

**BEFORE THE ADMINISTRATOR  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

In the Matter of the Proposed	)	
Title V Operating Permit	)	
	)	
<i>Issued by the</i>	)	
	)	
Colorado Department of Public Health	)	Permit Number 97OPWE180
and Environment, Air Pollution Control	)	
Division	)	
	)	
<i>to</i>	)	
	)	
Public Service Company to operate the	)	
Ft. St. Vrain Station, a natural gas fired	)	
power plant in Weld County, Colorado	)	

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**PETITION FOR OBJECTION TO ISSUANCE OF OPERATING PERMIT  
FOR FT. ST. VRAIN STATION**

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Pursuant to Section 505(b)(2) of the Clean Air Act (“CAA”) and 40 CFR § 70.8(d) and the applicable federal and state regulations, Jeremy Nichols hereby petitions the Administrator of the U.S. Environmental Protection Agency (“EPA”) to object to the Title V operating permit (hereafter “Title V permit”) issued by the Colorado Department of Public Health and Environment, Air Pollution Control Division (“Division”) for Public Service Company’s Ft. St. Vrain Station (hereafter “Ft. St. Vrain Station”), Permit Number 97OPWE180.<sup>1</sup>

The Division submitted the proposed Title V permit for EPA review on May 6, 2005. The EPA’s 45 day review period ended on June 20, 2005. Based on Petitioner’s conversations with Region 8 EPA staff, the EPA did not object to the issuance of the operating permit for the Ft. St. Vrain Station. In fact, EPA Region 8 did not even review the permit to determine whether

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<sup>1</sup> This permit and the accompanying Technical Review Document are attached as Exhibits 1 and 2, respectively.

any objections were necessary. This petition is thus timely filed within 60 days following the conclusion of EPA's review period and failure to raise objections.

Petitioner Jeremy Nichols is a resident of Denver, Colorado, an avid bicycle rider, outdoor enthusiast, and father who is deeply concerned about air quality in the Front Range region and its effects to the health and welfare of people, plants, and animals. On April 14, 2005, Petitioner submitted concerns over the Division's proposal to renew the Title V Operating Permit for the Ft. St. Vrain Station.<sup>2</sup>

This petition is based on the objections to the permit raised with reasonable specificity during the public comment period. To the extent the EPA may somehow believe this petition is not based on comments raised with reasonable specificity during the public comment period, Petitioner requests the Administrator also consider this a petition to reopen the Ft. St. Vrain Station operating permit in accordance with 40 CFR § 70.7(f).<sup>3</sup> A permit reopening and revision is mandated in this case because of one or both of the following reasons:

1. Material mistakes or inaccurate statements were made in establishing the terms and conditions in the permit. See, 40 CFR § 70.7(f)(1)(iii). As will be discussed in more detail, the operating permit for the Ft. St. Vrain Station suffers from material mistakes that render several terms and conditions meaningless, ambiguous, unenforceable as a practical matter, in violation of applicable requirements, etc.; and

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<sup>2</sup> These comments are attached to this Petition as Exhibit 3.

<sup>3</sup> To the extent the Administrator may not believe citizens can petition for reopening for cause under 40 CFR § 70.7(f), Petitioner also hereby petitions to reopen for cause in accordance with 40 CFR § 70.7(f) pursuant to 5 USC § 555(b).

2. The permit fails to assure compliance with the applicable requirements. See, 40 CFR § 70.7(f)(1)(iv). As will be discussed in more detail, the operating permit for the Ft. St. Vrain Station fails to assure compliance with several applicable requirements.

Petitioner requests the EPA object to the issuance of Permit Number 97OPWE180 for the Ft. St. Vrain Station and/or find reopening for cause for the reasons set forth below.

## **I. The Operating Permit Fails to Require Appropriate Best Available Control Technology for NO<sub>x</sub> Emissions**

Section 504(a) of the CAA requires Title V Operating Permits to, “[I]nclude...conditions as are necessary to assure compliance with the applicable requirements of this Act.” As the Division stated in its May 5, 2005 response to Petitioner’s comments on the proposed permit for the Ft. St. Vrain Station, “The purpose of a Title V Operating Permit is to incorporate all the applicable requirements from various regulations and permits into one document.” Comment Response Letter at 5.<sup>4</sup> At issue with the proposed Title V permit for the Ft. St. Vrain Station, is that the permit fails to incorporate all the applicable requirements related to best available control technology for NO<sub>x</sub> emissions from emissions unit T004 (hereafter “T004,” “Unit 4” or “Unit 4 facility”).

Section 165(a)(4) of the CAA provides that:

[n]o major emitting facility on which construction is commenced after August 7, 1977, may be constructed in any area to which this part applies unless...this facility is subject to the best available control technology for each pollutant subject to regulation under this chapter emitted from, or which results from, such facility.

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<sup>4</sup> The Division’s response to Petitioner’s comments is attached to this Petition as Exhibit 4.

42 USC § 7475(a)(4). To meet this requirement of the CAA, the state of Colorado and Public Service Company entered into a Consent Decree in 2000 (hereafter “2000 Decree”) regarding Prevention of Significant Deterioration (“PSD”) permitting and the construction of Unit 4, or T004, at the Ft. St. Vrain Station, and what constituted best available control technology (“BACT”) for NOx emissions.<sup>5</sup> Among other things, the 2000 Decree stipulated that:

The Division will issue the PSD permit fro the Fort St. Vrain Unit 4 facility as expeditiously as practicable. The Division’s NOx BACT determination for this facility is SCR [selective catalytic reduction], with the following emissions rates and limitations applicable during normal operations: 4 ppm [parts per million] NOx emissions as measured on a 24-hour average when the unit is operating in combined cycle mode; and 9 ppm NOx emissions as measured on a 24-hour average when the unit is operating in simple cycle mode.

2000 Decree at 2 (emphasis added). As is evident, the Division has made a BACT determination of selective catalytic reduction (“SCR”) for the unit 4 facility, or emissions unit T004, which Public Service Company explicitly agreed to. Despite this requirement and direction, however, the proposed Title V permit for the Ft. St. Vrain Station fails to require the use of SCR to limit NOx emissions from emissions unit T004.

In particular, the proposed Title V permit for the Ft. St. Vrain Station fails to require the use of SCR for emissions unit T004 when the unit is operating in simple cycle mode, or when only the combustion turbine is in operation. Instead, the permit parses BACT for NOx emission from T004—which is one emissions unit—by stating, “BACT for NOx has been determined to be Dry Low NOx combustion system for the turbine and Selective Catalytic Reduction (SCR) for the HRSG [heat recovery steam generator] with the emission limits as identified in Condition 2.5.1 (Colorado Construction Permit 99WE0762 PSD).” Title V Permit for Ft. St. Vrain Station

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<sup>5</sup>This Consent Decree is attached to this petition as Exhibit 5.

at 21-22, Section II, Condition 2.1.1.1. The determination of SCR as BACT for NOx emissions only from the HRSG, which is not an individual emissions unit according to the proposed Title V Permit, as well as the construction permit for Unit T004 (Colorado Construction Permit 99WE0762 PSD), but rather is a part of the whole T004 emissions unit, is entirely inappropriate based on the 2000 Decree.

Indeed, the 2000 Decree is clear that the Division's BACT determination for the entire "Fort St. Vrain Unit 4 facility" was SCR. There is nothing in the 2000 Decree to suggest, indicate, or otherwise imply that SCR was determined to be BACT only for part of the "Fort St. Vrain Unit 4 facility," or otherwise was determined to be BACT only when the HRSG or duct burner—which are arguably part of the whole emissions unit—was in operation. Furthermore, there is nothing in the 2000 Decree to suggest, indicate, or otherwise imply that Dry Low NOx combustion was determined to be BACT for any part of "Fort St. Vrain Unit 4 facility," or otherwise was determined to be BACT only when the combustion turbine was in operation.

In fact, the 2000 Decree is all too clear that SCR—not Dry Low NOx combustion—is to be used for the entire "facility," which according to the proposed Title V Permit and Construction Permit for the Unit 4 facility includes both the HRSG and combustion turbine.<sup>6</sup> The state of Colorado has also clearly permitted both the construction and operation of the Unit 4 facility as a single emissions unit in accordance with 40 CFR § 70.3(c).<sup>7</sup> The fact that the proposed Title V Permit for the Ft. St. Vrain Station fails to require SCR as BACT for emissions from T004 when only the combustion turbine is in operation, or when the emissions unit is

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<sup>6</sup> The proposed Title V Permit states that emissions unit T004 consists of "General Electric Combustion Turbine, Model PG7241 (FA), Serial No. 297457, rated at 1953 mmBtu/hr (turbine 1,531 mmBtu/hr and duct burner 422 mmBtu/hr), Natural Gas Fired. Turbine May be Operated in Conjunction with a HRSG (combined cycle operation) Equipped with One (1) Vogt-NEM Natural Gas Fired Duct Burner." Title V Permit at 4.

<sup>7</sup> "Emissions unit means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed under section 112(b) of the [Clean Air] Act." 40 CFR § 70.2.

operating in simple cycle mode, clearly indicates the proposed permit fails to incorporate all the applicable requirements of the CAA, the 2000 Decree, and 40 CFR § 70.3(c).

## **II. The Permit Fails to Ensure Compliance With NOx Concentration Limits and/or Fails to Adopt Enforceable Limits**

The Title V Permit fails to ensure compliance with NOx concentration limits and/or fails to adopt enforceable NOx concentration limits for emissions unit T004.

Of particular concern is that, while NOx concentrations from emissions unit T004 are limited to 9 ppmvd at 15% oxygen when the unit is operating in operating in simple cycle mode and limited to 4 ppmvd at 15% oxygen when the unit is operating in combined cycle mode (see, Section II, Conditions 2.5.1.1 an 2.5.1.2), these limits only apply as 24-hour averages.

Unfortunately, the permit, as well as the Technical Review Document, indicate that the amount of time emissions unit T004 may operate in simple cycle mode or combined cycle mode, may be less than 24 hours at a time. At the least, the permit does not actually require emissions unit T004 to operate in simple or combined cycle mode for 24 hours or longer to ensure compliance with concentration limits. This is problematic, as the proposed Title V Permit states, “compliance with the [NOx] limitations cannot be assessed until 24 hours of operation have occurred.” Title V Permit at 25.

The Permit explicitly anticipates emissions unit T004 operating in simple or combined cycle mode for less than 24 hours. Section II, Condition 2.5.1 states:

For data that are not used to assess compliance with the emission limitations in Conditions 2.5.1.1 and 2.5.1.2 (i.e. those periods where the unit operates for less than 24 hours between startup and shutdown or less than 24 consecutive hours in a given operating mode) the permittee shall maintain records of the number of hours, the mode (or modes) the unit was operated in during those hours and the percentage of total operating time that those hours represent.

Title V Permit at 25. This statement clearly indicates the Division anticipates emissions unit T004 will operate in either simple or combined cycle mode for less than 24 hours at a time. It is difficult to believe the Division would have incorporated such a statement if operation in simple or combined cycle mode for less than 24 hours at a time was not feasible or otherwise possible.

Unfortunately, simply requiring the facility to “maintain records of the number of hours, the mode (or modes) the unit was operated in during those hours and the percentage of total operating time that those hours represent” does nothing to address the fact that the facility is clearly capable of operating in simple or combined cycle mode for less than 24 hours at a time and capable of avoiding compliance with NO<sub>x</sub> concentration limits. That the Division anticipates the facility operating in simple or combined cycle for less than 24 hours at a time indicates a significant loophole exists in the permit and renders NO<sub>x</sub> concentration limits unenforceable as a practical matter. By extension, this loophole means that emissions unit T004 is not subject to any NO<sub>x</sub> concentration limitations, despite the fact that the Title V Permit and construction permit clearly place such limits on the facility.

This significant loophole is of serious concern and it is difficult to understand why the Division has not attempted to address this issue by emplacing an hourly limit on NO<sub>x</sub> concentrations from emissions unit T004. Indeed, NO<sub>x</sub> concentration limits for emissions units T002 and T003 apply as one hour averages, as opposed to 24-hour averages. See, Section II, Conditions 1.2.1.1 and 1.2.1.2. And, during periods of startup, shutdown, and combustion tuning and emissions testing, emissions unit T004 is subject to hourly limits on NO<sub>x</sub> concentrations. See, Section II, Conditions 2.5.1.3 and 2.5.1.4. It is unclear why a 24-hour average was adopted to measure NO<sub>x</sub> concentrations and demonstrate compliance from emissions unit T004 when the

Division has clearly already determined that setting hourly limits is appropriate. As it stands, NOx concentration limits established at Section II, Conditions 2.5.1.1 and 2.5.1.2 are unenforceable as a practical matter and/or fails to ensure that emissions unit T004 at the Ft. St. Vrain Station is even subject to NOx concentration limits when operating in simple or combined cycle mode.

### **III. The Operating Permit Fails to Subject Emissions Unit T004 in Simple Cycle Mode to CAM Requirements for NOx Emissions**

Requirements for compliance assurance monitoring (“CAM”) apply to units that use a control device to achieve compliance with emission limitations or standards and have pre-control emissions that exceed or are equivalent to the major source threshold. 40 CFR § 64.2.

Unfortunately, despite the fact that emissions unit T004 uses a control device to achieve compliance with NOx emission limitations and has pre-control emissions that exceed or are equivalent to the major source threshold, the Title V Permit for Ft. St. Vrain Station does not subject the unit to CAM requirements. In particular, the Title V Permit fails to apply CAM requirements to emissions unit T004 when operating in simple cycle mode, or when only the combustion turbine is in operation. See, Title V Permit, Section II, Condition 2.9. The Title V Permit thus fails to incorporate all applicable requirements.

For the purposes of CAM applicability, emissions unit T004 is still one emission unit, regardless of what “mode” of operation it is in. Regulations at 40 CFR § 64.2(a) clearly state that CAM applies to “a pollutant specific emissions unit at a major source” (emphasis added) that meets the criteria set forth at 40 CFR § 64.2(a)(1)-(3). For purposes of determining CAM applicability, an emissions unit is defined as “any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed under section 112(b)



of the Act.” 40 CFR § 70.2. As the emissions unit uses a control device to achieve compliance with emission limitations or standards and has pre-control emissions that exceed or are equivalent to the major source threshold, the entire unit—regardless of which mode of operation it is in—meets the criteria for CAM applicability in accordance with 40 CFR § 64.2(a)(1)-(3).

Furthermore, it is difficult to see how CAM does not apply to emissions unit T004 when operating in simple cycle mode as emission limits for the Unit apply regardless of which mode of operation. NOx emissions from T004 in particular are limited to 199.1 tons/year for the entire unit, regardless of operation. See, Title V Permit, Section II, Condition 2.5.2. The whole purpose of CAM is to ensure compliance with emission limits when using control devices. Regardless of how often a control device may be used or if it is only used during a certain operating mode, if a control device is used to achieve compliance with emission limits, in this case the 199.1 tons/year limit for NOx emissions, CAM applies.

Interestingly, the Title V Permit implies at Section I, Condition 5 that CAM applies to the entire T004 emissions unit, which includes the combustion turbine. The Permit states that “Unit T004—Combustion Turbine” is subject to CAM requirements. Unfortunately, Section II, Condition 2.9 of the Permit fails to subject the entire Unit to CAM requirements.

#### **IV. The Operating Permit Fails to Require Opacity Monitoring**

In comments on the proposed permit, Petitioners requested the Division require monitoring of opacity at the Ft. St. Vrain Station. This request was rejected. As the Division asserted, “It has been the Division’s experience that opacity emissions from natural gas-fired turbines are well below the 20% limitation. Therefore, the Title V operating permit does not require any intermittent Method 9 visible emission observations.” Response to Comments at 4.

Unfortunately, the monitoring of opacity is not only clearly required by the CAA, but the Division's rationale for not requiring opacity monitoring appears contradictory and unsupported.

***A. The CAA Clearly Requires Emission Limitations and Standards to be Enforceable and Requires Sufficient Periodic Monitoring***

Section 504(a) of the CAA is clear that emission limitations and standards set forth in Title V permits must be enforceable and that permits must demonstrate compliance. To be enforceable and demonstrate compliance under the CAA, Title V permits must require monitoring of emissions to ensure that limitations and standards are met. See, CAA, Section 504(b). Indeed, the failure to monitor emissions would render any limitation or standard entirely superfluous and unenforceable as a practical matter. Furthermore, it would be impossible to demonstrate compliance with any standard, such as opacity, without explicit monitoring.

In the case of Ft. St. Station's Title V permit, the Division failed to require any opacity monitoring whatsoever, despite the fact that several terms and conditions clearly place limits on opacity. See, Section II, Conditions 1.13, 1.14, 1.15, 1.16, 2.12, 2.13, 2.14, and 2.15, Section V, Condition 16. Furthermore, although the Division states that "when the Division inspects a facility, the inspector look for visible emissions and would conduct a Method 9 reading if he/she believed that opacity from a given emission unit would exceed the applicable standard" (see, Response to Comments at 4), there is no indication that Method 9 observations will in fact occur and/or whether they will be undertaken periodically to demonstrate compliance. Additionally, it is not the Division's responsibility to demonstrate compliance. It is difficult to believe that opacity standards, as a practical matter, can possibly be enforceable and/or that the operator can demonstrate compliance with opacity standards if no opacity monitoring is explicitly required of the permittee.

A recent order by the EPA is instructive in this case. The agency similarly found the failure of an operating permit to require monitoring of specific emissions to violate several applicable requirements. The order, which dealt with the failure of an operating permit to require monitoring of carbon monoxide, stated:

Such language, on its face, is not consistent with part 70, which requires permits to contain “testing, monitoring, reporting and recordkeeping requirements” and to have “periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source’s compliance”. 40 C.F.R. § 70.6(c)(1) and (a)(3)(i)(B). In essence, the Note in Section 7.1.12(d) could be read as eliminating the need for any of the compliance requirements (testing, monitoring, recordkeeping, and reporting) of part 70 to determine whether the facility is complying with the CO emission limits in the permit. In addition, the language in the note is not in compliance with the annual compliance certification requirements under part 70. Compliance certifications must be based, among other things, on the monitoring data described in 40 C.F.R. § 70.6(c)(5)(iii)(B) and (C). Every source’s annual compliance certification must be based on its own evaluation of its data. The permit may not authorize the facility to certify compliance based on something else, such as an assumption that compliance is inherent.

*See, In the Matter of Midwest Generation Station, LCC Fisk Generating Station, Petition V-2004-1 (March 25, 2005), at 9 (emphasis added).* Similar to this case, the EPA must object to the Ft. St. Vrain Station Title V permit because the permit assumes that compliance with opacity standards is inherent. By failing to require any opacity monitoring whatsoever, the operating permit suffers from the same deficiencies identified by the EPA in its order *In the Matter of Midwest Generation Station, LCC Fisk Generating Station.*

***B. The Division’s Experience Seems to Indicate that Opacity Standards Can and Have Been Exceeded Despite the Use of Natural Gas to Fire Turbines***

Although the Division presumes that combustion of pipeline quality natural gas automatically assures compliance with opacity standards at the Ft. St. Vrain Station, the Division has also noted opacity violations where pipeline quality natural gas has been burned at other facilities in Colorado. Indeed, at Public Service Company’s Zuni Station, an electric services

facility in Denver, Colorado consisting of three steam boilers fueled by pipeline quality natural gas, the Division has noted recent opacity violations. In the 1998 Technical Review Document for Operating Permit 96OPDE134 for the Zuni Station, the Division states:

Typically, the Divisions presumes that compliance with the opacity requirements are being met when burning natural gas fuel. However, since the Division read an opacity violation (32% on November 18, 1997) on one of the boilers at Zuni, when burning natural gas, and both state and local inspectors have seen visible emissions at the facility, the Division believes that periodic monitoring for opacity is necessary.

Technical Review Document at Section III(A)(3).<sup>8</sup> Based on this information, the Division has required periodic opacity monitoring for the Zuni Station.<sup>9</sup> See, 2004 Operating Permit for Zuni Station, Section II, Condition 2.8. This report and permit seem to indicate that, in the Division's experience, opacity standards can and have been exceeded even when pipeline quality natural gas is burned at electric services facilities. While the Division states multiple times in the Ft. St. Vrain Station Operating permit that, "In the absence of credible evidence to the contrary, compliance with the 20% opacity limit shall be presumed whenever natural gas is used as fuel for these engines" (see e.g. Section II, Condition 1.14), clearly credible evidence to the contrary exists and indicates a clear need to periodically monitor opacity to demonstrate compliance. It clearly appears that, in the Division's experience, compliance with opacity standards at facilities that burn natural gas cannot be assumed simply because of the fact that pipeline quality natural gas is used.

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<sup>8</sup> This Technical Review Document for Zuni Station is attached to this petition as Exhibit 6.

<sup>9</sup> The Title V Operating Permit for Zuni Station is attached to this petition as Exhibit 7.

## V. The Operating Permit Sets Unenforceable CO Emission Limits and/or Fails to Ensure Compliance with CO Limits

The Title V Permit for the Ft. St. Vrain Station sets unenforceable CO emission limits and/or fails to ensure compliance with CO limits in relation to operation of emissions units T002, T003, and T004 during startup, shutdown, combustion tuning, and testing. In particular, while the Title V Permit establishes concentration and mass limits for CO when Units T002, T003, and T004 are operating during startup, shutdown, combustion tuning, and testing, the Permit allows these limits to be exceeded.

At issue is language in Section II, Conditions 1.3.1.3, 1.3.1.4, 2.6.1.3, and 2.6.1.4. For instance, the Permit states:

During periods of startup and shutdown emissions of CO shall not exceed 1,000 ppmvd at 15% O<sub>2</sub>, on a 1-hour average and 2,060 lbs/hr. In the event that emissions of CO exceed 1,000 ppmvd at 15% O<sub>2</sub>, it shall be considered a violation of the CO BACT emission limit if CO emissions exceed 2,060 lbs/hr and not a violation if emissions are less than or equal to 2,060 lbs/hr.

Section II, Condition 1.3.1.3 (emphasis added). The emphasized sentence appears verbatim in Conditions 1.3.1.3, 2.6.1.3, and 2.6.1.4 as well. In essence, this sentence allows the facility to violate both CO mass and concentration limits, so long as both are not violated simultaneously, when starting up, shutting down, performing combustion tuning, or testing. Indeed, as written, CO emissions could exceed 1,000 ppmvd CO at 15% at O<sub>2</sub>, despite the fact that the permit clearly states the limit “shall not exceed” this limit. Similarly, CO emissions could exceed 2,060 lbs/hr, despite the fact that the permit clearly states the limit “shall not exceed” this limit. The only way for the facility to violate this limit is by exceeding both the mass and concentration limits, which defeats the purpose of having limits on CO mass and concentration during startup, shutdown, combustion tuning, or testing.

As a practical matter, the CO emission limits for Units T002, T003, and T004 set forth at Section II, Conditions 1.3.1.3, 1.3.1.4, 2.6.1.3, and 2.6.1.4 are unenforceable and/or fail to ensure compliance with CO limits. The Permit explicitly allows CO mass and concentration limits to be exceeded and implies that, unless both are exceeded at the same time, a violation would not occur. As written, the Permit appears contradictory to 40 CFR § 70.6(a)(6)(i), which states:

The permittee must comply with all conditions of the part 70 permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation, and reissuance, or modification; or for denial of a permit renewal application.

Specifically, the Permit does not require compliance with all conditions, namely CO mass and concentration limitations during startup, shutdown, combustion tuning, and testing, and, contrary to regulation, states that noncompliance with CO mass and concentration limitations does not constitute a violation of the CAA.

## **VI. Problems with Other Permit Conditions Warranting Objection by the Administrator**

### **A. Section II, Condition 1.1.1.1**

Condition 1.1.1.1 requires that dry low NO<sub>x</sub> combustion systems “shall be operated and maintained in accordance with manufacturer’s recommendations and good engineering practices.” Title V Permit at 8. Unfortunately, the Permit entirely fails to explain what the specific manufacturer’s recommendations and good engineering practices are in order to ensure that the dry low NO<sub>x</sub> combustion system for emissions units T002 and T003 are operated and maintained properly. As a result, the Permit fails to provide sufficient periodic monitoring to ensure the dry low NO<sub>x</sub> combustion system operates properly.

Indeed, the Permit cannot simply defer to unspecified and/or unexplained methods of operation and maintenance for the purposes of equipment monitoring. While manufacturer's recommendations and good engineering practices may be proper methods of operation and maintenance, in this case it is unclear what these recommendations and practices may be, from what source they are derived, and whether they are subject to revision and/or modification. As a practical matter, it is impossible to ensure the dry low NO<sub>x</sub> combustion system is properly operated and maintained.

The EPA has dealt with similar instances where permits inappropriately defer to "manufacturer's recommendations" in relation to monitoring. In a 2003 order, the agency stated:

EPA agrees that manufacturer's recommendations alone are not sufficient periodic monitoring to assure that the opacity monitors are properly operated and maintained.

See, *In the Matter of the Lovett Generating Station*, Petition II-2001-07 (February 19, 2003), at 26 (emphasis added). While the EPA in that case determined that other methods of operation and maintenance, including those found in federal regulations, did not render the permit invalid and/or require an objection, the 2003 order is clear that, in the absence of other operation and maintenance methods, especially those derived from federal regulation, manufacturer's recommendations do not constitute sufficient periodic monitoring.

Similar to what the EPA held *In the Matter of the Lovett Generating Station*, because the Title V Permit for the Ft. St. Vrain Station relies on manufacturer's recommendations to ensure proper operation and maintenance of the dry low NO<sub>x</sub> combustion system, the Permit fails to require sufficient period monitoring. Although good engineering practices are relied on in addition to manufacturer's recommendations, these "practices" are even more vague and

ambiguous than manufacturer's recommendations. The reliance on good engineering practices only compounds the vagueness of the monitoring and only bolsters the fact that the Permit fails to require sufficient periodic monitoring to ensure proper operation and maintenance of the dry low NO<sub>x</sub> combustion system.

***B. Section II, Conditions 1.4.1, 1.4.2, 1.4.3, 2.4.2, 2.4.3, and 2.4.4***

Conditions 1.4.1, 1.4.2, 1.4.3, 2.4.2, 2.4.3, and 2.4.4 inappropriately presume compliance with SO<sub>2</sub> emission limits when pipeline quality natural gas is used as fuel. As discussed above, Section 504(a) of the CAA is clear that emission limitations and standards set forth in Title V permits must be enforceable and that permits must demonstrate compliance. To be enforceable and demonstrate compliance under the CAA, Title V permits must require monitoring of emissions to ensure that limitations and standards are met. See, CAA, Section 504(b). Indeed, the failure to monitor emissions would render any limitation or standard entirely superfluous and unenforceable as a practical matter. Furthermore, it would be impossible to demonstrate compliance with any standard, such as SO<sub>2</sub>, without explicit monitoring.

In the case of Section II, Conditions 1.4.1, 1.4.2, 1.4.3, 2.4.2, 2.4.3, and 2.4.4, the Permit clearly sets numerical limitations with regards to SO<sub>2</sub> emissions. For example, Condition 1.4.1 states, "Sulfur Dioxide (SO<sub>2</sub>) emissions from each combustion turbine shall not exceed 0.35 lbs/mmBtu, on a 3-hour rolling average (Colorado Regulation No. 1, Section VI.B.4.c.(ii) and VI.B.2)." Unfortunately, the Permit fails to require hourly monitoring of SO<sub>2</sub> to ensure compliance with the 0.35 lbs/mmBtu limit. Similarly, the Permit fails to require monitoring sufficient to demonstrate compliance with SO<sub>2</sub> emission limits set forth in Condition 1.4.2, 1.4.3, 2.4.2, 2.4.3, and 2.4.4.



Also of concern, is that while the Title V Permit fails to require monitoring of SO<sub>2</sub> emission to ensure compliance with Section II, Conditions 1.4.1, 1.4.2, and 1.4.3, Section II, Condition 1.4.4 specifically requires that a continuous monitoring system be used to monitor SO<sub>2</sub> emissions to ensure compliance with the annual limit. Indeed, regulations at 40 CFR § 75.11(d)(1) explicitly require that the Ft. St. Vrain Station install, maintain, operate, and utilize an SO<sub>2</sub> continuous emission and flow monitoring system.<sup>10</sup> In addition, Condition 2.4.1 clearly requires monitoring of SO<sub>2</sub> emissions in accordance with 40 CFR § 75 Appendix D. Although it is unclear whether the facility has a continuous SO<sub>2</sub> emission monitoring system and/or is relying upon methods at 40 CFR § 75 Appendix D, the facility clearly has the capability to monitor SO<sub>2</sub> emissions to ensure compliance with Conditions 1.4.1, 1.4.2, 1.4.3, 2.4.2, 2.4.3, and 2.4.4.

Furthermore, to the extent that federal regulations provide for alternative monitoring methods for facilities that burn pipeline quality natural gas, nothing in the regulations at 40 CFR § 75.11 exempts the Ft. St. Vrain Station from monitoring SO<sub>2</sub> emissions entirely. Indeed, 40 CFR § 75.11(d)(1) explicitly requires permittees to install and operate a continuous emission and flow monitoring system, or adhere to alternatives set forth at 40 CFR § 75.11(d)(2) and (3). To the extent the regulations may allow exceptions in relation to the use of pipeline quality natural gas, 40 CFR § 75.11(e) requires permittees to either:

- (1) determine SO<sub>2</sub> emissions by “using Equation F-23 in appendix F to this part;”
- (2) “determine SO<sub>2</sub> emissions by certifying an excepted monitoring system in accordance with Sec. 75.20 and appendix D to this part, following the applicable fuel sampling and analysis procedures in section 2.3 of appendix D to this part, meeting the recordkeeping

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<sup>10</sup> Although 40 CFR § 75.11(d)(2) and (3) allow alternative monitoring methods, the Title V Permit for the Ft. St. Vrain Station does not indicate any one of these alternatives have been incorporated into the Permit, approved by the EPA, and/or otherwise relied upon for the purposes of monitoring SO<sub>2</sub> emissions.

requirements of Sec. 75.58, and meeting all quality control and quality assurance requirements for fuel flowmeters in appendix D to this part;” or

(3) “determine SO<sub>2</sub> mass emissions by using a certified SO<sub>2</sub> continuous monitoring system, in conjunction with a certified flow rate monitoring system.”

40 CFR § 75.11(e)(1)-(3). That the Title V Permit for the Ft. St. Vrain Station fails to require monitoring of SO<sub>2</sub> emissions in accordance with 40 CFR § 75.11 in order to ensure compliance with Section II, Conditions 1.4.1, 1.4.2, and 1.4.3 clearly indicates the Title V Permit failed to incorporate applicable requirements.

### **C. Section II, Condition 1.4.4 and 2.4.1**

While Conditions 1.4.4 and 2.4.1 require monitoring of SO<sub>2</sub> emissions to ensure compliance with annual emissions limits, it is unclear how exactly emissions will be monitored. For example, Condition 1.4.4 states, “Compliance with the annual limitation shall be monitored using the continuous monitoring system required by 40 CFR Part 75, as adopted by reference in Colorado Regulation No. 18.” Title V Permit at 12. However, 40 CFR § 75 and in particular 40 CFR § 75.11, specify several methods for monitoring SO<sub>2</sub> emissions, as just explained above. It is unclear which particular method the Permit requires. And, while Condition 2.4.1 requires that SO<sub>2</sub> limits be monitored “using the monitoring method specified in 40 CFR Part 75 Appendix D,” it is unclear which particular methods in Appendix D are to be utilized. For example, it is unclear if monitoring provisions at Appendix D, Section 2.3.1 are relied upon for the purpose of ensuring compliance with annual SO<sub>2</sub> mass emission limits. Conditions 1.4.4 and 2.4.1 thus fail to ensure compliance with annual SO<sub>2</sub> limits and/or fail to require sufficient periodic monitoring.

As it stands, it is unclear why the Ft. St. Vrain Station is not subject to SO<sub>2</sub> monitoring requirements set forth at 40 CFR § 75.11(d)(1). Nothing in the Permit or Technical Review

Document indicates that exceptions set forth at 40 CFR § 75.11(d)(2) and (3) are applicable and nothing in the Permit or Technical Review Document indicate that exceptions set forth at 40 CFR § 75.11(e) have been approved for the Ft. St. Vrain Station. This is of serious concern because since the facility is apparently subject to continuous SO<sub>2</sub> emission and flow monitoring requirements of 40 CFR § 75.11(d)(1), then the Permit not only needs to specify this in relation to the Conditions 1.4.4 and 2.4.1, but must also ensure that requirements at Section II, Condition 5 incorporate applicable requirements related to continuous SO<sub>2</sub> emissions and flow monitoring. As Section II, Condition 5 fails to incorporate any requirements related to continuous SO<sub>2</sub> emissions and flow monitoring, the Permit fails to incorporate all the applicable requirements.

***D. Section II, Condition 1.5***

Condition 1.5 fails to specify sufficient periodic monitoring to ensure compliance with volatile organic compound (“VOC”) emission limits for emissions units T002 and T003.

Indeed, while Condition 1.5 requires that a “VOC correlation” be used to monitor VOC emissions and limits, nothing in the Permit explains how this VOC correlation is to work, what specific formula is used to calculate VOC emissions, how data is to entered into this correlation, and/or otherwise what the correlation actually is. The Permit is, to say the least, extremely vague with regards to this specific monitoring requirement. This is problematic as there is no way, based on the vague wording of the Permit and the failure to explain how VOC correlations correspond to emissions and/or limits, to enforce the VOC emissions limit.

Although the VOC correlation is apparently programmed into the “data acquisition and handling system,” nothing in the Permit explains what this system is, how it is used, who uses the system, and/or to what extent it accurately reflects VOC emissions limits. Although an emissions correlation may be an acceptable method of monitoring emissions, more explanation

and/or specificity must be provided in the Permit to ensure that such correlations are used properly and accurately, and to ensure sufficient periodic monitoring and ensure VOC emissions limits are enforceable as a practical matter.

**E. Section II, Conditions 1.6, 2.2**

Section II, Conditions 1.6 and 2.2 relate to the emissions of particulate matter. Of particular concern is that, while numerical limits are established for particulate matter, Conditions 1.6 and 2.2 inappropriately rely on the use of pipeline quality natural gas as *prima facie* compliance with emissions limits. As explained earlier in this Petition in relation to both opacity and SO<sub>2</sub> emissions, the Permit cannot simply presume compliance with numerical emissions limits. The Permit must incorporate requirements for the actual monitoring of particulate matter to ensure sufficient periodic monitoring and ensure compliance with particulate matter limits.

**F. Section II, Condition 2.3**

Section II, Condition 2.3 inappropriately relies on a yet-to-be approved VOC correlation for emissions unit T004 to monitor and ensure compliance with VOC emission limits. In response to this concern, the Division responded:

The VOC correlation developed for Turbine 4 is based on performance tests conducted for that unit and is similar in design to the VOC correlations developed for Turbines 2 and 3, which have been approved by the Division. The performance tests conducted for Turbine 4 were conducted at various loads and the results indicate compliance with the VOC emission limits at all loads....Although the VOC correlation is not approved, the Division will require changes to the correlation and/or additional testing if such changes and additional testing are necessary to approve this correlation.”

Response to Comments at 4-5. While Petitioner understands the use of VOC correlations to determine emissions, it is unclear how the use of an unapproved correlation can ensure

compliance with VOC emission limits set forth in the Title V Permit. As it stands, reliance on a yet-to-be approved VOC correlation to ensure compliance with VOC limits clearly indicates the Title V Permit fails to require sufficient periodic monitoring and fails to ensure compliance with VOC emissions limits from Unit T004.

**G. Section II, Condition 5.2.1.1**

Condition 5.2.1.1, which applies to NO<sub>x</sub> and diluent monitors, states:

The permittee shall ensure that all continuous emission and opacity monitoring systems required are in operation and monitoring unit emissions or opacity at all times that the unit combusts any fuel except as provided in 40 CFR Part 75 § 75.11(e) and during periods of calibration, quality assurance, or preventative maintenance performed pursuant to 40 CFR Part 75 § 75.21 and Appendix B, periods of repair, periods of backups or data from a data acquisition or handling system or recertification performed pursuant to 40 CFR Part 75 § 75.20.

Title V Permit at 37 (emphasis added). The reference to 40 CFR § 75.11(e) appears in err. This regulation applies to SO<sub>2</sub> emissions monitoring, not to NO<sub>x</sub> and diluent monitors and thus, it is unclear how any exceptions under 40 CFR § 75.11(e) apply to this Condition.

**H. Section V, Condition 29**

The Title V Permit for the Ft. St. Vrain Station fails to require any monitoring to ensure compliance with Section V, Condition 29. Although Condition 29 contains several requirements related to the control of VOC emissions according to Colorado Regulation No. 7, 5 CCR 1001-0, §§ III and V, nothing in the Permit requires any monitoring or reporting that would actually ensure compliance with these requirements. As a practical matter, the requirements at Condition 29 are unenforceable due to a lack of monitoring.

## **Conclusion**

For the aforementioned reasons, Petitioner requests the Administrator object to the operating permit proposed for issuance by the Division for the Ft. St. Vrain Station. As thoroughly explained, the proposed permit fails to comply with the requirements of the CAA, as well as other applicable requirements. The Administrator thus has a nondiscretionary duty to issue an objection to the proposed permit within 60 days in accordance with Section 505(b)(2) of the CAA.

Dated this \_\_\_\_\_ day of August, 2005.

Respectfully Submitted,

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cc: EPA, Region 8  
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Public Service Company

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## EXHIBITS TO PETITION

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1. Renewed Operating Permit for Ft. St. Vrain Station, Issued July 1, 2005
2. Revised Technical Review Document for Ft. St. Vrain Station, Issued April 6, 2005
3. April 14, 2005 Comments on Draft Operating Permit for Ft. St. Vrain Station
4. May 5, 2005 Colorado Air Pollution Control Division Response to Comments
5. 2000 Consent Decree
6. 1998 Technical Review Document for Public Service Company, Zuni Station, Denver, Colorado Operating Permit
7. April 2004 Operating Permit for Public Service Company, Zuni Station, Permit Number 96OPDE134