



September 25, 2014

The Honorable Joseph Pizarchik  
Director, Office of Surface Mining Reclamation and Enforcement  
Department of the Interior  
1849 C Street NW  
Washington, DC 20240

ATTN: Docket ID No. OSM-2014-0003; Petition to Initiate Rulemaking; Use of Explosives on Surface Coal Mining Operations

Dear Director Pizarchik:

The National Mining Association (NMA) appreciates the opportunity to comment on the WildEarth Guardians (WEG) petition to the Department of the Interior's (DOI) Office of Surface Mining Reclamation and Enforcement (OSM) requesting that the agency promulgate a rule pursuant to the Surface Mining Control and Reclamation Act of 1977 (SMCRA) to prohibit the production of visible nitrogen oxide (NO<sub>x</sub>) emissions, and in particular nitrogen dioxide (NO<sub>2</sub>) emissions, during blasting at surface coal mining operations. 79 Fed. Reg. 43,326 (July 25, 2014). Specifically, OSM requests "comments on the merits of the petition and the rule changes suggested in the petition," as well as "whether the Director should grant the petition and initiate a rulemaking." For the reasons stated below, NMA urges OSM to reject WEG's petition and not initiate a rulemaking.

### **Statement of Interest**

NMA's members are producers of most of America's coal, metals, industrial and agricultural minerals; manufacturers of mining and mineral processing machinery and supplies; transporters; financial and engineering firms; and other businesses related to mining. NMA members conduct mining operations on federal, state and private lands in compliance with SMCRA and implementing regulations. In particular relevance to the WEG petition, NMA members recover valuable coal deposits through blasting or are engaged in the manufacturing of explosives used at coal mines in their blasting operations.

Blasting is the primary method to assist in the removal of material/overburden overlying the coal. It is the most cost effective way to fracture rock and therefore helps reduce the costs of electricity. Modern mining companies use the latest modelling and measurement techniques to identify the optimum blasting practices that improve the productivity of overburden removal and coal recovery, optimize equipment efficiency, and ensure blasting is conducted to minimize possible emissions. WEG's proposed rule language would directly impact NMA's members by creating an unlawful, unnecessary, and unattainable emissions standard under OSM's federal regulatory program.

## **NMA Strongly Urges OSM to Reject WEG's Petition**

Pursuant to Section 201(g) of SMCRA, any person may petition the OSM for issuance, amendment, or repeal of a regulation. 30 U.S.C. § 1201(g). Before granting a petition for rulemaking and initiating a rulemaking, the OSM Director must determine that the petition sets forth "facts, technical justification and law which may provide a reasonable basis for issuance, amendment or repeal of a regulation." 30 C.F.R. § 700.12(c). For the reasons provided below, the OSM Director should reject WEG's petition. WEG does not provide a "reasonable basis" for issuance of a regulation and in fact requests a rulemaking outside OSM's statutory authority.

### **1. WEG's Proposed Regulation is Outside OSM's Regulatory Authority**

OSM requests comment on whether certain case law in the United States District Court for the District of Columbia (District Court) constrains the OSM Director's authority to regulate air quality and therefore necessarily impacts his decision to grant or deny WEG's petition. The answer is yes. The District Court explicitly held that "Congress only intended to regulate air pollution related to erosion" under SMCRA and that "the Secretary's authority to regulate [air] pollution is limited to erosion." In so holding, the District Court appropriately remanded certain regulations promulgated by OSM that contained provisions regulating fugitive dust from blasting. *See In re Permanent Surface Min. Regulation Litig. I, Round II*, 1980 U.S. Dist. LEXIS 17660 at \*43-44 (D.D.C., May 16, 1980). OSM is now faced with a rulemaking petition that does not address pollution from erosion, but concerns regarding NOx emissions from blasting. If OSM cannot by law promulgate a rulemaking on fugitive dust from blasting, it equally applies that OSM cannot by law promulgate a rulemaking that implements a "visible emissions" NOx standard on blasting. WEG's request for rulemaking is patently outside of OSM's statutory authority. Therefore, OSM should exercise its discretion and deny WEG's petition.

### **2. Federal and State Regulations Adequately Protect Human Health and Safety from Blasting Operations**

WEG's petition lacks any substantive discussion of the important federal and state performance standards and requirements that already apply to blasting operations at coal mine sites. Taken together, these regulatory programs ensure that the public is

adequately protected from NOx emissions even in the absence of a separate visible emissions standard as advocated by WEG.

a. Federal Regulations under SMCRA Adequately Protect Human Health and Safety

SMCRA Section 515, 30 U.S.C. 1265, establishes general environmental protection performance standards for coal mining operations and provides OSM authority to promulgate additional standards as needed. Section 515(b)(15), 30 U.S.C. 1265(b)(15)(C), specifically addresses the use of explosives and the compliance with all existing state and federal laws and regulations. Of particular note, Section 515(b)(15)(C), 30 U.S.C. 1265(b)(15)(C), explicitly addresses use of explosives in order to “prevent (i) injury to persons, (ii) damage to public and private property outside the permit area,” and other adverse impacts. For example, this provision “limit(s) the type of explosives and detonating equipment, the size, the timing and frequency of blasts based upon the physical conditions of the site to prevent injury to persons” and other adverse impacts.

Other provisions of SMCRA related to blasting:

- provide notice to potentially affected local governments and residents of the planned blasting schedule (30 U.S.C. 1265(b)(15)(A));
- provide upon request, pre-blasting surveys to residents within one half-mile of the permitted area (30 U.S.C. 1265(b)(15)(E));
- make available for public inspection a detailed log covering location of blast holes (30 U.S.C. 1265(b)(15)(A));
- insurance to cover damage to person or property due to blasting (30 U.S.C. 1257(f));
- preparation of a blasting plan which outlines the procedures and standards by which the operator will meet the performance standard of Section 515 (30 U.S.C. 1257(g));
- blasting be done by trained and certified persons (30 U.S.C. 1265(b)(15)(D)); and
- certification and training of blasters (30 U.S.C. 1309);

OSM has detailed and comprehensive regulations to implement SMCRA’s provisions on blasting. OSM’s regulations explicitly state that “[b]lasting shall be conducted to prevent injury to persons, damage to public or private property outside the permit area” and other adverse impacts as dictated by the statute. 30 C.F.R. § 816.67(a) & 817.67(a). OSM’s rules provide performance standards that dictate uniform operating procedures for preblast surveys, blasting schedules, blasting signs, warning signals, access control, minimization and monitoring of airblast, minimization of ground vibration, flyrock limits, and recordkeeping. See 30 C.F.R. §§ 816.61-68 & 817.61-68. The operator’s permit application must include a blasting plan that explains how the company will comply with

these performance standards. See 30 C.F.R. § 780.13. In addition, the rules establish stringent requirements for blaster certification. See 30 C.F.R. §§ 850 & 955.

In its petition, WEG fails to explain convincingly why existing standards that govern blasting are inadequate to protect the public and prevent injury to persons. WEG simply assumes that the current performance standards are not adequate without evidence that any blasting events have endangered public health and caused injury. To the contrary, when the public lodged complaints in the late 1990s in Wyoming, OSM and the state authorized agency thoroughly addressed the complaints under their *existing* authority. In fact, OSM and Wyoming required companies to implement additional controls and safety protocols to prevent injury to persons following these events.<sup>1</sup> WEG never once acknowledges these additional controls, which were successfully negotiated between the operator and the complainant. See WEG Petition at 12. Instead, WEG cherry picks a photo of a warning sign – an effective operational control implemented to *prevent* injury to persons – to paint an alarmist picture of these rare events and allege that existing regulations are not working. See WEG Petition at 12-13.

Notably, WEG also cherry picks statements from the Wright Area coal lease final environmental impact statement (FEIS) and omits important findings that cut against their argument on reported exposures. WEG summarily states: “Exposure to nitrogen dioxide emissions associated with blasting at coal mines in the Powder River Basin has been reported.” WEG Petition at 12. This statement is an incomplete representation of the Bureau of Land Management’s (BLM) findings. In fact, BLM states in the FEIS: “To date, there have been no reported events of public exposure to NO<sub>2</sub> from activities at the Jacobs Ranch or North Antelope Rochelle mines.”<sup>2</sup> While BLM acknowledges that “[the Wyoming Department of Environmental Quality (WDEQ)] received reports of public exposure to NO<sub>2</sub> from blasting operations at some of the PRB mines prior to 2001,” that controls were implemented to “control or limit future incidences.”<sup>3</sup> BLM also recognizes that “[t]here have been no incidents in the southern PRB reported by the public to the WDEQ for the past 4 years.”<sup>4</sup> Even the January 7, 2011, complaint relied upon by WEG shows that the company implemented the appropriate controls to ensure that public health was not endangered. Specifically, WDEQ found that “[t]he mine followed

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<sup>1</sup> See OSM, Annual Evaluation Summary Report for the Regulatory Program Administered by the Land Quality Division of the Wyoming Department of Environmental Quality for Evaluation Year 2000, at 6 (Dec. 7, 2000). See also BLM Wright Area Coal Lease Applications Final Environmental Impact Statement at 3-87-88 (July 2010) (“BLM Wright Area FEIS”) (describing the administrative controls implemented in the Powder River Basin).

<sup>2</sup> See BLM Wright Area FEIS at 3-88.

<sup>3</sup> *Id.*

<sup>4</sup> *Id.*

procedures to make sure the wind wouldn't carry any fumes toward the neighbors."<sup>5</sup> Ultimately, the documents WEG relies on to assume public exposure every time a cloud appears instead refute their arguments and prove that there is no regulatory gap that needs to be filled by OSM on this matter.

b. Existing State Programs Adequately Protect Human Health and Safety

The standards discussed above, or ones consistent with the OSM standards, are also adopted by "primacy" states, those in which the regulatory authority is a state agency that has acquired "exclusive jurisdiction" over surface coal mining and reclamation operations by obtaining OSM's approval of the state's regulatory program. If primacy states fail to meet OSM's minimum standards, OSM retains oversight authority that includes the ability to implement state permit provisions.

WEG's petition targets the Powder River Basin and specifically surface coal mining operations in Wyoming and Montana. Both states have robust blasting regulatory programs. Yet, WEG does not once discuss these programs in its petition. Wyoming, under Chapter 6 of the Department of Environmental Quality's Land Quality Division Surface Coal Rules and Regulations, covers all aspects of blasting at surface mining operations within its borders. See also Wyoming Land Quality Division, Coal Standard Operating Procedure No. 62, Blasting Regulations, Chapters 2 and 6 of the Land Quality Coal Rules and Regulations. Montana has similar rules on the use of explosives. See Montana Department of Environmental Quality, Administrative Rules of Montana, 17.24.621-17.24.626.

Importantly, OSM's oversight authority of state programs ensure that states are effectively implementing, administering, maintaining, and enforcing approved state programs. As part of its oversight authority, OSM annually reviews the regulatory programs of the primacy states to determine the states' compliance. The review includes whether states are adequately regulating blasting. For example, in its fiscal year 2013 annual evaluation of the state of Wyoming, OSM reviewed the state's ten blasting complaints:

During the [2013] evaluation year, the LQD received ten citizen complaints, all of which resulted from blasting. In all cases, the LQD followed up with prompt investigation. Monitoring and record (shot reports)

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<sup>5</sup> See Letter from Doug Emme, WDEQ Blasting Engineer, to Mrs. Oksanen, Blasting Complaint of January 7, 2011; Rawhide Mine; Permit No, 240-T5 at 3.

review was also conducted and indicated that for all ten complaints, the shots were in compliance.<sup>6</sup>

The evaluation report did indicate that OSM found some “minor discrepancies” in its evaluation of a number of Wyoming coal mine permits regarding current approved blasting plans compliance with the requirements of the Wyoming rules. Two plans needed revised language relating to ground-vibration standards. Two plans lacked a sample copy of the required public notice required by state regulation. Importantly, OSM did not find these discrepancies significant enough to require OSM involvement beyond the recommendation that LQD work with the permittees to bring the deficient blasting plans into compliance. Furthermore, none of the discrepancies involved the blasting operations or the control measures in place. See OSM 2013 Annual Evaluation Report at 13. WEG omits all of these facts from its petition. See WEG Petition at 12.

Further, as the evaluation report reveals, OSM is working with the state of Wyoming to educate the public about blasting. OSM and LDQ held an outreach/educational stakeholder meeting to discuss and convey the current laws, regulations, the science behind blasting, and current procedures. See OSM 2013 Annual Evaluation Report at 3. Instead of acknowledging this important stakeholder outreach, WEG improperly uses it as ammunition against OSM’s program. See WEG Petition at 12. Contrary to WEG’s claims, OSM and state agencies have successfully dealt with incidences related to cast blasting and the creation of so-called “orange clouds” successfully through their existing programs. WEG has entirely failed to provide a “reasonable basis” for initiating a rulemaking and creating new regulations on blasting.

c. The Petition Ignores Other Federal Programs that Regulate Blasting

The Mine Safety and Health Administration (MSHA) implements a series of mandatory safety and health standards, including safety standards for explosives at surface coal mines. These regulations address the storage, transportation and use of explosives. See 30 C.F.R. §§ 77.1300-1304 (surface coal mines). Of particular relevance, MSHA requires that: (1) people handling or using explosives be experienced and understand the hazards; (2) blasting operations be under the direct control of authorized persons; (3) ample warning be given before blasts are fired; (4) all people are cleared from the blasting area; and (5) people stay out of blasted areas after firing until such time as concentrations of smoke, dust, or fumes have been reduced to safe limits. See 30 C.F.R. § 77.1303. WEG’s petition alleges harm to workers, yet does not even mention

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<sup>6</sup> OSM, Annual Evaluation Report for the Regulatory Program Administered by the Wyoming Department of Environmental Quality, Land Quality Division of Wyoming at iii (October 2013) (“OSM 2013 Annual Evaluation Report”).

these important regulations and thus does not provide a complete picture of the regulatory framework in place to handle the risks of explosives. See WEG Petition at 2. OSM must take these regulations into consideration when reviewing WEG's petition.

### **3. The Standard Proposed by WEG is Unattainable and Unnecessary to Protect the Public**

#### **a. No Visible Emissions is Unattainable**

WEG's petition "specifically calls on OSM to promulgate a rule *prohibiting* the production of visible nitrogen oxide emissions during blasting at surface coal mining operations." WEG Petition at 1 (emphasis added). Yet, eliminating all visible emissions is an unattainable standard and therefore would prevent coal mining altogether.<sup>7</sup> In fact, visible emissions are an inevitable part of the blasting process. Most experts agree that incomplete combustion during blasting can cause visible emissions. However, many factors can play a role in incomplete blasting including: wet conditions in the overburden, incompetent or fractured geological formations, deformation of boreholes, and blasting agent factors.<sup>8</sup>

As detailed in one of the BLM documents that WEG's petition mentions, eliminating visible emissions is not the only way to ensure public safety when blasting:

Blast clouds are of a short-term, transient nature. While disagreement still exists regarding acceptable exposure levels, a large amount of actual data are now available from which informed decisions can be made regarding blasting practices. The data show clearly that reduction in blast (agent) size and increases in setback distances are effective methods for mitigating the frequency and extent of public exposure to blasting clouds. See Appendix F for additional information about studies that were conducted to evaluate the levels of public exposure to NOx.<sup>9</sup>

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<sup>7</sup> It is certainly no surprise that WEG's mission is to prevent the use of coal. WEG touts this mission on their website: "we are forcing a paradigm that will make coal more expensive . . . At every turn we will fight the coal industry to keep coal in the ground." WEG, "The Powder River Basin – Ground Zero in Confronting the Climate Crisis," *available at* [http://www.wildearthguardians.org/site/PageServer?pagename=priorities\\_climate\\_energy\\_coal\\_powder\\_river#.U30Y-8JOWUK](http://www.wildearthguardians.org/site/PageServer?pagename=priorities_climate_energy_coal_powder_river#.U30Y-8JOWUK) (last visited May 21, 2014).

<sup>8</sup> BLM Wright Area FEIS at 3-79. See also, Craynon, John R. (ed) Environmental Consideration in Energy Production, "NOx Emission of Equipment and Blasting Agents in Surface Coal Mining", Lashgari, A *et. al.*, SME 2013.

<sup>9</sup> BLM Wright Area FEIS at 3-82.

WEG's petition implies that there are feasible technical methodologies to prevent any visible emissions. See WEG Petition at 16-17 ("careful blasting management . . . can eliminate such emissions"). However, as reported by BLM,

significant research has been conducted at the mines to reduce NO<sub>x</sub> emissions from blasting activities. Efforts to eliminate NO<sub>x</sub> production have included working with blasting agent manufacturers to reduce NO<sub>x</sub> emissions by the use of different blasting agents, different blends of blasting agents, different additives, different initiation systems and sequencing, borehole liners, and smaller cast blasts. Operators have tried adding substances like microspheres and rice hulls, using different blends of ANFO and slurries and gels, using electronic detonation systems that can vary shot timing, different shot hole patterns, and using plastic liners within the shot holes. *No one single procedure or variation has proven consistently successful due to the numerous factors that are believed to contribute to the production of NO<sub>2</sub>.*<sup>10</sup>

As the leasing agent for the federal government under the Mineral Leasing Act, part of BLM's role is to work to ensure that the development of coal resources is done in an environmentally sound manner. While WEG cites BLM analyses of blasting in the EIS prepared in conjunction with the Wright Lease area, WEG ignores the agency's conclusions about the adequacy of existing regulations and policies to protect the public and the environment. BLM similarly has analyzed blasting emissions in other recent EISs and concluded that no air quality standards are being exceeded.<sup>11</sup>

WEG's petition points to developments in Australia to support its proposition that prevention of blasting emissions is achievable. For example, WEG characterizes the Rio Tinto Mount Thorley Warkworth Blast Management Plan as containing control measures to "prevent the formation of visible nitrogen dioxide emissions when blasting at coal mines." WEG Petition at 13. The actual language of the plan, however, does not mention the term "prevent." Rather the plan objectives are to:

- detail the controls to be implemented to minimize blasting impacts on site;
- manage community complaints in a timely and effective manner; and
- detail the procedure for reporting blast criteria exceedances to relevant stakeholders.<sup>12</sup>

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<sup>10</sup> *Id.* at 3-89 (emphasis added).

<sup>11</sup> See also BLM Eagle Butte LBA Tract EIS, 2007; BLM West Antelope II Coal Lease EIS, 2008.

<sup>12</sup> Rio Tinto, Mount Thorley Warkworth, Blast Management Plan, MTW-10-ENVMP-SITE-060 at 7 (Oct. 30, 2012).

In fact, Rio Tinto expressly states that it implements a number of management controls “to *mitigate* any potential impacts from blasting activities,”<sup>13</sup> not, as WEG alleges, “to *prevent* the formation of visible nitrogen dioxide emissions from blasting at coal mines.” WEG Petition at 13 (emphasis added). Rio Tinto’s plan is consistent with the conclusions of the Australian Explosives Industry and Safety Group Inc. (AEISG), an association that develops codes of practice for use of explosives, that: “it should be understood given the complexity of the problem and the inherent variability in the blasting environment, NO<sub>x</sub> events may still occur even after prevention and mitigating actions have been put in place.”<sup>14</sup> Additionally, as will be discussed more below, the types of controls used by Rio Tinto at the Mount Thorley site, and recommended by AEISG, that are touted by WEG in its petition are similar to the types of controls adopted by operations in the United States.

b. WEG Wrongly Equates Visibility with Harm

WEG maintains that whenever visible clouds are formed from blasting at coal operations, NO<sub>2</sub> concentrations exceed federal health standards, including national ambient air quality standards (NAAQS) promulgated by the U.S. Environmental Protection Agency. Specifically, WEG relies on conclusory statements in a 1-page Queensland Government coal mine worker fact sheet to assert “that the threshold at which nitrogen dioxide concentrations become visible is considered to be 2.5 ppm, or 2,500 ppb. . . This represents concentrations twenty-five times higher than the current 1-hour NAAQS for nitrogen dioxide.” WEG Petition at 11. However, this comparison is inappropriate and the WEG’s allegation of violations of the 1-hour primary NAAQS for NO<sub>2</sub> is unfounded.

First, WEG provides no evidence that the 1-hour primary NAAQS has actually been exceeded. Importantly, WEG provides absolutely no actual measured ambient air quality monitoring data showing non-attainment of the current 1-hour NAAQS in Wyoming or Montana. WEG cannot simply pick a threshold in another country’s worker fact sheet (which cites to no verifiable source), compare it to the 1-hour NAAQS primary standard (100 ppb), and assume NAAQS exceedances have or will occur that threaten public health.

In fact, during the stakeholder outreach session hosted by the Wyoming LDQ and OSM on November 19, 2012, which was part of the evaluation year 2013 performance agreement, the Wyoming Mining Association (WMA) presented data that during nearly 10 years of monitoring (the regional network was made up of three locations in the Powder River Basin), the concentrations of NO<sub>2</sub> were well below the allowable NAAQS

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<sup>13</sup> *Id.* at 16.

<sup>14</sup> Australian Explosives Industry and Safety Group Inc. Code of Good Practice: Prevention and Management of Blast Generated NO<sub>x</sub> Gases in Surface Blasting, Edition 2, at 5 (August 2011).

limits – both the 1-hour and annual standards. WEG acknowledges that the stakeholder session occurred, yet ignores the important information presented at that session. See Appendix A.

Furthermore, an update of the NO<sub>2</sub> monitoring data provided by WMA in its August 22, 2014, letter to OSM continues to support this fact. The data, which extends through calendar year 2013, shows that compliance with the 1-hour and annual standards is still occurring. WMA provides data not only from the regional monitoring network but also from two independent monitoring stations at Powder River Basin coal mines. Importantly, monitored concentrations at all locations remain well below the allowable standards. Contrary to WEG's statement that there is a "regulatory gap" in the regulation of NO<sub>x</sub> emissions, this data proves that the federal Clean Air Act program and the state of Wyoming's air quality regulations are effective in addressing these emissions.

Second, other blasting studies based on actual ambient air quality monitoring data similarly undermine WEG's contentions that blasting at coal mining operations results in exceedances of the NO<sub>2</sub> standard. A recent study commissioned by the West Virginia Department of Environmental Protection measured concentrations of NO, NO<sub>2</sub> and NO<sub>x</sub> after blasting events. The study found that the NO<sub>2</sub> data were well below the NAAQS levels (hourly and annual).<sup>15</sup>

Finally, there exists disagreement among experts that one can determine NO<sub>2</sub> concentrations from the color of the blasting emissions. Even the AEISG, which includes a visual rating scale for such emissions in its Code of Good Practice, cautions that:

It should be noted that the visual appearance of a post-blast NO<sub>x</sub> gas plume will depend on both the concentration of NO<sub>2</sub> and on the size of the plume. It will change in time as NO is converted to NO<sub>2</sub> and as the wind disperses the plume. Therefore the *visual rating is approximate at best*. . .  
<sup>16</sup>

As the WMA and the Institute of Makers of Explosives point out in their comments, the relationship between concentrations of NO<sub>2</sub> and visible appearance of blasting gases is weak, at best, and there is no sound technical basis for making assumptions of the specific concentrations of NO<sub>x</sub> or NO<sub>2</sub> based upon visible observation. In fact, a study submitted to the National Science Foundation found: "Due to the absorption characteristics of NO<sub>2</sub>, the red color is more evident in a larger cloud. Therefore, these

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<sup>15</sup> Final Report on West Virginia Air Quality Assessment Near a Surface Coal Mine Blasting Operation prepared for West Virginia Department of Environmental Protection by BATTELLE (August 2012)

<sup>16</sup> AEISG Code at 22.

large blasts are sometimes intensely red whereas a smaller blast with an equal or even larger percentage yield of NO<sub>2</sub> might not be visibly colored.”<sup>17</sup> Consequently, WEG’s petition for a performance standard on visible emissions is misguided and unsound.

#### **4. WEG Ignores the Extensive Operational Controls Adopted by Operators to Minimize Risk to Public Health**

Surface coal mining operators already implement state-of-the-art blasting practices to mitigate any NO<sub>x</sub> emissions. WEG completely fails to even mention these practices, which are well-documented in many of the citations it used to support its petition for rulemaking. See WEG Petition at 14. Instead, WEG downplays these operational controls characterizing them as “voluntary.” Importantly, however, most coal companies employ typical operating controls as listed below. Many of the coal companies have embedded these controls as part of their permits’ blasting plans.

For example, typical operational controls include:

- Pre-blast notifications to inform potentially affected parties (residents, workers near mine, federal land management agencies, and appropriate state and local authorities). The call list is regularly updated. If a cloud forms, companies track the cloud and every effort is made to notify anyone in its path.
- Signage on public roads, locked gates, and restricted access to possible exposure areas including public roads near the mine site.
- Pre-blast monitoring including: wind direction relative to open space, wind speed and dispersion conditions, atmospheric conditions, and inversions/ceilings.
- Field implementation measures including delaying blasts to wait for appropriate conditions, road closures, set back distances, warning signs, and blasting only during certain times of day.
- Blasting test measures on geology, water, hole deformation, pattern geometry, variability in detonation timing, and blasting products.

Overall, there are robust operational controls in place to minimize the occurrence of clouds from blasting. WEG’s failure to acknowledge them in the petition paints a grossly incomplete picture of the actions companies have taken to address this issue. Given the effectiveness of these controls – put in place to specifically address previous public complaints – OSM should deny WEG’s petition for rulemaking.

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<sup>17</sup> Chemical Kinetics in the 1-10 GPa Pressure Region; A Tool for Controlling the Generation of Fumes from Mining Explosives, “Red Smoke Project”, NSF Grant CTS-9417526 (Feb. 10, 1995) (submitted to the docket by Cloud Peak Energy on Aug. 22, 2014).

## Conclusion

Lastly, WEG's petition entirely ignores the role of coal in our modern society. Coal is an enormously valuable domestic resource that the United States possesses in unrivaled abundance. It currently fuels nearly 40 percent of all electricity generation in the United States. As a low-cost fuel and our nation's most abundant domestic energy resource, coal is uniquely positioned to help America meet its future energy needs and reduce its dependence on foreign sources of energy. Further, coal is a prime source of affordable energy throughout the world today and will inevitably remain so as worldwide energy demand continues to rise. As such, coal is poised to play a key role in combatting energy poverty for the more than three billion people that lack adequate energy access and the billion people that have none at all.

WEG's petition presents a false choice between coal mining and protection of the public and environment. With modern and protective regulations in place, blasting at surface coal mining operations can be conducted in a manner that prevents harm to the local community and employees on site. Achieving the appropriate balance between energy production and public safety also allows coal to continue its significant contributions to the American economy and way of life. Coal mining directly employed over 200,000 people in 2011 and created 3.5 jobs for every job in coal mining for a total of over 800,000 jobs. Coal paid \$17.6 billion in direct wages and salaries in 2011. The \$37.4 billion in coal mined generated a total of \$97.5 billion in economic output in the United States in 2011. Clearly, WEG fails to take the importance of coal to our nation and energy-poor countries into consideration when urging OSM to adopt unattainable and unnecessary regulations for blasting.

As the above comments demonstrate, WEG presents no reasonable basis for the petition. Therefore, OSM should deny the WEG petition.

Sincerely,



Katie Sweeney  
General Counsel

**Appendix A**

**Wyoming Mining Association  
Blasting Presentation  
November 19, 2012**

# WMA Blasting Presentation

November 19, 2012

# Agenda

- Industry Safety Practices
- Blasting Research
- Monitoring
- Goals

# Safety Practices on Minesite

- Blasts designed to comply with DEQ rules to minimize vibration, airblast and protect the public
- Signage on gates and roadways
- Blasting area cleared of workers and access restricted
- Warning Sirens
- Radio Communication Available
- Blasters Confirm All Clear – Sirens

# Safety Practices to Avoid Offsite Impacts

- Pre-Blast Notifications
  - Signage and locked gates
    - Signage on public roads
    - Restricted access to possible exposure areas
  - Phone calls to inform potentially affected parties
    - Neighbors close to mine
    - Workers near mine
    - Federal land management agencies, appropriate state and local authorities
    - Call list updated regularly

# Safety Practices

## Administrative Controls

- Minimize possible exposure
  - Pre-blast monitoring
    - Wind direction relative to open space
    - Wind speed and dispersion conditions
    - Atmospheric conditions
    - Inversions/ceilings
- Field implementation
  - Blasts are delayed awaiting appropriate conditions
  - Road closures
  - Set back distances
  - Warning sirens

# Blasting Tests

## Factors Researched

- Geology
- Water
- Hole Deformation
- Pattern Geometry
- Variability in Detonation Timing
- Blasting Products

# Blasting Tests

## What We've Learned

- Things that didn't make a difference
  - Pattern Geometry
- Things that did
  - Geology
    - Minimize Hole Deformation
  - Water
    - Dewatering Highwalls
  - Blasting Products
    - Waterproof
    - Lower Density
  - Detonation Timing
    - Electronic Detonation

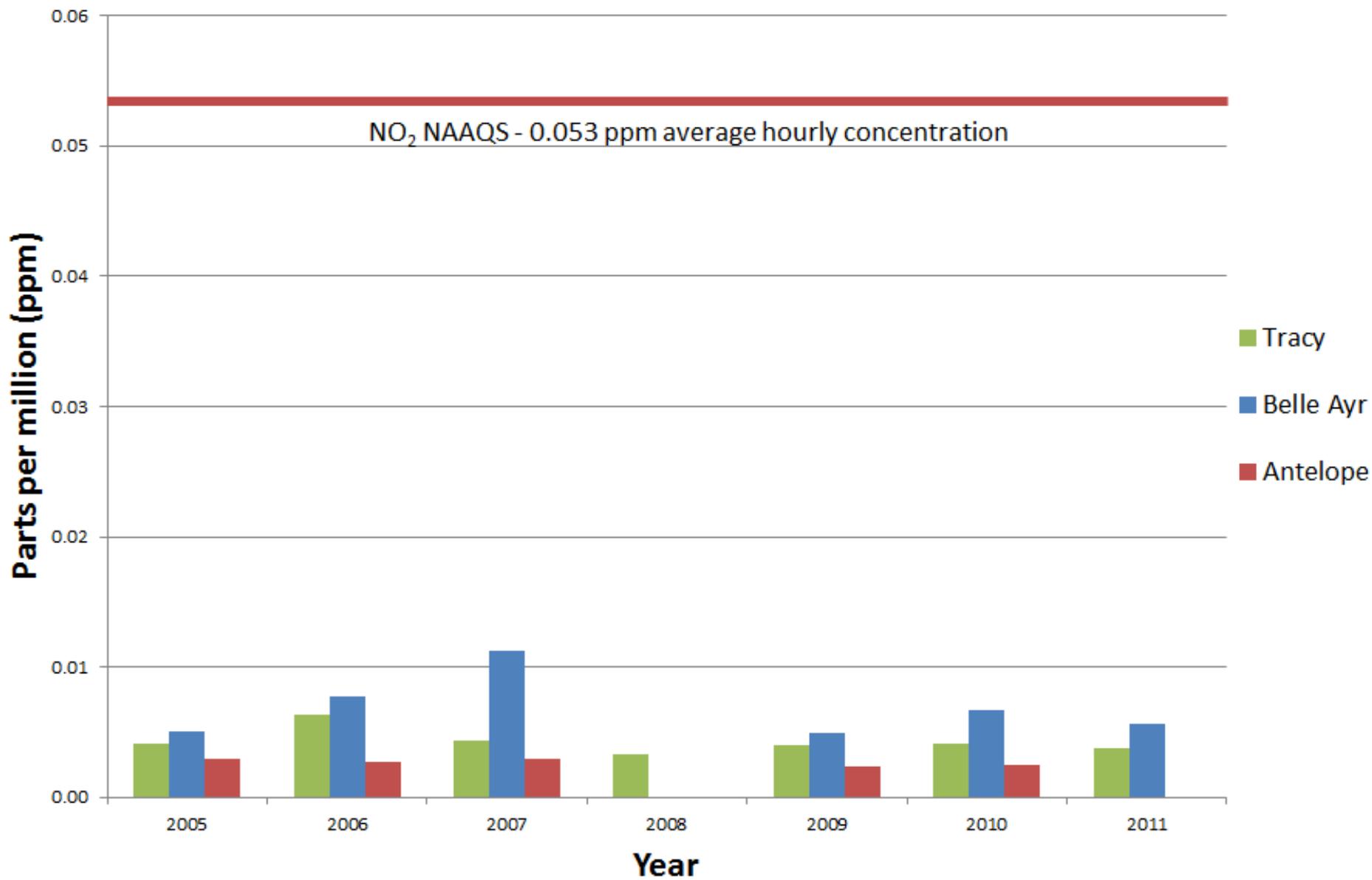
# Other Blasting Research Benefits

- Vibration analysis of pipelines, storage tanks, etc.
- Design of structural foundations to withstand earthquake loadings
- National and international policy such as the Comprehensive Test Ban Treaty.

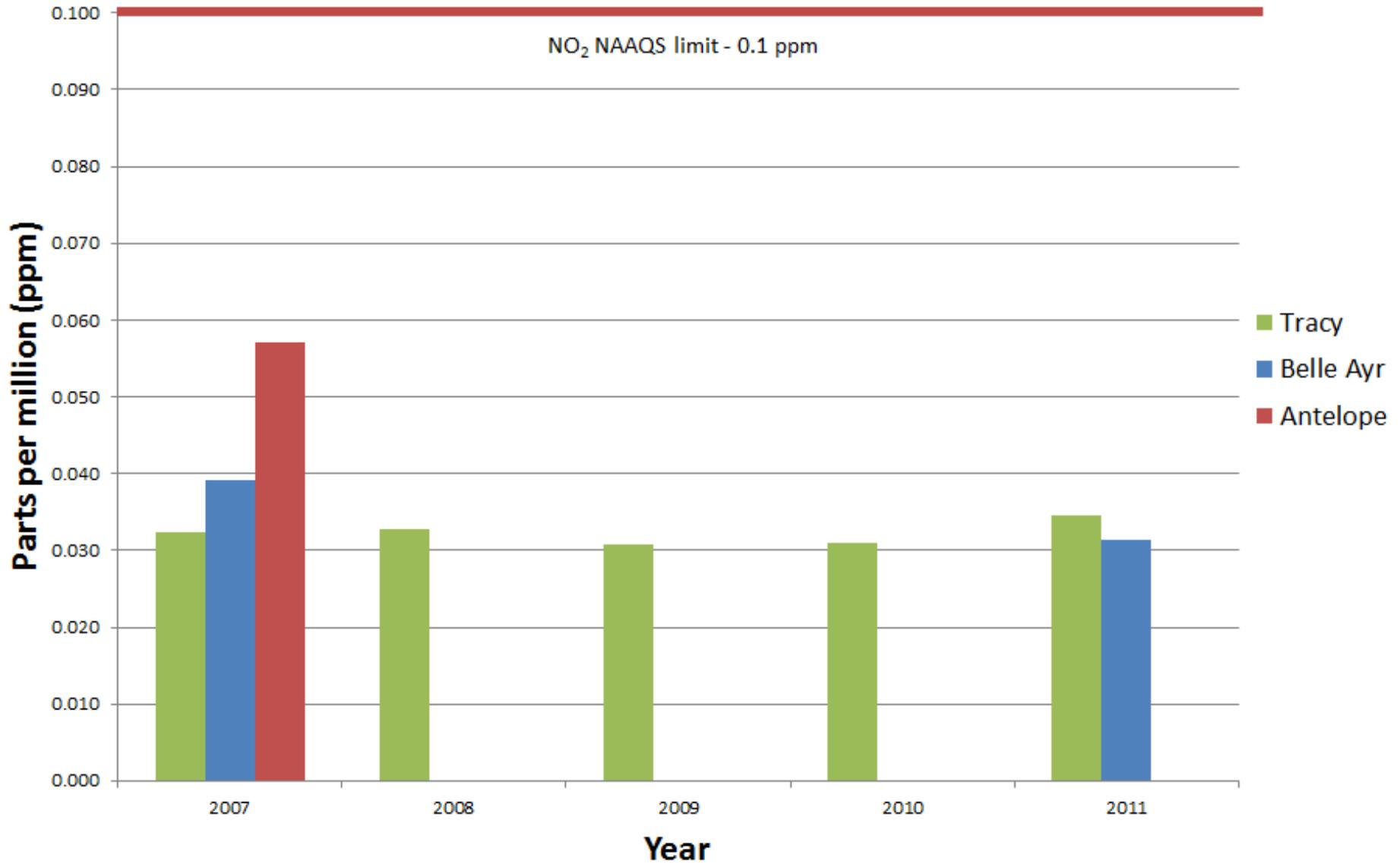
# Monitoring Indicators

- Regional network of NO<sub>2</sub> monitors
  - 3 Locations in Powder River Basin (PRB)
    - Central and southern PRB
  - Nearly 10 years of monitoring
    - Concentrations well below allowable limits
- Regulatory Limits
  - NO<sub>2</sub> - National Ambient Air Quality Standard (NAAQS)
    - .053 ppm – annual hourly average
    - .100 ppm – 98<sup>th</sup> percentile, hourlies averaged over 3-years

# NO<sub>2</sub> Monitoring (Primary Annual Average)



# NO<sub>2</sub> Monitoring (Primary 1-Hour Standard)



# OUR GOALS

- Minimize Effects from Blasting
  - Utilize Best Safety Procedures
  - Continued Research on Blasting Techniques
  - Open Communications with Stakeholders