PIONEER
NATURAL RESOURCES

July 15, 2011

David Neslin, Director
Colorado Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, Colorado 80203

Re: Request for Variance of Rule 1101(e)(1)

Dear Director Neslin,

Pursuant to Colorado Oil and Gas Commission ("COGCC") Rule 502(b)(1), Pioneer Natural Resources USA, Inc. ("Pioneer") hereby requests a variance from the annual pressure testing requirements of COGCC Rule 1101(e)(1) as such rule relates to produced water flowlines in Pioneer's Raton Basin field. Rule 1101(e)(1) requires that flowline segments operating at 15 psig or greater be pressure tested annually to their maximum anticipated operating pressure.

As explained in greater detail in the attachment to this letter, the operation of Pioneer's produced water lines in the Raton Basin makes compliance with Rule 1101(e)(1) in the manner set forth in such rule unduly burdensome. Instead of the annual pressure testing required by Rule 1101(e)(1), Pioneer has adopted a continuous monitoring system for its produced water flowlines in the Raton Basin. Such system provides continuous, near real-time monitoring of produced water flowlines and provides significantly more protection from a safety and environmental protection standpoint than the annual pressure testing required by Rule 1101(e)(1). As a result, Pioneer believes that the requested variance will not violate the basic intent of the Oil and Gas Conservation Act, and instead will provide a greater level of protection than the current rules.

Pioneer respectfully requests your prompt consideration of the requested variance. Please contact the undersigned at (303) 298-8100 should you or your staff have questions or wish to discuss this request further.

Sincerely,
Pioneer Natural Resources USA, Inc.

By: _____
Dave Holland, Environmental Manager

Attachments

Attachment to Request for Variance from Rule 1101(e)(1)
Pioneer Natural Resources USA, Inc.
July 15, 2011

Request for Variance

As set forth in the cover letter to this attachment, Pioneer Natural Resources USA, Inc. ("Pioneer") is requesting a variance from the requirement, set forth in Colorado Oil and Gas Conservation Commission ("COGCC") Rule 1101(e)(1) that flowline segments be tested annually to their maximum anticipated operating pressure, for its produced water flowlines in Pioneer's Raton Basin field. Instead of annual pressure testing as required by Rule 1101(e)(1), Pioneer will (as set forth in greater detail below), continuously monitor pressures in its produced water gathering system through its telemetry-SCADA (supervisory control and data acquisition) system. Pioneer also requests that this variance apply to new produced water flowline segments so long as such segments are covered by the SCADA system.

Introduction – Water Flowlines

Pioneer operates approximately 800 miles of pipeline that gathers water within its coalbed methane ("CBM") operations in Colorado's Raton Basin. The pipelines operate without pump stations and are designed to gravity flow water to injection wells, discharge points permitted by Colorado Department of Public Health & Environment ("CDPHE") and water disposal pits permitted with the COGCC. The pipelines are not continuously or consistently pressurized. Higher pressures occur in the lines due to the hydraulic head formed on the downhill side of a pipe run. The pipeline system is essentially a loop system that allows water from many wells to be blended and to go to multiple disposal points concurrently and continuously.

Produced water from CBM many wells is blended in the pipeline system. The quality of the water carried in the flowlines approximates an average for that part of the field. Water quality data for individual flowlines are shown below:

Flowline to:	Total Dissolved Solids (TDS)	pH
Cimarron 32-18WD	1140	8.4
Cottontail Pass 32-33WD	1540	8.7
Jarosa 32-33WD	1500	8.4
Long Canyon 43-12WD	3920	8.0
PCW 12-4WD	3740	7.9
Sawtooth 34-4WD	1940	8.2
Weston 24-23WD	1370	8.2

Much of the water carried in the pipeline systems is suitable for surface discharge under permits issued by the CDPHE. The Raton Basin field produces 99% pure methane (natural gas), no crude oil or condensate. No liquid hydrocarbons are found in the pipeline system.

COGCC Flowline Rules

Pioneer's water pipelines are defined as a "flowline" under COGCC rule 100:

> *"...FLOWLINES shall mean those segments of pipe from the wellhead downstream through the production facilities ending at: ...in the case of water lines, the water loading point, the point of discharge to a pit, the injection wellhead, or the permitted surface water discharge point."*

COGCC Rules 1101(a-b) regulate the materials and design of these water flowlines, as reprinted below:

> *a. Material.*
>
> *(1) Materials for pipe and other components of pipelines shall be:*
>
> *A. Able to maintain the structural integrity of the pipeline under temperature, pressure, and other conditions that may be anticipated...*
>
> *b. Design.*
>
> *Each component of a pipeline shall be designed and installed to prevent failure from corrosion and to withstand anticipated operating pressures and other loadings without impairment of its serviceability. The pipe shall have sufficient wall thickness or be installed with adequate protection to withstand anticipated external pressures and loads that will be imposed on the pipe after installation.*

To demonstrate and ensure that the water pipeline will withstand operating pressures, COGCC requires pressure testing of flowlines (Rule 1101(e)(1)):

> *Before operating a segment of flowline it shall be tested to maximum anticipated operating pressure...*

This is standard practice in Pioneer's Raton Basin operations and is part of any water flowline installation. Flowlines operating at less than 15 psi are exempt from pressure testing under COGCC rules.

COGCC Rule 1101(e)(1) also requires that (if the flowline operates at greater than 15 psi):

"...pressure tests shall be repeated once each calendar year to maximum anticipated operating pressure..."

It is from this requirement for which a variance is sought.

Reasons for Seeking this Variance

- The water flowlines are not conventional, pressurized pipelines, in that there are no pumps on the pipelines. Thus there is not a consistent pressure in the lines, and lines surge, making it is difficult to establish a standard, anticipated operating pressure for the system.
- Annual pressure testing of water lines which only gravity-feed produced water is very difficult to accomplish as there is no source of continuous pressure.
- These flowlines are often interconnected and thus testing of them after installation would require shutting in the wells on that system.
- Shutting in 2300 producing wells to test water flowlines would result in significant loss of mineral production and revenue to the State, local governments and the company.
- Technology now provides for better ways of assessing pipeline pressures.
- Technology now provides an alternative monitoring method that can better ensure that a flowline operates within a pipe-specific maximum operating pressure, that pipeline integrity is assured, and that the risk of a pipeline break or spill of produced water is minimized.

Continuous Monitoring versus Annual Testing

Following its acquisition of the field, Pioneer installed a basin-wide SCADA system on its CBM wells in the Raton Basin. Technological improvements have produced an increased availability of monitoring devices that can be connected to this system. Following an investigation into possible options, Pioneer initiated discussions with the COGCC engineering staff about pressure monitoring alternatives that would be superior to a once-a-year test.

As an alternative to annual testing, Pioneer agreed to install transducers that would continuously monitor flowline pressure. These transducers have been installed at select well sites to provide the best coverage and to monitor the points where the highest pipeline pressures are possible. This level of monitoring now provides continuous monitoring of pipeline system performance

and identification of over-pressurized segments on a day-to-day basis—a measure of risk reduction not achievable with annual testing.

Actions Implemented

While consulting with the engineering staff of COGCC, Pioneer implemented a program which not only meets the intent of the COGCC Rule 1101, but provides a higher level of safety and environmental protection than the annual testing requirement described in the rule. This more comprehensive pipeline monitoring and integrity program has resulted in implementation of the following actions:

1. All new water flowlines are tested, either pneumatically or hydrostatically, at 100% of the manufacturer's maximum allowable operating pressure ("MAOP") for that type of pipe at the time the line is installed.

2. Pioneer operates water flowlines at no more than 75% of failure or "burst" pressure: 313 psi (pounds per square inch) for DR-7 pipe and 236 psi for DR-11 pipe.

3. In 2009 Pioneer conducted pipeline pressure surveys at all well locations in the Raton Basin to identify areas where transducers should be installed.

4. To date, pressure transducers have been installed at over 75 critical points on the water flowline system to ensure that lines are operating at less than 75% of burst pressure. Pioneer is continuing to assess the performance of its pipeline system, and as that system evolves additional transducers are being added (see below). These transducers operate continuously and their data is automatically transmitted to Pioneer operational personnel via the SCADA system.

5. The accuracy of the pressure transducer is verified with a gauge. Starting in August 2010, Pioneer has conducted this verification approximately monthly. All work is overseen by an experienced engineer. Pioneer is continuing to install new transducers as part of SCADA upgrades in the field. For example, acquisition of the Petrogulf holdings in the Weston, Colorado area means that Pioneer's SCADA and pipeline monitoring system is being extended into this area.

6. Using data from the pressure monitoring system, Pioneer has identified and installed pipeline upgrades to ensure that the potential for pipeline spills and breaks is minimized. Here are some of the pipeline projects identified and completed to address water pipeline pressure issues:

Name	Purpose	Cost	Completion Date
Build new Red Sox well to Grapevine well pipeline	Reduce flowline pressure elsewhere on the system	$120,000	8/2009
Install slip-liner in existing Jarosa pipeline	Ensure MAOP is suitable to operating conditions; bring line back into service	$345,000	3/2011
Build new pipeline in South Long Canyon and Colorow Canyon	Reduce flowline pressure elsewhere on the system	$313,000	6/2011
Install new pipeline between Margaux and Bordeaux wells	Ensure MAOP is suitable to operation conditions	$95,000	6/2011

Additional Improvements to SCADA-based Monitoring

Using data obtained from its SCADA-based, continuous flowline pressure monitoring system, Pioneer continues to make improvements which will further ensure that the risk of pipeline failure and spills are minimized.

Currently, Pioneer has the following work in progress:

1. Working on SCADA software and programming that could enable the automatic shutdown of a wellhead pump engine based on flowline pressure sensor data. (Pioneer hopes to implement this improvement by the end of 2011).

2. Continuing to monitor pressure sensor performance, verify accuracy and repair or replace as needed.

3. Planning improvements in the vicinity of the St. Pats well to prepare a submittal to management for the 2012 budget year.

4. Complete the installation of 10 (possibly more) pressure monitoring sensors in the Maxwell area by October, 2011.

5. Install up to another five sensors in other areas of the field as needed by October, 2011.

Conclusion

Taken together, the flowline pressure monitoring Pioneer has installed is superior to annual pipeline testing. Given operating conditions of CBM wells in the Raton Basin, annual hydrostatic or gas testing is difficult, if not impossible, to implement in the field. The monitoring system currently in place provides a superior level of data and demonstration that flowlines are being operated properly and within pipeline design specifications. For these reasons Pioneer is requesting that as long as its SCADA based system is operational, COGCC grant a variance from the requirements of COGCC Rule 1101(e)(1) that *"...pressure tests shall be repeated once each calendar year to maximum anticipated operating pressure..."*