logs in the future.

(a)(8)
AOGA also requests the deletion of subsection (a)(8). Pressure test information is not currently required to be submitted for any well and it is unclear if the intention of this provision is to require submission of the complete test data or the summary results. Current data is not always available.

(a)(10)
We also request deletion of subsection (a)(10). For exploration wells in remote areas this data will be limited and uncertain. This should not be required in an application for Commission approval, but instead may be reported with Form 10-404. If this subsection remains, the data requested should be limited to areas "within one-quarter mile of the proposed wellbore trajectory."

(a)(11)
Adds "within one-quarter mile of the current or proposed wellbore trajectory."

(a)(12)
Adds "located within one-quarter mile of the current or proposed wellbore trajectory" and deletes "sufficient." It is difficult to know in advance what information will constitute "sufficient" information to support such a determination.

(a)(13)
We request the identification of faults be limited to those faults known or suspected "within one-quarter mile of the current or proposed wellbore trajectory." It should be noted that faults can be encountered while drilling that have not been previously identified on seismic.

Deletes "sufficient." It is difficult to know in advance what will constitute "sufficient" information to support such a determination.

(a)(14)
Deletes "detailed" to avoid any ambiguity regarding what constitutes detailed and removes "by stage." Instead of requiring reporting stage by stage, we respectfully request the information required be reported for a single hydraulic fracturing treatment operation, including only the totals for a multistage fracturing treatment.

Deletes (A)-(D). We do not oppose the disclosure of this information, insofar as proprietary information is protected from public disclosure, but we respectfully request the Commission remove this section and only require this information be disclosed after the fracturing operation is complete, pursuant to proposed 20 AAC 25.283(h). Successful hydraulic fracturing operations often require the operator's ability to modify the hydraulic fracturing plan and to substitute fluids and agents once hydraulic fracturing begins. A post-fracturing report included in Form 10-404 details the actual characteristics of the job, including fluid volumes generally not known before the well is drilled.

(a)(15)
Deletes "detailed" to avoid any ambiguity regarding what constitutes detailed information.

(b)
Deletes section as written and replaces with requirement that "all casing installed in a well that will be subjected to hydraulic fracturing treatment shall have a minimum internal yield pressure rating to withstand at least 1.1 times the maximum pressure differential in which the casing may be subjected."

(c)
Revises subsection to replace "TVD" with "MD." Deletes the requirement that the fracturing string must be tested to not less than 110% of the maximum anticipated treating pressure and replaces with requirement that "the fracturing installed in a well that will be subjected to hydraulic fracturing treatment shall have a minimum internal yield pressure rating to withstand at least 1.1 times the maximum pressure differential in which the fracturing string may be subjected."

(d)
We respectfully request deletion of this subsection. A pressure relief valve is not recommended by some service providers as there may be better ways to control pressure. For example, many pumps have electronic switches that can be set to stop pumping immediately once maximum pressure is achieved. In addition, a remotely controlled shut-in device may not be recommended and could be a bad practice to follow should the valve accidentally close while pumping at high pressure, potentially causing catastrophic events. For this reason, this device should not be required and requesting a waiver for each well fractured for a device that is potentially unsafe is nonsensical resulting in additional inefficiency and delay.

(e) (subsection (d) in the attached red-line revisions)
Deletes "be confined to approved formations during hydraulic fracturing" and replaces with the requirement that hydraulic fracturing fluids shall not transmit beyond the confining zone. Incidental fracture growth into the confining zone may occur, but shall not exceed beyond the confining zone.

(f) (subsection (e) in the attached red-line revisions)
Deletes requirement that surface casing valve remain open. Most wells treated with hydraulic fracture operations are previously freeze protected at the time of the fracturing operation. Allowing this surface casing valve to remain open may lead to diesel freeze protect fluids to be evacuated from the annulus raising concerns for well integrity if a full column of freeze protect fluid is not in place. If the casing valve is required to remain open, it should be clarified that the valve is to remain open, not to the atmosphere, but to allow pressure monitoring.

(g) (subsection (f) in the attached red-line revisions)
Deletes requirement of reporting to AOGCC any time when annulus pressure increases more than 500 psi and the requirement that a form 10-404 be submitted within (15) days after the occurrence.

Annulus pressure increases exceeding 500 psi during a treatment could be due to ballooning or thermal effects, and may not reflect a loss of mechanical integrity. We suggest requiring operator monitoring and reporting only if there is an indication of a tubing or packer failure. This would be similar in concept to the requirement in Area Injection order 4E, Rule 7, Well Integrity Failure: "Whenever any pressure communication, leakage or lack of injection zone isolation is indicated by injection rate, operating pressure observation, test, survey, log or other evidence, the Operator shall notify the Commission by the next business day and submit a plan of corrective action on a form 10-403 for Commission approval." An alternative approach would be to increase the threshold for reporting to 1000 psi.

In addition, the requirement that the operator submit a Report of Sundry Well Operations within 15 days is redundant; the report of the incident and plan of corrective action is required by the suggested revision and a full Report of Sundry Well Operations giving all details, including corrective actions already taken, will be submitted within 30 days as required by proposed 20 AAC 25.283(h).

New Subsection (g)
Adds new section to require that well casings be cemented below the base of the lowermost freshwater aquifer and according to 20 AAC 25.030, and that all hydrocarbon zones penetrated by the well are isolated to prevent the treatment from negatively impacting the surface environment, fresh water aquifer, or water well.

(h)
Much of the information identified in section (h) is already required under 20 AAC 25.280(d). We suggest revising this section to remove duplicative information. A 30-day reporting deadline may also be impractical to meet for such a complex measurement and calculation process. In

addition, we request the replacement of "interval" with "treatment." The term "each hydraulic fracturing interval" could refer narrowly to each set of perforations or broadly to each formation that is fractured. We suggest the information required be limited to that generated during a single hydraulic fracturing treatment operation, including only the totals for a multistage fracturing treatment.

(h)(2)
Deletes "each treatment stage." The term "each treatment stage" could refer narrowly to each level of proppant concentration during the operation or broadly to the treatment of a set of perforations during the fracture treatment of multiple sets of perforations. We suggest revising this subsection to require only "the estimated total amount and types of material pumped during a hydraulic fracturing treatment." That level of reporting will provide an appropriate level of information to the public and will be consistent with FracFocus submissions. FracFocus requires the submission of the maximum concentration for each chemical used in the fracture treatment, rather than the actual concentration, thus providing disclosure with some measure of confidentiality.

Freeze protection materials (diesel, methanol, mineral oil, etc.) are often pumped at the end of the fracture treatment to protect the well and surface equipment. While some of that material enters the well, it does not leave the wellbore nor enter the treated formation. We suggest clarification of the intent of the reporting requirements for freeze protection materials in the FracFocus and Sundry reports.

Deletes subsection (B) and revises subsections (C), & (D) in order to decouple the disclosed list of chemical names from concentrations to protect confidentiality of trade secrets as discussed above. AOGA supports the disclosure of all ingredients intentionally included in additives in a single aggregate list, as long as the regulations provide for the disclosure of particular ingredients apart from particular additives.

New Subsections (i) – (k)
Explains the process for the excluding the disclosure of specific chemical ingredients or their CAS numbers, or concentration of such ingredients, that are proprietary information entitled to trade secret protection. Subsection (j) requires that service providers and vendors furnish operators with the information required to be submitted pursuant to 20 AAC 25.283(h)(2). In addition, we request subsection (k) identifying disclosures not required, including chemicals not disclosed to the operator by the manufacturer, vendor, or service provider; ingredients not intentionally added to the hydraulic fracturing fluid; chemicals that occur incidentally or are otherwise unintentionally present in trace amounts, may be the incidental result of chemical reaction or chemical process, or may be constituents of naturally occurring materials that become part of a hydraulic fracturing fluid.

New Subsections (l) – (o)
AOGA supports the full disclosure of trade secrets in the event of a health care emergency and as necessary for the Commission's proper investigation of waste or spills. Currently, federal law requires Material Safety Data Sheets (MSDSs) to be available on location, but provides for the

protection of specific chemical constituents and quantities if they are proprietary information. This information, however, must be disclosed upon receipt of a written statement of medical need, or in the event of medical emergency, to a health professional. We support AOGCC's adoption of a similar provision as suggested in subsection (l) of our red-line revisions. The requirements and processes for claiming trade secret protection should be clear and provide procedural certainty. The language suggested in enclosed subsections (l) and (m) require disclosure of such information to health care providers and emergency responders, as needed, in the event of a medical emergency.

In addition, AOGA requests the adoption of subsections (n) and (o) providing for the disclosure of proprietary information to AOGCC in order to investigate waste under AS 31.05.030 or a release under 20 AAC 25.205, and as necessary to enable the Alaska Department of Environmental Conservation to respond to a release.

(p)
We support reporting and disclosure through FracFocus, and insofar as it is redundant to the reporting requirements of (h) above, this reporting shall satisfy the reporting requirement under (h). We also suggest deletion of "electronic copy." Electronic information is not normally submitted with Form 10-404. If included, we suggest the acceptable electronic format be specified.

(q)
We respectfully request defining "confining zone" to mean "a geological formation (or group or part of a formation) capable of limiting fluid movement out of an injection zone." This definition, however, should be limited to 20 AAC 25.283 as the term "confining zone" is used throughout current regulations, and we do intend to unintentionally complicate or implicate other provisions of the regulations.

20 AAC 25.990. Definitions
(32)
Revises definition of "hydraulic fracturing" to provide clarity regarding operations subject to this regulation. Deletes "initiating" and "productivity or injectivity" and replaces with "production of oil and/or natural gas" to clarify the express purpose of the hydraulic fracturing activity. The definition needs to be very clear as to what operations will be considered "hydraulic fracturing." Depending on the final wording of the definition, even unrelated activities such as formation integrity test to leak off or fracture pressure after cementing a casing string could be considered hydraulic fracturing (*See* 20 AAC 25.030(f)). We suggest the definition includes language to ensure that routine maintenance operations such as perforation breakdown, low rate/low viscosity acid and solvent treatments, freeze protection, step rate tests, or displacement of fluids that may briefly exceed formation parting pressure will not be considered "hydraulic fracturing."

(34) - (–)
The proposed regulations, as drafted, necessitate additional definitions, including "hydraulic fracturing treatment," "surface owner," "water well," "additive," "chemical ingredient," and "trade secret." Accordingly, we have provided suggested definitions for these terms.

Thank you again for opportunity to provide written comments. AOGA will provide oral testimony to speak to our suggestions at the April 4, 2013 public hearing. We look forward to working with AOGCC to develop final regulations that are reasonable and serve to assuage any future public concern without imposing unnecessary restrictions and straining AOGCC staff resources.

Sincerely,

Kara Moriarty

KARA MORIARTY
Executive Director

Enclosure as noted.

Cc: Commissioner John Norman
Commissioner Dan Seamount
Governor Sean Parnell
Commissioner Dan Sullivan

20 AAC 25.005. Permit to Drill

(13) a copy of the proposed drilling program; ~~for a well proposed for hydraulic fracturing, the drilling program shall so indicate; a request for approval to perform hydraulic fracturing must be separately made by submitting Form 10-403 (Application for Sundry Approvals) with the information specified at 20 AAC 25.280 and 25.283~~;

20 AAC 25.280. Workover Operations.

~~(f) an application for Sundry Approvals for a well proposed for stimulation by hydraulic fracturing must also comply with 20 AAC 25.283.~~

20 AAC 25.283. Hydraulic Fracturing. (a) Prior to hydraulic fracturing a well with a current or proposed wellbore trajectory within ¼ mile or 1,000 vertical feet of a freshwater aquifer, for which there is no Freshwater Aquifer Exemption pursuant to 20 AAC 25.440, the operator must submit an Application For Sundry Approvals (Form 10-403) under 20 AAC 25.280. If the Commission takes no action on the application within ten (10) business days of receipt, the application shall be deemed approved. The application shall include:

(1) an affidavit showing that all owners, landowners, surface owners, and operators within one-quarter mile of the wellbore trajectory have been provided notice of operations ~~a complete copy of the application for hydraulic fracturing~~;

(2) a plat showing the well location and the current or proposed wellbore trajectory, which identifiesying any water wells located within ~~a one-quarter mile radius of the well's surface location and further identifying any well penetrations (all well types) within~~ one-quarter mile of the current or proposed wellbore trajectory and fracturing interval and the sources of the information used in identifying such wells. Applicant will make a good faith effort to identify any water wells in the defined project area. Information used to collect water well location information will include notification to surface owners and publicly available recordings including Alaska Department of Natural Resources Water Right data (AS 46.15) and similar public records.

(3) identification of freshwater aquifers within the one-quarter mile ~~radius~~ of the current or proposed wellbore trajectory;

(4) whether the well is covered by a Freshwater Aquifer Exemption as per 20 AAC 25.440;

~~(5) water sampling of water wells. Water sampling consists of collection of baseline water data pre-fracture and follow-up water sampling collected at the same location no sooner than 90 days and no later than 120 days after the conclusion of any hydraulic fracturing operations. The sample parameters shall include pH; Alkalinity; Specific conductance; Major cations/anions (bromide, chloride, fluoride, potassium, sulfate, sodium); Total dissolved solids; BTEX/GRO/DRO (Benzene, Toluene, Ethylene, Xylene/Gasoline Range Organics/Diesel Range Organics); TPH (Total Petroleum Hydrocarbons) or Oil and Grease (HEM); PAH's (Polynuclear Aromatic Hydrocarbons including benzo(a)pyrene); Dissolved Methane, Dissolved Ethane, Dissolved Propane; and Metals (arsenic, barium, boron, cadmium, calcium, chromium, iron, magnesium, manganese, selenium). Current applicable EPA-approved sample custody and collection protocols and analytical methods for drinking water must be used and analyses must be performed by laboratories that maintain nationally accredited programs. Copies of all test results, analytical results and sample locations shall be provided to the commission and to the~~

~~Alaska Department of Environmental Conservation in an electronic data deliverable format within 90 days of collecting the samples;~~

(5) A plan for water sampling of up to four water wells within 1,000 vertical feet and one-quarter mile of the proposed wellbore trajectory is required. If fewer than four water wells are located within 1,000 vertical feet and ¼ mile of the proposed wellbore trajectory, or if property owners do not grant permission for sampling, then this will be documented and submitted in the application. Water sampling should consist of collection of baseline water data pre-fracture and follow-up water sampling collected at the same location no sooner than 90 days and no later than 180 days after the conclusion of any hydraulic fracturing operations.

(A) Surface Owner Access and Exception Process

(i) Surface owners have the right to refuse written permission for water well access and/or disclosure of sampling results.

(ii) If the owners of water wells suitable for testing under this rule do not grant access despite an operator's reasonable good faith efforts to obtain consent to conduct sampling, then an operator may apply for exception to this sampling. An operator seeking an exception on this ground shall document the efforts used to obtain access from the owners of suitable water wells.

(iii) If the Commission takes no action on the application within ten (10) business days of receipt, the requested exception from the requirements of this rule shall be deemed approved.

(B) Sample Parameters. The sample parameters shall include pH; Alkalinity; Specific conductance; Major cations/anions (bromide, chloride, fluoride, potassium, sulfate, sodium); Total dissolved solids; BTEX/GRO/DRO (Benzene, Toluene, Ethylene, Xylene/Gasoline Range Organics/Diesel Range Organics); TPH (Total Petroleum Hydrocarbons) or Oil and Grease (HEM); Current applicable EPA-approved sample custody and collection protocols and analytical methods for drinking water must be used and analyses must be performed by laboratories that maintain nationally accredited programs. Copies of all test results, analytical results and sample locations shall be provided to the commission and to the Alaska Department of Environmental Conservation within 90 days of collecting the samples;

(C) Liability. The sampling results obtained to satisfy the requirements of this section, including any changes in the constituents or concentrations of constituents present in the samples, shall not create a presumption of liability, fault, or causation against the owner or operator of a Well who conducted the sampling, or on whose behalf sampling was conducted by a third-party. The admissibility and probity of any such sampling results in an administrative or judicial proceeding shall be determined by the presiding body according to applicable administrative, civil, or evidentiary rules.

(6) detailed casing and cementing information;

~~(7) an assessment of each casing and cementing operation performed to construct or repair the well with sufficient supporting information, including cement evaluation logs and other evaluation logs approved by the commission, to demonstrate that casing is cemented below the base of the lowermost freshwater aquifer and according to 20 AAC 25.030 and that all hydrocarbon zones penetrated by the well are isolated;~~

~~(8) pressure test information if available and~~ plans to pressure test the casings and tubing installed in the well;

(9) accurate pressure ratings and schematics for the wellbore, wellhead, BOPE, and treating head;

~~(10) data for the fracturing zone and confining zones including lithologic description, geological name, thickness and measured depth (MD) and true vertical depth (TVD), and estimated fracture pressures for the fracturing zone and confining zones;~~

(11) the geologic name and depth (MD and TVD) to the bottom of all freshwater aquifers located within one-quarter mile of the current or proposed wellbore trajectory;

(12) the location, orientation, and a report on the mechanical condition of each well located within one-quarter mile of the current or proposed wellbore trajectory that may transect the confining zones and information ~~sufficient~~ to support a determination that such wells will not interfere with containment of the hydraulic fracturing fluid;

(13) the location, orientation, and geological data of known or suspected faults and fractures within one-quarter mile of the current or proposed wellbore trajectory that may transect the confining zones, and information ~~sufficient~~ to support a determination that any such faults and fractures will not interfere with containment of the hydraulic fracturing fluid;

(14) a ~~detailed~~ copy of the proposed hydraulic fracturing program ~~by stage~~ including;

~~(A) the estimated total volumes planned;~~

~~(B) the trade name and generic name of the principle fluids to be used;~~

~~(C) the estimated amount or volume of the principle fluids to be used including viscosifiers, acids, or gelling agents;~~

~~(D) the estimated weight or volume of inert substances, including proppants and other substances injected to aid in well cleanup;~~

(A) ~~(E)~~ the maximum anticipated treating pressure and information sufficient to support a determination that the well is appropriately constructed for the proposed hydraulic fracturing program; and

(B) ~~(F)~~ the designed height and length of the proposed fracture(s), including the calculated MD and TVD of the top of the fracture(s).

(15) a ~~detailed~~ description of the plan for post fracture wellbore cleanup and fluid recovery through to production operations.

(b) ~~When hydraulic fracturing through production casing or through intermediate casing, the casing must be tested to 110% of the maximum anticipated surface treating pressure. If the casing fails the pressure test it must be repaired or the operator must use a temporary casing string (fracturing string).~~ When hydraulic fracturing through production or intermediate casing, all casing installed in a well that will be subjected to hydraulic fracturing treatment pressure shall have a minimum internal yield pressure rating to withstand at least 1.1 times the maximum pressure differential to which the casing may be subjected.

(c) When hydraulic fracturing through a fracturing string, the fracturing string must be strung into a liner or run on a packer set not less than 100 ft MD ~~TVD~~ below the cement top of the production or intermediate casing ~~and tested to not less than 110% of the maximum anticipated treating pressure minus the annulus pressure applied between the fracturing string and the production or intermediate casing.~~ The fracturing string installed in a well that will be subjected to hydraulic fracturing treatment shall have a minimum internal yield pressure rating to withstand at least 1.1 times the maximum pressure differential in which the fracturing string may be subjected.

~~(d) A pressure relief valve(s) must be installed on the treating lines between pumps and wellhead to limit the line pressure to the test pressure determined in (a)14(E) of this section; the~~

~~well must be equipped with a remotely controlled shut-in device unless the operator requests and obtains a waiver from the commission.~~

(d) ~~(c)~~ The placement of all hydraulic fracturing fluids shall ~~be confined to the approved formations during hydraulic fracturing.~~ not result in the transmission of such fluids beyond the confining zone.

(e) ~~(f) The surface casing valve must remain open while hydraulic fracturing operations are in progress;~~ the annular space between the fracturing string and the intermediate or production casing must be continuously monitored; the pressure in such annular space may not exceed the pressure rating of the lowest rated component that would be exposed to pressure should the fracturing string fail.

(f) ~~(g)~~ During hydraulic fracturing operations, all annulus pressures must be continuously monitored and recorded. ~~If at any time during hydraulic fracturing operations the annulus pressure increases more than 500 psig the operator must notify the commission as soon as practicable, but no later than twenty-four (24) hours following the incident and shall implement corrective action or increased surveillance as the commission requires.~~[1] Whenever the pressure deviates above those anticipated increases caused by pressure or thermal transfer, that is caused by a tubing or packer failure that is indicated by injection rate, operating pressure observation, test, survey, log or other evidence, the Operator shall notify the Commission by the next business day and submit a plan of corrective action on a form 10-403 for Commission approval. ~~Within fifteen (15) days after the occurrence, the operator shall submit a Report of Sundry Well Operations Form 10-404 giving all details, including corrective actions taken.~~

(g) During hydraulic fracturing operations, well casings must be sufficiently cemented below the base of the lowermost freshwater aquifer according to the proposed well casing and cementing program submitted with Form 10-401 as described in 20 AAC 25.030. All hydrocarbon zones penetrated by the well must be isolated to prevent the treatment from negatively impacting the surface environment, fresh water aquifer, or water well.

(h) The operator shall file with the commission, ~~within 30 days after completion of hydraulic fracturing operations, on~~ a Report of Sundry Well Operations (Form 10-404), ~~a complete record of the work performed and the tests conducted, and a summary of daily well operations as described in 20 AAC 25.070(3). The operator shall also file with the commission a copy of the daily record required by 20 AAC 25.070(1), for each~~ documenting the hydraulic fracturing ~~interval~~ treatment. The ~~information~~ report will include;

(1) a description of the actual treated interval including measured and true vertical depth of perforations; and

(2) the amount and types(s) of material pumped ~~during each treatment stage~~ and the estimated total amount and types of material pumped during a hydraulic fracturing treatment including:

(A) a description of the hydraulic fracturing fluid pumped identified by additive type (e.g. acid, biocide, breaker, brine, corrosion inhibitor, crosslinker, de-emulsifier, friction reducer, gel, iron control, oxygen scavenger, pH adjusting agent, proppant, scale inhibitor, surfactant);

~~(B) the chemical ingredient name and the Chemical Abstracts Service (CAS) Registry number, as published by the Chemical Abstracts Service, a division of the American Chemical Society (www.cas.org), for each ingredient of the additive used.~~

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[1] We respectfully request deletion of this provision; if the proposed language remains in place, we request the threshold for reporting be increased to 1000 psig instead of 500 psig.

~~The rate or concentration for each additive shall be provided in appropriate measurement units (pounds per gallon, gallons per thousand gallons, percent by weight or percent by volume, or parts per million);~~

(B) ~~(C)~~ each chemical ingredient used in the hydraulic fracturing treatment(s) of the well that is subject to the requirements of 29 Code of Federal Regulations §1910.1200(g)(2), as provided by the chemical supplier or service company or by the operator, if the operator provides its own chemical ingredients, and the Chemical Abstracts Service (CAS) Registry Number, a division of the American Chemical Society (www.cas.org), where applicable; and

(C) ~~(D)~~ a supplemental list of all chemicals and their respective CAS numbers, where applicable, not subject to the requirements of 29 Code of Federal Regulations §1910.1200(g)(2), that were intentionally included in and used for the purpose of creating the hydraulic fracturing treatments for the well.

(i) If the operator claims that the specific identity of a chemical, the concentration of a chemical, or both the specific identity and concentration of a chemical is a trade secret, the operator of the well must indicate on the Application For Sundry Approvals (Form 10-403) and the Report of Sundry Well Operations (Form 10-404) that the identity of the chemical, the concentration of a chemical or both is claimed to be entitled to trade secret protection and will not be disclosed. If the identity of the chemical, the concentration of a chemical or both is claimed to be entitled to trade secret protection, the chemical family or other similar description associated with such chemical ingredient shall be disclosed.

(j) A service provider who performs any part of a hydraulic fracturing treatment or a vendor who provides hydraulic fracturing additives directly to the operator for a hydraulic fracturing treatment shall, with the exception of information claimed to be a trade secret, furnish the operator with the information required by subsection 20 AAC 25.283(h)(2), as applicable.

(k) A vendor, service provider, or operator is not required to disclose:

(1) chemicals that are not disclosed to the operator by the manufacturer, vendor or service provider;

(2) ingredients not intentionally added to the hydraulic fracturing fluid; or

(3) chemicals that occur incidentally or are otherwise unintentionally present in trace amounts, may be the incidental result of a chemical reaction or chemical process, or may be constituents of naturally occurring materials that become part of a hydraulic fracturing fluid.

(l) Operators, service providers and/or vendors shall disclose the specific identity and amount of any chemicals claimed to be a trade secret to a health professional or emergency responder that requests such information provided that the health professional or emergency responder provides:

(1) a written statement of need that the health professional or emergency responder has a reasonable basis to believe that:

(A) the information is needed for purposes of diagnosis or treatment of an individual;

(B) the individual being diagnosed or treated may have been exposed to the chemical concerned; and

(C) knowledge of the information will assist in such diagnosis or treatment

(2) a confidentiality agreement that states:

(A) the health professional or emergency responder shall not use the information for purposes other than the health needs asserted in the statement of need; and

(B) the health professional or emergency responder shall otherwise maintain the information as confidential.

(m) A written statement of need and confidentiality agreement is not required under (l) of this section when a health professional or emergency responder determines that a medical emergency exists and the specific identity and amount of any chemicals claimed to be a trade secret is necessary for emergency treatment. An operator, service provider and/or vendor shall immediately disclose the information to the health professional or emergency responder upon

(1) a verbal acknowledgment by the health professional or emergency responder that such information shall not be used for purposes other than the health needs asserted; and

(2) a verbal acknowledgment that the health professional or emergency responder shall otherwise maintain the information as confidential.

(n) A vendor, service provider, or operator shall provide the specific identity of a chemical, the concentration of a chemical, or both the specific identity and concentration of a chemical claimed to be a trade secret to the Commission upon receipt of a communication from the Commission stating that such information is necessary to investigate a release reported to the Commission under 20 AAC 25.205 or to investigate any allegation of waste presented to or initiated by the Commission under AS 31.05.030(b) or AS 31.05.030(e)(1)(E). Upon receipt of such a communication from the Commission, such information shall be disclosed by the vendor, service provider, or operator directly to the Commission or its designee and shall in no way be construed as publicly available.

(o) The Commission or its designee may disclose information provided to it under 20 AAC 25.283(l) to the Alaska Department of Environmental Conservation (ADEC) only to the extent that such disclosure is necessary to allow ADEC to respond to a release and to otherwise carry out its duties and responsibilities under AS 46.03 or AS 46.04, provided that such information shall not be disseminated any further. Any information so disclosed to ADEC shall at all times be considered confidential and shall in no way be construed as publicly available.

(p) Prior to the submission of Form 10-404 under subsection (h), the operator must post the information required by the Interstate Oil and Gas Commission/Groundwater Protection Council hydraulic fracturing web site (http://fracfocus.org/). A hardcopy ~~and electronic copy~~ of this information shall be filed as an attachment with the Form 10-404.

(q) For purposes of 20 AAC 25.283, "confining zone" means a geological formation (or group or part of a formation) capable of limiting fluid movement out of an injection zone.

(Eff. __/__/__, Register __.) **Authority:** AS 31.05.030

20 AAC 25.990. Definitions.

(32) "Hydraulic fracturing" means the treatment of a well by the application of hydraulic fracturing fluid under pressure for the express purpose of ~~initiating or~~ propagating fractures in a target geologic formation to enhance production of oil and/or natural gas ~~productivity or injectivity~~. "Hydraulic fracturing" does not include routine maintenance operations such as perforation breakdowns, low rate/low viscosity acid and solvent treatments, freeze protections, step rate tests, or displacement of fluids that may briefly exceed formation parting pressure.

(33) "Hydraulic fracturing fluid" means the fluid, including the applicable base fluid and all additives, used to perform a particular hydraulic fracturing treatment.

(34) "Hydraulic fracturing treatment" means all stages of the treatment of a well by the application of hydraulic fracturing.

(--) "Water well" means an excavation, opening, shaft, or hole from which drinking water can be extracted.

(--) "Surface owner" means any person who holds record title to the surface of the land as an owner.

(--) "Additive" means any chemical substance or combination of substances, including a proppant, contained in a hydraulic fracturing fluid that is intentionally added to a base fluid for a specific purpose whether or not the purpose of any such substance or combination of substances is to create fractures in a formation.

(--) "Chemical Ingredient" means a discrete chemical constituent with its own specific name or identity, such as a CAS number, that is contained in an additive.

(--) "Trade Secret" means any formula, pattern, device, or compilation of information that is used in a person's business, and that gives the person an opportunity to obtain an advantage over competitors. The six factors considered in determining whether information qualifies as a trade secret, in accordance with the definition of "trade secret" in the Restatement of Torts, Comment B to Section 757 (1939), as discussed in *Powercorp Alaska, LLC v. Alaska Energy Authority*, 209 P.3d 1173 (Alaska 2012) include:

(A) the extent to which the information is known outside of the company;

(B) the extent to which it is known by employees and others involved in the company's business;

(C) the extent of measures taken by the company to guard the secrecy of the information;

(D) the value of the information to the company and its competitors;

(E) the amount of effort or money expended by the company in developing the information; and

(F) the ease or difficulty with which the information could be properly acquired or duplicated by others.

Singh, Angela K (DOA)

From: Colombie, Jody J (DOA)
Sent: Friday, April 05, 2013 9:21 AM
To: Singh, Angela K (DOA)
Subject: FW: AOGA's 4/4 Statement on the Record
Attachments: AOGA Testimony re AOGCC Hyd Frac Regs 04 04 13.pdf

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From: Nikki Martin [mailto:martin@aoga.org]
Sent: Friday, April 05, 2013 9:01 AM
To: Colombie, Jody J (DOA)
Cc: Kara Moriarty
Subject: AOGA's 4/4 Statement on the Record

Hi Jody,

Please find attached a copy of Kara's testimony from yesterday's hearing. Please let me know if you have any questions. Thank you!

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Kara Moriarty, Executive Director

ALASKA OIL AND GAS ASSOCIATION STATEMENT ON AOGCC'S PROPOSED HYDRAULIC FRACTURING REGULATIONS

April 4, 2013

Good Morning. For the record, my name is Kara Moriarty and I am the Executive Director of the Alaska Oil and Gas Association, commonly referred to as "AOGA". On behalf of the 15 members of AOGA, who account for the majority of oil and gas exploration, development, production, transportation and refining of oil and gas onshore and offshore in Alaska, I appreciate the opportunity to offer testimony on AOGCC's proposed regulation of hydraulic fracturing in revisions to 20 AAC 25.005 and 20 AAC 25.990 and the addition of proposed section 20 AAC 25.283. AOGA's members are supportive of hydraulic fracturing chemical disclosure and the increased transparency it will provide to Alaskans. And, thank you for extending the comment period from the original notice. We appreciated the extra time to fully review these draft regulations.

AOGA would like to take this opportunity to recognize the Commission's exemplary oversight of oil and natural gas production activities in Alaska. Under the Commission's record, hydraulic fracturing has been safely conducted to increase and enhance production of Alaska's oil and gas resources for decades without a single known incidence of freshwater contamination. As the Commission reported just under two years ago, "[i]n over fifty years of oil and gas production, Alaska has yet to suffer a single documented instance of subsurface damage to an underground source of drinking water."[*]

With current regulations, our Cook Inlet and North Slope operators are already held to stringent well construction and mechanical integrity requirements designed to prevent contamination of fresh water.[†] In the past, the Commission has recognized that these "mechanical integrity requirements are

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[*] Alaska Oil and Gas Conservation Commission, Hydraulic Fracturing White Paper (April 6, 2011).
[†] *See, e.g.,* 20 AAC 25.030 (a)(6), (b)(1) & (3), and (c)(3).

the primary means for protecting drinking water"[*] and that current well construction standards "properly protect fresh drinking waters" in Alaska.[†] Current regulations also allow the Commission to require cement-bond logs to ensure sufficient cement surface casing. With over one-thousand wells hydraulically fractured in Alaska without incident, it is evident that the Commission's current permitting regulations for the construction and design of all wells is, and continues to be, effective.

Let me reiterate AOGA's support for the development and careful consideration of practical regulations that address public concerns while maintaining safe and reliable operations of Alaska's oil and gas resources, that are used for the benefit of all Alaskans. As you know, we have submitted detailed written comments and suggested red-line revisions for your consideration that ensure public concerns are addressed with reasonable and effective regulation of hydraulic fracturing.

The Commission's proposed regulations are the latest in a progression of various states' efforts to address public concerns regarding hydraulic fracturing within their borders. There are significant differences between the proposed regulations before us today and those of the states who have adopted or proposed chemical disclosure regulations to date. By way of example, the State of California has also recently released draft hydraulic fracturing regulations. Both Alaska and California's proposed regulations contain well construction and mechanical integrity requirements. The Commission's proposed regulations differentiate from California and other states in that:

- Alaska would require pre-approval before conducting hydraulic fracturing activities;
- Alaska would require a more substantial preliminary investigation into other wells in the area and groundwater monitoring before and after hydraulic fracturing operations;
- Alaska would require direct notification to nearby land owners and well operators, including certification that a full copy of the application has been provided to owners and operators within one-quarter mile; and
- Alaska would provide no trade secret protection for proprietary information.

In my testimony today, I will highlight several of these differences and offer suggestions to make Alaska regulations consistent with many other states where my member companies operate.

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[*] *Id.*

[†] Statement of AOGCC Commissioner Cathy Foerster, Interstate Oil & Gas Compact Commission, Regulatory Statements on Hydraulic Fracturing (June 2009).

Application & Pre-Approval Process

AOGA supports chemical disclosure and reasonable reporting requirements for hydraulic fracturing operations, but we believe the application for approval process outlined in 20 AAC 25.005 and 20 AAC 25.283(a) will result in unnecessary delay, potentially strain AOGCC staff resources, and in many instances, require information that is either premature or duplicative, and at an unnecessary level of detail.

For example, in subsection (a)(14), the Commission requests operators submit volumes and concentrations of chemical ingredients and additives that may be yet undetermined prior to the start of a hydraulic fracturing operation and subject to change during the course of the operation. As the Commission has observed in its own "white paper" on hydraulic fracturing from 2011, requiring this information in an application prior to hydraulic fracturing is premature because, and I quote: "Completion interval thickness, permeability and other characteristics that determine required fluid volumes generally are not known before the well is drilled."* Successful and safe hydraulic fracturing operations often require the operator's ability to modify the hydraulic fracturing plan and to substitute fluids and agents once hydraulic fracturing begins. A post-fracturing report included in Form 10-404 details the actual characteristics of the job, including fluid volumes generally not known before the well is drilled.

In addition, the detailed casing and cementing information required of proposed sections 20 AAC 25.283(a)(6) and (7) is already provided or available to the Commission under current regulations under 20 AAC 25.030. Every operator is also currently required to install pressure measurement devices on every well and monitor those devices daily, making the proposed requirements in subsection (a)(9) unnecessarily duplicative.

AOGA's members are also concerned that the volume of detailed applications required of the proposed regulations may overwhelm AOGCC staff, causing further delays to resource development projects critical to Alaska's economic and energy needs. In addition to operations on the North Slope, hydraulic fracturing has also treated a variety of natural gas producing wells in the Cook Inlet basin for years. As with other petroleum producing areas in Alaska, previous Cook Inlet operators have

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* *Id.*

experienced great success using hydraulic fracturing operations safely. These operations have been used to increase production of natural gas in numerous wells supplying South Central natural gas utilities with no adverse impacts to groundwater.

Current plans for maintaining and increasing the natural gas supply to South Central Alaska involve operations in the Cook Inlet covered by these proposed regulations. It is imperative that AOGCC's proposed rulemaking results in regulations that- as the current administration has been stressing- are timely, efficient, and that provide certainty to the exploration and development of South Central Alaska's gas supply. In our red-line revisions submitted with our written comments, we suggest that many of the provisions of subsection (a) could be codified as rules or reporting requirements rather than required in an application for Commission approval prior to hydraulic fracturing. We respectfully request the Commission only implement regulations compatible with the high level of activity required to meet Cook Inlet natural gas supplies at a time when this production is critical.

We strongly urge the Commission to reconsider the additional application and pre-approval process for hydraulic fracturing operations. If after the Commission's careful consideration, the final promulgation of these regulations are adopted as drafted, we respectfully request an exception for hydraulic fracturing operations where there is no freshwater aquifer present within one-quarter mile or 1,000 vertical feet of the proposed wellbore trajectory, or as identified by the Commission as Freshwater Aquifer Exemption in 20 AAC 25.440.* An exception for these operations, where there is no threat to drinking or freshwater, would not defeat the Commission's purpose to provide disclosure in areas where contamination of freshwater might be a public concern. As the Commission has previously stated, there is no freshwater or drinking water present in the North Slope where the majority of hydraulic fracturing operations occur and, therefore, "freshwater is not a concern."*

Notice to Well Owners & Well Testing Requirements

AOGA supports providing notice of operations to landowners and surface owners within one-quarter mile of proposed hydraulic fracturing operations. Notice of the intended operations to the owners listed and a general description should, however, be sufficient to meet this requirement. Currently, the application required as proposed in 20 AAC 25.283 would be quite voluminous and technical in nature, likely including confidential geologic information. The public should be able to rely

* *See, e.g.*, EPA's Aquifer exemptions for Class II injection activities, 40 CFR 147.102.

upon the Commission's expertise to regulate wellbore integrity and provide appropriate oversight that operators should not be required to submit details to a surface owner. The complete application could be made available to an interested landowner or surface owner by the Commission upon request. In addition, we request that the Commission adopt language clarifying that the operator must make good faith efforts to identify any water wells or freshwater present in the defined project area relying on publicly available records and notice to neighboring surface owners. Currently, Alaska does not have a database accessible that easily identifies all freshwater aquifers.

AOGA's members request the removal of the requirement to sample water wells within one-quarter mile of a hydraulic fracturing operation. Sampling of private water wells is impractical; it will pose unnecessary logistical, administrative and legal hurdles, including seeking the consent and cooperation of the private well owner. Many states with new hydraulic fracturing regulations[†] have decided not to require water sampling of personal drinking wells in regulation for these reasons.

Each test can add an awkward logistics problem in Alaska. For example, at times, it is difficult to fit large coolers of multiple 1L bottles of acidified water in air cargo on small planes and keep the samples from freezing. Several of the metals listed are complicated and expensive to test for and I understand that some chemical components listed in the Commission's proposed regulations may not even be used in fracturing operations.[‡]

While it may be costly, the problem with the well sampling requirements as written is in the indefinite amount of time that a well's production could be delayed while obtaining permission of each landowner or well required, in addition to the delay in turnaround and testing of the well samples. Analytica Group estimates that the holding time for the tests requested in the Commission's proposed regulations are in the 7 day or longer category. Often water sampling laboratories are not nearby to Alaska oil wells; as Analytica Group indicated in its response to the Commission's inquiry, some tests would need to be shipped to a lab in Colorado or sub-contracted to other approved laboratories,[§] likely causing additional delay.

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[*] AOGCC 2011 White Paper on Hydraulic Fracturing.
[†] i.e., Texas
[‡] For example, with the exception of calcium, barium, and possibly cadmium, none of the other metals listed in (a)(5) are used in hydraulic fracturing.
[§] *See* Email from Chris Wallace, Sr. Petroleum Engineer, AOGCC, to Elizabeth Rensch, Business Development Manager, Analytica Group, dated January 23, 2013.

If the water sampling requirement stands, we respectfully suggest the Commission replace subsection (a)(5) with our suggested revised language that limits the number of water wells sampled in an area, before and after treatment, to no greater than four, removes some sampling requirements, and includes a liability provision regarding the use of sampling results. In addition, the suggested provision should be added to address and provide a waiver in a situation where access to test a private well is not granted by the well owner.

Chemical Disclosure & Reporting Requirements

The statute authorizing the Commission to regulate hydraulic fracturing proscribes that the Commission regulate hydraulic fracturing "to ensure protection of drinking water quality."[*] Throughout the Commission's proposed regulations, information is required to be reported by stage, interval, or by well. If the overall objective of the Commission is, as we understand and support, public disclosure to alleviate any concerns relating to drinking water or fresh water contamination, the onerous nature of reporting stage by stage, or well by well, we do not believe this level of reporting will add anything to this objective and is unnecessary. We suggest and respectfully request that reporting and disclosure be instead required for each hydraulic fracturing treatment or for each pool, resulting in a more efficient and streamlined reporting process while maintaining the integrity of protecting drinking water quality.

Through the Commission's efforts, we will have the opportunity to provide Alaskans information regarding hydraulic fracturing operations that will help dispel any misconceptions or false impressions regarding the safety and chemical makeup of materials used in hydraulic fracturing. Many of our members already voluntarily supply this information on the chemical disclosure registry, FracFocus, and we support the disclosure and reporting of materials pumped during hydraulic fracturing operations on this registry. However, to continue to foster technological advances in hydraulic fracturing- as in any other industry- innovators must have protection for the trade secrets they develop.

To use a well-known example, Coca-Cola Company has famously and successfully kept its formula for the world's most popular soft drink a jealously guarded "trade secret" since its creation 125 years ago. Simply put, a trade secret is defined as any valuable business information that is not generally known and is subject to reasonable efforts to preserve confidentiality. The Coca-Cola secret

[*] AS 31.05.030(j)(2)(A)

formula easily qualifies as valuable business information, with the value being derived from the fact that it is secret. As with any trade secret, however, the Coca-Cola secret formula can only be a trade secret for so long as it is actually secret. For this reason, Coca-Cola Company hides its "secret formula" in a high-security vault in Atlanta and only 2 people at any given time are supposed to know the secret formula—which may or may not include coriander, nutmeg, orange and lemon oils. The revelation of this recipe—worth many billions of dollars—would be disastrous.

We understand that many in the public are concerned, and will likely testify today, regarding the health and safety of hydraulic fracturing chemicals. It is important to note that technological advancements in hydraulic fracturing have not only significantly increased and enhanced production, but have made it more environmentally sound, reducing water use as well as the use of biocides and chemicals. The technology that has made hydraulic fracturing more efficient and environmentally sound is the same technology these innovators are looking to protect. And just like Coca-Cola, our members' service providers must protect this technology in order to retain its value. These technologies are highly proprietary and the result of years of expensive research and development efforts. Waiving intellectual property rights to these technologies in the Alaskan market may jeopardize the value of the rights globally, which means many suppliers may simply elect to withhold new products and best practices from the Alaskan market.

AOGA's members have substantiated concerns that any requirement to force disclosure of this proprietary information, including product formulations, will create a disincentive for the service providers' development and the best use of the best technologies in our state. For this reason, we suggest the required disclosure of concentrations and types of material pumped be consistent with the disclosures routinely submitted on FracFocus, and not require disclosure that would compromise proprietary information or otherwise expose trade secrets. Health, safety and environmental concerns can still be addressed without jeopardizing this information, just as Coca-Cola must disclose ingredients that may affect my health- including the nutritional information printed on the side of the soda can.

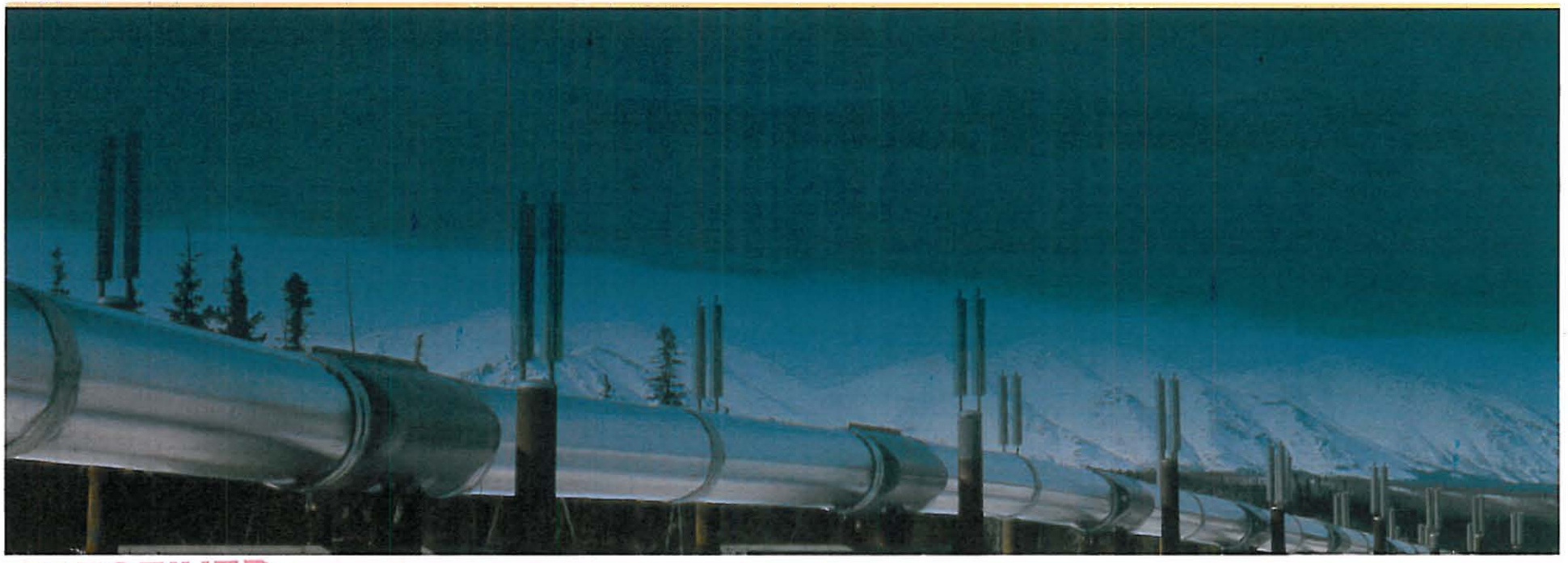
Accordingly, AOGA supports the full disclosure of trade secrets in the event of a health care emergency and as necessary for the Commission's proper investigation of waste or spills. Currently, federal law requires Material Safety Data Sheets (MSDSs) to be available on location. These sheets list every chemical used in the hydraulic fracturing process and must be disclosed to the Commission if requested upon receipt of a written statement of medical need, or in the event of medical emergency, to a

health professional. We support the Commission's adoption of a similar provision as suggested in subsection (L) of our red-line revisions.

The requirements and processes for claiming trade secret protection should be clear and provide procedural certainty. The language suggested in enclosed subsections (l) and (m) require disclosure of such information to health care providers and emergency responders, as needed, in the event of a medical emergency. In addition, AOGA requests the adoption of subsections (n) and (o) providing for the disclosure of proprietary information to the Commission in order to investigate waste under AS 31.05.030 or a release under 20 AAC 25.205, and as necessary to enable the Alaska Department of Environmental Conservation to respond to a release.

In addition, we understand that unlike other state regulations regarding hydraulic fracturing, this Commission intends to only put the operator "on the hook" for the disclosure and reporting of its hydraulic fracturing operations, and AOGA is supportive of this notion. However, we do respectfully request the addition of subsection (j) requiring service providers and vendors furnish operators with the information required to be submitted pursuant to 20 AAC 25.283(h)(2). In addition, we request subsection (k) identifying disclosures not required, including chemicals not disclosed to the operator by the manufacturer, vendor, or service provider..

Thank you again for the opportunity to provide testimony today. Because of the high level of public interest in these proposed regulations and their potential impact on stakeholders, we respectfully request that as the Commission proceeds with this rulemaking, the Commission allow an additional public notice and comment period on any proposed revisions. We look forward to working with the Commission to develop final regulations that are reasonable and serve to assuage any future public concern without imposing unnecessary or duplicative restrictions and straining Commission resources.



AOGA

OIL & GAS:

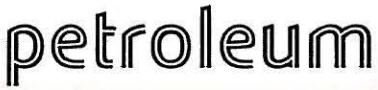
FUELING ALASKA'S ECONOMY

AOGCC Proposed Regulations regarding Hydraulic Fracturing

April 4, 2013

Kara Moriarty, Executive Director

AOGA Member Companies



Hydraulic Fracturing in Alaska Is Conducted Safely

"In over fifty years of oil and gas production, Alaska has yet to suffer a single documented instance of subsurface damage to an underground source of drinking water."

– AOGCC Hydraulic Fracturing White Paper, April 6, 2011

Hydraulic Fracturing in Alaska Is Conducted Safely

"Mechanical integrity requirements are the primary means for protecting drinking water."

– AOGCC Hydraulic Fracturing White Paper, April 6, 2011

"Current well construction standards used in Alaska properly protect fresh drinking waters."

– Statement of AOGCC Commissioner Cathy Foerster, Interstate Oil & Gas Compact Commission, Regulatory Statements on Hydraulic Fracturing, June 2009

Hydraulic Fracturing in Alaska Is Conducted Safely

AOGA supports practical regulations that address public concerns while maintaining safe and reliable operations of Alaska's oil and gas resources.

California Proposed Rule vs. Alaska Proposed Rule

AOGCC Proposed Regulations differ from California in that:

- Alaska would require pre-approval before conducting hydraulic fracturing activities;
- Alaska would require a more substantial preliminary investigation into other wells in the area and groundwater monitoring before and after hydraulic fracturing;
- Alaska would require direct notification to land owners and well operators, including certification that a full copy of the application has been provided to owners and operators within one-quarter mile; and
- Alaska would provide no trade secret protection.

Application and Pre-Approval Process

- *AOGA supports chemical disclosure and reasonable reporting requirements, but pre-approval will:*
  - result in unnecessary delay
  - potentially strain AOGCC staff resources
  - require premature & duplicative information
  - require an unnecessary level of detail

Application and Pre-Approval Process

- *AOGA requests regulations that are timely, efficient, and provide certainty to the development of Southcentral Alaska's gas supply*
- Hydraulic fracturing has increased production of natural gas in numerous wells supplying Southcentral natural gas utilities with no adverse impact to groundwater
- Current plans for maintaining and increasing natural gas supply to Southcentral include hydraulic fracturing operations in the Cook Inlet
- It is imperative regulations are compatible with the high level of activity required to meet Cook Inlet natural gas demands at a time when this production is critical

Application and Pre-Approval Process

- *AOGA requests an exception for hydraulic fracturing operations in areas:*

1) with no freshwater aquifers within ¼ mile or 1,000 vertical ft., or
2) located in a Freshwater Aquifer pursuant to 20 AAC 25.440.

"On the North Slope, Alaska's most prolific oil and gas province, freshwater is not a concern."

— AOGCC Hydraulic Fracturing White Paper, April 6, 2011

Notice to Well Owners & Well Testing Requirements

- *AOGA supports providing notice of operations to landowners and surface owners within ¼ mile.*
  - Notice of the intended operations only
  - Complete application could be made available upon request
  - Operator required to make good faith efforts to identify any water wells or freshwater present in the project area

Notice to Well Owners & Well Testing Requirements

- *AOGA requests the removal of water sampling requirements because:*
  - Sampling is impractical and poses unnecessary logistical, administrative and legal hurdles
  - Water sampling laboratories are not nearby
  - Could result in additional project delay

Chemical Disclosure & Reporting Requirements

- *AOGA supports reporting and disclosure for each hydraulic fracturing treatment or each pool instead of stage-by-stage or well-by-well*
- *AOGA supports hydraulic fracturing chemical disclosure and the increased transparency it will provide to Alaskans*
- *However, innovators must have protection for trade secrets to foster technological advances in hydraulic fracturing*

Chemical Disclosure & Reporting Requirements

- *Coca-Cola formula guarded for over 125 years as a "trade secret"*
- *Its value is derived from the fact that it is a "secret"*
- *AOGA supports disclosure consistent with FracFocus, providing for the protection of trade secrets*
- *Health, safety, and environmental concerns can still be addressed*
- *AOGA supports disclosure in the event of health care emergency, waste, or spill*

Hydraulic Fracturing in Alaska Is Conducted Safely

AOGA supports practical regulations that address public concerns while maintaining safe and reliable operations of Alaska's oil and gas resources.

Singh, Angela K (DOA)

From: Colombie, Jody J (DOA)
Sent: Thursday, April 18, 2013 3:11 PM
To: Singh, Angela K (DOA)
Subject: FW: AOGA Supplemental Comments on Proposed AOGCC Hydraulic Fracturing Regulations
Attachments: AOGA Supplemental Comments on Proposed Hydraulic Fracturing Regs 04 18 12.pdf

Please process

From: Kara Moriarty [mailto:moriarty@aoga.org]
Sent: Thursday, April 18, 2013 3:10 PM
To: Colombie, Jody J (DOA)
Cc: Seamount, Dan T (DOA); Norman, John K (DOA); Foerster, Catherine P (DOA)
Subject: AOGA Supplemental Comments on Proposed AOGCC Hydraulic Fracturing Regulations

Jody:

Please find AOGA's supplemental comments to AOGCC's proposed hydraulic fracturing regulations.
If you have any questions, please let me know.

Thank you,
Kara

Alaska Oil and Gas Association

AOGA

121 W. Fireweed Lane, Suite 207
Anchorage, Alaska 99503-2035
Phone: (907) 272-1481 Fax: (907) 279-8114
Email: moriarty@aoga.org
Kara Moriarty, Executive Director

April 18, 2013

Commissioner Cathy P. Foerster, Chair
Alaska Oil & Gas Conservation Commission
333 W. 7th Avenue, Suite 100
Anchorage, AK 99501
Submitted by E-Mail to: jody.colombie@alaska.gov

Re: Supplemental Comments on Proposed Revisions to 20 AAC 25.005, 20 AAC 25.280, 20 AAC 25.990 and proposed addition of 20 AAC 25.283 – Regulation of Hydraulic Fracturing Operations

Dear Commissioner Foerster:

Thank you for the opportunity to supplement our comments on the Alaska Oil and Gas Conservation Commission's ("AOGCC" or "Commission") proposed regulation of hydraulic fracturing in revisions to 20 AAC 25.005—20 AAC 25.990 and the addition of 20 AAC 25.283. The 15 members of the Alaska Oil and Gas Association ("AOGA") account for the majority of oil and gas exploration, development, production, transportation, refining, and marketing activities in Alaska. As our testimony at the April 4th public hearing indicated, AOGA's members are supportive of reasonable hydraulic fracturing chemical disclosure and the increased transparency it will provide to Alaskans. During the hearing, the Commission and others offering testimony had questions or comments relating to several issues we raised in our comments, including the proposed pre-approval and application process, water well sampling requirements, the applicability of the requested exception for operations not located in or near freshwater, and current methods of reporting to FracFocus. We appreciate the opportunity to clarify our position with these supplemental comments.

1. Proposed Application and Approval Process

AOGA supports the chemical disclosure and reporting requirements for hydraulic fracturing operations, but we continue to believe that the application for approval process outlined in the proposed regulations will result in unnecessary delay and in many instances, require information that is either premature or duplicative, and at an unnecessary level of detail. In our red-line

revisions previously submitted, we have suggested that many of the provisions in proposed 20 AAC 25.283(a) could be codified as rules or requirements rather than required in an application for Commission approval that might cause further delays to resource development projects critical to Alaska's economic and energy needs. During the April 1 public hearing, however, the Commission referred to the proposed application process as "no more than a staple" to the hydraulic fracturing models operators already supply the Commission. We disagree with this assertion, and we strongly urge the Commission to reconsider the application and approval process.

As we have previously commented, some hydraulic fracturing operations do not require an Application for Sundry Approval (form 10-403) because those Conservation Orders which reference the "Sundry Matrix" specifically allow hydraulic fracturing to be undertaken without a Sundry Application.[1] For those operations that fall under the Sundry Matrix, all the information required in a Sundry application by the proposed regulations is incremental to the information normally submitted.

For some new wells, AOGCC has stipulated the submittal of a Sundry application for hydraulic fracturing treatments in approved Permits to Drill; however, there has not been a set list or clear indication of information required in the application. At most, applications submitted pursuant to the stipulations have included a summary of the planned work, an assessment of cement bonding of the production casing, tube and annulus pressure test data, detailed fracturing treatment procedures, and tubing movement calculations. While this included information corresponds to the application requirements the Commission proposes in 20 AAC 25.283 (a)(7), (8), and (14), it has been historically presented in much less detail than required of these proposed sections. Moreover, the additional requirements in 20 AAC 25.283(a)(1) through (a)(6), (a)(9), (a)(10) – (a)(13), and (a)(15) are above and beyond the information AOGCC has previously required in stipulations to drill permits.

With the exception of the affidavit requirements in subsection (a)(1), most of the additional information cited in the proposed regulations will not be difficult to generate in areas where there are no freshwater aquifers or wells present. However, it will take significantly more time to gather, prepare and format the information from various sources for each required item in the Sundry application. Individual items are not normally generated in a consistent format that would be appropriate for submittal to the Commission. For example, the verification of the various pressure ratings of the wellbore, wellhead, and BOPE components is commonly tabulated in an engineer's spreadsheet and is not currently formatted to easily transmit or communicate the detailed results to AOGCC. Our members are concerned that the processing of the applications will this level of detail will also result in unnecessary delays resulting in rig down time.

In addition, AOGA remains concerned about the additional burden on operations in the Cook Inlet which are critical to maintaining and increasing the natural gas supply to South Central

[1] *See, e.g.*, C.O. 556, "Wellwork Operations and Sundry Notice/Reporting Requirements for Pools Subject to Sundry Waiver Rules," dated July 15, 2005.

Alaska. It is imperative that AOGCC's proposed rulemaking results in regulations that are timely, efficient, and that provide certainty to the process for the exploration and development of South Central Alaska's gas supply. The Commission's timely processing of applications is crucial to maintaining project schedules. For this reason, AOGA requests AOGCC consider regulations that allow a project schedule feasible to obtain timely approval for hydraulic fracturing operations in areas where freshwater is present, including defined timelines for water sampling and public notification schedules, as described more thoroughly below.

2. Proposed Water Sampling and Notification Requirements

In wells that are near freshwater sources, AOGA supports providing notice of operations to landowners and surface owners within one-quarter mile of the trajectory of the well with the planned hydraulic fracturing operations. In testimony and comments previously submitted, however, we have emphasized the cost, legal and logistical challenges associated with water well sampling, and we still believe those challenges are a valid concern. The possibility for landowners or surface owners to deny or delay access to water wells by withholding their consent and cooperation under the proposed regulations is of particular concern to our members. The well sampling requirement will also likely cause additional delay where operators intend to drill a new well, but cannot begin a fracturing operation until water well owners are notified and access is negotiated in order to sample water wells. Commissioner Norman inquired at the hearing whether the pre-fracture and follow-up well sampling requirements in the proposed regulations would be beneficial to protect operators from later contamination allegations from land or surface owners. We do not believe water sampling of all water wells near wells to be hydraulically fractured, as proposed by the Commission, will be efficient to achieve this end.

For this reason, we continue to request the requirement for well sampling in subsection (a)(5) be removed or, alternatively, the Commission adopt our suggested revised language submitted in our previous comments for proposed subsection (a)(5) to reduce some of the logistical and legal challenges posed by the proposed regulations. Our suggested revised language provides an operator the ability to obtain a waiver in a situation where access to test a private well is not granted by the well owner. In addition, AOGA's suggested provision limits the number of water wells sampled in an area, before and after treatment, to no greater than four, removes some sampling requirements, and includes a liability provision regarding the use of sampling results.

Alternatively, AOGA's suggested wording could be revised to require water sampling in the project area if a land or surface owner gives positive approval that they would like their water well tested, and the owner responds to requests for sampling and access within a defined time limit, as proposed below. In addition, we suggest a secondary "pool" application for zones of sampling at areas with more frequent fracturing activities.

a. Proposed notification to well owners

Under AOGA's proposed revisions to the draft regulations, land and surface owners near the treatment well in an area with a freshwater aquifer will receive notice of operations. Pursuant to proposed subsection (a)(2), notice could be provided to water well owners that (a) hold a

documented Alaska Department of Natural Resources Water Right, (b) own a water well documented in the ADNR well log tracking system, WELTS, or (c) are listed in similar public records. In order to facilitate water well sampling, this notice should include contact information so the owner of any drinking water well who is also a surface or landowner can contact the operator to arrange for sampling and well access. AOGA proposes that operators only be required, however, to complete pre-fracturing sampling on wells with owners who reply to notice of operations and provide access within well-defined deadlines in the regulations. In the notice of operations, owners could be notified of plans for sampling and should be required to reply within 14 days in order to have their well sampled, providing a defined 30 day window to allow access to the well for sampling. Requiring positive notification from the water well owner to conduct water well sampling will alleviate concerns of select Alaska water well owners who may have a well not fully entered into regulatory programs such as ADNR well log tracking and similar programs, and concerns that some owners may not wish to enter the public record as having a drinking water well.

Without these defined guidelines to provide access to wells, the requirement for pre-fracturing well sampling will likely impact the timing of the proposed hydraulic fracturing treatment and resulting production. We also continue to request that AOGCC adopt language clarifying that the operator must make good faith efforts to identify any water wells in the defined project area relying on publicly available records and notice to neighboring surface owners.

To our knowledge, there is no other state that requires full sampling of all drinking water wells within one-quarter mile of fracturing activities, and therefore, other state regulations cannot be used as a model to address the logistical and legal hurdles the proposed regulations pose. AOGA, therefore, requests that in promulgating the proposed regulations, AOGCC define and clarify:

1) the ownership of a water well to identify who has the authority to grant permission to proceed and provide access for well sampling;
2) what happens if a person renting property wants results of water well sampling, but the owner of the property does not grant permission and access; and
3) what happens if there is not a unanimous decision at a community water well where several homeowners draw water from one drinking water source.
4) how to address seasonally operated water wells in remote locations, where access is limited.

AOGA also respectfully requests that AOGCC ensure there is opportunity in the regulations for a well owner to opt out of the well sampling program and define who will have access to the sampling information. Disclosure and possible publication of pre-fracturing water well results will likely be of concern to some Alaska well owners, and especially owners concerned about arsenic concentrations in residential wells. AOGA requests these clarifications be made prior to the promulgation of final hydraulic fracturing regulations.

b. Proposed Alternative for Well Sampling by Pool

AOGA has requested in previous comments and presented testimony that reporting and disclosures, and applications for Sundry approval, be allowed on a pool basis, resulting in a more efficient and streamlined reporting process while maintaining the integrity of protecting drinking water quality. To that end, AOGA suggests that well sampling be allowed consistent with hydraulic fracturing operations by pool. In addition, owners of water wells within a pool with multiple proposed hydraulic fracturing treatments may wish to enter in to a sampling program, but not necessarily desire to have a series of "pre-fracturing" and "post fracturing" samples collected within 90 days of each and every treatment. Alternatively, a well owner might wish to have samples collected before the first treatment and after the first treatment, but only annually thereafter until hydraulic fracturing operations are complete.

Under this proposed alternative, the operator would notify each water well owner within one-quarter mile of the field/pool boundary, as proposed above. Upon receiving permission to access the well and sample from the water well owner, the operator would sample the well prior to initialization of the fracturing treatment. The operator would then again sample the well after completion of the hydraulic fracturing treatment, and continue sampling once annually until after the hydraulic fracturing operations, according to the Sundry approval, are complete.

3. Requested Exception for Operations not near Freshwater

During AOGA's public testimony, the Commission questioned the applicability of our requested exception for operations not located near freshwater aquifers. As we have proposed in our red-line revisions in 20 AAC 25.283(a), the exception for hydraulic fracturing operations where there is no freshwater aquifer present within one-quarter mile or 1,000 vertical feet of a proposed wellbore trajectory, or is located in a Freshwater Aquifer Exemption pursuant to 20 AAC 25.440, is applicable to subsection (a) and these operations would therefore be exempt from the Application for Sundry Approval process and its requirements outlined in 20 AAC 25.283(a)(1) – (a)(15). An exception for these operations, where there is no threat to drinking or freshwater, would not defeat the Commission's purpose to provide disclosure in areas where contamination of freshwater might be a public concern. If the Commission is also concerned about the protection of correlative rights, the exception could be limited to areas more than 500 feet from the property line or boundary of the affected area of a pool. The exclusion for areas at least 500 feet from a pool's boundary is consistent with 20 AAC 25.055(a)(1) and many pool conservation orders relating to well spacing to protect correlative rights.

As AOGCC has previously stated, there is no freshwater or drinking water present in the North Slope where the majority of hydraulic fracturing operations occur and, therefore, "freshwater is not a concern."[2] Consistent with current Conservation Orders and the Sundry Matrix, operations meeting the "freshwater exception" should only be required to submit a Report of Sundry Well Operations and report hydraulic fracturing chemical disclosures to FracFocus.

[2] *Supra,* n.1.

4. Reporting to FracFocus

Finally, Commissioner Norman inquired at the end of AOGA's oral testimony, whether our members report to FracFocus "by treatment" or "by stage." In previous comments, we have recommended reporting "by treatment." The term "stage," is not defined and can have several meanings in hydraulic fracturing operations: a step change in fluid properties or proppant concentration within a single interval treatment, or one of several separate interval treatments during a multi-stage treatment that initiate new fractures sequentially from different locations within the wellbore. Some operators base their FracFocus reports on the "job tickets" provided from the service provider; so sometimes, the operations reported are single interval treatments and other times, in multi-stage treatments, the job ticket will include several stages reported to FracFocus. AOGA continues to recommend reporting and disclosure by "by treatment."

Thank you again for opportunity to provide additional comment. If you have any questions, please do not hesitate to contact me. We look forward to continuing to work with the Commission on this issue.

Sincerely,

Kara Moriarty

KARA MORIARTY
Executive Director

Cc: Commissioner John Norman
Commissioner Dan Seamount
Governor Sean Parnell
Commissioner Dan Sullivan