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*Attorneys for Petitioners Western Energy Alliance and
the Independent Petroleum Association of America*

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF WYOMING**

STATE OF WYOMING, et al.,)	
)	
Petitioners,)	
)	Civil Case No. 2:16-cv-00285-SWS [Lead]
and)	
)	Consolidated with:
STATE OF NORTH DAKOTA, et al.,)	
)	Case No. 2:16-cv-00280-SWS
Intervenor-Petitioners,)	
)	Assigned: Hon. Scott W. Skavdahl
v.)	
)	
UNITED STATES DEPARTMENT OF THE)	
INTERIOR, et al.)	
)	
Respondents,)	
)	
and)	
)	
WYOMING OUTDOOR COUNCIL, et al.,)	
)	
Intervenor-Respondents.)	
)	

DECLARATION OF JOHN DUNHAM

I, John Dunham, do certify under penalty of perjury as follows:

1. I am Managing Partner of Guerrilla Economics, LLC, located at 32 Court Street, Suite 207, Brooklyn, New York 11201. I can be contacted at 212.239.2105.
2. I am over the age of twenty-one, and I have personal knowledge of the facts stated herein. If called upon to testify as to the matters set forth herein, I would be competent to do so.
3. I am a professional economist with an undergraduate degree from the University of Colorado, a master's degree in economics from the New School of Social Research, and a master's degree in business administration from Columbia University. I have operated an independent economic consulting firm since 2002 and have been qualified as an expert in a number of different cases in both State and Federal courts.
4. I am familiar with and knowledgeable about the compliance requirements under the Waste Prevention, Production Subject to Royalties, and Resource Conservation Rule, published at 81 Fed. Reg. 83,008 on November 18, 2016 (the "Rule").
5. In support of the Western Energy Alliance ("Alliance") and Independent Petroleum Association of America's ("IPAA") Motion for Preliminary Injunction I conducted an analysis of estimated compliance costs associated with sections 3179.201 (pneumatic controllers), 3179.202 (pneumatic pumps), 3179.203 (storage tanks), and 3179.301 (leak detection and repair) of the Rule. The analysis estimates costs incurred by operators from the present time until January 17, 2018 to inform the court as to the immediate costs being born by industry in the near-term. This analysis included informal estimates from Alliance members regarding expected compliance costs that will be

incurred to ensure compliance by January 17, 2018. These estimates come from 13 different companies, which together are responsible for about 38.8 percent of the impacted facilities and equipment. These data were not, however, significant at a level that would allow me to say that there is not sizable variability between the estimated and actual costs. In particular, estimates regarding variability in LDAR costs may be due to operators estimating near term costs associated with inspection and not subsequent repairs. If our prior estimates are used, the costs between now and January 17, 2018, for initial LDAR requirements are estimated to be \$3,736 per well and using the BLM's estimates, the costs for initial LDAR inspections are estimated to be as high as \$2,666 per well.

6. I estimate that the costs of the provisions of the Rule examined will impose on the industry would be in excess of \$115.0 million between now and January 17, 2018. This is based on an extrapolation of costs from the survey across the entire impacted industry. This extrapolation is based on the facility and equipment counts included in my earlier analysis, *Cost-Benefit Analysis of the Impact of Onshore Oil and Gas Leasing (43 CFR 3100)*, *Onshore Oil and Gas Operations (43 CFR 3600)*, *Royalty-Free Use of Lease Production (43 CFR 3178)*, and *Waste Prevention and Resource Conservation (43 CFR 3179)* dated April 12, 2016. The table below outlines the earlier cost estimates, along with the estimated costs of the Rule based on the survey data.

Estimated Costs Associated With The Rule

Impacted Component	Cost per Well	Number of Wells		Revised Cost	Revised Total	Pct Diff
		Impacted	Total Cost	Per Well	Cost	
Flaring (total including limits and metering)	\$73,583	1,111	\$81,750,713			
Well Completion	\$7,619	1,575	\$11,999,925			
Pneumatic Controllers	\$384	15,600	\$5,990,400	\$579	\$9,032,593	50.8%
Pneumatic Pumps	\$308	8,775	\$2,699,980	\$2,328	\$20,426,796	656.6%
Liquids Unloading	\$3,871	1,550	\$6,000,050			
Storage Tanks	\$20,625	3,200	\$66,000,000	\$17,907	\$57,303,458	-13.2%
LDAR	\$3,736	38,000	\$141,968,000	\$744	\$28,280,428	-80.1%
Administrative Burden	\$67	38,000	\$2,558,920			
Total	\$110,193		\$318,967,988	\$21,558	\$115,043,274	-63.9%

7. Using these new costs, to re-estimate the overall economic impact of the components of the proposed rule suggests that the imposition of these additional costs would result in a reduction of 1,800 potential new (or capped) oil wells. This would mean that about 16.9 million barrels of oil would not be produced from the BLM leaseholds.^[1]

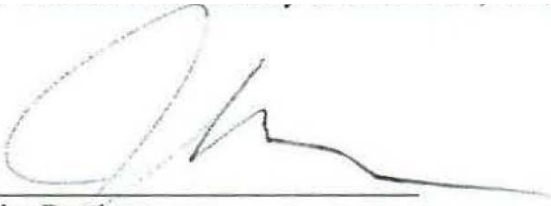
Projected Reductions Based on Select Components of the Rule

State	Estimated BLM Wells	Estimated Lost Wells (RIA)	Estimated Lost Wells	Well Loss Percent	Potential Lost Barrels of Oil (RIA)	Potential Lost Barrels of Oil
New Mexico	30,490	(476)	(643)	-2.11%	(4,369,454)	(5,906,036)
Colorado	6,878	(1,502)	(419)	-6.09%	(7,497,369)	(2,091,463)
Wyoming	31,647	(281)	(440)	-1.39%	(1,946,709)	(3,050,799)
Montana	2,819	(64)	(32)	-1.13%	(480,341)	(237,237)
Idaho	-	-	-	0.00%	-	-
Utah	8,909	(148)	(171)	-1.92%	(1,273,753)	(1,475,393)
Washington	-	-	-	0.00%	-	-
Oregon	-	-	-	0.00%	-	-
Arizona	2	(280)	(1)	-50.00%	(56,134)	(201)
Nevada	118	(27)	(27)	-22.90%	(186,231)	(189,347)
North Dakota	1,874	(52)	(60)	-3.20%	(3,429,550)	(3,923,827)
South Dakota	87	(8)	(2)	-2.23%	(2,290)	(525)
Nebraska	31	(31)	(5)	-17.01%	(24,849)	(4,227)
Total	82,855	(2,869)	(1,800)	-2.17%	(19,266,680)	(16,879,055)

8. Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the

^[1] Note that this is based on the number of active wells on Federal land at the time of the initial RIA.

foregoing is true and correct and was executed in Brooklyn, New York on this 27th day of October, 2017.



John Dunham

CERTIFICATE OF SERVICE

I hereby certify that on this 27th day of October, 2017, the foregoing Declaration of John Dunham was filed electronically with the Court, using the CM/ECF system, which sent a notice of electronic filing to all counsel of record.

s/ Samuel R. Yemington
