AOGA Comments regarding
AOGCC Inquiry Docket OTH-10-16
Areas of Inquiry on Regulations in Offshore & Extended Reach Drilling

1) AOGCC's currently prescribed drilling fluid systems and programs as a mechanism for providing primary well control, including requirements for degassing of drilling mud;

AOGCC regulations contain specific requirements for the performance of a drilling fluid program, for drilling fluid system equipment and for safe drilling practices (20 AAC 25.033). The operator must submit the proposed drilling fluid program and information on the drilling fluid system to prevent a loss of primary well control to the AOGCC in the Application for a Permit to Drill. Unless otherwise specifically approved by the AOGCC, the drilling fluid program and system must be designed to maintain the wellbore in an overbalanced condition, the drilling fluid properties within specifications, an adequate and available volume of drilling fluid, and to ensure the safety of drilling personnel. The drilling fluid equipment on each rig is available for inspection by AOGCC inspectors at any time.

Current AOGCC regulations, along with current industry standards and company specific operating practices, provide an effective framework for providing primary well control. The current regulations allow operators to develop sound well practices specific to the circumstances of the particular well and drilling equipment being used. While current AOGCC regulations do not include specifications and requirements for the mud gas separator/mud degasser equipment, the regulations do contain the more general requirements that the drilling fluid system be designed to maintain fluid properties and must include equipment to keep the drilling mud conditioned as appropriate for the drilling operation being conducted.

2) AOGCC's currently prescribed blowout prevention equipment (BOPE) and diverter requirements as a mechanism for providing fail-safe secondary well control for well drilling and completion;

AOGCC regulations contain detailed requirements for blowout prevention equipment (BOPE) and diverter equipment (20 AAC 25.035, 25.036) The regulations also incorporate various industry standards such as American Petroleum Institute (API) Recommended Practice (RP) 53, Recommended Practice for Blowout Prevention Systems for Drilling Wells (20 AAC 25.527). In addition to conforming to the requirements in the regulations, the operator must submit specific information about the equipment planned for use on a well with the Application for a Permit to Drill. The regulations include requirements for blowout prevention equipment (BOPE) testing when the equipment is installed, repaired or changed and at time intervals not to exceed 7 days for drilling exploration or stratigraphic test wells, and not to exceed every 14 days for drilling development or service wells. The AOGCC must be notified to allow witnessing of these tests and confirming that the equipment provides fail-safe well control. The BOPE on each rig is available for inspection by AOGCC inspectors at any time.

With respect to BOPE and diverter equipment, current AOGCC regulations, along with current industry standards and company specific operating practices, provide an effective framework for providing fail-safe secondary well control. The current regulations allow operators to develop sound well control procedures specific to the circumstances of the particular well and drilling equipment being used.

3) AOGCC's requirements for configuration of BOPE

AOGCC regulations contain detailed requirements for BOPE and diverter equipment (20 AAC 25.035, 25.036, 25.285). The regulations also incorporate various industry standards such as API RP 53 (20 AAC 25.527). These industry standards provide specific guidance regarding the configuration of the BOPE equipment. In addition to conforming to the requirements in the regulations, the operator must submit specific information about the equipment planned for use on a well with the Application for a Permit to Drill. The BOPE on each rig is available for inspection by AOGCC inspectors at any time.

With respect to BOPE configurations, current AOGCC regulations, along with current industry standards and company specific operating practices, provide an effective framework to enable operators to select the most appropriate risk assessed configuration on a well by well basis for rig surface operations.

4) Should regulations be adopted to require third-party certifications of BOPE?

At the current time, all BOPE in use in the State of Alaska are located on the surface and are readily accessible for inspection, repair and maintenance. Current AOGCC regulations require regular periodic testing of BOPE during drilling operations, which combined with a maintenance routine performed in accordance with Original Equipment Manufacturer (OEM) specifications and API guidelines ensure that BOPE is fit for service, so there is no need for a requirement to have BOPE third party certified.

5) AOGCC's current requirements regarding methods, frequency and reporting of testing of BOPE used in offshore and ultra-extended reach drilling operations

AOGCC regulations (20 AAC 25.035, 25.036, 25.285) include requirements for BOPE testing when the equipment is installed, repaired or changed and at time intervals not to exceed 7 days for drilling exploration or stratigraphic test wells and well workover operations, and not to exceed every 14 days for drilling development or service wells. The AOGCC must be notified if BOPE components have been used to prevent flow of fluids from a well (See above referenced regulations & AOGCC Guidance Bulletins 06-01 and 10-03). If the equipment has been used for well control or other equivalent purpose, or if the equipment may have been compromised, the BOPE must be tested before the next wellbore entry. The AOGCC must be notified to allow witnessing of these tests and confirming that the equipment provides fail-safe well control. The BOPE on each rig is available for inspection by AOGCC inspectors at any time.

Current AOGCC regulations for BOPE testing frequency are effective. A requirement for a low pressure test on BOPE and guidance regarding the amount of time steady pressure should be maintained during the pressure test should be included. The AOGCC should re-evaluate the requirement to pressure test BOPE on exploration wells every 7 days following initial rig-up, particularly on extended reach wells with long trip times. Pressure testing every 7 days may actually increase overall risk with impacts to drilling, bore hole stability, etc. for ultra extended reach drilling wells with long trip times and challenging hydraulics for hole cleaning. It is arguable that frequency of testing for workovers could be extended to 14 days, in line with development drilling testing frequency.

6) Is the current frequency of BOPE inspections and test witnessing by the AOGCC sufficient to identify improperly function BOPE?

Yes, current AOGCC guidance and regulations are effective and provide sufficient controls concerning BOP test frequency and witnessing to determine if the BOP is functioning improperly. Industry welcomes AOGCC inspections and insights to provide a safe drilling environment.

7) AOGCC's practices for probationary follow-up inspections of BOPE failing a test

Current AOGCC regulations regarding probationary follow up inspections for failed BOPE tests are effective. In no case can drilling begin or resume after a failed BOPE test until the equipment is repaired or replaced and a successful test is demonstrated.

8) AOGCC regulations governing casing and cementing programs and evaluation of BOPE, including without limitation: (a) is there a need for a new regulation governing performance of cement bond tests, (b) is there a need for a new regulation prescribing procedures for use of centralizers, and (c) is there a need for a new regulation governing use of lock-down sleeves

a) AOGCC regulations require casing strings which have BOPE installed to be pressure tested and to have a formation integrity test after drilling out the casing shoe to demonstrate the integrity of the casing shoe (20 AAC 25.030). In addition, AOGCC regulations specifically require a cement quality log or another evaluation log in service wells used for injection to demonstrate isolation of the injected fluids to the approved interval (20 AAC 25.030, 25.412). The AOGCC may require a log in cases where it believes zonal isolation may not have been established.

Current AOGCC regulations are adequate regarding the appropriate use of cement bond tests for zonal isolation, and we do not believe there is a need for new regulations governing cement bond tests. Cement bond logs are not always the most effective method to determine the quality of a cement job. AOGCC has the ability to require a bond log on a case by case basis.

b) Current regulations are effective. Centralization should allow for sufficient mud removal during cementing, achieving adequate zonal isolation, and the displacement efficiency during cementing should be verified by the cementing companies. Centralization programs will vary greatly on a case by case basis and are highly dependent on multiple factors including real in-situ conditions at the time of installation. We believe prescriptive requirements for centralization programs are not the right approach to proper well design.

c) Current AOGCC regulations are adequate for wells drilled with surface wellheads. We do not believe that there is a need for new regulations governing lock-down sleeves at this time. Locking mechanisms vary by wellhead manufacturer and specific application but are all designed to ensure that casing hanger seals maintain integrity. Operators assess potential loading conditions for subsea wells during the design phase of the well planning process to ensure that wellhead, casing, and annular seal mechanisms are properly designed to maintain integrity.

9) Criteria the AOGCC should consider in determining requirements for BOPE size and pressure containment capability

AOGCC regulations contain detailed and adequate requirements for blowout prevention equipment (BOPE) (20 AAC 25.035, 25.036, 25.285). The regulations also incorporate various industry standards such as API RP 53 (20 AAC 25.527). These industry standards specifically address the configuration and sizing of the BOPE. In addition to conforming to the requirements in the regulations, the operator must submit specific information about the equipment planned for use on a well with the Application for a Permit to Drill.

Current AOGCC requirements provide effective guidance and controls with respect to BOPE size and pressure containment capability.

10) Casing requirements for offshore and ultra-extended reach drilling, including use of single casing strings versus tie-backs

Current AOGCC requirements provide effective guidance and controls with respect to offshore and ultra extended reach drilling well casing design. Well safety and casing design is optimized by the ability to consider multiple casing designs and configurations for a given well design. Use of either a single string of intermediate casing or a tie-back to penetrate a hydrocarbon bearing zone is carefully risk assessed before being included in the drilling program. This risk assessment applies to all wells: land, offshore, and ultra-extended reach wells.

11) Should the AOGCC require operators drilling offshore or ultra-extended reach wells to demonstrate the ready capability to drill a relief well if necessary?

Before an operator can drill an offshore or ultra-extended reach will, Alaska Department of Environmental Conservation (ADEC) regulations require submission and approval of

an Oil Discharge Prevention and Contingency Plan (18 AAC 75.425). This plan must include a Response Action Plan containing "a summary of planned methods, equipment, logistics and time frames proposed to be employed to control a well blowout within 15 days". The full blowout contingency plan must be made available to ADEC for inspection on request.

The primary focus of industry with respect to well control and safe drilling operations is prevention. Relief wells are an important part of contingency planning and can be an effective response to a blowout when all intervention methods to regain well control have been exhausted in the original well bore. Current ADEC requirements effectively provide relief well contingency planning and we do not believe AOGCC should require operators to include plans for drilling a relief well in each Application for a Permit to Drill. Relief well contingency plans are developed as a part of a broader risk mitigation process during the well planning stage.

12) Should the AOGCC consider requiring concurrent relief well drilling in offshore and ultra-extended reach drilling operations?

Requiring the concurrent drilling of a relief well should not be considered on the basis of increased complexity, , safety and operational risk. Final decisions and design of an offshore or ultra extended reach relief well program must be customized for the particular well control situation and consider actual well conditions. Relief well contingency planning and the ability to execute a relief well design for a bottom or off bottom/shallow kill in a reasonable time frame are developed as a part of a broader risk mitigation process during the well planning stage. Current ADEC regulations are effective with respect to providing relief well contingency planning.

13) Regulatory requirements of other jurisdictions (domestic or foreign) governing the drilling of offshore and ultra-extended reach wells

Several API and ISO standards address drilling and well design for offshore and ultra-extended reach wells. Current AOGCC regulations effectively regulate the drilling of offshore and ultra-extended reach wells.

14) Any other matters related to blowout prevention and/or well control

A focus on prevention, using safety and risk management systems and Management of Change procedures is the most effective way to prevent accidents.

AOGCC will need to precisely define the term "offshore" and "ultra extended reach drilling" to avoid confusion.

Industry standards are periodically reviewed and updated. References to particular standards can be updated in 20 AAC 25.527 and elsewhere in the regulations to ensure good practice is followed in all drilling operations. In particular, changes to API RP 53 and new API RP 96 should be reviewed for reference in the regulations. API RP 96 is

currently under development to address Deepwater Well Design and will be sufficient to provide guidance for deepwater well design.

Specific well control training is required by AOGCC regulations [20 AAC 25.527(d)]. Additional training, incorporating more realistic Alaska scenarios/simulations technology would provide greater operational assurance for Alaskan operations. Industry is eager and willing to discuss ways to improve workforce competency and look forward to working with the AOGCC on this issue.