

# STATE OF ALASKA

## ALASKA OIL AND GAS CONSERVATION COMMISSION

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December 16, 2010

### **AOGCC Industry Guidance Bulletin No. 10-004 Safety Valve Systems**

The Alaska Oil and Gas Conservation Commission (Commission) provides the following supplement to well safety valve system (SVS) requirements as outlined in readopted regulation 20 AAC 25.265 that became effective December 3, 2010 (SVS regulations).

#### Legacy Documents

The following legacy documents relating to well SVS are rescinded:

- “No-flow test to determine that a well is not capable of unassisted flow”; Field Operation Procedure dated April 24, 1992;
- “Clarification of AOGCC Policy, SVS Failures” dated February 17, 1994;
- “AOGCC Policy, SVS Failures” dated March 30, 1994;
- Commission letter dated November 14, 1995 specifying the SVS component failure rate that triggers increased testing;
- “Safety Valve System Guidelines” dated August 12, 1998;
- “North Slope SSSV Testing”; letter from Arco Alaska Inc. dated August 29, 1998 as annotated by the Commission on September 2, 1998;
- “Subsurface Safety Valves”, AOGCC Guidance Bulletin 06-04 dated June 15, 2006.

The Commission also rescinds all or part of the rules specific to SVS requirements (also referred to as “automatic shut-in equipment”) which were part of existing Conservation Orders. Refer to Commission Order No. 66 for details (<http://doa.alaska.gov/ogc/orders/como/otherindex.html>)

#### Safety Valve System [20 AAC 25.265(b); 25.265(c); 25.265(d); 25.265(f)]

A SVS includes the surface safety valve, the low pressure mechanical or electrical detection device (and associated hydraulic and electrical lines), and when required by regulation, the subsurface safety valve.

#### Application Process [20 AAC 25.265(c)(8); 25.265(o)]

20 AAC 25.265(c)(8) requires an operator to gain Commission approval to keep a well in operation when the well SVS does not include the required components. Well-specific applications should be made by submitting a “Application for Sundry Approvals”, Form 10-403, and will be handled by the Commission as a request for a variance or waiver as defined in 20 AAC 25.265(o). Refer also to the paragraph titled “Variances and Waivers” toward the end of this guidance bulletin.

Subsurface Controlled Subsurface Safety Valve [20 AAC 25.265(d)]

Approval from the Commission is required for alternate subsurface safety valves (e.g., subsurface-controlled; telemetry controlled). A request for approval must include information necessary to establish that the alternate approach provides at least an equivalent level of protection as the required subsurface safety valve. Request should include – as appropriate – the mechanical configuration of the valve and specifications, fluid flow composition, pressures, model used to size the valve, trip pressure, test evaluation and any other information that establishes the suitability of the valve for the intended service. Performance testing procedures should also be included in the request for approval. The testing frequency for alternate subsurface safety valves will be established by the Commission. The operator shall maintain an inventory of all wells with alternate subsurface safety valves installed showing well, date of installation, type of valve, last test date and test result.

Functional Hardware for a Subsurface Safety Valve [20 AAC 25.265(f)]

A landing nipple or similar equipment that enables the installation and operation of a subsurface-controlled subsurface safety valve is considered functional hardware as referenced in 20 AAC 25.265(f). Functional hardware is not limited to equipment necessary for the installation and operation of a surface-controlled subsurface safety valve.

Test Definitions [20 AAC 25.265(h)]

“*Function test*” means to actuate a component to demonstrate its proper functioning without subjecting it to pressure;

“*Performance test*” means to function test the mechanical or electrical actuating device, and to both actuate a component and demonstrate its ability to effect a pressure seal.

Calibrated Test Pressure Gauge [20 AAC 25.265(h)(1)]

The use of a calibrated test gauge of suitable range and accuracy is required for SVS performance testing. Current calibration should be evident with a label or other documentation. Suitable range means the pressure readings are displayed within the center third of the full scale; suitable accuracy means the gauge is capable of measuring pressures that are less than or equal to 1 percent of the gauge’s full scale pressure range.

Test Cycle [20 AAC 25.265(h)(5)]

SVS must be tested every 6 months not to exceed 210 days. The regulatory requirement is 2 tests per year. The additional 30 days (beyond a 6-month test interval) is provided for contingencies such as weather delays, scheduling conflicts, simultaneous activities, etc. that could prevent testing on a strict anniversary date. Absent communication from the operator, the Commission will establish the months SVS testing is due. The normal test month for a grouping of wells (drillsite; well pad; administratively-grouped pads by the Commission where individual pads have small numbers of wells; etc.; referred to collectively as a “pad test”) will not be adjusted unless approved by the Commission.

All wells that require a functional SVS must be tested at the time of a pad test, including any wells that have been brought on line since the previous pad test.

A failure rate during performance testing that exceeds 10 percent will result in the test frequency being increased to once every 90 days. Miscellaneous tests will be combined with the most recent pad test in calculating a failure rate. In response to a failure rate greater than 10 percent, the Commission will issue a letter instructing the operator to test at an increased frequency. Consecutive pad test failure rates exceeding 10 percent will result in the 90-day testing frequency being extended indefinitely until the Commission is satisfied with the test performance. Otherwise, a successful test following the high failure rate will allow the pad to return to the normal pad test cycle.

A single component failure will not result in a pad being placed on an increased testing frequency. In the case of small numbers of wells (and thus tested SVS components) the Commission will consider combining pads based on geography, reservoir proximity, or other logical criteria. A request for grouping by an operator must be justified other than from a purely statistical basis.

The Commission reserves the right to adjust the test frequency for reasons other than test performance (e.g., repeat failures of the same component on the same well). Repeat failure rates exceeding 10 percent that remain unaddressed by an operator may result in enforcement action beyond the increased testing cycle.

Reporting Well Pressures Associated with Testing [20 AAC 25.265(h)(9); 25.265(h)(10)]

The system actuation pressure of the low-pressure mechanical or electrical detection device installed on a producing well is based on the separator inlet pressure or 25 percent of the flowing tubing pressure, whichever is greater. For injection wells, the actuation pressure must be greater than 50 percent of the injection tubing pressure. Performance test reports required by 20 AAC 25.265(h)(7) must include the tubing pressure (the well's flowline pressure for high pressure choked wells) when that is the determining pressure for a performance test of the low-pressure mechanical or electrical detection device. If tubing pressure is used, the report form should leave the separator pressure blank and include the tubing pressure in the "Well Pressures" section of the test report form provided by the Commission.

Preventive Maintenance [20 AAC 25.265(h)(13)]

Performance test results must be an accurate representation of the actual SVS operating reliability. Preventive maintenance is a necessary part of ensuring functional reliability and includes activities such as actuating valves and pilots, and greasing SVS components. These preventive maintenance activities – if performed in close time proximity to the SVS test – have the potential to improperly influence test results. The Commission will reschedule witness of SVS tests if there is evidence suggesting test results have been improperly influenced, or may consider other actions such as unplanned/unscheduled SVS tests.

No-Flow Test Procedure and Equipment Arrangement [20 AAC 25.265(k)]

The purpose of a no-flow test is to demonstrate that a well is not capable of unassisted flow of hydrocarbons so that a required subsurface safety valve may be removed. Steps involved in the no-flow test are as follows unless another test procedure is approved by the Commission:

1. Artificial lift must be shut down and the well pressure bled prior to the arrival of a Commission Inspector.

Guidance Bulletin 10-004  
Safety Valve Systems

2. After pressure is bled, the well must be lined up to an atmospheric tank or vessel capable of capturing any produced fluid during the test.
3. A minimum 3-hour witnessed test is required.

Suggested equipment configuration for the no-flow test is shown in Appendix A. All equipment must be properly sized to allow for accurate measurement of pressure and flow rate, and in good working order. The Commission requires the pressure gauge(s) and flow meter(s) used in conducting a no-flow test to have current calibrations.

Applicability of Variances and Waivers [20 AAC 25.265(o)]

Requests for variances and waivers for individual wells should be submitted to the Commission on Form 10-403, "Application for Sundry Approvals". Requests that are broader than individual wells (e.g., field-wide) should be provided by letter to the Commission. The decision to approve the variance or waiver request is based on the justification provided by the operator. A copy of the Commission-approved variance or waiver should be available during a Commission inspection.

Please share this Guidance Bulletin with all appropriate members of your organizations. Questions or discussion regarding this guidance bulletin should be directed to James Regg at (907) 793-1236.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Seamount, Jr.", written in a cursive style.

Daniel T. Seamount, Jr.  
Chair, Commissioner

Attachment

**Appendix A - No Flow Test Equipment**

