

# PIONEER

## NATURAL RESOURCES

received 02/18/2015  
Facility 427440  
Document 2314477

February 17, 2015

Mr. Matt Lepore.  
COGCC  
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Denver, Colorado 80203

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RE: 2014 1101(e)(1) Variance report

Dear Mr. Lepore:

Pioneer Natural Resources USA, Inc. ("Pioneer") is submitting this letter in compliance with the conditions of approval of a variance to COGCC rule 1101(e)(1). This variance, document 200338696, was approved on 3/1/12. Pioneer has completed the installation of pressure transducers on water flow line at 161 wells in strategic locations throughout the field. These transducers are linked to our SCADA system and they monitor pressure on the water gathering system and initiate shut-down of the water pump on the wellhead if pressure spikes or other conditions are detected. These sensors also aid in the operation of the wells and ensure that we operate our 800 mile water gathering system within manufacturer's specifications and best engineering limits.

DATE	LOCATION	ROOT CAUSE	WHY SYSTEM DID NOT PREVENT AND ACTION TAKEN
1/10/14	RAMBLER 23-36	BREAK AT WEAK POINT IN LINE DUE TO CHANGE IN SYSTEM.	HIGH PRESSURE WAS NOT REACHED AT WELL. ANNUAL TESTING WOULD HAVE RESULTED IN SPILL. SENSOR WAS INSTALLED IN 2014
1/16/14	STATE 43-16 V	FROZEN 2" VALVE ON GATHERING	HARD FREEZE IN MODERATE PRESSURE SYSTEM - BURST OF 1500 PSI STEEL SURFACE VALVE.
2/3/14	MUSTANG 41-30 TR	FROZEN 2" VALVE ON GATHERING	HARD FREEZE IN MODERATE PRESSURE SYSTEM - BURST OF 1500 PSI STEEL SURFACE VALVE.
2/6/14	PRIMERO 22-30	FROZEN 2" VALVE ON GATHERING	HARD FREEZE IN MODERATE PRESSURE SYSTEM - BURST OF 1500 PSI STEEL SURFACE VALVE.
2/13/14	SANTISTEVEN 13-22	FROZEN 1" VALVE ON GATHERING - BUCKET	HARD FREEZE IN MODERATE PRESSURE SYSTEM - BURST OF 1500 PSI STEEL SURFACE VALVE.
2/21/14	GUINNESS 13-36	BREAK AT WEAK POINT IN LINE DUE TO CHANGE IN SYSTEM	HIGH PRESSURE WAS NOT REACHED AT WELL. ANNUAL TESTING WOULD HAVE RESULTED IN SPILL. SENSOR WAS INSTALLED IN 2014
4/29/14	CHARLIE 43-11	FUSE FAILURE AT HIGH DENSITY POLYETHYLENE (HDPE) PIPELINE TRANSITION	MODERATE PRESSURE SYSTEM - SENSOR IS PLANNED FOR INSTALLATION DURING 2015 PROGRAM
5/1/14	CRIST 21-11	WEAK POINT DUE TO UNDOCUMENTED 3 <sup>RD</sup> PARTY PIPELINE STRIKE	HIGH PRESSURE WAS NOT REACHED AT WELL. ANNUAL TESTING WOULD HAVE RESULTED IN SPILL. LINE WAS REPLACED AND PRESSURE TESTED
5/4/14	CRIST FEDERAL 21-11	CLOSED VALVE - HUMAN ERROR	FOLLOWING A REPAIR OF PIPELINE, A VALVE WAS LEFT CLOSED DUE TO ERRONEOUS MAP OF THE GATHERING NETWORK. THE PIPELINES HAVE BEEN REMAPPED.
6/13/14	SHIPIANKA 11-33	BAD HDPE FUSE IN GAS ELIMINATOR	UNABLE TO PRESURE TEST THIS PORTION OF GATHERING SYSTEM IN PLACE
6/20/14	JOHN BO 11-9	HDPE FUSE FAILURE ON GATHERING PIPELINE	MODERATE PRESSURE SYSTEM
9/19/14	OUTCAST 13-23	BREAK ON WEAK DR11 PIPE	HIGH PRESSURE WAS NOT REACHED AT WELL. ANNUAL TESTING WOULD HAVE RESULTED IN SPILL.
10/3/14	VENOM 32-22	BREAK DUE TO BAD TRANSITION BETWEEN STEEL AND HDPE DISCOVERED ON STARTUP	HIGH PRESSURE WAS NOT REACHED AT WELL. ANNUAL TESTING WOULD HAVE RESULTED IN SPILL. SENSOR WAS INSTALLED IN 2014
10/2/14	LINDA 12-19	BREAK AT WEAK POINT IN LINE DUE TO CHANGE IN SYSTEM ASSOCIATED WITH	TRANSDUCER WAS ACTIVE AND SAW PRESSURE SPIKE. WELL WAS SHUT DOWN AND SPILL SIZE WAS LIMITED

DATE	LOCATION	ROOT CAUSE	WHY SYSTEM DID NOT PREVENT AND ACTION TAKEN
		ELIMINATION OF A DISCHARGE POINT.	
10/14/14	OWL 34-10	BREAK AT WEAK POINT IN LINE DUE TO CHANGE IN SYSTEM	TRANSDUCER WAS ACTIVE AND SAW PRESSURE SPIKE. WELL WAS SHUT DOWN AND SPILL SIZE WAS LIMITED
10/22/14	MEDUSA 21-3	BREAK AT WEAK POINT IN LINE DUE TO CHANGE IN SYSTEM	TRANSDUCER WAS ACTIVE AND SAW PRESSURE SPIKE. WELL WAS SHUT DOWN AND SPILL SIZE WAS LIMITED
11/8/14	GENGHIS 44-16	CLOSED VALVE - HUMAN ERROR	FOLLOWING REPAIR OF PIPELINE, VALVE WAS LEFT CLOSED DUE A MISUNDERSTANDING OF THE GATHERING NETWORK. SENSOR IS PLANNED FOR INSTALLATION DURING 2015 PROGRAM
11/14/14	BULL FROG 23-7	FROZEN 2" VALVE ON GATHERING	HARD FREEZE IN MODERATE PRESSURE SYSTEM - BURST OF 1500 PSI STEEL SURFACE VALVE.
11/14/14	ANTELOPE 13-32	FROZEN 2" VALVE ON GATHERING	HARD FREEZE IN MODERATE PRESSURE SYSTEM - BURST OF 1500 PSI STEEL SURFACE VALVE.
11/14/14	TURKEY HUNTER 32-5	FROZEN 2" VALVE ON GATHERING	HARD FREEZE IN MODERATE PRESSURE SYSTEM - BURST OF 1500 PSI STEEL SURFACE VALVE.
12/1/14	RELAY 12-7 TR	FROZEN 2" VALVE ON GATHERING	HARD FREEZE IN MODERATE PRESSURE SYSTEM - BURST OF 1500 PSI STEEL SURFACE VALVE.
12/23/14	LORENCITO 3-13	FROZEN 2" VALVE ON GATHERING	HARD FREEZE IN MODERATE PRESSURE SYSTEM - BURST OF 1500 PSI STEEL SURFACE VALVE.
12/28/14	BRUSCHER 13-5R	BAD GASKET DISCOVERED IN METER HOUSE DUE TO CHANGE IN SYSTEM ASSOCIATED WITH ELIMINATION OF A DISCHARGE POINT.	HIGH PRESSURE WAS NOT REACHED AT WELL. ANNUAL TESTING WOULD HAVE RESULTED IN SPILL.

In addition to amounts spent in previous years, Pioneer spent another \$25,000 in 2014 to implement the transducer system and spent another \$248,000 on flow line pressure reduction and mitigation projects based on data provided by the pressure monitoring system. The pressure monitoring system initiated shut-down of 25 wells at multiple times during 2014 when high pressures were detected. Pioneer believes that this system is effective at preventing pipeline failures and spills and plans to expand the system further in 2015 and to improve the logic of the system. Pioneer also plans on spending an additional \$120,000 on pressure reduction pipeline projects in 2015. These projects involve replacing existing pipeline with new pipeline more suited to the pressures being detected on the existing system.

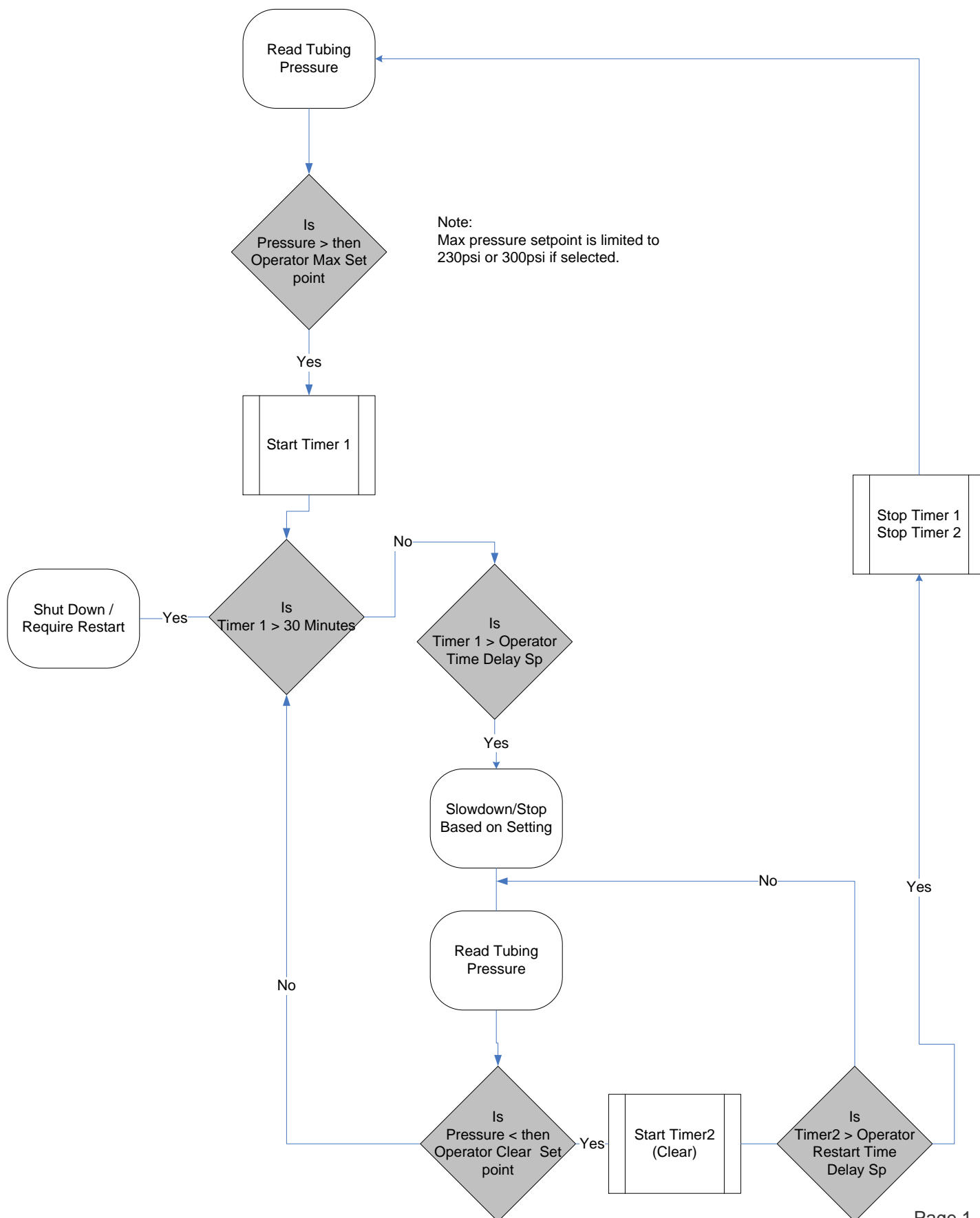
In 2014 several significant changes were made to the water gathering system as new requirements found in surface discharge permits issued by the Colorado Department of Public Health & Environment forced Pioneer to eliminate some surface discharge points and move to deep well disposal. Using Pioneer's management of change approach, every effort was made to reduce the number and severity of spills that resulted from these changes. By insuring inspection of lines and using the pressure monitoring system spills were caught quickly, and the quantity of water spilled was keep to a minimum.

Each spill is investigated by a Pioneer investigation team and they are reviewed monthly. Any water sampling is done by an independent third-party. The results of these investigations and the actions taken are presented to upper management quarterly. Several spills in 2013 were caused by flow line gas eliminators. In 2014, Pioneer instituted an inspection all 451 gas eliminators in the field and has made 14 repairs as a result.

Submitted on behalf of Pioneer Natural Resources USA Inc.,

  
Steve Schreck  
Staff Facilities Engineer

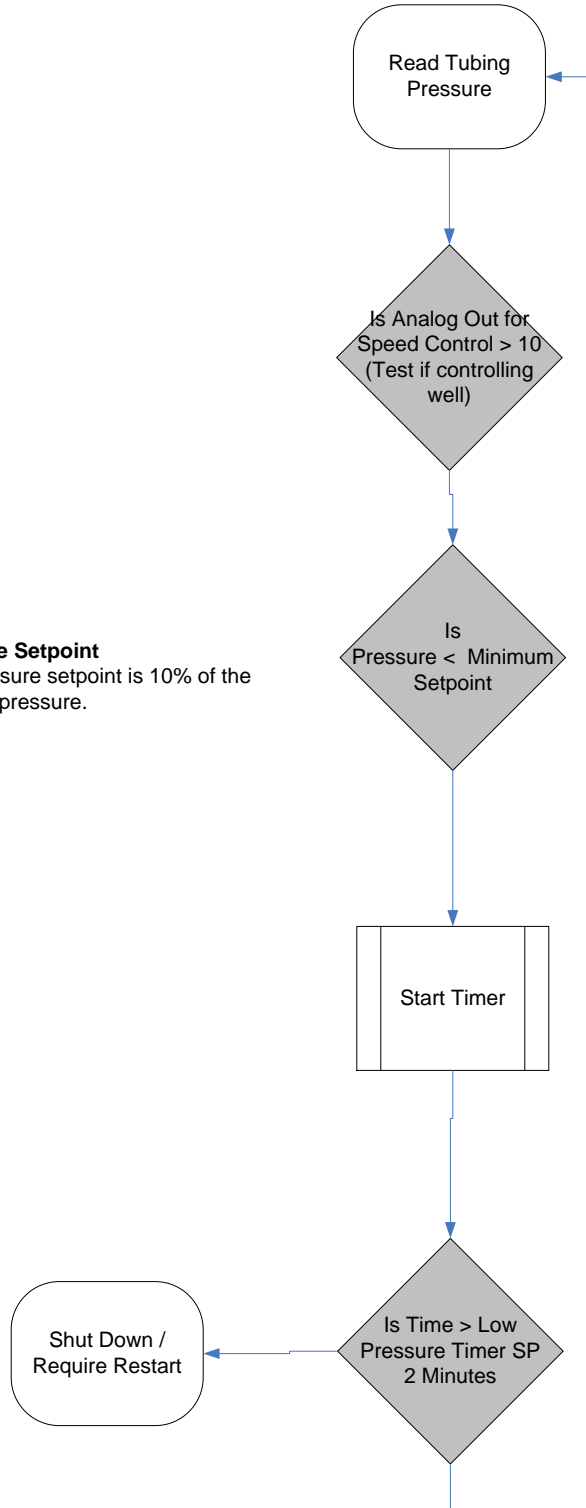
## Tubing High Pressure



## Tubing Low Pressure

### Low Pressure Setpoint

The Low Pressure setpoint is 10% of the tubing restart pressure.



## Cycle Operation

When enabled, the cycle timer will turn on and off the well based on the entered times. The on and off times must be greater or equal to 60 minutes.

