

ALASKA OIL AND GAS CONSERVATION COMMISSION (AOGCC) HYDRAULIC FRACTURING REGULATIONS

20 AAC 25.0054 - 20 AAC 25.2805 - 20 AAC 25.9906 - 20 AAC 25.2837

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ALASKA OIL AND GAS CONSERVATION COMMISSION (AOGCC) JURISDICTION

- AOGCC regulates the subsurface and is responsible for well blowout prevention and control, well construction, and well integrity.
- AOGCC does **not** oversee Alaska's oil and gas pipelines, tanks, non-oil and gas related underground injection activities, surface water discharges, air pollution, and toxic or petroleum spill response/remediation activities, all of which the Alaska Department of Environmental Conservation (**DEC**) oversees.
- AOGCC also does **not** authorize surface water rights and water usage nor decommissioning, removal, and restoration on state lands leased for oil and gas, which the Alaska Department of Natural Resources (**DNR**) oversees.

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AOGCC HYDRAULIC FRACTURING PROCESS

- AOGCC proposed three rounds of revised regulations to update Alaska's hydraulic fracturing regulations, focused on preventing the release of fluids to the surface, ensuring well integrity, and containing and isolating hydraulic fracturing fluids within target zones.
- Each iteration of the proposed revised regulations **allowed for both public comment and public testimony** during scheduled hearings. During this process, a diverse group of Alaskans and various stakeholders provided both written and oral comments.

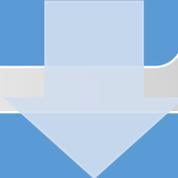


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AOGCC PUBLIC NOTICE/HEARINGS ON FRACTURING REGULATIONS

December 20, 2012



December 31, 2012



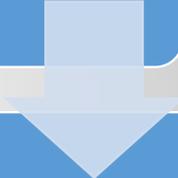
January 11, 2013

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AOGCC PUBLIC NOTICE/HEARINGS ON FRACTURING REGULATIONS

January 17, 2013



March 11, 2013



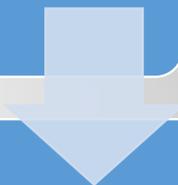
August 7, 2013

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AOGCC PUBLIC NOTICE/HEARINGS ON FRACTURING REGULATIONS

January 15, 2014: regulations final



Regs in effect since January 2014



New hearing, December 15, 2016

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AOGCC WHITE PAPER ON HYDRAULIC FRACTURING

“In over 50 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. As long as each well is properly constructed and its mechanical integrity is maintained, hydraulic fracturing should have no potential to damage (emphasis added) any freshwater.”

AOGCC white paper, “Hydraulic Fracturing in Alaska”,
January 20, 2015

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KEY COMPONENTS OF AOGCC'S REGULATIONS

- Full disclosure of all chemicals used in the fracturing process
- Full disclosure required to be posted to www.fracfocus.org, a public database
- Advance approval required for well work, including drilling
- All wells must demonstrate barriers to prevent flow of any fluids to surrounding rock
- Each well must have a surface casing, and be cemented to restrict fluids
- Wells that cannot demonstrate competent barriers must be shut in immediately
- Pressure management devices must be installed on every well, and monitored daily
- If measurement device indicates a compromise, well must be shut in immediately
- Periodic mechanical integrity tests are mandatory
- Unannounced inspections by AOGCC field inspectors are mandatory

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HOW DO ALASKA'S FRACTURING REGULATIONS COMPARE WITH OTHER STATES?

State	Application & Pre-approval	Land owner notification	Pre-treatment Water Well Testing	Within what distance?
Alaska	✓	✓	✓	Half-mile
Ohio	✓	✓	✓	Half-mile (only four tests)
Texas				n/a
N. Dakota				n/a
Oklahoma				n/a
Pennsylvania				n/a

AOGCC HYDRAULIC FRACTURING STANDARDS

- AOGCC has established **specific permit requirements** for hydraulic fracturing under the new (2015) Application for Sundry Approval Form 10-4038 . These requirements are in addition to the existing requirements for Application for Sundry Approval for permit to drill Form 10-4019 .
- The application must include detailed well construction information including surface casing, production casing, intermediate casing, and liner and cementing requirements. These requirements include cement evaluation logs and any other evaluation logs that may be required by the Commission to demonstrate that the casing is set and cemented below the base of the lowermost freshwater aquifer. In addition, each hydrocarbon bearing zone penetrated by a well also must be isolated by casing and cement to the extent required to prevent any cross fluid migration. Well logs are also required to verify proposed well construction and geology.

AOGCC HYDRAULIC FRACTURING STANDARDS (CON'T.)

- The application must include pressure-test information, a pressure-test plan, and ratings for the casing string, wellhead, blowout preventer, and treating head. The casing string that is to withstand the fracture pressure must be tested to 110 percent of the maximum anticipated pressure differential to which the casing may be subjected. If the casing string fails the test it must be repaired, or a fracturing string (tubing and packer) must be placed in the well, and retested. Pressure relief valves must be installed on the line between the pump and the wellhead to limit the line pressure to the approved test pressure. In addition, all annuli on the well must be monitored and recorded continuously for pressure increases during hydraulic fracturing operations. If a pressure increase occurs beyond the anticipated pressure written in the hydraulic fracturing permit plan, AOGCC must be notified as soon as practicable, but not later than 24 hours following the incident.

AOGCC HYDRAULIC FRACTURING STANDARDS (CON'T.)

- The application must include geological and lithological data for the zone to be fractured and overlying confining zones. These data must include location and orientation of suspected faults or fractures that may transect the confining zones, and information sufficient to support a determination that the known or suspected fault will not interfere with the containment of the hydraulic fracturing operation. This information must be demonstrated to contain the fluid within ½ mile of the proposed wellbore and/or wellbore trajectory. The placement of all hydraulic fracturing fluids must be confined to the approved formation or formations. While AOGCC does not utilize its own modeling software, it does maintain formation information that is used to ensure the inputs to the individual models are reasonable.

AOGCC HYDRAULIC FRACTURING STANDARDS (CON'T.)

- The application must also include each well penetration within one-half mile radius of the well's surface location, wellbore trajectory and fracturing interval, and the source of the information. All wells within the radius must demonstrate sufficient information to support a determination that the well will not interfere with containment of the hydraulic fracturing fluid.
- The application must include a plat showing all water wells, if any, located within a one-half mile radius of the well's surface location; identification of each freshwater aquifer, the geological name, and the measured depth of the aquifer.

AOGCC HYDRAULIC FRACTURING STANDARDS (CON'T.)

- AOGCC requires a plan for baseline sampling of water wells within a half-mile of the proposed HF well and/or the proposed trajectory of the HF well if freshwater aquifers exist. The baseline water sampling plan must be presented to AOGCC as well as to ADEC. The detailed plan includes approved sample protocols, parameters to be sampled, required certified sample analysis and certification of laboratory procedures, all of which can be found in 20 AAC 25.283(4). The Commission may require sampling of water wells after hydraulic fracturing is completed. The same protocols will be required as were approved in the baseline water-sampling plan.

AOGCC HYDRAULIC FRACTURING REPORTING

- Prior to beginning hydraulic fracturing operations, operators must submit an Application for Sundry Approvals as per 20 AAC 25.283(a), which includes information on whether hydraulic fracturing will occur, the type of well (e.g., exploratory, development), and the approximate planned date for commencing operations. An approved application allows the operator to perform hydraulic fracturing within months. AOGCC typically receives only 10-15 hydraulic fracturing applications per year. Hydraulic fracturing applications are a small number of overall Sundry applications received by the agency (in 2014, AOGCC processed 1,563 Sundry applications).

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AOGCC HYDRAULIC FRACTURING REPORTING (CON'T.)

- According to 20 AAC 25.283(a)(1), “all owners, landowners, surface owners, and operators within a one-half mile radius of the current or proposed wellbore trajectory [must be] provided notice of [hydraulic fracturing] operations. The notification will state that upon request, a complete copy of the application is available from the operator, and will include the operator contact information.” AOGCC typically processes applications within one week. Any member of the public can request an administrative hearing before the AOGCC commissioners to challenge an AOGCC decision.

AOGCC HYDRAULIC FRACTURING REPORTING (CON'T.)

- AOGCC requires operators to submit a Report of Sundry Well Operations as per 20 AAC 25.283(h), and must attach information submitted to FracFocus as per 20 AAC 25.283(i), within 30 days after completion of hydraulic fracturing operations. The report must include the total amount and type of each base fluid and each additive pumped. The report must also include the trade name of the base fluid or additive, the supplier, and a description of the purpose of the base fluid or additive. The report must also include the chemical ingredient name of the base fluid and additive, the Chemical Abstract Service (CAS) registry number assigned to each base fluid and additive used, and the actual or maximum concentration of each chemical ingredient in each base fluid and additive used.

AOGCC HYDRAULIC FRACTURING PUBLIC INFORMATION

- AOGCC is not statutorily charged with public education. However, AOGCC **maintains an open door policy where any member of the public is invited to contact the agency with any questions or concerns they might have regarding industry activity.**
- As it relates to hydraulic fracturing, AOGCC maintains a white paper on its website that was last updated in January 2015. As noted above in the section on Reporting, with regard to notice to landowners near a well that will be hydraulically fractured, the regulations require that notices be sent to landowners within a half-mile radius.
- Upon request, a full hydraulic fracturing application would be sent to these affected parties, and AOGCC would answer any questions regarding the application. Furthermore, any other interested party may, via public records request, receive a copy of the non-confidential portion of the application. AOGCC typically completes public information requests within 10 days.

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