September 10, 2008

Mr. David A. Finley, Administrator
Division of Air Quality
Department of Environmental Quality
122 West 25th Street, Herschler Bldg.
Cheyenne, WY 82002

Re: AP-6044, FMC Wyoming Corporation Granger Facility

Dear Mr. Finley:

Please accept these comments from the Wyoming Outdoor Council regarding the above-referenced Best Available Retrofit Technology (BART) permit analysis for the FMC Wyoming Corporation Granger Facility. This facility is a sodium products plant located in Sweetwater County near the town of Green River.

In the permit analysis, the Wyoming Department of Environmental Quality (DEQ) concludes that "the two BART-eligible units at the FMC Wyoming Granger facility are not "subject" to BART and no additional controls [will be] required to address visibility impacts in Class I areas."[1] For the reasons that follow we do not believe the DEQ's proposal to eliminate this facility from implementation of BART to comply with the EPA's regional haze rule is supported in the permit analysis, and therefore we feel the DEQ should revisit this decision.

1. Receptors Are Not Adequately Identified.

The DEQ reached its decision to exclude the Granger Facility from compliance with the regional haze rule BART requirements based on a refined modeling analysis that was claimed to show the facility did not "contribute" to visibility impairment in either the Bridger Wilderness Area or the Fitzpatrick Wilderness Area, two Class I areas located northeast of the plant. More specifically, this decision was based on a claim that the 98th percentile daily change in visibility in these areas due to air pollution from this plant would be less than 0.5 deciviews (dv). The DEQ claims in the permit analysis that changes in visibility in the Bridger Wilderness Area would range from 0.260 dv to 0.390 dv and changes in the Fitzpatrick Wilderness Area would range from 0.137 dv to 0.201 dv, which are below the 0.5 dv "contributes" standard in the Wyoming Air Quality Standards and Regulations (WAQSR). We do not feel these claims are supported in the permit analysis because the receptors where these changes would occur are not adequately identified.

Most importantly, we do not believe the permit analysis provides information sufficient to demonstrate that appropriate receptors were modeled in the Bridger Wilderness Area. There is little doubt the Bridger Wilderness Area is the most relevant Class I area in this case, it being the closest Class I area, located only about 72 miles to the northeast of the Granger Facility. In prior modeling efforts the DEQ has shown unequivocally that receptors in the southwest portion of the Bridger Wilderness Area are affected to a much greater degree from pollution arising to the southwest of the Class I area than are receptors further east and north. In DEQ's 2005 increment consumption analysis for the Bridger Wilderness Area and other nearby areas entitled "Summary Report, Southwest Wyoming NO_2 PSD

[1] The two BART-eligible emissions sources at the plant are two coal-fired boilers, UIN-14 and UIN-15.

Increment Consumption Modeling: Results for Sublette County," all of the maps show that the greatest impacts from air pollution fall in the far southwest portion of the Bridger Wilderness Area, not in areas further to the east and north. There is especially a tendency for a small "finger" of the Wilderness Area that projects from the southwest portion of the area to show impacts from air pollution originating to the southwest of the wilderness. Modeling done by the Bureau of Land Management (BLM) for the Pinedale Anticline and Jonah infill projects also shows this condition. See Final Supplemental Environmental Impact Statement for the Pinedale Anticline Oil and Gas Exploration and Development Project, Air Quality Technical Support Document at Appendix D (showing greatest visibility impacts in the southwest portion of the wilderness). We believe it is clear that since the Granger Facility too is located to the southwest of the Bridger Wilderness Area there must be assurance that visibility modeling receptors are focused on the southwest part of the Wilderness, especially the "finger" mentioned above.

Yet the modeling presented in the AP-6044 permit analysis does not make it clear if this was the case. It has been impossible for us to determine exactly where the receptors used in this modeling effort were located. So far as we can determine, the permit analysis does not state even by implication where the receptors were located that led to DEQs does not contribute determination. The permit analysis states that "Discrete receptors for the Class I areas that were modeled (Bridger WA and Fitzpatrick WA) were provided by the Division." But we cannot determine where exactly those receptors were located. It is indicated that a 4 kilometer grid spacing was used for the CALMET settings, but CALMET is used to develop "wind and temperature fields in a three-dimensional, gridded modeling domain," it does not seem to be used to determine changes in visibility, which is done by the CALPOST post-processor. Thus, we are left unapprised as to where the receptors were located.[2]

Until the DEQ presents the location of the receptors that led to its does not contribute determination we believe this permit analysis cannot be used to support a decision that the Granger Facility should not be subject to BART. Furthermore, if the receptors were not located in the far southwest part of the Bridger Wilderness Area, we do not believe any resulting conclusions can be deemed valid; it is clear to us that modeling of visibility impacts in the Bridger Wilderness Area must focus on impacts in the southwest part of this area, as shown by prior DEQ and BLM modeling efforts. We would note that the National Park Service has developed a database of modeling receptors for Class I areas, but it is not clear to us whether these were applied in this case or not.[3] In the end, we feel the paucity of information relative to receptors presented in the AP-6044 permit analysis does not allow for a conclusion that "valid" modeling was used to make a cause or contribute determination, as required by the WAQSR. See WAQSR Ch. 6, Sec. 9(d)(i) ("A BART-eligible source is subject to BART unless valid air quality dispersion modeling demonstrates the source will not cause or contribute to visibility impairment in any Class I area." (emphasis added)).

Moreover, EPA's regulations provide that "[o]ne important element of the [modeling] protocol is in establishing the receptors that will be used in the model. The receptors that you use should be located in the nearest Class I area with sufficient density to identify the likely visibility impacts of the source." 40 C.F.R. pt. 51, App. Y § III.A.3 (Option 1). We do not believe the AP-6044 permit analysis meets these standards.

2. Impacts Less Than 0.5 dv Should Not Be Deemed A Per Se Does Not Contribute Situation.

In its determination that the Granger Facility will not contribute to visibility impacts in Class I areas, the DEQ applied the less than 0.5 dv standard from the WAQSR in a per se form. We do not believe this is appropriate or justified.

We understand that the WAQSR state that "[a] single source is exempt from BART if the 98th percentile daily change in visibility, as compared to natural background conditions, is less than 0.5 deciviews at all Class I federal areas for each year modeled and for the entire multi-year modeling

[2] And as far as we can determine, the DEQ's "BART Air Modeling Protocol, Individual Source Visibility Assessments for BART Control Analysis" that is referenced in the AP-6044permit analysis also does not specify where receptors were located.

[3] See http://www.nature.nps.gov/air/Maps/

period." WAQSR Ch. 6, Sec. 9(d)(i)(C). However, we do not believe this standard can be applied in a rote or absolutely determinative way.

It must be kept in mind that this entire exercise is moving toward a State Implementation Plan (SIP) revision that must be approved by the EPA. That is, this entire process will be federalized. It must in the end meet federal standards, not just the States' regulatory standards. We feel that EPA regulations and the Clean Air Act itself do not allow for a per se application of the less than 0.5 dv standard to make a determination that a source will not be subject to BART for purposes of compliance with EPA's regional haze rule.

The EPA has developed "guidance" regarding making BART determinations for purposes of compliance with the regional haze rule. 40 C.F.R. pt. 51, App. Y. But the State of Wyoming has adopted this guidance as binding. A proposal and justification for BART emissions limits and control technology must "reflect the BART requirements established in 40 CFR part 51, Appendix Y." WAQSR Ch. 6, Sec. 9(e)(i)(E).

The EPA rules on making subject to BART determinations start with a determination that "a source that causes less than 1.0 deciview change may still contribute to visibility impairment and thus be subject to BART." 40 C.F.R. pt. 51, App. Y § III.A.1. The rules note that the threshold that applies to a "contributes" determination "may reasonably differ across States," id., and we would suggest this is true among different areas or conditions as well. But "[a]s a general matter, any threshold that you use for determining whether a source "contributes" to visibility impairment should not be higher than 0.5 deciviews." Id. (emphasis added). Thus the rules certainly do not establish that impacts less than 0.5 dv per se do not contribute to visibility impairment in a Class I area, in fact they do almost the opposite, they caution against using too high a threshold, which as a general matter would be anything greater than 0.5 dv. The rules then go on to caution that if a large number of sources are contributing to impairment, this "may warrant a lower contribution threshold." Id.

The implications of these regulatory provisions are that it is inappropriate to determine per se that there are no significant visibility impacts on a Class I area just because modeling shows that increases in impairment due to a source will be less than 0.5 dv. A more careful analysis is required to make a does not contribute determination. In making that determination here the following should have been considered.

The Bridger Wilderness Area in particular already has severe visibility impairment. As shown in the Final Supplemental Environmental Impact Statement (FSEIS) for the Pinedale Anticline Project (the Pinedale Anticline field is of course a large gas field just to the west of the Bridger Wilderness Area), and based on actual emissions in this area for 2005, the level of significant impairment reached 45 days with impacts greater than 1.0 dv. FSEIS at Appendix 16-9. Initially after the additional development is implemented in this area, the level of direct significant impact will be 40 days per year, and even after full implementation of mitigation (in five years or so) there will be 10 days of residual significant impact. Id. at Appendix 18-3. Cumulative impacts are far worse, with initially 56 days of significant visibility impairment and a remaining 25 days even after mitigation is fully implemented. Id. at 18-27. Quite simply, the Bridger Wilderness Area already suffers from severe visibility deterioration and that impact is predicted to continue. The DEQ's determination of whether the Granger Facility contributes to visibility impairment should have been made in recognition of these realities on the ground, but the permit analysis is silent on these considerations. It simply invokes the WAQSR less than 0.5 dv standard and then closes the analysis.

Similarly, the Bridger Wilderness is subject to impacts from many sources of air pollution. Besides the hundreds of existing wells in the Jonah and Pinedale Anticline fields (and in numerous other surrounding gas fields)—and thousands more being authorized by the BLM with active DEQ participation in all National Environmental Policy Act (NEPA) analyses—there are several other significant sources of air pollution that affect the area. At a minimum these include the Naughton and Bridger Power Plants and the General Chemical and Westvaco trona plants, all of which will be subject to BART. As specifically stated in the EPA rules, this large number of sources "may warrant a lower contribution threshold." 40 C.F.R. pt. 51, App. Y § III.A.1. Because of the existing significant visibility

impairment in the relevant Class I areas and because of the large number of contributing sources of emissions, per se application of the less than 0.5 dv standard was inappropriate.

In addition, we think the following is noteworthy. When the proposed BART controls for the three trona plants currently being evaluated are considered, even after BART is applied (or not applied in the case of the Granger facility), there will still be 1.48 dv of visibility impairment in the Bridger Wilderness Area due to these plants on the 98th percentile day based on 2001data (0.327 dv at Granger, 0.432 dv at Westvaco, and 0.72 dv at General Chemicals). Claims that the Granger facility will cause less than 0.5 dv of impairment, and thus not contribute to visibility impairment, should be considered in light of this remaining overall substantial impairment due to trona mining activities.

In addition to the Appendix Y policies and rules, other EPA rules and the Clean Air Act itself make it apparent that a per se application of a less than 0.5 dv contributes threshold is not sufficient to meet federal standards, even if it does arguably meet the requirements of the WAQSR. The EPA's regulations define an "adverse impact on visibility" for purposes of new source review to mean:

> visibility impairment which interferes with the management, protection, preservation, or enjoyment of the visitor's visual experience of the Federal Class I area. This determination must be made on a case-by-case basis taking into account the geographic extent, intensity, duration, frequency, and time of visibility impairments, and how these factors correlate with (1) times of visitor use of the Federal Class I area, and (2) the frequency and timing of natural conditions that reduce visibility.

40 C.F.R. § 51.301.[4] We think this makes it apparent that making a determination of adverse impacts to visibility cannot be done solely and simply based on a numerical standard, at least for purposes of federal law. Especially in a Class I area that is already adversely impacted, such as the Bridger Wilderness Area. The regulations define "significant impairment" of visibility for purposes of getting an exemption from BART under the EPA's "reasonably attributable" haze rule to mean:

> visibility impairment which, in the judgment of the Administrator, interferes with the management, protection, preservation, or enjoyment of the visitor's visual experience of the mandatory Class I Federal area. This determination must be made on a case-by-case basis taking into account the geographic extent, intensity, duration, frequency, and time of the visibility impairment , and how these factors correlate with (1) times of visitor use of the mandatory Class I Federal areas, and (2) the frequency and timing of natural conditions that reduce visibility.

Id.[5] Again, it is apparent that rote application of pre-determined numerical standards is not sufficient to meet federal requirements. And last, "visibility impairment" means:

> any humanly perceptible change in visibility (light, extinction, visual range, contrast, coloration) from that which would have existed under natural conditions.

Id. (emphasis added).[6] This same language was used in the EPA "guidelines" where it is stated that a BART determination is not needed only if the source "is not reasonably anticipated to cause or contribute to any visibility impairment in a Class I area." 40 C.F.R. pt. 51, App. Y § III. And it is also reflected in the regional haze rule itself, where it is said, any BART-eligible source that "may reasonably be anticipated to cause or contribute to any impairment of visibility in any mandatory Class I Federal area" must be subject to BART. Id. § 51.308(e). Given these conservative views and approaches of EPA, even an impairment of 0.390 dv, as stated in the AP-6044 permit analysis, may constitute a level of degradation that "contributes" to visibility impairment, especially in an area that is already severely impacted and predicted to suffer from ongoing impairment, and which suffers from impairment due to many sources of air pollution. Certainly this possibility should not be discounted per se just because the analysis shows an impact of less than 0.5 dv.

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[4] See also WAQSR Ch. 6, Sec. 9(b).

[5] See also WAQSR Ch. 9, Sec. 2(c)(viii).

[6] See also WAQSR Ch. 9, Sec. 2(c)(ix).

The Clean Air Act itself also supports our view that per se application of the less than 0.5 dv threshold is not appropriate. As we all know, the Clean Air Act establishes a national policy that there be no future impairment of visibility in a Class I area and that any existing impairment be fully remedied. 42 U.S.C. § 7491(a)(1). In addition it is the purpose of the Prevention of Significant Deterioration (PSD) program to "preserve, protect, and enhance the air quality in national parks, national wilderness areas" and other protected areas. Id. § 7470(2). Enhancing air quality in Class I areas demands that even relatively small contributions to degradation be remedied; this policy certainly does not support per se application of a pre-determined numerical standard. Furthermore, the policy of the Clean Air Act as reflected in the regional haze rule is to ensure reasonable progress toward achieving natural visibility conditions in Class I areas, including assuring a rate of progress that will allow this to be achieved by 2064.[7] 40 C.F.R. §§ 51.308(d)(1) and (d)(1)(i)(B). We cannot see how per se exclusion from BART of sources of emission that have been determined to having at least some impact on visibility in a Class I area can further this policy, especially in an area like the Bridger Wilderness that is clearly already significantly impaired.

We also have to mention that presumptively excluding the FMC Granger Facility from BART seems hard to justify when the nearby FMC Westvaco and the General Chemicals trona plants will be subject to BART. This seems especially true relatively to the General Chemicals plant, another company. Can a difference in roughly 0.5 dv in impairment from baseline conditions be a basis for requiring BART at one plant but not the other? It seems to us this needs explanation.

For the above reasons we believe the AP-6044 permit analysis does not meet federal legal standards even if it arguably does meet WAQSR standards, and thus when the State submits its SIP revision to the EPA for approval it likely cannot be approved. Thus, this permitting decision should be revisited before it is finalized.

3. The Scaling Factors Used for Background Aerosol Concentrations Should be Explained And Justified.

In the AP-6044 permit analysis, on page 9, it is stated that "scaled" values were used to convert EPA average annual natural levels of aerosol components to concentrations applicable to the 20% best visibility days. But as far as we can determine, there is no explanation of how these scaling factors were derived or any justification or explanation for the scaling factors. They are just used and applied with no underlying basis presented. We feel that lack of information and explanation creates a situation where the permit analysis cannot be deemed valid.

The EPA in is publication "Guidance for Estimating Natural Visibility Conditions Under the Regional Haze Rule" presents Average Natural Levels of Aerosol Components in Table 2-1. Those aerosols are ammonium sulfate, ammonium nitrate, organic carbon mass, elemental carbon, soil, and coarse mass. Then, in the DEQ publication "BART Air Modeling Protocol, Individual Source Visibility Assessments for BART Control Analysis," (DEQ BART Protocol) the DEQ takes the EPA concentrations and claims to convert them to values applicable to the 20% best days by "scaling back the annual average concentrations given [in the EPA Table]." DEQ BART Protocol at 15. "A separate scaling factor was derived for each Class I area such that, when multiplied by the Guidance table annual concentrations, the 20% best days deciview value for that area would be calculated." Id. The derived concentrations are then presented in Table 6. Likewise, and again, in the AP-6044 permit analysis the DEQ offers essentially the same explanation for the scaling factors and presents the same values as appear in Table 6 in the DEQ BART Protocol.

But absent any explanation of how these scaling factors were derived, their basis, and their acceptance in the scientific or engineering community, we do not feel these factors can be applied to this BART analysis and deemed as per se acceptable. It is not self-evident to us that these scaled values in fact adequately represent aerosol concentrations on the 20% best visibility days in the Bridger Wilderness

[7] See EPA's "Guidance for Estimating Natural Visibility Conditions Under the Regional Haze Rule at 1-5 to 1-8 for a discussion of what constitutes an appropriate rate to achieve reasonable progress.

Area and the Fitzpatrick Wilderness Area. Consequently, they do not demonstrate a "valid" modeling analysis as required by the WAQSR. A basis for these scaling factors must be presented and an opportunity for public and expert agency comment on them should be provided. Consequently we ask the DEQ to do this before finalizing this permit decision.

For the above reasons we feel that the AP-6044 permit analysis should be conducted again addressing the issues we have identified and a new decision made whether this plant will be "subject to BART." Thank you for considering these comments.

Sincerely,

Bruce Pendery,
Staff Attorney

cc: Governor Dave Freudenthal
Wyoming Environmental Quality Council
Wyoming Air Quality Advisory Board
Callie Videtich, EPA
Bruce Polkowsky, National Park Service
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