BEFORE THE SECRETARY
U.S. DEPARTMENT OF THE INTERIOR

In Re:	)
Petition to the Secretary of the Interior to Certify that there Exists Reasonably Attributable Visibility Impairment in Rocky Mountain National Park	)

PETITION TO THE SECRETARY OF THE INTERIOR TO CERFITY THAT THERE EXISTS REASONABLY ATTRIBUTABLE VISIBILITY IMPAIRMENT IN ROCKY MOUNTAIN NATIONAL PARK

Pursuant to the Administrative Procedure Act ("APA"), 5 USC § 553(e), WildEarth Guardians and the National Parks Conservation Association ("NPCA") hereby petition the Department of Interior to formally certify to the State of Colorado that there exists reasonably attributable visibility impairment in Rocky Mountain National Park, in accordance with 40 CFR § 51.302(c)(2). This visibility impairment is reasonably attributable to the following existing stationary sources of air pollution in Colorado, all of which burn coal:

Table 1. Sources Causing or Contributing to Visibility Impairment in Rocky Mountain National Park.

Source	Location
Xcel Energy's Cherokee Coal-fired Unit 4	Denver, CO
Tri-State's Craig Coal-fired Units 1 and 2	Craig, CO
Xcel Energy's Hayden Coal-fired Units 1 and 2	Hayden, CO
CEMEX, Inc.'s Lyons Cement Plant	Lyons, CO
Colorado Springs Utilities' Martin Drake Coal-fired Units 5, 6, and 7	Colorado Springs, CO
Xcel Energy's Pawnee Coal-fired Unit 1	Brush, CO
Colorado Energy Nations (formerly Trigen) Coal-fired Units 4 and 5	Golden, CO
Xcel Energy's Valmont Coal-fired Unit 5	Boulder, CO

This petition asks the Secretary of Interior to certify, through the National Park Service, that emissions of nitrogen oxides, sulfur dioxide, and particulate matter from the existing sources identified above are causing or contributing to "reasonably attributable" visibility impairment in Rocky Mountain National Park. This certification will ensure the State of Colorado adopts adequate Best Available Retrofit Technology ("BART") requirements to reduce emissions of visibility impairing pollutants from the existing sources identified above and ensure that the State of Colorado reaps the full economic benefits of BART emission controls.

I. THE PETITIONED ACTION

WildEarth Guardians and NPCA petition pursuant to the APA, 5 USC § 553(e), which provides that "[e]ach agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule." The APA defines "rule" to include "the whole or a part of an agency statement of general or particular applicability and future effect designed to implement, interpret, or prescribe law or policy . . ." 5 USC § 551(4). WildEarth Guardians and NPCA formally petition the Secretary of Interior to certify that there exists impairment of visibility in Rocky Mountain National Park that is reasonably attributable to emissions from the existing stationary sources of air pollution listed in Table 1 in accordance with 40 CFR § 51.302(c)(2).

This petition requests the Secretary of Interior follow through with a longstanding goal to protect visibility in America's most treasured landscapes. In 1977, Congress amended the Clean Air Act, declaring:

> as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution.

42 USC § 7491(a)(1). To meet this goal, Congress required the U.S. Environmental Protection Agency ("EPA") to promulgate regulations ensuring that:

> [E]ach major stationary source which is in existence on August 7, 1977, but which has not been in operation for more than fifteen years as of such date, and which, as determined by the State (or the Administrator in the case of a plan promulgated under Section 7410(c) of this title) emits any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility in any [mandatory Class I] area, shall procure, install, and operate, as expeditiously as practicable (and maintain thereafter) the best available retrofit technology . . . for controlling emissions from such source for the purpose of eliminating or reducing any such impairment.

42 USC § 7491(b)(2)(A). EPA subsequently promulgated regulations in 1980 to address Congress' directive.

Pursuant to the EPA's regulations, the Federal Land Manager of any mandatory Class I area may certify to a state that it is reasonable to attribute visibility impairment to a single, or small group of air pollution sources. Accordingly, 40 CFR § 51.302(c)(1) provides that "[t]he affected Federal Land Manager may certify to the State, at any time, that there exists reasonably attributable impairment of visibility in any mandatory Class I Federal area." Upon certification, states must "identify and analyze for BART each existing stationary facility which may reasonably be anticipated to cause or contribute to impairment of visibility" in the Class I area. 40 CFR § 51.302(c)(4).

The term "reasonably attributable visibility impairment" is defined as "visibility impairment that is caused by the emission of air pollutants from one, or a small number of

sources." 40 CFR § 51.301. The term "visibility impairment" is defined as "any humanly perceptible change in visibility (light extinction, visual range, contrast, coloration) from that which would have existed under natural conditions." *Id*. EPA's regulations state that "[a] single source that is responsible for a 1.0 deciview change or more should be considered to 'cause' visibility impairment" and that "determining whether a source 'contributes' to visibility impairment should not be higher than 0.5 deciviews." 40 CFR § 51 Appendix Y—Guidelines for BART Determinations Under the Regional Haze Rule, Section III A. 1.

BART is "an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by an existing stationary facility." 40 CFR § 301. An existing stationary facility is defined consistent with 42 USC § 7491(b)(2)(A) as any category of stationary source of air pollution that "was not in operation prior to August 7, 1962, and was in existence on August 7, 1977, and has the potential to emit 250 tons per year or more of any air pollutant." *Id*.

This petition therefore requests that the Secretary of Interior, through the National Park Service, which is the Federal Land Manager of Rocky Mountain National Park, certify to the State of Colorado that the existing stationary sources listed in Table 1 cause or contribute to reasonably attributable visibility impairment in Rocky Mountain National Park, a Class I area. As will be explained in more detail within this petition, there is ample information demonstrating that (1) visibility impairment exists, (2) that it is reasonable to attribute such impairment to existing stationary sources, and (3) that the existing stationary facilities listed in Table 1, which include 12 coal-fired boiler units, cause or contribute to this impairment.

This certification will require the State of Colorado to "identify and analyze for BART" the stationary facilities listed in Table 1 and ensure that the facilities "install and operate BART…as expeditiously as practicable[.]" Although the State of Colorado, through the Colorado Department of Public Health and Environment ("CDPHE"), has purportedly adopted a rule to establish BART, Colorado's BART rule suffers from a number of deficiencies that render it substantially inadequate. The National Park Service itself has pointed these deficiencies and urged the State of Colorado to strengthen its BART rule.[1] Unfortunately, the National Park Service's concerns have not been adequately addressed by the State of Colorado. Given that Colorado's BART rule has yet to be approved by the EPA, certification of visibility impairment within Rocky Mountain National Park will ensure the State of Colorado's BART rule is revised and/or improved consistent with EPA regulations and National Park Service recommendations.

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[1] *See* the following National Park Service letters to the State of Colorado:

Letter from David Verhey, Principal Deputy Assistant Secretary for Fish and Wildlife and Parks to Paul Tourangeau, Director, Colorado Air Pollution Control Division, comments on Colorado Regional Haze Rule and BART Determinations (December 12, 2007), *available online at* http://www.nature.nps.gov/air/regs/sipLetters/pdf/Colorado12_12_2007.pdf. This letter is attached as **Exhibit 1**.

Letter from John Bunyak, Chief, Policy, Planning and Permit Review Branch, National Park Service, to Kirsten King, Program Manager, Colorado Department of Public Health and Environment, comments on BART determination for Colorado Springs Utilities Martin Drake Units 5, 6, and 7 (September 8, 2008), available online at http://www.nature.nps.gov/air/regs/sipLetters/pdf/ColoradoBART09_08_2008.pdf. This letter is attached as **Exhibit 2**.

In addition to authorities under the Clean Air Act, the Secretary of Interior is further emboldened to certify impairment of visibility in Rocky Mountain National Park by National Park Service laws and regulations. Indeed, when presented with evidence that a source is causing visibility impairment, the National Park Service Organic Act establishes an affirmative duty to take action. According to 16 USC § 1,

> The service thus established shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified by such means and measures as conform to the fundamental purposes of the said parks, monuments, and reservations, which purpose is to ***conserve the scenery*** and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

(emphasis added). The National Park Service has acknowledged this obligation, stating:

> The National Park Service has a responsibility to protect air quality under both the 1916 Organic Act and the Clean Air Act (CAA). Accordingly, the Service will seek to perpetuate the best possible air quality in parks to (1) preserve natural resources and systems; (2) preserve cultural resources; and (3) sustain visitor enjoyment, human health, and scenic vistas. Vegetation, visibility, water quality, wildlife, historic and prehistoric structures and objects, cultural landscapes, and most other elements of a park environment are sensitive to air pollution and are referred to as "air quality-related values." ***The Service will actively promote and pursue measures to protect these values from the adverse impacts of air pollution***. In cases of doubt as to the impacts of existing or potential air pollution on park resources, the Service will err on the side of protecting air quality and related values for future generations.

NPS's Management Policy at Section 4.7.1 (emphasis added). The Secretary of Interior also has an affirmative duty under the Park System Resources Protection Act to "undertake all necessary actions" to curb air pollution from any source that is injuring Rocky Mountain National Park. As set forth in the Park System Resources Protection Act at 16 U.S.C. § 19jj-2(b)(1),

> The Secretary shall undertake all necessary actions to prevent or minimize the destruction, loss of, or injury to park system resources, or to minimize the imminent risk of such destruction, loss, or injury.

As demonstrated above, there is ample authority for the Secretary of the Interior, through the National Park Service, to certify to the State of Colorado that visibility impairment exists in Rocky Mountain National Park and is reasonably attributable to the existing sources listed in Table 1. Further, as will be explained below, there is ample justification for the Secretary to affirmatively exercise this authority and ensure full protection and restoration of Rocky Mountain National Park.

II. THE CURRENT STATE OF VISIBILITY IN ROCKY MOUNTAIN NATIONAL PARK

Rocky Mountain National Park is a treasured landscape located in the northern Front Range of Colorado. *See* Figure 1. Established in 1915 as the Nation's 9th National Park, the 265,000 acre Park is described as a "living showcase of the grandeur of the Rocky Mountains with elevations ranging from 8,000 feet in the lower valleys to over 14,250' on the summit of Long's Peak."[2] It is the largest National Park in Colorado and every year is visited by over 2.5 million people, a high visitation rate due in part to its proximity to the Denver metropolitan area.

Baseline, or current, visibility conditions in Rocky Mountain National Park have been determined for the 20% best and the 20% worst days in accordance with 40 CFR § 51.309(d)(2)(i). Visibility conditions are measured using a "deciview," which is a perceptually correct "haze index such that uniform changes in haziness correspond to uniform incremental changes in perception across the entire range of conditions, from pristine to highly impaired." 40 CFR § 51.301. Recent analysis indicates that baseline visibility in Rocky Mountain National Park is 2.3 deciviews for the 20% best days and 13.8 deciviews for the 20% worst days.[3] *See* Figures 2 and 3. Natural conditions on the other hand are reported to be 1.9 deciviews for the 20% best days and 7.2 deciviews for the 20% worst days.[4] *See* Table 2. In other words, current visibility on the 20% worst days is more than 90% worse than natural conditions.

Table 2. Difference between natural and baseline visibility in Rocky Mountain National Park (measured in deciviews, or dv).[5]

	Baseline Visibility	Natural Visibility	Difference
20% Best Days	2.3	1.9	0.4
20% Worst Days	13.8	7.2	6.6

It is undisputed that improvement in visibility is needed in Rocky Mountain National Park. According to analyses prepared by the Colorado Department of Public Health and Environment ("CDPHE"), on the 20% worst days, the significant contributors to visibility degradation are ammonium sulfate, ammonium nitrate, organic carbon, and coarse material.[6] Point sources in Colorado, in particular the sources listed in Table 1, are identified as major sources of the sulfate, nitrates, and other particulates that impair visibility in Rocky Mountain National Park.[7]

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[2] *See* CDPHE, Colorado State Implementation Plan for Regional Haze, Technical Support Document, Mandatory Class I Federal Area, Rocky Mountain National Park (October 2007) at 1, *available online at* http://www.cdphe.state.co.us/ap/RegionalHaze/TSDRockyMountainOct.pdf. This report is attached as **Exhibit 3**.

[3] Exh. 3 at 6-10.

[4] *Id*.

[5] Table based on Table 3-1 in Exh. 3.

[6] Exh. 3 at 14.

[7] Exh. 2 at 59-60.

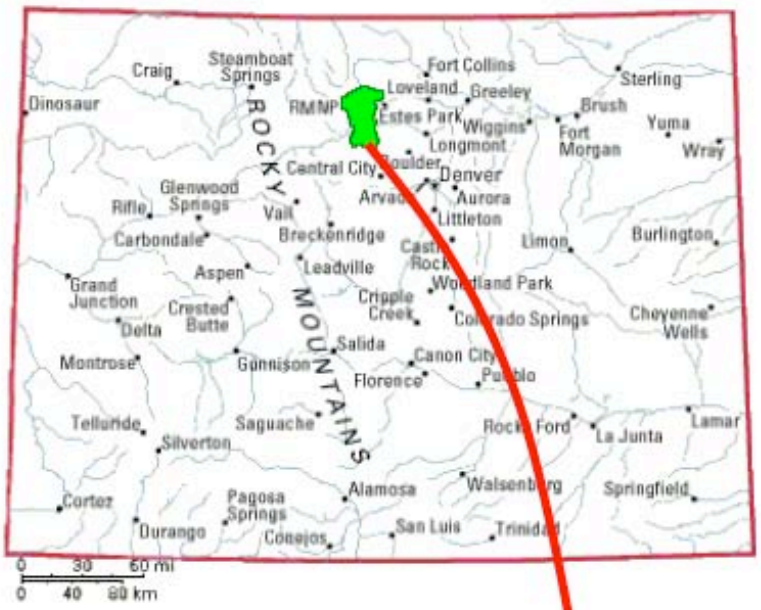
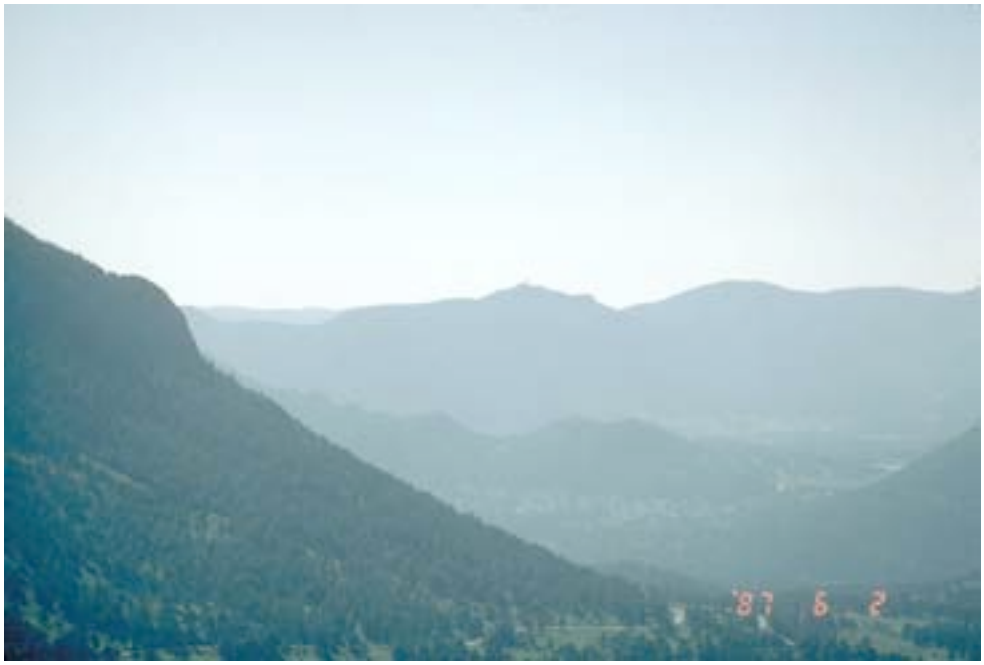


Figure 1-4: Map of Rocky Mountain National Park

Figure 1. Location and Map of Rocky Mountain National Park.[8]

[8] *See* Exh. 3 at 1.

Figures 2 and 3. Representative baseline best visibility conditions above (3 deciviews). Representative baseline worst visibility conditions below (14 deciviews).[9]



[9] Photos from Interagency Monitoring of Protected Visual Environments, http://vista.cira.colostate.edu/Datawarehouse/IMPROVE/Data/Photos/ROMO/start.htm.

III. VISIBILITY IMPAIRMENT IS KNOWN TO BE REASONABLY ATTRIBUTABLE TO A NUMBER OF EXISTING SOURCES

In 1977, Congress amended the Clean Air Act to provide national parks and wilderness areas with the highest degree of protection from air pollution, also known as Class I status.[10] The Class I status provided Rocky Mountain National Park meant that existing visibility impairment in those areas would have to be eliminated.[11]

Impairment of visibility in Rocky Mountain National Park is known to be attributable to a number of existing sources in Colorado, including the 13 coal-fired units listed in Table 1 that cause or contribute to impairment. EPA's regional haze regulations state that "[a] single source that is responsible for a 1.0 deciview change or more should be considered to 'cause' visibility impairment" and that "determining whether a source 'contributes' to visibility impairment should not be higher than 0.5 deciviews."[12]

Based on modeling prepared by the Colorado Department of Public Health and Environment, annual emissions of nitrogen oxides ("NO_x"), sulfur dioxide ("SO_2"), and particulate matter from at least 13 existing coal-fired units cause or contribute to visibility impairment at a level that is greater than 0.5 deciviews within Rocky Mountain National Park. *See* Table 3. Of the coal-fired units, one is a coal-fired cement kiln, the CEMEX, Inc. Lyons cement plant, while the other 12 units are coal-fired boilers.

To its credit, the State of Colorado has recognized that NO_x, SO_2, and particulate matter emissions from these existing facilities cause or contribute to visibility impairment in Rocky Mountain National Park. To this end, the Colorado Department of Public Health and Environment has attempted to analyze and require BART for these facilities. Unfortunately, the state's BART rule, which has yet to be approved by the EPA, has fallen considerably short in ensuring that BART for these sources represents an "emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by an existing stationary facility," in accordance with EPA regulations. As will be explained further, the State of Colorado's BART rule is deficient in a number of respects, underscoring the need for the Secretary of Interior to certify that there exists reasonably attributable visibility impairment within Rocky Mountain National Park.

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[10] 42 USC § 7472

[11] 42 USC §§ 7491-92

[12] 40 CFR § 51, Subpart P, Appendix Y—Guidelines for BART Determinations Under the Regional Haze Rule, Section III A. 1.

Table 3. Contribution of Visibility Impairment from 13 Coal-fired Units in Colorado.[13]

Existing Source	8th High Delta Deciview Value in Rocky Mountain National Park				Number of Days Impact >0.5 deciviews (1996, 2001, 2002
	1996	2001	2002	Average	
Cherokee Unit 4[14]	1.460	1.234	1.047	1.247	96
Craig Units 1 and 2[15]	1.753	1.267	1.935	1.652	205
CEMEX Lyons[16]	1.533	1.263	1.268	1.355	139
Hayden Units 1 and 2[17]	1.541	1.334	1.749	1.541	176
Martin Drake Units 5, 6, and 7[18]	1.041	0.608	0.936	0.862	56
Pawnee[19]	1.086	0.554	1.189	0.943	55
Colorado Energy Nations (formerly Trigen) Units 4 and 5[20]	1.115	1.255	1.152	1.174	74
Valmont Unit 5[21]	1.591	1.108	1.110	1.270	130

[13] The contribution of visibility impairment is based on emissions of NO_x, SO_2, and particulate matter less than 10 microns in diameter, or PM_{10}, from the identified sources.

[14] *See* CDPHE, "BART CALPUFF Class I Federal Area Individual Source Attribution Visibility Impairment Modeling Analysis for Public Service Company of Colorado Cherokee Station Boiler #4" (November 1, 2005) at 47, *available online at* http://www.colorado.gov/airquality/documents/BARTCalpuff%20Report-cherokee.pdf. This report is attached as **Exhibit 4**.

[15] *See* CDPHE, "BART CALPUFF Class I Federal Area Individual Source Attribution Visibility Impairment Modeling Analysis for Tri-State Generation and Transmission Association Craig Station Units 1 and 2 (Revised)" (March 3, 2006) at 48, *available online at* http://www.colorado.gov/airquality/documents/BARTCalpuff%20Report-craig(revised).pdf. This report is attached as **Exhibit 5**.

[16] *See* CDPHE, "BART CALPUFF Class I Federal Area Individual Source Attribution Visibility Impairment Modeling Analysis for CEMEX, Inc., Lyons Cement Plant" (November 1, 2005) at 48, *available online at* http://www.colorado.gov/airquality/documents/BARTCalpuff%20Report-cemex.pdf. This report is attached as **Exhibit 6**.

[17] *See* CDPHE, "BART CALPUFF Class I Federal Area Individual Source Attribution Visibility Impairment Modeling Analysis for Public Service Company of Colorado Hayden Station Units 1 and 2" (November 1, 2005) at 48, *available online at* http://www.colorado.gov/airquality/documents/BARTCalpuff%20Report-hayden.pdf. This report is attached as **Exhibit 7**.

[18] *See* CDPHE, "BART CALPUFF Class I Federal Area Individual Source Attribution Visibility Impairment Modeling Analysis for Colorado Springs Utilities Martin Drake Power Plant Units 5, 6, and 7 (November 1, 2005) at 49, *available online at* http://www.colorado.gov/airquality/documents/BARTCalpuff%20Report-drake.pdf. This report is attached as **Exhibit 8**.

[19] *See* CDPHE, "BART CALPUFF Class I Federal Area Individual Source Attribution Visibility Impairment Modeling Analysis for Public Service Company of Colorado Pawnee Station Unit 1 (November 1, 2005) at 47, *available online at* http://www.colorado.gov/airquality/documents/BARTCalpuff%20Report-pawnee.pdf. This report is attached as **Exhibit 9**.

[20] *See* CDPHE, "BART CALPUFF Class I Federal Area Individual Source Attribution Visibility Impairment Modeling Analysis for Trigen-Colorado Energy Corporation Golden Facility Units 4 and 5 (November 1, 2005) at 48, *available online at* http://www.colorado.gov/airquality/documents/BARTCalpuff%20Report-trigen.pdf. This report is attached as **Exhibit 10**.

IV. THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT'S BART PROPOSAL FOR EXISTING SOURCES FAILS TO MEET BART REQUIREMENTS

A certification of visibility impairment for Rocky Mountain National Park is even more critical given that an adequate BART proposal has yet to be prepared for existing sources in Colorado, a fact that the National Park Service itself has pointed out.

Of primary concern is that Colorado's BART rule prohibits consideration of available technologies to controls emissions of NO_x, at least for coal-fired boilers. However, there are a number of other deficiencies that have not been addressed by the State of Colorado. These primary deficiencies are as follows.

A. The Colorado Rule Inappropriately Prohibits Consideration of Available Technologies to Control NO_x from Coal-fired Boilers

The Colorado Air Quality Control Commission adopted a "state-only" BART regulation in 2006, which was subsequently modified in 2008.[22] This rule has yet to be approved by the EPA. The state's BART rule explicitly prohibited BART-eligible "Electric Generating Units and Fossil Fuel Boilers" from considering and CDPHE from requiring post-combustion controls for NOx emissions, such as selective catalytic reduction ("SCR"), as BART. Since that rule was adopted, BART determinations have been made for all BART-eligible electric generating units and fossil fuel boilers in Colorado, including the sources listed in Table 1. Not a single BART determination was based on an analysis of available post-combustion controls for NO_x emissions.[23]

Federal regulations at 40 CFR § 51.308(e) make clear that, "The determination of BART must be based on an analysis of the best system of continuous emission control technology available and associated emission reductions available for each BART-eligible source that is subject to BART within the State." 40 CFR § 51.308(e)(1)(ii)(A). BART is based on a "case-by-case" determination that takes into account:

> [T]he technology available, the costs of compliance, the energy and nonair quality environmental impacts of compliance, any pollution control equipment in use at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology.

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[21] *See* CDPHE, "BART CALPUFF Class I Federal Area Individual Source Attribution Visibility Impairment Modeling Analysis for Public Service Company of Colorado Valmont Station Boiler #5 (November 1, 2005) at 47, *available online at* http://www.colorado.gov/airquality/documents/BARTCalpuff%20Report-valmont.pdf. This report is attached as **Exhibit 11**.

[22] This rule is set forth as Part F to Air Quality Control Commission Regulation Number 3, *available online at* http://www.cdphe.state.co.us/ap/RegionalHaze/RHPartF.pdf.

[23] The only source for which CDPHE considered post-combustion controls for NO_x emissions was the CEMEX, Inc. Lyons Cement Plant, which is not an electric generating unit or a fossil fuel boiler, but a cement kiln.

Id. *See also*, definition of BART under 40 CFR § 51.301. Nothing in the federal regulations at 40 CFR § 51.308 allow states to summarily dismiss consideration of specific air pollution control technologies—such as post-combustion controls for NO_x—for each BART-eligible source. Rather, a BART determination for each BART-eligible source must be based solely on an analysis of the best system of continuous emission control technology and emission reductions available, taking into consideration only the factors set forth at 40 CFR § 51.308(e)(1)(ii)(A).

That the federal regulations do not allow wholesale dismissal of post-combustion controls for NO_x is bolstered by the EPA's BART guidelines set forth at 40 CFR § 51, Appendix Y. In these guidelines, the EPA states clearly that, while post-combustion controls may not be required by certain New Source Performance Standards, "such controls must still be considered available technologies for the BART selection process." *See* 70 Fed. Reg. 39164. Indeed, in keeping with the "case-by-case" nature of a BART determination, it would be wholly unjustified for CDPHE to summarily reject available controls for NO_x for existing sources.

The National Park Service has echoed these concerns, stating that in prohibiting consideration of post-combustion controls for NO_x, Colorado's BART rule "is contrary to EPA's BART Guidelines which advise states to identify all retrofit technologies, eliminate technically infeasible options, and evaluate the control effectiveness of remaining control technologies."[24] In its 2008 comments on Colorado's BART rule, the Park Service continued, "We continue to believe that CDPHE must evaluate all feasible NO_x control technologies, including such post-combustion controls as SNCR [selective noncatalytic reduction] and SCR [selective catalytic reduction]. CDPHE has not done so."[25]

Post-combustion NO_x controls are more effective at limiting emissions, particularly when combined with combustion controls. As the National Park Service noted for example, the addition of selective noncatalytic reduction, a post-combustion NO_x control, at the Colorado Springs Utilities' Martin Drake Units 5, 6, and 7 would reduce NO_x by around 50% more than would otherwise be achieved through the application of combustion controls only.[26] The National Park Servicer raised similar concerns over CDPHE's adopted BART limits for NO_x emissions from Tri-State Craig Station Units 1 and 2, Colorado Energy Nations Units 4 and 5, and Public Service Company of Colorado's Cherokee Unit 4, Hayden Units 1 and 2, Pawnee Unit 1, and Valmont Unit 5.[27] By prohibiting consideration of post-combustion controls for NO_x, Colorado's BART rule clearly fails to include emission limits for NO_x that represent limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction.

CDPHE summarily dismissed consideration of available post-combustion controls for NO_x as BART for the 12 existing electric generating units and fossil fuel boiler sources listed in Table 1, contrary to federal rule, contrary to the intent of BART, and contrary to the National

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[24] Exhibit 2 at 1.

[25] *Id*. at 5.

[26] Exhibit 2 at 7.

[27] *See* Exhibit 1 at 6-9.

Park Service's own concern. Certification of visibility impairment in Rocky Mountain National Park is necessary to ensure adequate BART determinations are made for all existing electric generating units and fossil fuel boilers that cause or contribute to visibility impairment within this Class 1 area.

B. The Colorado Rule is Deficient in a Number of Other Respects, as Identified by the National Park Service

In addition to the fact that Colorado's BART rule fails to consider available post-combustion NO_x emission controls, the rule is deficient in other regards, as identified by the National Park Service. These deficiencies are as follows:

1. Colorado Springs Utilities, Martin Drake Units 5, 6, and 7

CDPHE asserted that BART for SO_2 emissions from Colorado Springs Utilities, Martin Drake Units 5, 6, and 7 was the use of lime spray dryers to achieve an emission rate of 0.15 pounds/million Btus ("lb/mmBtu") on a 30-day rolling average. The National Park Service however, identified that with the use of lime spray dryers, greater reductions in SO_2 were achievable for Units 6 and 7, were more cost-effective, and improved visibility to a greater degree in Rocky Mountain National Park.[28] Conducting its own analysis, the National Park Service stated:

> We adjusted the CDPHE results to reflect the additional SO_2 removed by achieving 0.09 lb/mmBtu (30-day rolling average). Our results…indicate that a 90% efficient LSD [lime spray dryer] operating on Units #6 & #7 would improve visibility at Rocky Mountain National Park by 0.134 and 0.212 deciviews, respectively, and actually cost less, on a cost-per-deciview basis, than the CDPHE proposal.[29]

It is not apparent that CDPHE fixed the deficiencies identified by the National Park Service's comments and recommendations in establishing BART limits for Martin Drake Units 6 and 7.

2. Tri-State Generation and Transmission, Craig Station Units 1 and 2

CDPHE adopted BART limits for SO_2 emissions from Craig Station Units 1 and 2 at 0.15 lb/mmBtu on a 30-day rolling average and 0.13 lb/mmBtu on a 90-day rolling average. The National Park Service disagreed with CDPHE's BART limits, commenting that "Craig could meet a lower (than presumptive) SO_2 limit [adopted by CDPHE]."[30] The National Park Service also commented that "PM_{10} emissions should be limited to levels that reflect the current capabilities of fabric filters."[31] It is not apparent that CDPHE fixed the deficiencies identified by

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[28] Exhibit 2 at 2-4.

[29] *Id*. at 3.

[30] Exhibit 1 at 6.

[31] *Id*.

the National Park Service's comments and recommendations in establishing BART limits for SO_2 and PM_{10} for Craig Units 1 and 2.

3. Colorado Energy Nations Units 4 and 5

CDPHE required no controls for SO_2 emissions as BART for Colorado Energy Nations Units 4 and 5. The National Park Service disagreed with CDPHE's determination, stating, "Certain control strategies, such as wet scrubbing…cannot be categorically excluded."[32] The National Park Service also recommended CDPHE reevaluate "addition of DSI [dry sorbent injection] for SO_2 control and that Colorado Energy Nations' proposed "fuel management" strategy to reduce peak SO_2 emission rates should not be rejected.[33] The National Park Service also scrutinized CDPHE's proposed PM_{10} BART limits, stating, "PM_{10} emissions should be limited to levels that reflect the current capabilities of fabric filters."[34] It is not apparent that CDPHE fixed the deficiencies identified by the National Park Service's comments and recommendations in establishing BART limits for SO_2 and PM_{10} for Colorado Energy Nations' Units 4 and 5.

4. Public Service Company of Colorado, Pawnee Unit 1

The National Park Service commented:

> Pawnee is still subject to EPA enforcement action for major modifications to this boiler Therefore, PSD [prevention of significant deterioration] review applies, including the requirement to apply BACT [best available control technology]. Because BACT applies to this boiler, SCR should be applied to achieve an emission rate of 0.05-0.06 lb NO_x/mmBtu on a 24-hour average.[35]

The Park Service also identified deficiencies with CDPHE's BART limits for SO_2, stating:

> The State proposes that Pawnee meet the presumptive BART limit of 0.15 lb SO_2/mmBtu on a 30-day rolling average. Even if the State restricts its BART analyses to dry scrubbing, there are several examples of boilers burning coal similar to that at [Pawnee] but with much lower emissions. Therefore, PSCO [Public Service Company of Colorado] should be capable of achieving the same limit with its new dry scrubber (and burning relatively clean coal) as similar facilities which burn coal with higher sulfur.[36]

With regards to PM10 emissions, the Park Service stated, "PM_{10} emissions should be limited to levels that reflect the current capabilities of fabric filters."[37] It is not apparent that CDPHE fixed

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[32] Exhibit 1 at 6.

[33] *Id*.

[34] *Id*.

[35] Exhibit 1 at 7.

[36] *Id*. at 8.

[37] *Id*.

the deficiencies identified by the National Park Service's comments and recommendations in establishing BART limits for NO_x, SO_2 and PM_{10} for Pawnee Unit 1.

5. Public Service Company of Colorado, Hayden Units 1 and 2

The National Park Service commented on CDPHE's BART limits for NO_x, stating "The State should not allow a higher NO_x limit than for the Craig units which are also subject to BART, a visibility-related consent decree with identical limits, and burn similar northwestern Colorado coals."[38] The Park Service also commented on CDPHE's BART limits for SO_2, stating "The State should determine if the Hayden scrubbers should be upgraded to perform as well as those at Craig."[39] Finally, the Park Service noted, "PM_{10} emissions should be limited to levels that reflect the current capabilities of fabric filters."[40] It is not apparent that CDPHE fixed the deficiencies identified by the National Park Service's comments and recommendations in establishing BART limits for NO_x, SO_2 and PM_{10} for Hayden Units 1 and 2.

6. Public Service Company of Colorado, Cherokee Unit 4

The National Park Service recommended that CDPHE evaluate "sulfur dioxide controls beyond the recently-installed dry scrubber" at Cherokee Unit 4 and that "PM_{10} emissions should be limited to levels that reflect the current capabilities of fabric filters."[41] It is not apparent that CDPHE fixed the deficiencies identified by the National Park Service's comments and recommendations in establishing BART limits for SO_2 and PM_{10} for Cherokee Unit 4.

7. Public Service Company of Colorado, Valmont Unit 5

The National Park Service recommended that CDPHE evaluate "sulfur dioxide controls beyond the recently-installed dry scrubber" at Valmont Unit 5. It is not apparent that CDPHE fixed this deficiency in establishing BART limits for SO_2 for Valmont Unit 5.

C. The Colorado Rule is Deficient in Regards to the BART Alternative Adopted for Public Service Company of Colorado's Cherokee Unit 4, Pawnee Unit 1, and Valmont Unit 5.

Also of concern is that CDPHE relied on an alternative to BART to assure compliance with federal BART requirements with regards to Public Service Company of Colorado's Cherokee Unit 4, Pawnee Unit 1, and Valmont Unit 5. Although States are allowed to adopt alternatives to BART, federal regulations are clear that such alternatives must result "in greater emissions reductions" than would otherwise be achieved by BART.[42] In this case, because of the deficiencies in Colorado's BART rule, there is no basis for CDPHE to assert that the BART

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[38] Exhibit 1 at 8.

[39] *Id*.

[40] *Id*.

[41] *Id*.

[42] *See* 40 CFR § 51.308(e)(3).

alternative would achieve greater emissions reductions than would otherwise be achieved under BART at Cherokee Unit 4, Pawnee Unit 1, and Valmont Unit 5. Put simply, CDPHE has not established adequate BART emission limits by which to assess whether the adopted BART alternative is, in fact, better than BART.

Further, it actually appears that the BART alternative for SO_2 emissions from Cherokee and Valmont would allow increased emissions from these existing sources. CDPHE adopted a "Denver Metro Area Voluntary Emission Reduction Agreement," or VERA, as an alternative to BART. The VERA called for a 10,500 ton/year cap on SO_2 emissions from all units at three of Public Service Company of Colorado's coal-fired power plants within the Denver metropolitan area: Arapahoe, Cherokee, and Valmont Stations.

Reliance on the VERA, however, is inappropriate and contrary to BART given that the agreement will actually allow increases in SO_2 emissions in the Denver metropolitan area. Under the VERA, SO_2 emissions are capped at 10,500 tons/year from all units at the Arapahoe, Cherokee, and Valmont Stations. Yet, in the three years prior to the adoption of Colorado's BART rule, total SO_2 emissions among these power plants averaged 10,227.9 tons annually according to data submitted to the EPA's Acid Rain Program.[43] *See* Table 4. Thus, SO_2 emissions under the CDPHE's BART alternative will actually be allowed to rise over 273 tons.

Table 4. Average SO_2 Emissions (tons/year), 2004-2006, from Units at Arapahoe, Cherokee, and Valmont Coal-fired Power Plants.[44]

Power Plant	Unit	2004	2005	2006	Average SO_2 Emissions
Arapahoe	3	678.1	940.1	879.9	832.70
	4	2024.3	1471.5	1614.4	1703.40
Cherokee	1	2162.5	2165.3	2187.7	2171.83
	2	1940.9	2441.9	1840.3	2074.37
	3	664.2	704	778.5	715.57
	4	1678.6	1749.8	2309.1	1912.50
Valmont	5	826	878.6	748	817.53
			TOTAL SO_2 EMISSIONS		**10227.9**

Furthermore, based on presumptive BART SO_2 limits identified by CDPHE, it appears that a greater reduction in SO_2 emissions could be achieved through BART than under the VERA. According to Colorado's BART Rule, presumptive BART constitutes a 95% reduction in SO_2 emissions or 0.15 lb/mmBtu SO_2 limit. If Cherokee Unit 4 and Valmont Unit 5 both

[43] CDPHE relied on a three-year average to determine SO2 emissions from Arapahoe, Cherokee, and Valmont, thus petitioners also rely on a three-year average.

[44] Data from EPA's Clean Air Markets Database. This data is attached as **Exhibit 12**.

achieved a 95% reduction from their worst-case uncontrolled level of SO_2 emissions, emissions would drop from 10,227.9 tons annually to 8,775.07 tons annually from Public Service Company of Colorado's fleet of coal-fired power plants in the Denver metropolitan area. *See* Table 5. In other words, even if just Cherokee Unit 4 and Valmont Unit 5 met Colorado's presumptive BART limits for SO_2 emissions, a greater emission reduction would be achieved as compared to the VERA.

Table 5. SO_2 Reductions (in tons/year) from Cherokee Unit 4 and Valmont Unit 5, Based on 95% Reduction.

Unit	Worst-case Uncontrolled SO_2 Emissions (tons/year)[45]	Emissions of SO_2 with 95% Reduction (tons/year)	Total Reductions (tons/year)
Cherokee Unit 4	16,664	833.2	1079.3
Valmont Unit 5	8,80	444	373.53
	TOTAL SO_2 REDUCTION (TONS/YEAR)		**1452.83**
	RESULTING OVERALL EMISISONS (TONS/YEAR)		**8775.07**

For its part, CDPHE seems to have admitted that the VERA is not actually based on any emissions analysis, but is rather based on a deal reached between CDPHE and Public Service Company of Colorado. In response to comments from the National Park Service, CDPHE commented, "As a matter of policy, the [Air Pollution Control] Division and Department has determined that these [Voluntary Emission Reduction] agreements will be honored and additional controls will not be required at this time, unless agreed to by the affected source."[46]

V. CONCLUSION

The Secretary of Interior has an affirmative duty to address visibility impairment in Rocky Mountain National Park. In accordance with 40 CFR § 51.302(c)(2), we request the Secretary certify to the State of Colorado that reasonably attributable impairment of visibility exists in Rocky Mountain National Park and ensure that the State takes appropriate steps to ensure adequate BART analyses and emissions limits are adopted, implemented, and enforced to

[45] Worst-case uncontrolled SO_2 emissions from Colorado's Regional Haze State Implementation Plan at 65, available online at http://www.cdphe.state.co.us/ap/RegionalHaze/RegionalHazeSIP.pdf.

[46] *See* Letter from Kirsten King, Program Manager, Stationary Sources Program, Colorado Air Pollution Control Division to John Bunyack, Chief, Policy, Planning and Permit Review Branch, National Park Service, "Response to Comments on the Best Available Retrofit Analyses Submitted by Colorado Sources" (January 9, 2008), *available online at* http://www.cdphe.state.co.us/ap/RegionalHaze/RHresponsetoNPS.pdf.

ensure reasonable further progress toward restoring natural visibility conditions in this treasured landscape.

Certification of visibility impairment in Rocky Mountain National Park will also ensure the citizens of Colorado, as well as visitors to the state, reap the full economic benefits of an adequate BART Rule. The EPA itself has found that the total economic benefits of implementing BART in Colorado are as much as $62 million per year, and that the benefit/cost ratio is as high as 5:1.[47] These benefits occur from the related reduction in health-related impacts from air pollution and in the benefits of visibility improvement. In other words, for every dollar spent on reducing visibility impairing pollutants, Colorado reaps as much as $5.00 in return. This is clearly an investment opportunity the Secretary of Interior cannot afford to delay action on.

We request the Secretary of Interior respond to our petition as expeditiously as possible to ensure that the State of Colorado's adopts, implements, and enforces an adequate BART rule, to ensure reasonable further progress toward protecting visibility in Rocky Mountain National Park, and to ensure that the economic benefits of clear skies are fully realized by Colorado citizens and visitors.

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[47] *See* EPA, "Economic Benefits of Colorado BART Controls," presentation given February 8, 2006, *available online at* http://www.cdphe.state.co.us/ap/down/BARTeconomics.pdf. This presentation is attached as **Exhibit 13**.

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TABLE OF EXHIBITS

1. Letter from David Verhey, Principal Deputy Assistant Secretary for Fish and Wildlife and Parks to Paul Tourangeau, Director, Colorado Air Pollution Control Division, comments on Colorado Regional Haze Rule and BART Determinations (December 12, 2007), *available online at* http://www.nature.nps.gov/air/regs/sipLetters/pdf/Colorado12_12_2007.pdf.

2. Letter from John Bunyak, Chief, Policy, Planning and Permit Review Branch, National Park Service, to Kirsten King, Program Manager, Colorado Department of Public Health and Environment, comments on BART determination for Colorado Springs Utilities Martin Drake Units 5, 6, and 7 (September 8, 2008), available online at http://www.nature.nps.gov/air/regs/sipLetters/pdf/ColoradoBART09_08_2008.pdf.

3. CDPHE, "Colorado State Implementation Plan for Regional Haze, Technical Support Document, Mandatory Class I Federal Area, Rocky Mountain National Park" (October 2007) at 1, *available online at* http://www.cdphe.state.co.us/ap/RegionalHaze/TSDRockyMountainOct.pdf.

4. CDPHE, "BART CALPUFF Class I Federal Area Individual Source Attribution Visibility Impairment Modeling Analysis for Public Service Company of Colorado Cherokee Station Boiler #4" (November 1, 2005) at 47, *available online at* http://www.colorado.gov/airquality/documents/BARTCalpuff%20Report-cherokee.pdf.

5. CDPHE, "BART CALPUFF Class I Federal Area Individual Source Attribution Visibility Impairment Modeling Analysis for Tri-State Generation and Transmission Association Craig Station Units 1 and 2 (Revised)" (March 3, 2006) at 48, *available online at* http://www.colorado.gov/airquality/documents/BARTCalpuff%20Report-craig(revised).pdf.

6. CDPHE, "BART CALPUFF Class I Federal Area Individual Source Attribution Visibility Impairment Modeling Analysis for CEMEX, Inc., Lyons Cement Plant" (November 1, 2005) at 48, *available online at* http://www.colorado.gov/airquality/documents/BARTCalpuff%20Report-cemex.pdf.

7. CDPHE, "BART CALPUFF Class I Federal Area Individual Source Attribution Visibility Impairment Modeling Analysis for Public Service Company of Colorado Hayden Station Units 1 and 2" (November 1, 2005) at 48, *available online at* http://www.colorado.gov/airquality/documents/BARTCalpuff%20Report-hayden.pdf.

8. CDPHE, "BART CALPUFF Class I Federal Area Individual Source Attribution Visibility Impairment Modeling Analysis for Colorado Springs Utilities Martin Drake Power Plant Units 5, 6, and 7 (November 1, 2005) at 49, *available online at* http://www.colorado.gov/airquality/documents/BARTCalpuff%20Report-drake.pdf.

9. CDPHE, "BART CALPUFF Class I Federal Area Individual Source Attribution Visibility Impairment Modeling Analysis for Public Service Company of Colorado Pawnee Station Unit 1 (November 1, 2005) at 47, *available online at* http://www.colorado.gov/airquality/documents/BARTCalpuff%20Report-pawnee.pdf.

10. CDPHE, "BART CALPUFF Class I Federal Area Individual Source Attribution Visibility Impairment Modeling Analysis for Trigen-Colorado Energy Corporation Golden Facility Units 4 and 5 (November 1, 2005) at 48, *available online at* http://www.colorado.gov/airquality/documents/BARTCalpuff%20Report-trigen.pdf.

11. CDPHE, "BART CALPUFF Class I Federal Area Individual Source Attribution Visibility Impairment Modeling Analysis for Public Service Company of Colorado Valmont Station Boiler #5 (November 1, 2005) at 47, *available online at* http://www.colorado.gov/airquality/documents/BARTCalpuff%20Report-valmont.pdf.

12. Facility Emissions Data from EPA's Clean Air Markets Database.

13. EPA, "Economic Benefits of Colorado BART Controls," presentation given February 8, 2006, *available online at* http://www.cdphe.state.co.us/ap/down/BARTeconomics.pdf.