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**Subject:** Comments for the Record, re.  
 DSEIS – Pinedale Anticline Oil & Gas  
 Exploration and Development Project

**To:** Pinedale Regional Office of the BLM

This written comment conveys my input regarding the handling of the issues of air quality and visibility impairment by the Bureau of Land Management (BLM), by the State Air Quality Division of the Department of Environmental Quality and by the U.S. EPA.

With this letter I express my growing dissatisfaction over the clear failure of State and Federal regulators and BLM to address the problem early in its history and the resultant impacts that are now taking place. As a result of those failures, we are being confronted with a proposal by an operator, and advanced by BLM, to expand drilling on the Anticline by 4400 new wells over the next 20 years. The proposal, detailed in the Draft Supplemental Environmental Impact Statement for the Pinedale Anticline Expansion Project (SEIS) presents a litany of air quality and visibility impacts containing clear text admissions of past inadequacies and failures by BLM to correctly forecast the level of development on the Anticline, and to even follow through on original plans to restrict the number of drill rigs at any one time.<sup>1,2</sup> The SEIS document also admits to quantitative failures of the emissions modeling process and failure to apply the modeling process to the current level of development.<sup>3,4,5,8</sup>

In spite of these errors of judgment and science, the SEIS goes on to detail in page after page, plans by operators, backed by BLM, to expand operations using the same but clearly discredited air impacts modeling methods performed by the same contractor, who was selected by and is paid by industry.<sup>3,4,5</sup> The document recites a litany of unsupportable modeled emission results from three proposed alternatives (Alternative A: No Action Alternative, Alternative B: Proposed Alternative, and Alternative C) which are in fact only two alternatives because Alternative C and the Proposed Alternative have only a “geographical”<sup>6</sup> difference with no significant Air Quality Related Value (AQRV) differences. The SEIS details positive outcome based assumptions rooted in model predictions. Nowhere is there a proposal to require actual comprehensive instrument-based measurements of rig exhaust emissions of the entire fleet or even a statistical representation of the fleet.

The SEIS describes projected emissions reductions through the next decade which in<sup>2007</sup> light of the admitted errors in references 3,4,5 of predicted emission volumes, possess no credibility to those of us who have observed the growth of what we now call the “brown cloud.” Citizens have observed this cloud as it has grown and been photo<sup>2007</sup> documented since at least 2001. Furthermore, it did NOT migrate to us from another state; our collective powers of observation clearly revealed to us the coincidence of its growth with growth in drilling. Finally, the exceedence of ozone levels in the winters<sup>2007</sup> of 2005 and 2006 further testify to the failure of the modeling approach and<sup>2007</sup> the breakdown of scientific understanding of ozone behavior in our local environment.

BLM's self admitted refusal to control the growth of drilling in reference 2 has greatly contributed to the pollution problems here as have BLM's self admitted failures to properly anticipate the rate of growth in drilling which itself has been a consequence of BLM's refusal to slow the drilling activity until assessment/prediction skills can catch up. This control of growth had originally been a component intended to achieve BLM's own declared plans in earlier environmental assessments to prevent overall emissions impacts.

I further object to the fact that the SEIS declares that all future modeled emissions reductions shall be referenced against the first complete baseline data set of actual emissions measurements that were obtained in 2005<sup>7</sup>. This is unacceptable. I object firstly because state and federal regulators have evidently seen fit to adopt the 2005 baseline with no effort whatsoever to consult with local citizens who are having to live with the consequences.

Secondly, a 2005 baseline is unacceptable because the choice of that year is tangible proof of DEQ-AQD failure to pay heed to warnings much earlier that emissions monitoring was necessary. DEQ-AQD assured us in public forums that it was working to establish a monitoring network because there was a "need to establish the emissions actually being generated by gas operations." However, AQD moved too slowly on the effort while BLM's tacit support of operators allowed them to press on as fast as their availability of resources would support an increase in drilling. The result has thus taken the form of an attempt to codify an already high level of emissions in 2005, both project and non-project related, as the basis for all future comparisons.<sup>8,11,12,16</sup> Again, this is unacceptable.

I further wish to elaborate upon another unacceptable development proposal...the issue of increased compressor station emissions." The SEIS declares that three compressor stations are to be expanded through the year 2011 by 267,035 horsepower. Calculations of the NOx to be generated by this increase using the very numbers per horsepower-hour stated in the SEIS reveals that total tons per year will increase by an amount between 1790 tons per year (minimum) to 4344 tons per year (maximum). This is particularly insulting because statements a few pages earlier declare that NOx exceedence by all sources has occurred, and several pages later declares explicitly that the exceedence was 3512 tons per year.<sup>1,9</sup> Then two sections later, an innocuous sentence declares that "an additional 15,500 horsepower of new compression will be added yet again in the year 2015. Using the same numbers cited above, this equates to an additional 104 tons per year (minimum) to 252 tons per year (maximum). Compounding this scenario is the fact that the SEIS contains no provisions of any kind that specifically and explicitly address methods, time lines, or even requirements to reduce this class of emissions. In fact, the SEIS declares that rather than address specific sources of emissions, it will be left up to industry as to how overall emissions from all sources will be reduced and the unacceptable result of that is the focus by the SEIS upon reduction of drilling related emissions only.<sup>15,17</sup>

I continue to object to the source from which wind history data is drawn and to the manner in which wind history data is used in the modeling process. In text passages and table footnotes, the source of wind data is declared to be B.P America's meteorological site located southeast of the PAPA.<sup>18,19,20,21</sup> This statement claims the site to be the "closest comprehensive" location of wind measurements which is a false

statement. The Big Piney Airport is such a site and poses more credibility due to its federal ownership and aviation support purpose. Furthermore, the data from the operator site is "...averaged from 1999 through 2003..." a practice that should be discontinued in favor of no more than monthly averaging. To do annual averaging masks important monthly wind behavior histories relevant to the Class I airsheds and if actually done over the 5-year period as seems to be stated, ignores year-to-year variations that should be taken into account. The statement citing wind influence upon transport and dispersion of air pollutants clearly supports the need for more time resolved data usage.<sup>22</sup>

Section 3.11.1 contains a statement declaring without justification that although air quality monitoring has not been conducted for the PAPA, regional pollutant monitoring "...has been determined to be representative of the PAPA." Just what is meant by "regional?" Does the term refer to the local "region" or does it refer to the multi-state modeled region? The exceedence of NOx cited in other sections contradicts the "representative" assertion. The weakness of the assertion is further supported by a statement later which declares again that natural gas development within the PAPA has outrun the analysis done for the PAPA DEIS.<sup>23</sup> Following this statement, there is a discussion of "NO emissions" and inventories of criteria pollutants which first describes the inventory as "estimated," then two paragraphs later as "actual," and one more paragraph later as "actual emission estimates."<sup>24,25,26</sup> I submit that there is no such thing as an "actual estimated" quantity. Additionally, these inventories are derived in considerable measure from calculational methods prescribed by EPA and imposed upon operators. There is good reason to be skeptical that this mathematical approach is correct for the local altitude and geographical setting represented by Sublette County.

The list of failures admitted by BLM in the SEIS is a strong argument for restriction of the pace of drilling. Again, the SEIS cites the fact that the PAPA DEIS (BLM 1999a) would have limited the pace of drilling to no more than five rigs in the PAPA at any one time but a few sentences later evades the commitment using an escape clause by pleading "administrative difficulty" in doing so.<sup>27,28</sup> It then confesses to the decision to place no limits at all on rig numbers, arguing for operators need to utilize a nebulous window of opportunity.<sup>29</sup> That statement established again BLM's assumption of an advocacy role for industry and abandonment of its role of independent steward of public lands.

The cumulative impacts modeling discussion in Section 4.9.4 and subsections are, for all the reasons described in previous pages, nonsense. The predictions of visibility impacts for mid-field communities as well as Class I and Class II areas enumerated in the SEIS are already being outrun by reality. The modelers need to emerge from their computer **virtual reality** and get into the field to sample **actual reality** in this region in order to give themselves a sanity check. Finally, mitigation Phase I and Phase II although appearing to offer impressive improvements, nevertheless are founded on unreliable modeling inputs and ultimately depend upon enforcement interpretation by managers who have already abrogated commitments made in earlier documents cited in previous pages herein.

The concluding paragraphs contained in Section 4.9.5 ultimately destroy the veracity of all the predictive discussions that preceded. Alternative C Phase I Mitigation

requirements are tied to “the ROD” but BLM has a history of violating its declared ROD requirements through subsequent administrative retreats.<sup>30</sup> Furthermore, in the Jonah EIS exercise, BLM verbally pleaded that it has no authority to actually require operators to take specific actions even though it had listed various mitigation requirements. Also, and again, visibility impact reductions are framed in the context of **modeled** judgments and not empirical data. It is stated that operators would be required to “..show a reduction in **modeled** visibility impacts to 2005 actual levels”<sup>30</sup> [*a baseline already stated in this comment letter to be unacceptable*] The statement that reduction in **modeled** impacts to 2005 levels would effectively mitigate potential increases in visibility impacts for the proposed action alternative have no basis in empirical scientific fact;<sup>31</sup> it is instead arm waving and a statement of “trust me.” The statement containing the phrase “The objective would be...” carries no enforceable weight and the term “minimal” has no quantitative meaning.<sup>32</sup> The statement that “...existing compression in the PAPA is BACT...”<sup>33</sup> means nothing in light of the increases in compression discussed previously. BACT in the current context of the Anticline “infill” will probably prove inadequate because the BACT mitigation will likely be overpowered by the increases. Next, it is stated that predicted impact reduction is based upon reduction of drilling rig emissions but that operators “would be able” to reduce emissions from any source.<sup>17</sup> These words have no regulatory authority and constitute little more than a timid attempt to offer industry a discretionary option which they may adopt or reject at their whim. Lastly, the statement that mitigation is based upon impact reduction rather than reduction in specific emissions is an oxymoron;<sup>17</sup> impact reduction cannot happen without reductions of specific emissions.

The supplemental report on ozone modeling is dubious for all the same reasons given previously and will not be repeated here. Additionally, Section 2.2 contains the statement that “nearly” all completions in Sublette County are now “green.”<sup>34</sup> This statement is false and misleading. In fact, the green completion rule is applicable only to the Jonah and Anticline. According to DEQ, completions in the Big Piney/Labarge fields are not constrained. Furthermore, actual completion emission reports submitted to DEQ by operators for the period of July 2005 through August 2006 reveal that a total of 222 completions were executed of which only 51, all by one operator, were green completions. The other operators, for which reports were provided, accounted for the remainder of completions, all of which were flared completions. Finally, these reports were missing for at least two other major operators on the Mesa so the just cited statistics are incomplete.

\* \* \* \* \*

In the final analysis, history of the past four years has shown that BLM and Wyoming DEQ have consistently invoked EPA and existing State regulations as justification to either take no action or take action that so strictly follows the narrowest interpretation possible that impacts already accumulated by project related emissions have become imbedded in evaluation and analysis methodologies. This practice is inappropriate and must be corrected.

#### Necessary Corrective Actions

It must be recognized that EPA regulatory guidance is a “one size fits all” methodology requiring fine-tuning in certain locales. The Upper Green River Valley

region is such a locale where fine-tuning is long overdue. Accordingly, the following corrective actions must be considered and implemented:

- AQ-1  
I-22-1

  - BLM must impose more stringent pollution impact limits that will be more effective in protecting Sublette County and the seven Class I airsheds surrounding Sublette County.
- AQ-2  
I-22-2

  - State regulators and Federal regulators were slow to address growing Sublette County air quality and visibility impacts by gas development from 2000 through 2004. Therefore, 2005 impairment levels are currently being proposed as the baseline. These levels must not be used in their entirety; a more relevant level might be 20% of those impairment levels.
- AQ-3  
I-22-3

  - State and Federal regulators and BLM must abandon further sole reliance upon industry financed computer modeling as justification for disproved positive-outcome-based assertions that air quality and visibility impairments will improve.
- AQ-4  
I-22-4

  - BLM must direct operators to require TRC to use meteorological data and wind history from the closest federally operated observation station, which is the Big Piney Airport AMOS facility; current reliance upon B.P. America MET data is inappropriate given the vested interest of operators in the outcome.
- AQ-5  
I-22-5

  - BLM must contract an independent third party, fluent with CALPUFF, to review all switch settings and inputs applied by TRC for the purpose of certifying that all output predictions are in fact legitimate and scientifically defensible.
- AQ-6  
I-22-6

  - State and Federal regulators and BLM must exert more direct enforcement oversight with regard to use of well completion flaring. To date, at least one operator is using well completion flaring with impunity.
- AQ-7  
I-22-7

  - State and Federal regulators and BLM must levy a requirement upon operators to undertake a life-of-project, instrument-based measurement and reporting program designed to collect actual emissions measurements from exhaust stacks of drill rigs and other combustion devices.
- AQ-8  
I-22-8

  - State and Federal regulators and BLM must cease using arguments that current actual emissions as well as modeled emissions are legal because they do not breach "PSD increments" and "ambient air quality standards." Local citizens do not accept the premise that we must accept the "brown cloud" because it has not yet exceeded legal limits nor consumed PSD increments.
- AQ-9  
I-22-9

  - BLM must slow the rate of gas field development until emissions reduction technology can catch up. To date, industry has implemented only limited emissions reduction methods while pressing for accelerated rates of drilling.

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## References

1. "Since the PAPA ROD (BLM, 2000b) was issued, natural gas development within the PAPA has occurred at a faster pace than was analyzed in the PAPA DEIS (BLM, 1999a)." [Sections 2.3.1.3, 3.11.2]
2. "Restrictions on numbers of drilling rigs, present at any time within the PAPA were not carried forward from the PAPA DEIS (BLM, 1999a) and the PAPA FEIS (BLM, 2000a) to the PAPA SOD (BLM, 2000b). BLM concluded that limiting the number of rigs (on federal and nonfederal lands and minerals, combined) would be difficult to manage." [Section 2.3.3]
3. "Subsequent NEPA analysis (BLM, 2004a) disclosed that the NOx emissions from all sources in the PAPA had exceeded the 693.50 tpy analysis threshold specified in the PAPA ROD, mostly due to the increased number of drilling rigs." [Section 2.3.1.3]
4. "Since the PAPA ROD (BLM, 2000b) was issued, natural gas development within the PAPA has occurred at a pace greater than was analyzed in the PAPA EIS. **Assumptions of drill rig emissions and NO<sub>x</sub> emissions from the combination of construction/drilling, well production, and compression have been exceeded.**" [Section 2.4.2.2]
5. "The NOx emissions from all sources operating in the PAPA during year 2005 were estimated at **3,512.4 tpy** which exceeds the **693.5 tpy analysis threshold** specified in the PAPA ROD (BLM, 2000b). [Section 3.11.2]
6. "Although Alternative C is similar to the Proposed Action in that it includes the same project components, it is different from the Proposed Action, **geographically**". [Section 2.4.2.4]
7. "Many of the air quality monitoring data presented in Section 3.11.1 are representative of year 2005, and therefore, include some level of pollutant impacts resulting from well field activities that occurred within the PAPA during 2005. [Section 3.11.2]
8. "However, air quality impact analysis modeling has not been performed **for the current level of development. Due to concerns that the monitoring network may not be sufficient for quantifying the maximum impacts that occur from the PAPA, modeling has been performed to estimate the air quality impacts of the year 2005 for PAPA wellfield activities.**" [Section 3.11.2]
9. "The NO<sub>x</sub> emissions from all sources operating in the PAPA during year 2005 were estimated at **3,512.4 tpy** which exceeds the **693.5 tpy analysis threshold** specified in the PAPA ROD (BLM, 2000b)." [Section 3.11.2]
10. "The WDEQ-AQD requested a method that uses representative monitoring data, for the quarterly average of the 20 percent best visibility days, collected from the IMPROVE network for the time period (2000 to 2004). This coincides with the time period that will be used to establish "baseline conditions" under the EPA Regional Haze Rule (EPA, 2003a)." [Sections 4.9.3.1, 4.9.4]
11. "Phase I Mitigation is based on **Year-2005** actual project emissions and the source locations of PAPA development activities that occurred **during 2005**. The analysis assumes Year-2005 actual emissions levels combined with the estimated PAPA source locations for Year-2009."  
 "Phase II Mitigation includes **Year-2005 actual emissions** levels with an additional 80 percent reduction in drilling rig emissions combined with the estimated source locations for Year-2009." [Section 4.9.3.4 Alternative C]
12. "The cumulative study considers **2005 as a baseline year for emissions from non-project sources due to the availability of background air quality data for 2005** measured within and nearby the PAPA. The cumulative analysis assesses potential impacts to air quality that could occur beyond 2005 levels." [Section 4.9.4]

13. "The U.S. Congress (through the Clean Air Act Section 116) also authorizes local, state, and tribal air quality regulatory agencies to establish air pollution control requirements of equal or greater stringency than federal requirements." [Section 4.9.3.1]
14. "Ancillary Facilities: Compressor Stations. In addition to the compression included in Section 2.4.2.1 (Components Common to All Alternatives), QGM is proposing to install an additional 15,500 hp of compression at the Pinedale/Gobblers Knob Compressor Station in 2015. Combined, the Proposed Action includes 282,538 hp of new compression, all to be located at the existing compressor stations. [Section 2.4.2.3]
15. "Currently, WDEQ-AQD does not have specific rules regulating greenhouse gas emissions, and although greenhouse gas emissions are a concern they were not analyzed in this Draft SEIS." [Section 4.9.3.1]
16. "Within 1 year of issuance of the ROD, Operators would be required to show a reduction in modeled visibility impacts to 2005 actual impact levels." [Section 4.9.5]
17. "Predicted impact reduction by modeling is based on a reduction in drilling rig emissions, however, operators would be able to reduce emissions from any source. The objective for mitigation is based on impact reduction (reduction in predicted visibility impairment) rather than reduction in specific emissions, such as NO<sub>x</sub>." [Section 4.9.5]
18. "The closest comprehensive wind measurements were collected in the Jonah Field Project Area adjacent to the southeast corner of the PAPA at a meteorological station operated by BP America from 1999 through 2003. [Section 3.3]
19. Table 3.3.2, Untitled, Tabulates a summary of wind direction frequency. [Section 3.3]
20. Table 3.3-3, "Distribution of wind speeds in the vicinity of the PAPA averaged from 1999 through 2003." [Section 3.3]
21. Table 3.11-3, "Atmospheric stability class distribution averaged from 1999 through 2003." [Section 3.3]
23. "Since issuance of the PAPA ROD (BLM 2000b) in July 2000, natural gas development within the PAPA has occurred at a pace greater than was analyzed in the PAPA DEIS." [Section 3.11.1]
24. "The NO emissions from all sources operating in the PAPA during year 2005 were estimated at 5,512.4 tpy which exceeds the 693.5 tpy threshold specified in the PAPA ROD (BLM 2000b)."
25. "An inventory of actual criteria pollutant and hazardous air pollutant (HAP) emissions from construction (due to potential surface disturbance by earthmoving equipment, vehicle traffic, fugitive dust, well completion and testing, and drill rig and vehicle engine exhaust) production (production equipment, compression engine exhausts, vehicle traffic engine exhausts, and fugitive dust), and other ancillary facilities was developed for year 2005." [Section 3.11.2]
26. The year 2005 air quality analysis utilized the actual emissions estimates and the EPA CALMET/CALPUFF modeling system to predict maximum potential air quality impacts at mandatory federal PSD Class I and other sensitive PSD Class II areas (far-field locations)... [Section 3.11.2]
27. "...the PAPA DEIS (BLM 1999a)...would have limited the pace of development by allowing no more than five drilling rigs operating on the PAPA at any one time." [Section 4.1]
28. "BLM has concluded that to limit the number of rigs working in the PAPA at any one time ( on Federal and non-Federal lands and minerals combined) would be extremely difficult Administratively." [Section 4.1]
29. "Therefore BLM will place no restrictions on the number of rigs drilling within the PAPA at any one time. The operator must be able to take advantage of the drilling window available." [Section 4.1]

30. "Within 1 year of issuance of the ROD, Operators would be required to show a reduction in modeled visibility to 2005 actual impact levels." [Section 4.9.5]
31. "The reduction of modeled air quality impacts to 2005 levels would effectively mitigate the potential increase in visibility impacts for the Proposed Action." [Section 4.9.5]
32. "The objective for Alternative C Phase II mitigation would be to achieve minimal days of predicted visibility impairment over 1.0 dv at the bridger Wilderness Area,..." [Section 4.9.5]
33. "Existing compression in the PAPA is BACT..." [Section 4.9.5]
34. "Nearly all completions in Sublette County are now "green completions" requiring no flaring unless an upset or emergency condition is encountered." [Section 2.2]

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