

## Air Quality Stakeholder Review: Comment & Response

Document: Moxa Arch DEIS – Air Quality Sections

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Date: day month year: 11/28/07 – 1/10/08

#	Section	Page	Stakeholder Comment	BLM Response
1	3.1.2.1	3-5	“In addition, non-reference method monitoring systems are operational, including the <i>Clean Air Status and Trends Network</i> (CASTNet) and <i>Wyoming Air Resources Monitoring System</i> (WARMS). Data from these systems have been determined to be representative of the Project Area.” Determined by whom? <u>Do we have a reference or cite?</u>	
2	3.1.2.1	3-5	“...and Class II areas (wilderness areas with protected air quality status due to their sensitive condition).” <u>All areas of the country that are not Class I are Class II, not just wilderness, but everything.</u>	
3	3.1.2.2	3-8	“The CAA gives federal <u>land</u> managers the affirmative responsibility, but no regulatory authority...”	
4	3.1.2.2	3-8	“PSD <u>Class I</u> increments limit air quality degradation and ensure that areas with clean air continue to meet NAAQS, even during economic development.” <u>There are many Class II areas (Los Angeles, Houston, etc.) that have horrendous air quality, but are still Class II areas.</u>	
5	3.1.2.2	3-8	“Several additional areas are classified as PSD Class II, where <u>lower higher</u> incremental air quality limits are imposed due to less pristine background air quality.” <u>Class II increments are higher than Class I.</u>	
6	3.1.2.2	3-10	“Visibility is quantified in terms of the deciview (dv), which is defined as <u>a change in visibility that is perceptible to the average human, an index that is approximately linear with respect to changes as perceived by human senses, similar to the decibel scale used in acoustics. A change of 1.0dv is</u>	

			<p><u>generally considered the lower limit at which humans can perceive a change in visibility. Also used is the</u> standard visible range (SVR), which is defined as <del>the distance that an average human can see</del> <u>defined as the greatest distance at which a large black object can be seen and recognized against the background sky.</u> Visibility data are calculated <u>or measured</u> for each day, ranked from cleanest to haziest, and reported into three categories:”</p>	
7	3.1.2.3	3-12	<p>“A voluntary level of concern for a decrease in pH levels in rainwater has been estimated to be 0.1–0.2 (U.S. Department of Agriculture 1989).” <u>I suggest removing this statement. We don’t do pH calculations as a part of the analysis, and this statement might lead someone to expect just that.</u></p>	
8	3.1.2.3	3-15	<p>“The USFS considers lakes with ANC values greater than 25 microequivalents per liter (µeq/l) to be sensitive to atmospheric deposition and lakes with ANC values less than or equal to 25 µeq/l are considered extremely sensitive.” <u>This is not consistent with similar text on pg 3-13. Please make consistent.</u></p>	
9	4.2.1	4-3	<p>“• Far-Field Direct Project Impact Analysis. Assessment of far-field air quality concentration <u>(including ozone)</u> and AQRV impacts resulting from proposed Project activities.  <del>• Far-Field Direct Project Impact Analysis. Assessment of far-field ozone concentration impacts resulting from proposed Project activities.</del>” <u>Second bullet is redundant. Also, this would change from ten to nine the number in the last sentence at the bottom of page 4-2.</u></p>	
10	4.2.1.1.1	4-3	<p>“As a conservative assumption, completion flaring operations were assumed to occur at all of the wells under construction and compression was included.” <u>Including compression is NOT a conservative assumption. Please re-write.</u></p>	
11	4.2.1.2.1	4-4	<p>“AERMOD was run using one year of AERMET preprocessed MAA meteorological data...” <u>Please include location and year of met data used, or refer reader to appropriate section. Also, is</u></p>	

			<u>this considered “on-site” met data? I assume it is since only 1 year was used, but we should still state it explicitly.</u>	
12	4.2.1.2.2	4-4	“...completion flaring and venting (BTEX and <del>n</del> hexane <del>n</del> -hexane),...”	
13	4.2.1.3.3	4-7	“Also, because the RFD sources are highly speculative, a scenario that consists of the Project alternatives plus all cumulative emissions less the RFD sources is also analyzed. <u>My understanding is that if a source is “highly speculative”, it should NOT be included in the RFD to being with. Therefore, this sentence s/b removed.</u>	
14	4.2.1.3.4	4-7	<u>NOC DRS Air Quality staff do not support the use of Forest Service DATs in any BLM air quality analysis.</u>	
15	4.2.1.3.4	4-7	“...however, in the absence of alternative FLM-approved and <u>peer-reviewed</u> values, comparisons with these values were made.”	
16	4.2.1.3.5	4-7	<u>See comment #8. Lakes &gt;10 ueq/l are VERY sensitive and &lt;10 are EXTREMELY sensitive. See pg 3-13.</u>	
17	4.2.1.3.6	4-8	“...thresholds of concern are defined as <b>5%</b> and...” <u>Results vs. the 5% threshold should only be discussed in the TSD as it is included as a courtesy to other FLM’s and will not be used when and if mitigation is considered.</u>	
18	4.2.1.3.7	4-8	“For this study, the CAMx model was selected for the following reasons:...” <u>Some of the bullets following this statement are <b>WAY too technical</b> for the main EIS. This type of information s/b confined to the TSD or significantly re-written for the EIS.</u>	
19	4.2.2.1.1	4-9	“...(PM10, PM2.5, CO, NO2, and SO2) exceed the applicable WAAQS or NAAQS standards <u>plus applicable background</u> ...”	
20	4.2.3.2.2	4-12	“For the Project alternatives plus the cumulative emissions, the estimated S deposition is well below the NPS DAT for all three years of modeling and all Class I areas (Appendix C, Table 4-15).” <u>Section 4.2.1.3.4 states that on direct project impacts w/b compared to the DATs, while cumulative impacts w/b compared to the Fox values. This is proper if the DATs are used.</u>	

			<u>Therefore, this sentence is incorrect and ALL tables making such a comparison MUST be removed or edited appropriately.</u>	
21	4.2.3.2.2	4-12	“The total N deposition at several of the Class I areas caused by the combination of the alternatives and cumulative emissions exceeds the NPS DAT. The maximum estimated annual N at any Class I area for the Project plus cumulative emissions occurs at the Bridger Class I area for 2001 with values of 0.031, 0.034 and 0.029 kg/ha/yr are estimated for the Proposed Action , Alternative C, and Alternative A/No Action, respectively. Values for Alternative B would likely fall in the range of conditions between the Proposed Action and Alternative C.” See previous comment. All this text and related text and tables MUST be removed/edited.	
22	4.2.3.2.3	4-12	<p>“The Upper Frozen Lake in the Bridger Wilderness Area is the only lake starting with 10% ANC &lt; 25 µeq/l for which we have ANC calculations, and a change in ANC greater than 1% may be a cause for concern.” <u>The thresholds for ANC are as follows:</u></p> <p><i>These values were first compared to a 10-percent change in ANC for lakes with background ANC values equal to or greater than 25 microequivalents per liter (µeq/l). For lakes with background ANC values less than 25 µeq/l, the threshold was no more than one µeq/l total change in ANC.”</i></p> <p><u>Therefore, results for Upper Frozen and Lazy Boy lakes s/b presented as µeq/l, not as % change, for proper comparison w/ the threshold of concern.</u></p>	
23	4.2.3.2.3	4-12	“Thus, the project emissions plus the cumulative emissions may impact ANC at the Upper Frozen Lake for all alternatives.” See comment #22. <u>We can NOT say this w/o expressing the results in µeq/l.</u>	
24			“Estimates for the Proposed Action indicate that between 1 and 3 days across 3 years at Bridger (0.09% to 0.3% of the time) exceed this threshold <b>using the 4 methods.</b> ” <u>Only the BLM</u>	

			<u>results s/b in the EIS. Results for the other methods s/b confined to the TSD. I believe to do otherwise is confusing for the general reader.</u>
25	4.2.3.3	4-13	“Thus the No Action alternative would <u>likely</u> have lower <u>potential</u> ozone <u>impacts</u> than the Proposed Action alternative so would also not jeopardize compliance with the 8-hour ozone NAAQS.” <u>Impacts should <b>always</b> be qualified as “potential” or “potentially significant” or “potentially significant adverse”.</u>
26	4.2.3.3	4-13	“The maximum ozone <b>increment</b> near the Project due to the Proposed Action alternative was 2.5 ppb.” <u>There is no PSD increment for ozone. Please re-phrase. It may seem nitpicking, but words like “increment” have significant meaning and cannot be used loosely. See next sentence also.</u>
27	4.2.5	4-13	“ANC values for Upper Frozen Lake exceed the significance threshold. Mitigation would likely do little to immediately reduce the potential ANC issues in Upper Frozen Lake. All alternatives, including the No Action are well above the significance threshold and implementation of mitigation in the MAA would do little to reverse this. However, operators should phase in cleaner drilling rigs and equipment to reduce the emissions from oil and gas development activities.” <u>See previous comments on ANC and expression of results (#’s 22, 23).</u>

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28	1.1	C-1	“...and Dinosaur National Monument (Federal Class II, Colorado Class I <u>[SO2 only]</u> ).”
29	2.1.1	C-5	“Table 2-1 shows a summary of single-well construction emissions for both straight and directionally drilled wells.” <u>I only see one set of emissions, not two. Are saying the straight and directional drill rig emissions are the same? If so, please state it and explain why. If not, provide the other set of emissions. Also, which is now in the table – straight or directional? Finally, why are there columns for TPY for all pollutants except PM10?</u>
30	2.11	C-5	Table 2-1; footnote “* <b>Aermod</b> <b>AERMOD</b> is the EPA’s <b>proposed</b>

			<u>preferred/recommended near-field (w/in 50 km of source) dispersion model.</u>	
31	2.1.2	C-6	“HAPs and VOC emissions would occur from fugitive equipment leaks (i.e., valves, flanges, connections, pump seals, and opened lines)... Emissions from these sources were provided by the Operators.” <u>There is an EPA-approved method for calculating equipment leaks (<a href="http://www.epa.gov/ttn/chief/eiip/techreport/volume02/ii04.pdf">http://www.epa.gov/ttn/chief/eiip/techreport/volume02/ii04.pdf</a>). Did the operators use this methodology, or something else? Please provide further information.</u>	
32	2.1.2	C-6	“To be conservative, it was assumed that one central compressor (50,000 hp) and one wellhead compressor ( <b>200 hp</b> ), which are assumed to occur every 32 wells ( <b>200-hp</b> ), could occur on the hypothetical well pad.”	
<b>33</b>	<b>2.1.3</b>	<b>C-7</b>	“As a conservative assumption, completion flaring operations were assumed to occur at all of the wells under construction and compression was included.” <u>Including compression is <b>NOT</b> a conservative assumption. Please re-write.</u>	
34	2.2.2	C-8	“Actual emissions were used if a minimum of one year of actual data <b>are were</b> available.”	
35	2.2.2	C-8	“Mobile source emissions not directly resulting from the proposed action, as well as biogenic sources, urban sources, and other <b>nonindustrial non-industrial</b> emission sources, were assumed to be included in monitored background concentrations and were not included <u>explicitly in the modeling</u> for this analysis.”	
36	2.2.3	C-8	“Emissions were calculated by estimating well emissions.” What, exactly does this mean? As written, it is twaddle. Please re-phrase.	
37	2.2.4	C-9	“All development areas were reviewed for inclusion, and those projects with significant pollutant emissions during production” <u>What is “significant” in this context, who determined it and how?</u>	
38			<u>Thanks for including Fig. 2-1. It s/b in all of our air docs.</u>	
39	3.1	C-10	“...AERMOD (version 02222)...” <u>Is this correct? It seems</u>	

			<u>awfully old, and it looks especially bad to the reader. If it is correct, provide a brief explanation as to why this version was used. It would seem the most recent version (07026) would have been available.</u>	
40	3.2	C-10	“One year of surface meteorological data, collected in the Jonah area...” <u>Can we be more specific on where the data was collected?</u>	
41	3.4	C-12	Table 3-.2: <ul style="list-style-type: none"> <li>• <u>Remove the SILs column and any mention of it in the text. These are only relevant for a PICA and are hence irrelevant for this analysis. This was commented on in my review of the modeling protocol and was obviously not addressed then. ADDRESS IT NOW!</u></li> <li>• <u>The line enclosing the top of the table is missing in my electronic copy (.pdf).</u></li> </ul>	
42	3.4	C-13	“The EPA's <b>proposed preferred/recommended</b> guideline dispersion model, AERMOD,...”	
43	3.4.1	C-14	“Emissions associated with temporary construction activities do not consume PSD Increment; therefore, temporary PM <sub>10</sub> emissions from well pad and road construction are excluded from increment consumption analyses.” <b>NO, NO, NO!!!</b> <u>We are NOT doing an ICA in any way, shape, form or fashion. Get ANY text like this out of the document immediately! This is NOT a request, and it is NOT negotiable; this MUST be done.</u>	
44	3.5	C-18	“Receptor grids using 100-m spacing were placed at the nearest residential locations <b>along the town of Granger of the MAA.</b> ” This be no good English. Please fix.	
45	3.5	C-18,19	“Because no RELs are available for ethylbenzene and n-hexane, the available Immediately Dangerous to Life or Health (IDLH) values were used.” <u>The IDLH/10 s/b used when no REL is available. For ethylbenzene, the IDLH/10 is 350 mg/m<sup>3</sup>, and for n-hexane, it is 390 mg/m<sup>3</sup> Mult. By 1000 for micrograms. Note that the values listed by EPA (2002) are already divided by 10.</u>	

46	3.5	C-20	<p>“A single area source was used for modeling completion venting and flaring and...” <u>Why was an area source used for flaring emissions? This is inappropriate due to a great amount of thermal buoyancy inherent in such a source, which an AERMOD area source will not capture. Hence, impacts could be grossly over-estimated. This is beyond conservative and s/b changed if any potentially sig. impacts result.</u></p>	
47	3.5	C-20	<p>“In addition, formaldehyde impacts at Granger are shown to be below the RfC thresholds when Project source impacts <b>are combined with regional source impacts.</b>” This is absolutely NOT appropriate. HAPs analyses s/b for near-field only.  <b>Remove any and all references and data</b> related to combining near-field and regional impacts for HAPs.</p> <p>No mention is made in the version of the protocol I have (1/4/07) of doing this combining and it all s/b <b>removed immediately.</b></p>	
48	3.5	C-20	<p>“This analysis presents the potential incremental risk from <u>project sources only</u> <del>these pollutants</del>, and does not represent a total risk analysis.”</p>	
49		C-		
50		C-		
51		C-		
52		C-		
53		C-		
54		C		
55		C-		
56		C-		
57		C-		
58		C-		
59		C-		
60		C-		
61		C-		
62		C-		

63		C-		
64		C-		
65		C-		

General comments & notes:

- Underlined text is from me; text in quotes is from document
- Be sure to be consistent w/ verb tenses. The analysis s/b spoken of the past tense, as it has been completed. (See comment #34)
-