

ELIZABETH AMES, JONES, CHAIRMAN  
DAVID PORTER, COMMISSIONER  
BARRY T. SMITHERMAN, COMMISSIONER



# RAILROAD COMMISSION OF TEXAS

October 25, 2011

Gina McCarthy, Assistant Administrator  
U.S. Environmental Protection Agency  
Office of Air and Radiation Mail Code: 6101A  
Washington, D.C. 20460

Attn: Docket ID No. EPA-HQ-OAR-2010-0505  
1200 Pennsylvania Avenue, NW  
Washington, D.C. 20460

Re: Comment on Proposed Rules: "Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews," 76 Fed. Reg. 52738 (August 23, 2011), Docket ID No. EPA-HQ-2010-0505

Dear Assistant Administrator McCarthy:

Attached you will find the comments of the Railroad Commission of Texas on the referenced proposed regulations.

The Railroad Commission of Texas (Commission) has effectively regulated the oil and natural gas industry in the State of Texas since 1919. The Railroad Commission's primary statutory responsibilities in the regulation of Texas oil, gas and geothermal resources are to conserve the State's natural resources; prevent the waste of natural resources; protect the correlative rights of different interest owners; protect the environment from pollution associated with oil, gas and geothermal activity; and ensure safety in areas such as hydrogen sulfide. The Railroad Commission works closely with the Texas Commission on Environmental Quality, which has primary jurisdiction over air emissions for the purposes of safeguarding the State's air resources.

Texas is the nation's largest producer of oil and natural gas with over 149,000 active oil wells and almost 95,000 active gas wells, responsible for producing 365,555,020 barrels of oil and 7,500,443,323 mcf of natural gas in 2010. This energy production supports 2 million jobs in Texas and a quarter of the State's economy. The industry not only benefits Texas, but the entire United States. Nationally, the energy industry supports 9.2 million jobs, providing billions of dollars in employee wages during a period of economic difficulty.

The oil and natural gas industry in Texas would be significantly impacted by the referenced rules, as proposed by the Environmental Protection Agency (the EPA) in August of 2011. In addition, the proposed rules will result in an expansion of EPA's authority to regulate and control oil and natural gas activities in Texas and other states.

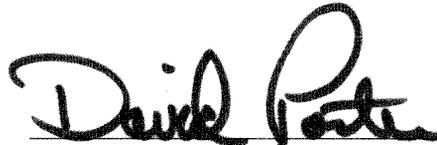
We appreciate the opportunity to comment on the proposed rules and look forward to working with EPA to ensure that any final rules are readily understood, reasonable, and practicable and provide for the safe and efficient exploration, development and production of this nation's domestic oil and natural gas resources.

Sincerely,

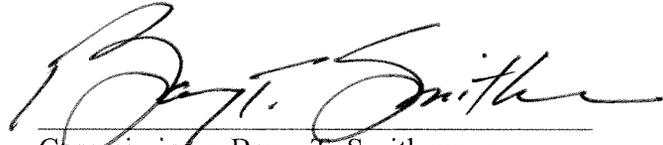
RAILROAD COMMISSION OF TEXAS



Chairman Elizabeth Ames Jones

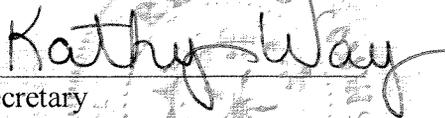


Commissioner David Porter

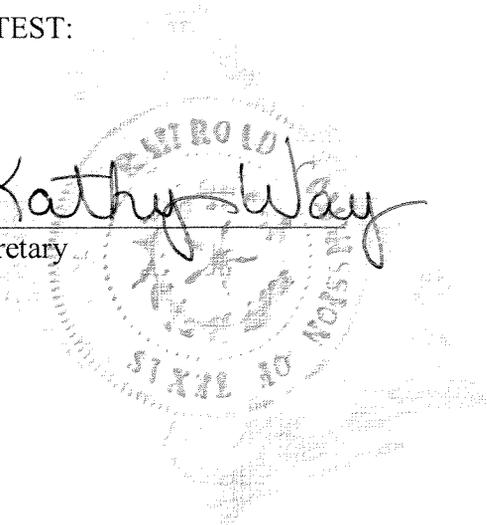


Commissioner Barry T. Smitherman

ATTEST:



Secretary



**“Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews,” 76 Fed. Reg. 52738 (August 23, 2011), Docket ID No. EPA-HQ-2010-0505**

**Comments of the Railroad Commission of Texas**

**“Workover” and “completion” or “re-completion” are not equivalent to “hydraulic fracturing or re-fracturing.”**

The rules propose emissions control only for gas wells that are hydraulically fractured or re-fractured; however, throughout the proposal preamble and the proposed rules, EPA uses the terms “completion,” “workover,” and “hydraulic fracturing” interchangeably. A workover or completion does not necessarily result in an increase in emissions and a well workover does not necessarily constitute a modification of a facility. A workover may involve only cleanout of a wellbore, repair of downhole equipment, changing of the tubing and/or tubing packer, and/or changing out rods and pumps and other lifting equipment. As a result, the proposed regulations will impact many more facilities than estimated by EPA, resulting in increased costs to regulated entities and to the states. The preamble and rule language implies that a workover of a well, regardless of whether or not the workover involves hydraulic fracturing of natural gas wells and regardless of whether or not the workover results in increased emissions, renders the well subject to the new requirements. As noted above, the terms “workover” and “completion” or “re-completion” encompass much broader categories of activity than the term “hydraulic fracturing.”

**EPA’s estimate of the number of “re-fractured” wells appears to be high.**

The Commission believes that EPA’s estimate that 10 percent of all natural gas wells are re-fractured is too high, particularly if EPA means annual re-fracturing. Commission records indicate the following:

Year	#Producing Gas wells	Gas Well Completions	Gas Well re-completions
2008	96,502	10,361	788 (7.6% of completions)
2009	101,097	8,706	730 (8.4% of completions)
2010	101,653	4,071	596 (15% of completions)

However, not all of these “re-completions” involve hydraulic fracturing. Currently, the Commission’s tracking system does not differentiate between well re-completions that involve hydraulic fracturing and those that do not. Typically, owners or operators of horizontal gas wells use hydraulic fracturing in the completion process, but many vertical gas well completions also involve hydraulic fracturing. And, the annual number of gas wells drilled, hydraulically fractured and re-fractured will be dependent on the price of natural gas. The Commission’s experience is that only about 5 percent are re-fractured.

**The proposed rules lack the necessary flexibility with respect to the required use of green completions, particularly in the first several years after the effective date of the regulations.**

The feasibility of green completions is limited to certain circumstances. Green completions include the use of surface equipment specifically designed to separate the introduced fluids, proppant, hydrocarbon liquids, and gas – with the gas routed to a collection line for sales and the hydrocarbon liquids routed to on-site storage for sales. After hydraulic fracturing of a well, the well is allowed to flowback to clean the wellbore and formation. The flow rate up the well bore relies on the reservoir pressure being sufficiently high to overcome flowing friction losses up the well-bore, the weight of the vertical column of fluid in the well bore, surface equipment and piping pressure losses, and any collection system/flow-line back-pressure. When green completions are used, this resistance to flow is much higher than that observed in traditional

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completions, which can reduce the flow rate to values inadequate to lift liquids and solids from the wellbore. In the initial stages of flowback, most of the flow is fracturing fluids and proppant with little formation fluids or gas. As the well cleans up, more formation fluid and gas enters the well-bore and the fluid column in the well-bore becomes lighter with less back-pressure on the formation. Equipment and procedures for green completions also must be able to safely handle the high flow rate of fluid with abrasive proppant without damaging surface piping and/or equipment.

Green completions require the use of special equipment and trained personnel. The proposed rules assume that such equipment and personnel are readily available for the magnitude of drilling in active oil and gas fields in Texas and other states. The Commission disagrees that such equipment and personnel are readily available for the number of gas wells fractured or re-fractured in Texas.

In addition, any requirement for green completions could discourage the use of other emerging technologies. For example, green completions are not feasible with when air, carbon dioxide or nitrogen is used as the stimulation fluid because any gases produced from the wellbore must meet pipeline specifications after simple separation operations, which do not work for air and other inert gases.

And, green completions are not viable for reservoirs with low pressures. In order to overcome the back-pressure of the gathering line, the reservoir must have sufficient pressure to lift fluids out of the wellbore and adequately clean-up the formation. In addition, immediately after a hydraulic fracturing treatment, the flow-back often is predominantly fracture fluid and the well will not be able to flow to a pipeline until it has partially cleaned-up.

And finally, as EPA notes, collection of gas immediately after a hydraulic fracturing treatment is not feasible unless a gathering system is in place. Typically, such systems will be in place in situations where the well is an in-fill drill, where the risk of dry hole is very low, and the gathering system is in close proximity to the well.

EPA proposes that, where green completions cannot be used, emissions would be reduced through pit flaring. The Commission agrees that there are situations in which pit flaring would be unsafe and infeasible, such as where the operator encounters severe drought conditions, and/or an urban or suburban area.

**The proposed 30-day notification of a hydraulic fracturing treatment is excessive.**

The rules propose a 30-day advance notification requirement for natural gas well completions or re-completions that involve hydraulic fracturing. Owners or operators would be required to provide the anticipated date of the completion, along with other descriptive information. The Commission believes that the proposed 30-day notice requirement will result in substantial delay in completion of natural gas wells in Texas and unanticipated costs due to the high competition for specialized hydraulic fracturing services, equipment and personnel, as well as for “green completion” equipment and personnel, where required.

Commission information indicates that in 2010, 2,896 drilling permits were issued for new gas wells and 9,763 drilling permits for wells that targeted both oil and gas production. The Commission estimates that 85 percent, or 10,760, of those wells were hydraulically fractured. Therefore, competition for equipment and personnel for approximately 10,000 hydraulic fracturing treatments a year in Texas will be high, resulting in increased costs of the equipment

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and personnel and in delays caused by lack of such equipment and personnel. Owners and operators must have the flexibility to be able to contract for the services as soon as equipment and personnel become available.

**Potential costs of third-party verification.**

EPA has requested comment on third-party verification to complement the annual compliance certification required under the proposed NSPS to assure compliance. The Commission agrees that, as EPA stated, because the emission sources in the oil and natural gas sector, especially well completions, are widely geographically dispersed and often in very remote locations, compliance assurance can be very difficult and burdensome for state and EPA permitting staff, inspectors and compliance officers. Those same factors will make such third party verification costly to the regulated industry. This cost was not included in EPA's economic impact analysis. In addition, the Commission strongly disagrees with any requirement that EPA approve third-party verifiers, as this would likely result in added delay in drilling and production activities, with a resultant decrease in production.

**EPA underestimated the impact on small businesses.**

After considering the economic impact of the proposed NSPS on small entities, EPA certified that the proposed NSPS would not have a significant economic impact on a substantial number of small entities, based on EPA's conclusion that many affected firms are expected to receive revenues from the additional natural gas and condensate recovery resulting from certain emissions controls, particularly those for completion-related activities and vapor recovery units on storage tanks. In addition, EPA certified that the proposed NESHAP amendments would not have a significant economic impact on a substantial number of small entities.

The Commission believes that EPA has underestimated the overall number of affected facilities and the potential impact on small businesses. The proposed rules do not fully consider impacts of the proposed regulations on stripper oil wells or marginal gas wells in the State of Texas.

“Stripper well” or “marginal well” are terms generally used to describe wells that produce natural gas or oil at very low rates. The Interstate Oil and Gas Compact Commission defines a stripper oil well as one that produces less than 10 barrels of oil per day and a marginal gas well as a well that produces 60 thousand cubic feet or less of gas per day. Stripper wells represent a significant portion of the total number of oil and gas wells. The U.S. DOE estimates that there are over 340,000 of these wells in the U.S. and that together they produced 260 million barrels of oil (see <http://fossil.energy.gov/programs/oilgas/marginalwells/index.html> (accessed October 7, 2011)). EPA does state that “[W]hile marginal wells represent about 80 percent of the population of producing wells, they produce about 15 percent of domestic production..”

The following table, “Texas 2009 Distribution of Wells by Production Rate Bracket”, indicates that 79.4% of all Texas oil wells produced less than or equal to 10 barrels of crude oil per day in 2009. The production from those wells accounted for 30% of Texas' annual oil production. Although the average per well production was 2.4 barrels of oil per day, many of these stripper wells are connected to lease tank batteries that include storage vessels that would exceed the threshold throughput of 20 barrels per day. In addition, these tank batteries typically include a product storage tank, a produced water storage tank and treating vessels, which potentially could make many more of such tank batteries “major sources.”

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**Texas 2009 Distribution of Wells by Production Rate Bracket**

Prod. Rate Bracket (BOE/Day)	Oil Wells							Gas Wells						
	# of Oil Wells	% of Oil Wells	Annual Oil Prod. (Mbbbl)	% of Oil Prod.	Oil Rate per Well (bbl/Day)	Annual Gas Prod. (MMcf)	Gas Rate per Well (Mcf/Day)	# of Gas Wells	% of Gas Wells	Annual Gas Prod. (MMcf)	% of Gas Prod.	Gas Rate per Well (Mcf/Day)	Annual Oil Prod. (Mbbbl)	Oil Rate per Well (bbl/Day)
0 - 1	44,021	31.1	5,515.9	1.7	0.4	2,010.6	0.1	12,744	10.5	10,906.0	0.1	2.6	154.5	0.0
1 - 2	17,679	12.5	8,488.1	2.6	1.3	4,847.5	0.8	9,900	8.1	28,780.8	0.4	8.2	459.6	0.1
2 - 4	19,070	13.5	18,063.4	5.6	2.6	11,313.7	1.6	15,159	12.5	87,776.4	1.2	16.2	1,336.5	0.2
4 - 6	11,929	8.4	18,699.0	5.7	4.3	16,258.8	3.8	10,698	8.8	104,342.6	1.4	27.2	1,560.5	0.4
6 - 8	11,561	8.2	25,276.6	7.8	6.0	23,310.0	5.6	8,118	6.7	111,923.3	1.5	38.5	1,589.6	0.5
8 - 10	8,120	5.7	21,679.6	6.7	7.4	26,595.1	9.0	6,154	5.1	109,438.2	1.5	49.6	1,508.8	0.7
<b>Subtotal &lt;=10</b>	<b>112,380</b>	<b>79.4</b>	<b>97,722.6</b>	<b>30.0</b>	<b>2.4</b>	<b>84,335.6</b>	<b>2.1</b>	<b>62,773</b>	<b>51.7</b>	<b>453,167.2</b>	<b>6.2</b>	<b>20.5</b>	<b>6,609.6</b>	<b>0.3</b>
10 - 12	6,784	4.8	23,070.2	7.1	9.4	21,192.2	8.6	5,270	4.3	115,086.0	1.6	60.8	1,575.5	0.8
12 - 15	4,974	3.5	20,844.6	6.4	11.6	19,194.1	10.7	6,525	5.4	176,048.1	2.4	75.1	2,206.8	0.9
<b>Subtotal &lt;=15</b>	<b>124,138</b>	<b>87.7</b>	<b>141,637.5</b>	<b>43.5</b>	<b>3.2</b>	<b>124,721.9</b>	<b>2.8</b>	<b>74,568</b>	<b>61.4</b>	<b>744,301.3</b>	<b>10.2</b>	<b>28.3</b>	<b>10,391.9</b>	<b>0.4</b>
15 - 20	5,927	4.2	31,136.9	9.6	14.6	32,536.4	15.2	7,924	6.5	277,366.1	3.8	97.7	3,055.2	1.1
20 - 25	2,866	2.0	19,207.5	5.9	18.8	21,603.7	21.1	6,153	5.1	273,638.9	3.8	124.1	3,684.5	1.7
25 - 30	2,540	1.8	20,527.6	6.3	22.6	24,640.0	27.1	4,233	3.5	236,779.1	3.3	156.1	2,031.4	1.3
30 - 40	2,244	1.6	22,534.4	6.9	28.3	29,554.2	37.2	6,168	5.1	431,933.7	5.9	196.2	4,205.3	1.9
40 - 50	803	0.6	10,039.1	3.1	36.5	13,717.7	49.9	4,033	3.3	366,681.6	5.0	255.2	3,061.5	2.1
50 - 100	2,478	1.8	47,917.8	14.7	56.6	78,340.5	92.6	9,504	7.8	1,347,596.0	18.5	404.3	9,717.6	2.9
100 - 200	378	0.3	11,350.6	3.5	102.2	17,594.5	158.4	5,838	4.8	1,499,257.5	20.6	761.9	17,685.1	9.0
200 - 400	128	0.1	6,828.9	2.1	190.1	13,631.9	379.5	2,138	1.8	975,990.0	13.4	1,541.5	7,187.4	11.4
400 - 800	33	0.0	2,578.8	0.8	366.4	6,246.4	887.4	729	0.6	579,672.8	8.0	2,983.1	6,794.9	35.0
800 - 1600	6	0.0	1,161.2	0.4	795.3	3,605.2	2,469.3	177	0.1	285,013.6	3.9	6,048.0	3,650.4	77.5
1600 - 3200	21	0.0	10,401.7	3.2	1,357.0	17,831.5	2,326.3	57	0.0	188,261.2	2.6	12,167.9	1,774.6	114.7
3200 - 6400	0	0.0	0.0	0.0	0.0	0.0	0.0	8	0.0	56,763.2	0.8	21,204.0	655.5	244.9
6400 - 12800	0	0.0	0.0	0.0	0.0	0.0	0.0	4	0.0	13,733.1	0.2	28,026.8	1,012.3	2,065.9
> 12800	0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>141,562</b>	<b>100.0</b>	<b>325,321.9</b>	<b>100.0</b>	<b>6.4</b>	<b>384,023.9</b>	<b>7.6</b>	<b>121,534</b>	<b>100.0</b>	<b>7,276,987.8</b>	<b>100.0</b>	<b>170.3</b>	<b>74,907.6</b>	<b>1.8</b>

Notes:

- 1) State Government agencies and commercial sources provided base data.
- 2) The Reserves and Production Division, Office of Oil and Gas, EIA has reviewed and edited inaccurate production data.
- 3) To be consistent between states a GOR of 6,000 (cf/bbl) for each years production was used to classify wells.  
If the GOR was less than 6,000 (cf/bbl) the well was classed an oil well, greater than or equal 6,000 (cf/bbl) were gas wells.
- 4) To determine production rate brackets for the first and last year of a wells life the annual production was divided by the number of days in the productive months. For other years the annual production was divided by 365 or 366 days.
- 5) Gas volumes have been converted from the various state pressure bases to the Federal base (14.73 psia).

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[ftp://ftp.eia.doe.gov/pub/oil\\_gas/petrosystem/tx\\_table.html](ftp://ftp.eia.doe.gov/pub/oil_gas/petrosystem/tx_table.html)

As noted in the table, 79.4% – or 112,380 - of all Texas oil wells produced less than or equal to 10 barrels of crude oil per day in 2009. Stripper wells are generally owned or operated by small businesses, which are disproportionately adversely impacted by the costs of new regulation.

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In addition, the Regulatory Impact Analysis indicates that EPA analyzed firms that are involved in oil and natural gas extraction that are likely to drill and operate wells, while a subset are integrated firms involved in multiple segments of production, as well as retailing products; firms that primarily operate natural gas processing plants; and firms that primarily operate natural gas compression and pipeline transmission. However, the only business in which many of these small businesses engage in Texas is the operation of stripper oil wells and marginal gas wells. And, in its economic impact analysis of the impact of the rules, EPA included this group of small businesses with all small businesses engaged in the activities encompassed by the proposed rules (including gas processing, compressor stations, pipelines, etc.), thereby diluting the impact on this group of small businesses. Therefore, the Commission believes that the economic impact analysis fails to adequately demonstrate the full impact on this category of small businesses in Texas and many other states with a high percentage of stripper and marginal wells and a high percent of small businesses.

Any modification of a storage vessel would make the facility subject to the proposed regulations. The Commission disagrees with EPA's assumption that the estimated annual cost of a vapor recovery unit for a storage vessel at a stripper well or marginal gas well of \$18,983 or more, depending on the number of vessels at the well or tank battery, can be borne by such small businesses with stripper wells.

**The proposed regulations will result in a decrease in domestic oil and gas production.**

EPA states that the "analysis of energy impacts for the proposed NSPS that includes the additional product recovery shows that domestic natural gas production is estimated to increase (20 Bcf or 0.1%) and NG prices to decrease (\$0.04/Mcf or 0.9% at the wellhead for producers in the lower 48 states) in 2015, the year of analysis." EPA further states that "[d]omestic crude oil production is not estimated to change, while crude oil prices are estimated to decrease slightly (\$0.02/barrel or less than 0.1% at the wellhead for producers in the lower 48 states) in 2015, the year of analysis." The Commission disagrees with this statement. Imposition of the costs of additional regulation on small businesses and stripper/marginal well facilities without fully analyzing the potential impacts to this group, which produces 30 percent of Texas' crude oil, and considering the increased costs and delays likely to result because of the scarcity of equipment and personnel for hydraulic fracturing treatment of natural gas wells, is likely to result in a decrease in domestic oil and gas production.

**EPA's compliance date is unreasonable.**

Under EPA's proposed rules, owners or operators of oil and gas facilities that are newly built or modified after August 23, 2011, will be required to comply with the proposed rules upon startup. Therefore, the owner or operator of any gas well hydraulically fractured or re-fractured between August 23, 2011, and the effective date of the proposed rules would immediately be out of compliance with whatever final rules are adopted on the effective date. Although we understand that this is EPA's historical practice with respect to NSPS/NESHAP, we also understand that EPA is not required to hold to such practice.

In 2010, over 4,000 gas wells were completed in Texas (3,400 new completions and almost 600 re-completions). In addition, there are thousands of storage vessels at thousands of tank batteries, compressor stations, gas processing plants, and other potentially affected oil and gas facilities in the State of Texas. The Commission strongly encourages EPA to adopt more realistic compliance dates for the various requirements and standards.

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In addition, the proposed rules will negatively impact the drilling and hydraulic fracturing treatment on new and existing wells and production activities. Unless EPA proposes the phase-in of reasonable compliance dates, fierce competition for the limited supplies of the specialized equipment and personnel necessary for green completions and other emissions control equipment will drive up costs and result in a reduction in natural gas production in Texas and elsewhere.

**Produced water ponds and flowback ponds should not be included.**

EPA requested comment on whether or not to include emissions controls for “produced water ponds.” Because EPA does not define “produced water ponds,” it is not clear whether EPA is considering regulation of emissions from flow-back ponds, produced water evaporation ponds, or produced water collection ponds (prior to deep well injection). However, EPA states in the technical support document that “minimal amounts of emissions are caused by the fluid (mostly water) held in the impoundments or vessels since very little gas is dissolved in the fluid when it enters the impoundment or vessels.” Therefore, the Commission believes that no emissions controls should be required for such ponds. In addition, the Commission is not aware of any available technology to safely control emissions from such ponds.