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BEFORE THE ADMINISTRATOR
U.S. ENVIRONMENTAL PROTECTION AGENCY

In the Matter of PPL Montana, LLC – Colstrip Steam Electric Station
580 Willow Avenue, P.O. Box 38
Colstrip, MT 59323

Permit No. OP0513-08
SIC Code 4911
AFS No. 030-087-0008A
Petition No. _____

Title V Permit Issued by Montana Department
of Environmental Quality
on December 4, 2012

PETITION REQUESTING THE ADMINISTRATOR OBJECT TO ISSUANCE OF THE TITLE V OPERATING PERMIT FOR THE PPL MONTANA, LLC – COLSTRIP COAL-FIRED POWER PLANT

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INTRODUCTION

Pursuant to 42 U.S.C. § 7661d(b)(2) and 40 C.F.R. § 70.8(d), the Montana Environmental Information Center and the Sierra Club ("Petitioners") petition the Administrator of the United States Environmental Protection Agency ("EPA") to object to a Title V Operating Permit for the Colstrip coal-fired power plant ("Colstrip"), Permit Number OP0513-08 ("Permit"). The Montana Department of Environmental Quality ("DEQ") proposed the Permit to EPA on October 17, 2012, more than forty-five days ago. A copy of the Permit is enclosed with this Petition as Document 1 in the Appendix.[1]

Petitioners base their objections on their comments on the drafts of this Permit submitted to DEQ on June 16, 2011, and September 24, 2012. Copies of these comments are attached as Documents 2 and 3 in the Appendix. DEQ's responses to these comments were included in the Technical Review Document ("TRD") for the Permit, which is attached as Document 4 in the Appendix.

BACKGROUND

The Clean Air Act is "Congress's response to well-documented scientific and social concerns about the quality of the air that sustains life on [E]arth and protects it from … degradation and pollution caused by modern industrial society." Del. Valley Citizens Council for Clean Air v. Davis, 932 F.2d 256, 260 (3rd Cir. 1991). A key component of the Clean Air Act is the Title V operating permit program, which requires that certain stationary sources of air pollution—such as coal-fired power plants—obtain permits that clearly identify all applicable emission limits and monitoring requirements. Sierra Club v. U.S. Envtl. Prot. Agency, 536 F.3d 673, 674 (D.C. Cir. 2008). The monitoring requirements must be "sufficient to assure

[1] Documents referenced in this Petition are included in the Appendix to this Petition, provided on the enclosed compact disc.

compliance with the terms and conditions of the permit." 40 C.F.R. § 70.6(c)(1). Thus, the Title V permitting program enables "the source, States, EPA, and the public to better understand the requirements to which the source is subject, and whether the source is meeting those requirements." U.S. EPA, Final Rule: Operating Permit Program, 57 Fed. Reg. 32,250, 32,251 (July 21, 1992). In Montana, DEQ is responsible for issuing permits, but EPA is required to object to permits that do not comply with the Clean Air Act. See 42 U.S.C. § 7661d(b).

A Title V operating permit must include all of a pollution source's "applicable requirements." Id. § 7661c(a). "Applicable requirements" include all provisions of applicable state or federal implementation plans, any Prevention of Significant Deterioration or New Source Review requirements, and any standard or requirement under Clean Air Act sections 111, 112, 114(a)(3), or 504. 40 C.F.R. § 70.2; Mont. Admin. R. 17.8.1201(10). Applicable requirements include "requirements that have been promulgated or approved [by DEQ or EPA] through rulemaking at the time of issuance of the [Title V] permit, but have future-effective compliance dates." Mont. Admin. R. 17.8.1201(10); see also 40 C.F.R. § 70.2. In addition to emission limits, operating permits also must specify monitoring, recordkeeping, and reporting requirements that are "sufficient to assure compliance with the terms and conditions of the permit." 40 C.F.R. § 70.6(c)(1); Mont. Admin. R. 17.8.1212. Thus, the operating permit lists all federally enforceable emissions limits applicable to the polluting source and requirements necessary to assure compliance with the limits.

Operating permits serve the essential role of enabling the source and the public to understand the requirements to which the source is subject and enabling regulators and the public to enforce those requirements. As EPA explained in the preamble to its Title V regulations, air quality "regulations are often written to cover broad source categories" leaving it "unclear which,

and how, general regulations apply to a source." U.S. EPA, Operating Permit Program, 57 Fed. Reg. at 32,251. Operating permits bridge this gap by "clarify[ing] and mak[ing] more readily enforceable a source's pollution control requirements," including making clear how general regulatory provisions apply to specific sources. Clean Air Act Amendments of 1989, S. Rep. 101-228, reprinted in 1990 U.S.C.C.A.N. 3385, 3730 (Dec. 20, 1989). In short, operating permits are supposed to link general regulatory provisions to a specific source to provide a way "to establish whether a source is in compliance." U.S. EPA, Operating Permit Program, 57 Fed. Reg. at 32,251

The Colstrip coal-fired power plant, ninety miles east of Billings in southeastern Montana, is among the largest coal plants in the United States, with four generating units representing a combined capacity of approximately 2,100 megawatts. Air pollution from Colstrip dwarfs the emissions of every other stationary source of pollution in Montana. Each year, Colstrip burns more than ten million tons of coal, which releases many pollutants into the air, including particulate matter, sulfur dioxide, nitrogen oxides, mercury, and other hazardous air pollutants. Air pollutants, including sulfur dioxide and fine particulate matter from coal-fired power plants such as Colstrip, can have impacts on public health, air visibility, and acid rain. As a major source of air pollution, Colstrip must have a Title V permit to operate.

DEQ issued an operating permit for the Colstrip facility on December 4, 2012—more than two-and-a-half years after Colstrip's prior operating permit (OP0513-06) expired on April 12, 2010. After receiving PPL Montana's application for renewal of its operating permit for the Colstrip plant on March 25, 2010, DEQ began work on revising and renewing the permit. DEQ published the first draft permit for the Colstrip plant on May 17, 2011. DEQ allowed thirty days for public comment, and Petitioners submitted timely comments on June 16, 2011. DEQ issued

a second draft permit and announced a new public comment period on August 10, 2012. Petitioners submitted timely comments on this second draft of the permit on September 24, 2012. DEQ provided a copy of the draft Permit to EPA on October 17, 2012. During the forty-five days afforded to EPA to review the Permit, see 42 U.S.C. § 7661d(b)(2), EPA took no action on the Permit, and on December 4, 2012, DEQ issued the Permit.

This Petition is filed within sixty days following the end of EPA's forty-five-day review period, as required by 42 U.S.C. § 7661d(b)(2). The EPA Administrator must grant or deny this Petition within sixty days of its filing. Id. If Petitioners demonstrate that Colstrip's Title V operating permit does not comply with the requirements of the Clean Air Act or fails to include any "applicable requirement," the Administrator is required to object to issuance of the permit. Id.; 40 C.F.R. § 70.8(c)(1) ("The [U.S. EPA] Administrator will object to the issuance of any permit determined by the Administrator not to be in compliance with applicable requirements or requirements of this part.") (emphasis added).

SUMMARY OF PETITION ARGUMENTS

Petitioners request that the Administrator object to the Colstrip Title V Permit because the Permit fails to include all applicable requirements and fails to require monitoring of particulate matter sufficient to assure compliance with the Permit's terms. These omitted requirements include critical environmental safeguards. Specifically, this Petition seeks an objection by the Administrator for the following reasons:

1. The Permit fails to include hazardous air pollutant emission limits recently adopted by EPA that are applicable requirements for the Permit;

2. The Permit fails to include nitrogen oxide, sulfur dioxide, and particulate matter emission limits that EPA recently finalized in its regional haze plan for Montana; and

3. The Permit fails to require monitoring sufficient to assure compliance with existing permit limits on PM emissions.

SPECIFIC OBJECTIONS

I. THE PERMIT FAILS TO INCLUDE ALL APPLICABLE REQUIREMENTS

Colstrip's Title V Permit is deficient because it fails to require compliance (1) with recently promulgated standards for hazardous air pollutant emissions from power plants and (2) with emission limits established through the final regional haze federal implementation plan for Montana. Both of these standards are "applicable requirements" that must be included in Colstrip's Title V Permit. "Applicable requirements" include "requirements that have been promulgated or approved [by DEQ or EPA] through rulemaking at the time of issuance of the [Title V] permit, but have future-effective compliance dates." Mont. Admin. R. 17.8.1201(10); see also 40 C.F.R. § 70.2 (same). Thus, emission limits established under EPA's hazardous air pollution regulations and the Montana regional haze plan—both of which were promulgated before the Permit issued—must be included in Colstrip's Title V Permit, along with monitoring requirements sufficient to assure compliance.

A. The Permit Omits Applicable Hazardous Air Pollutant Standards

Colstrip's Permit fails to assure compliance with all applicable requirements because it does not include the standards established by 40 C.F.R. Part 63, Subpart UUUUU, the National Emission Standards for Hazardous Air Pollutants ("NESHAPs") from Coal- and Oil-Fired Electric Generating Units. See 40 C.F.R. § 70.1(b) ("All sources subject to these regulations shall have a permit to operate that assures compliance by the source with all applicable requirements."); Mont. Admin. R. 17.8.1211-.13 (enumerating requirements for air quality operating permits). DEQ acknowledges that the hazardous air pollutant standards are applicable requirements for Colstrip's Permit, see TRD at 58, and the Maximum Achievable Control

Technology ("MACT") required by 40 C.F.R. Part 63, Subpart UUUUU is an "applicable air quality program[]," id. at 1. Despite DEQ's assertions to the contrary, DEQ may not postpone including these requirements in the Permit, and the fact that the Colstrip plant is currently operating within the hazardous air pollutant limits does not obviate this requirement.

The hazardous air pollutant standards are applicable requirements because they were promulgated and became effective on April 16, 2012, before DEQ issued Colstrip's operating permit. See NESHAPs from Coal- and Oil-Fired Electric Utility Steam Generating Units, 77 Fed. Reg. 9,304, 9,304 (Feb. 16, 2012). Pursuant to these standards, the Colstrip units must comply with limits on the emissions of hazardous air pollutants such as mercury, acid gases (or sulfur dioxide ("SO_2") as a surrogate), and metallic hazardous air pollutants (or particulate matter ("PM") as a surrogate) by April 16, 2015. 40 C.F.R. §§ 63.9984, 63.9991. Because the hazardous air pollutant standards "ha[d] been promulgated or approved by [DEQ or EPA] through rulemaking at the time of issuance of the air quality operating permit," Mont. Admin. R. 17.8.1201(10), they are "applicable requirements" and the Permit thus must have specifically required that each of the Colstrip generating units come into compliance with these standards by April 15, 2015.

The need to include in Colstrip's operating permit specific requirements to comply with the hazardous air pollutant standards is not just required by the Clean Air Act and federal and state regulations; it is essential to ensure Colstrip's timely adherence to those requirements. EPA's hazardous air pollutant rule includes options for meeting and demonstrating compliance. For example, the rule established an acid gas limit for HCl of 0.002 lb/MMBtu, or, alternatively, a surrogate limit on SO_2 of 0.20 lb/MMBtu. To ensure that Colstrip's operator can plan for meeting its obligations by the April 15, 2015, compliance deadline, Montana DEQ must identify

the non-mercury metal hazardous air pollutant and acid gas limits or surrogate limits applicable to Colstrip and further include monitoring, recordkeeping, and reporting requirements that assure compliance with the new limits.

While the need to select appropriate emission limits and compliance methods emphasizes the importance of including hazardous air pollutant requirements in Colstrip's operating permit now, DEQ improperly used the presence of compliance options to argue that "adding specific limits [to the permit] would be premature." TRD at 58. DEQ provides no support for its decision to delay including the hazardous air pollutant limits in Colstrip's operating permit, and indeed, federal and state regulations governing Title V permits nowhere provide for excluding applicable requirements from a permit simply because there are various options for ensuring compliance. To be sure, one function of a Title V operating permit it to make clear to the source's operator how to achieve compliance with applicable requirements. See U.S. EPA, Operating Permit Program, 57 Fed. Reg. at 32,251.

In contravention of DEQ's Clean Air Act obligation to include all "applicable requirements" in operating permits, 42 U.S.C. § 7661c(a), DEQ claimed that it has "up to 18 months following promulgation to have the permit reopened and revised" to include hazardous air pollution standards. TRD at 58 (citing Mont. Admin. R. 17.8.1228). The rule upon which DEQ relied states that "[a]dditional applicable requirements under the [federal Clean Air Act] become applicable to a major source holding a permit with a remaining term of three or more years. Reopening and revision of the permit shall be completed not later than 18 months after promulgation of the applicable requirement." Mont. Admin. R. 17.8.1228(1)(a); see also 40 C.F.R. § 70.7(f)(1)(i). However, the provision establishes the requisite timeframe for reopening an existing permit to include new requirements; it does not apply to the situation here, in which a

source's permit had expired and DEQ was processing a permit renewal at the time new standards were promulgated. See Mont. Admin. R. 17.8.1228(1)(a); see also 40 C.F.R. § 70.7(f)(1)(i).[2] In such situations, EPA made clear that when an applicable requirement "is promulgated while a draft permit is being processed, the permitting authority must revise the permit to include the new requirements prior to issuance." U.S. EPA, Questions and Answers on the Requirements of Operating Permits Program Regulations, at 7-3 (July 7, 1993), attached as Document 5 ("Permits Program Q & A") (emphasis added).

Finally, DEQ's claim that the Permit need not contain certain hazardous air pollutant emission limits because Colstrip's emissions are purportedly lower than those limits lacks merit. See TRD at 59. First, the hazardous air pollutant standards are applicable requirements independent of Colstrip's existing limits. Mont. Admin. R. 17.8.1211(b); see also 40 C.F.R. § 70.6(a)(1)(i) (Title V permit must identify all applicable requirements, including "a specific description with appropriate references of the origin of, and authority for, each term or condition contained in the permit") (emphasis added). Moreover, DEQ's premise is incorrect. For example, Colstrip must reduce PM emissions to meet EPA's PM limit for non-mercury metal hazardous air pollutants. EPA has adopted a PM limit of 0.03 lb/MMBtu as a surrogate for non-mercury metal hazardous air pollutants. Units 1 and 2 already emit filterable PM at rates close to twice that of the EPA's 0.03 lb/MMBtu total PM limit (at 0.047 and 0.058 lb/MMBtu

[2] Furthermore, DEQ informed Colstrip's operator that it lacked a valid permit between April 12, 2010, and January 4, 2013, when the challenged permit took effect, because the operator failed to submit a timely renewal application. See Violation Letter # VLRG12-15 (Oct. 19, 2012), attached as Document 6. Thus, Mont. Admin. R. 17.8.1228 is inapplicable for the additional reason that Colstrip was not "holding a permit" when the hazardous air pollutant standards were promulgated. See Mont. Admin. R. 17.8.1228.

respectively[3]), and their existing PM limit (0.10 lb/MMBtu) is more than three times the new federal limit. Likewise, the existing PM limit for Units 3 and 4 of 0.05 lb/MMBtu is greater than the new federal limit of 0.03 lb/MMBtu.

Because the Colstrip operating permit does not identify specific emission limits and standards that the Colstrip units must satisfy to comply with the hazardous air pollutant standards, the Permit fails to fulfill Congress's intention that such permits would "clarify and make more readily enforceable a source's pollution control requirements," including making clear how general regulatory provisions apply to specific sources. See Clean Air Act Amendments of 1989, S. Rep. 101-228, reprinted in 1990 U.S.C.C.A.N. 3385, 3730 (Dec. 20, 1989). Lacking such provisions, Colstrip's Permit unlawfully fails to assure compliance with all applicable requirements.

EPA must object to Colstrip's Title V operating permit and require DEQ to incorporate into the Permit specific hazardous air pollution standards and associated monitoring, recordkeeping, and reporting requirements applicable to the Colstrip plant.

B. The Permit Omits Applicable Regional Haze Emissions Limits

Colstrip's Title V Permit further fails to assure compliance with all applicable requirements because it does not include emission limits and related requirements established by Montana's regional haze federal implementation plan, which EPA adopted to satisfy the federal Clean Air Act's requirement that EPA address and prevent visibility impairment at federal Class I areas. See 42 U.S.C. § 7410(c). The plan's conditions were applicable requirements at the time DEQ issued a final permit pursuant to 40 C.F.R. § 70.2 and Mont. Admin. R. 17.8.1201(10)(b).

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[3] See June 2008 Addendum to PPL Montana's Colstrip BART Report at 2-4 (Table 2-2), attached as Document 7.

The Montana regional haze plan established new emission limits for Colstrip Units 1 and 2, specifically: 0.10 lbs/MMBtu of PM; 0.08 lbs/MMBtu of SO_2; and 0.15 lbs/MMBtu of NO_x. 40 C.F.R. § 52.1396(c). The plan requires compliance with PM limits by November 17, 2012. Id. § 52.1396(d). The plan requires compliance with SO_2 and nitrogen oxide ("NO_x") limits within 180 days of October 18, 2012, unless installation of additional emission controls is necessary to comply with the regional haze plan's emission limitations, in which case compliance is required within five years of October 18, 2012. Id. Although some of these regional haze requirements have future-effective compliance dates, the regional haze PM limit is already in effect, and the SO_2 and NO_x deadlines are fast approaching. All of the regional haze plan's requirements will apply to Colstrip within the five-year duration of Colstrip's Title V Permit.

DEQ was required to include the regional haze plan's emission limits and associated monitoring, record-keeping, and reporting requirements in Colstrip's Permit because they "ha[d] been promulgated or approved by [DEQ or EPA] through rulemaking at the time of issuance of the air quality operating permit." Mont. Admin. R. 17.8.1201(10); see also 40 C.F.R. § 70.2. The regional haze plan was signed by the EPA Administrator on August 15, 2012, and it was published in the Federal Register on September 18, 2012. See Approval and Promulgation of Implementation Plans, 77 Fed. Reg. 57,864 (Sept. 18, 2012).[4] Thus, the regional haze plan had

[4] Federal courts have come to different conclusions on whether "promulgate" means the date on which a rule was signed or the date on which it was published in the Federal Register. Compare Am. Petroleum Inst. v. Costle, 609 F.2d 20, 23 (D.C. Cir. 1979) (date of promulgation is date on which rule signed and released to public) with Nw. Envtl. Def. Ctr. v. Brennan, 958 F.2d 930, 934 (9th Cir. 1992) (date of promulgation is date on which rule is published in Federal Register). However, regardless of how one calculates the date of promulgation in this case—either the August 15 signing or September 18 publishing in the Federal Register—the regional haze plan was an applicable requirement for the Colstrip operating permit because both of these possible promulgation dates fell before the issuance of the operating permit on December 4, 2012.

been promulgated and set forth applicable requirements before DEQ finalized Colstrip's operating permit on October 17, 2012 and well before DEQ issued the final operating permit on December 4, 2012.

DEQ recognized that the regional haze plan established requirements that are applicable to Colstrip, TRD at 57, but provided two justifications for nonetheless failing to incorporate those requirements into the final Permit. DEQ first claimed that it has eighteen months from promulgation of the new requirements to include the requirements in an operating permit. Id. Second, with respect to PM, DEQ claimed that because a 0.10 lb/MMBtu PM limit for Units 1 and 2 is already established in the operating permit based on other applicable requirements, "[n]o changes to the Title V operating permit appear to be necessary." Id. Neither justification supports DEQ's omission.

DEQ's attempt to justify its omission of applicable regional haze requirements based on a regulation that establishes the requisite timeframe for reopening an existing operating permit was misplaced, just as it was with respect to hazardous air pollutant standards. DEQ claimed that it was unnecessary to include in the Permit the PM, SO_2, and NO_x limits established by the regional haze plan because DEQ "has up to 18 months following promulgation to have the permit reopened and revised." TRD at 57 (citing Mont. Admin. R. 17.8.1228). As described above, DEQ misinterpreted the referenced rule. The eighteen-month grace period to reopen and revise a permit applies only to permits already in existence when a new requirement is promulgated. The provision allowing reopening and revision of an existing permit when a new requirement is promulgated is inapplicable here because the applicable requirements contained in the regional haze plan had already been promulgated before the Permit issued. See Mont. Admin. R. 17.8.1228(1)(a); see also 40 C.F.R. § 70.7(f)(1)(i).

DEQ's additional justification for omitting regional haze PM limits for Colstrip Units 1 and 2 also must fail. DEQ may not choose to leave any applicable requirements out of an operating permit, even if other standards mentioned in a permit are identical to the one left out. See Mont. Admin. R. 17.8.1211(b) (operating permit must include "a specific description with appropriate references of the origin of, and authority for, each term or condition contained in the permit") (emphasis added); see also 40 C.F.R. § 70.6(a)(1)(i). DEQ erroneously opined that it was unnecessary to include the regional haze plan's PM limits in the Permit because a 0.10 lb/MMBtu PM limit for Units 1 and 2 was already established in a Permit under a different applicable requirement (New Source Performance Standards). TRD at 57. However, EPA determined that the regional haze plan's limit on PM pollution is necessary to address visibility impairment in national parks and wilderness areas. Including regional haze PM limits in the Colstrip operating permit is an important safeguard to fulfill the Clean Air Act's regional haze goals in the event that the other applicable requirements regulating PM are changed or otherwise rendered unenforceable.

Because Colstrip's Permit fails to include the applicable emissions limits established by Montana's regional haze plan, EPA must object to the Permit and require DEQ to incorporate into the Permit the regional haze requirements and associated monitoring, recordkeeping, and reporting requirements.

II. THE PERMIT FAILS TO REQUIRE SUFFICIENT PARTICULATE MATTER MONITORING

EPA must also object to the Colstrip Title V Permit because the Permit fails to include monitoring of PM sufficient to assure compliance with the Permit's PM limits. Specifically, the Permit is deficient because (1) annual stack testing for PM will not assure compliance with the Permit's continuous and hourly PM limits; (2) DEQ failed to clearly explain its rationale for the

selecting the chosen monitoring methods; and (3) the specified testing methods measure only filterable PM, while the Permit places limits on total PM emissions.

A fundamental purpose of the Title V permit is to set forth in one place not only all of the requirements applicable to a pollution source, but also provisions needed to assure compliance with each of those requirements. See U.S. EPA, Operating Permit Program, 57 Fed. Reg. at 32,251. Consistent with this purpose, the Clean Air Act and EPA's Title V regulations emphasize the importance of compliance-assurance provisions, including adequate monitoring. See 42 U.S.C. § 7661c(c) (Each permit issued under [Title V] shall set forth inspection, entry, monitoring, compliance certification, and reporting requirements to assure compliance with the permit terms and conditions."); 40 C.F.R. § 70.6(c)(1) (Title V permits "shall contain" "compliance certification, testing, monitoring, reporting, and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit"). The U.S. Court of Appeals for the D.C. Circuit has explained that these provisions establish not only that "a permitting authority may supplement an inadequate monitoring requirement so that the requirement will 'assure compliance with the permit terms and conditions,'" but that "a monitoring requirement insufficient 'to assure compliance' with emission limits has no place in a permit unless and until it is supplemented by more rigorous standards." Sierra Club, 536 F.3d at 677, 680.

Permitting authorities, including Montana DEQ, must take one of three actions to satisfy EPA's Title V regulations' monitoring requirements. First, if an applicable requirement contains any monitoring requirements, DEQ must ensure that the monitoring requirements are incorporated into the Title V operating permit. 40 C.F.R. § 70.6(a)(3)(i)(A). However, if the applicable requirement contains no periodic monitoring requirement, DEQ must add to the

permit "periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit." Id. § 70.6(a)(3)(i)(B). Finally, if the applicable requirement mandates some periodic monitoring, but that monitoring is not sufficient to assure compliance with the permit terms and conditions, DEQ must supplement the existing monitoring to assure compliance. Id. § 70.6(c)(1). In all of these situations, a permitter must clearly explain and document its rationale for making the monitoring choice that it did. Id. § 70.7(a)(5). As described below, DEQ has not satisfied these requirements.

A. The Permit's Requirement to Conduct an Annual Stack Test for PM Emissions is Insufficient

The Permit fails to require monitoring of PM sufficient to "assure compliance with the permit terms," see 42 U.S.C. § 7661c(c); Mont. Admin. R. 17.8.1213(2), because annual stack testing for PM will not assure compliance with the Permit's continuous and hourly PM limits. The Permit incorporates the Colstrip plant's PM emissions limits of 0.10 lb/MMBtu (three-hour average) for Units 1 and 2, and 0.05 lb/MMBtu (three-hour average) and 379 lb/hr for Units 3 and 4. See Permit at 7 (condition B.2), 12 (conditions C.2, C.3). Additionally, the Permit establishes a limit for gaseous PM emissions of 0.10 lb/MMBtu from Units 3 and 4. See id. at 12 (condition C.4). Colstrip's Permit requires PM-emissions monitoring for all four Units by Method 5 or 5b—a single, annual stack test for filterable PM. See id. at 8 (condition B.12), 16 (condition C.26). The Permit also relies on a PM compliance assurance monitoring ("CAM") plan that monitors opacity as a purported surrogate for PM emissions. Id. at 9 (condition B.17).

A once-yearly test for PM emissions coupled with opacity monitoring is inadequate to assure Colstrip's compliance with the Permit's terms. While Colstrip's 0.10 lbs/MMBtu PM emission limit applies continuously, i.e., for all 8,760 hours of the year, the stack testing requirement would limit monitoring to one three-hour test per year. This approach is

inconsistent with the Clean Air Act and with Montana's regulations, which specifically require "periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the air quality operating permit .... Such monitoring requirements shall assure use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement." Mont. Admin. R. 17.8.1212(1)(b) (emphasis added). The frequency of monitoring must bear some relationship to the time period for the emissions limits established in the permit. See Sierra Club, 536 F.3d at 675. The U.S. Court of Appeals for the D.C. Circuit has suggested that an annual test fails to assure compliance with daily emissions limits. See id. Likewise, a once-yearly, three-hour stack test is insufficient to demonstrate compliance with PM limits expressed in pounds per hour (lb/hr) or a continuous limit based on three-hour averages.

The annual stack test is likely not to provide an accurate picture of the Colstrip plant's performance during the full year—during the 8,757 hours when PM emissions are not monitored. Indeed, it is likely that the plant will be operating with its lowest emissions when the annual stack test occurs. Because a source has notice before actual testing occurs, the Colstrip plant may optimize the plant's operation and emissions before the stack test occurs. Indeed, EPA has observed that "[m]anual stack tests are generally performed under optimum operating conditions, and as such, do not reflect the full-time emission conditions from a source." U.S. EPA, Emission Monitoring of Stationary Sources, 40 Fed. Reg. 46,240, 46,241 (Oct. 6, 1975). "Since manual stack tests are only conducted for a relatively short period of time (e.g., one to three hours), they cannot be representative of all operating conditions." Id.

The type and frequency of PM monitoring required for coal-fired power plants similar to Colstrip provides an additional reason for finding the Permit's annual stack test requirement for

PM inadequate. See In re U.S. Steel Corporation – Granite City Works, Petition No. V-2009-03, Order Responding to Petitioner's Request that the Administrator Object to Issuance of State Operating Permit, at 7 (Jan. 31, 2011) ("U.S. Steel I"), attached as Document 8 (identifying considerations in the context-specific exercise of establishing a monitoring requirement, including the type and frequency of the monitoring requirements for similar emission units at other facilities). Currently, PM Continuous Emission Monitoring ("CEMS") is a common technology that has been commercially available for years and has been installed and operated on numerous coal plants throughout the country. EPA promulgated performance specifications for PM CEMS at 40 C.F.R. § 60, Appendix B, Specification 11, on January 12, 2004, which demonstrates that PM CEMS have been an accepted means of assessing compliance with PM emissions for nearly a decade. Indeed, many coal-fired power plants use PM CEMS, including Tampa Electric power plants (Florida); Eli Lilly Corporation (Indiana); Dominion power plants (Virginia); Longview Power, LLC (West Virginia); Louisville Gas and Electric (Michigan); and the U.S. Department of Energy (Tennessee).[5] Furthermore, EPA has required other coal-fired power plants to install, operate, calibrate, and maintain PM CEMS as a term in numerous consent decrees under the New Source Review program.[6] DEQ has provided no justification for failing to require similar monitoring of Colstrip's PM emissions.

Instead of continuously monitoring PM emissions, DEQ relies on continuous opacity monitoring as a surrogate. However, opacity is an inadequate criterion by which to judge PM

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[5] U.S. EPA, Office of Air Quality Planning and Standards, PM CEMS Installations, Certifications, and Operations, Status Report (updated Sept. 27, 2005); U.S. EPA, Office of Air Quality Planning and Standards, Current Knowledge of Particulate Matter (PM) Continuous Emission Monitoring, EPA-454/R-00-039 (Sept. 2000).

[6] See, e.g., Consent Decree in Alabama v. Tenn. Valley Auth., Civil Action No. 3:11-cv-00170 (E.D. Tenn. June 30, 2011), attached as Document 9; Consent Decree between U.S. EPA and Ohio Citizen Action (Plaintiffs) and American Electric Power Service Corp., Civil Action No. C2-99-1250, ¶ 107-09 (May 27, 2005), attached as Document 10.

emissions, because opacity monitoring fails to detect condensable particulate matter emissions, i.e., the particulate matter that condenses from vapor after leaving the exhaust stack. In addition to excluding most condensable particulate, opacity monitoring measures only particles of a certain size. As such, while the presence of an opacity violation may indicate PM emissions violation, the absence of an opacity violation does not mean that PM emissions are under Colstrip's allowable limit on total PM.

Furthermore, the Permit fails to correlate opacity levels with particulate matter levels. If opacity measurements are to be used to demonstrate compliance with PM limits, the Permit must establish the opacity threshold at which PM limits would be exceeded. DEQ does document that "[o]pacity has never exceeded 20% during a Colstrip Units 1-4 PM compliance test that demonstrated compliance with the particulate standard." Permit at I-3. However, DEQ's response makes Petitioners' point perfectly. Although measured opacity has complied with Colstrip's 20% limit during the annual PM stack tests, Colstrip has frequently violated opacity standards at other times, when PM is not monitored. DEQ recently issued a notice of violation to PPL for these frequent opacity exceedances. See Violation Letter # VLRG12-15. Thus, Colstrip's compliance with opacity limits during the annual stack test for PM does not raise an inference that the plant complies with PM limits during other times of the year. If anything, Colstrip's opacity violations raise the opposite inference: that Colstrip also violates its PM limits. This likelihood of PM violations is an additional factor confirming the adequacy of the Permit's infrequent and incomplete PM monitoring requirement. See U.S. Steel I, at 7 (likelihood of violation of requirement is consideration in evaluating adequacy of monitoring requirements). EPA should object to the Permit on grounds that it fails to ensure compliance with Colstrip's PM limits.

B. DEQ Failed To Provide an Adequate Rationale for Required PM Monitoring

Even if there could be some rationale for DEQ's decision to rely on an annual stack test and continuous opacity monitoring ("COMS") for monitoring PM emissions—and, as described above, there could not—DEQ failed to provide it. DEQ's Technical Review Document provides a vague and unsupported assertion that DEQ

> believes an accurate representation of PM concentrations is derived through the testing frequency along with the use of other methods of PM monitoring and control measures including opacity limitations determined through the use of COMS, quality control and quality assurance through the requirements outlined within PPLM's CAM plan, as well as scrubber operation and maintenance in accordance with manufacturer/vendor recommendations, modified per PPLM's operational experience.

TRD at 61. DEQ's "belie[f]" does not constitute a rationale for selecting inadequate PM monitoring. To the contrary, DEQ was required to provide a specific rationale explaining how monitoring requirements are sufficient to assure compliance with a Permit's applicable requirements. In re U.S. Steel Corporation – Granite City Works, Petition No. V-2011-2, Order Responding to Petitioner's Request that the Administrator Object to Issuance of State Operating Permit, at 12 (Dec. 3, 2012) ("U.S. Steel II"), attached as Document 11. DEQ's omission of such a clear rationale provides an additional reason why DEQ must object to the Permit.

C. The Permit Fails to Require Monitoring for Condensable or Total PM

In addition to its failure to require sufficiently frequent PM monitoring, DEQ erred in failing to provide for monitoring that would account for total PM emissions. Although the Permit limits emissions of total PM—including both filterable and condensable portions—the Permit fails to require monitoring for condensable or gaseous PM. Condensable PM can be a significant portion of a facility's emissions of fine particles, which have been linked to asthma (especially in children), other respiratory illnesses, heart attacks, and premature death, even with

only short-term exposure. See U.S. EPA, Particulate Matter (PM): Health, http://www.epa.gov/pm/health.html (last visited Jan. 31, 2013).

The Colstrip Permit limits total PM, not the filterable subset of total PM. Conditions B.2, C.2, and C.3 of the Permit require that Colstrip not "discharge[] into the atmosphere PM in excess of" certain limits. Permit at 7, 12. Montana's regulations define "PM" as total PM, including condensable and gaseous PM. See Mont. Admin. R. 17.8.101(31) (defining PM as "all applicable definitions of particulate matter that specify an aerodynamic size class"); id. 17.8.101(34) (defining "PM-10 emissions" to include both filterable and condensable emissions with an aerodynamic diameter less than or equal to a nominal ten micrometers). DEQ acknowledged that the Permit's emissions limits refer to "total particulate" but that only "filterable PM" is subject to monitoring under the Permit. TRD at 61. The Permit thus allows condensable PM, the primary component of the fine particulate that is most harmful to human health, to escape Colstrip's stacks without any measurement or reporting. Therefore, the Permit fails to include monitoring requirements that are sufficient to assure compliance with the terms of the Permit.

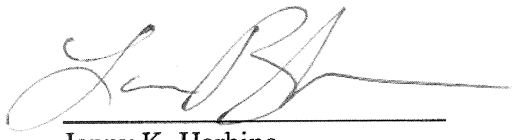
Additionally, Permit condition C.4, applicable to Colstrip Units 3 and 4, expressly limits "gaseous emissions discharged into the atmosphere from burning coal" to less than 0.10 lb/MMBtu of PM. Permit at 12. These gaseous precursors of PM are condensable PM and are not measured by monitoring methods that test only for filterable PM. Because the Permit requires monitoring for only filterable PM, which does not measure the condensable PM limited by condition C.4, the Permit fails to include monitoring necessary to assure compliance with the Permit's terms.

Colstrip's Title V Permit does not require monitoring sufficient to assure compliance with the Permit's PM limits, does not include a clearly stated rationale for the chosen monitoring methods, and does not provide for adequate monitoring of total PM. For these reasons, EPA must object to the Permit and require DEQ to incorporate into the Permit the regional haze requirements and associated monitoring, recordkeeping, and reporting requirements.

CONCLUSION

For these reasons, Petitioners respectfully request that the Administrator object to the Title V operating permit for the Colstrip Steam Electric Station (OP0513-08).

Respectfully submitted this 31st day of January, 2013,



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CERTIFICATE OF SERVICE

I hereby certify that on this 31st day of January, 2013, I caused to be served upon the following persons a copy of this Petition via Federal Express overnight mail:

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