

September 11, 2008

Mr. Mark Vandenbusch  
Designated Representative  
Wisconsin Public Service Corporation  
Integrus Business Support, LLC  
700 North Adams Street  
Green Bay, WI 54307-9001

Re: Petition to Use an Alternative Test Method to Determine the Sulfur Content of Ultra Low Sulfur Fuel for the De Pere Energy Center (Facility ID (ORISPL) 55029), J.P. Pulliam Plant (Facility ID (ORISPL) 4072), and West Marinette (Facility ID (ORISPL) 4076)

Dear Mr. Vandenbusch:

The United States Environmental Protection Agency (EPA) has reviewed the July 14, 2008 petition under ' 75.66, in which Wisconsin Public Service Corporation (WPSC) requested to use an alternative method to determine sulfur content for an ultra low sulfur fuel that is to be combusted at the De Pere Energy Center, J.P. Pulliam Plant, and the West Marinette Plant. EPA approves the petition, for the reasons given below.

#### Background

WPSC owns and operates units at the De Pere Energy Center, J.P. Pulliam Plant, and the West Marinette Plant in Wisconsin. According to WPSC, all three facilities are subject to the Acid Rain Program. The Acid Rain Program therefore requires WPSC to continuously monitor and report sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and carbon dioxide (CO<sub>2</sub>) emissions and heat input in accordance with 40 CFR Part 75 at these facilities.

New air permits for these facilities require that WPSC begin using an Ultra Low Sulfur Fuel (ULSF). The ULSF, which has a sulfur content of less than 15 ppm, will be the principal type of fuel oil combusted in the units. WPSC uses the methodology in Appendix D to Part 75 to estimate the SO<sub>2</sub> mass emissions from the units at each of these facilities. Section 2.2 of Appendix D requires oil sampling to be performed periodically to determine sulfur content, gross calorific value, and, if necessary, density of the fuel. The methods for doing such are incorporated by reference in §75.6 and those specific to determining sulfur content in fuel oil are listed in section 2.2.5 of Appendix D.

#### EPA's Determination

Under Section 75.66(c), the owner or operator of a unit applying to the Administrator for approval of an alternative to standards incorporated by reference must include the following in an application: (1) a description of why the prescribed standard is not being used; (2) a description and diagram(s) of any equipment and procedures used in the proposed alternative;

and (3) information demonstrating that the proposed alternative produces data acceptable for use in the Acid Rain Program, including accuracy and precision statements, NIST traceability certificates or protocols, or other supporting data, as applicable to the proposed alternative.

EPA reviewed the petition for approval of the alternative ASTM test method. The Agency finds that WPSC has satisfactorily met each of the three requirements in Section 75.66(c). Therefore, EPA approves WPSC's request to use the consensus standard ASTM D7039-07, "Standard Test Method for Sulfur in Gasoline and Diesel Fuel by Monochromatic Wavelength Dispersive X-ray Fluorescence Spectrometry"<sup>1</sup> to determine the sulfur content of the fuel oil combusted at the De Pere Energy Center, J.P. Pulliam Plant, and the West Marinette Plant for the purpose of satisfying the periodic fuel sampling and analysis requirement in section 2.2 of 40 CFR Part 75, Appendix D. The results of the Agency's review are presented in the following paragraphs.

#### 1. A description of why the prescribed standard is not being used

WPSC requested to use ASTM D 7039-04, "Standard Test Method for Sulfur in Gasoline and Diesel Fuel by Monochromatic Wavelength Dispersive X-Ray Fluorescence Spectrometry", to determine the sulfur content of ULSF because the approved method under Part 75, ASTM D 4294-03 is not sensitive enough to accurately measure sulfur content below 150 ppm. According to WPSC, ASTM D 4294-03 and ASTM D 7039-04 are essentially equivalent in the manner of sample preparation, instrument calibration, style of sample cups, and the reporting of results for the determination of sulfur concentration in petroleum fuels. However, because ASTM D 7039-04 is based on measurement of the specific wavelength from excitation of sulfur, it can accurately measure sulfur concentrations from 2 to 500 ppm.

EPA has made WPSC aware that ASTM D 5453-06, "Standard Test Method for Determination of Total Sulfur in Light Hydrocarbons, Spark Ignition Engine Fuel, Diesel Engine Fuel, and Engine Oil by Ultraviolet Fluorescence", was recently incorporated by reference into Part 75 (See 73 FR 4312, 4342, Jan. 24, 2008). ASTM D 5453-06 is widely accepted in the petroleum industry for determining sulfur content in ULSF. However, WPSC wishes to use ASTM D 7039-04 because the company's laboratory is set up for and more experienced with that method.

#### 2. A description and diagram(s) of any equipment and procedures used in the proposed alternative

WPSC has provided a description and diagrams of the equipment used in the proposed alternative, including a copy of ASTM D 7039-04 as an attachment to the July 14, 2008 petition.

#### 3. Information demonstrating that the proposed alternative produces data acceptable for use in the Acid Rain Program

The results of an EPA-sponsored round-robin test program conducted on ASTM D 7039-

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<sup>1</sup> ASTM D7039-04 was replaced by ASTM D7039-07 on May 1, 2007. There were no significant changes between ASTM D7039-04 and ASTM D7039-07.

04 for determining the sulfur content of ULSF have shown that ASTM D 7039-04 is accurate, and has no statistically observable bias using representative NIST traceable liquid standards.<sup>2</sup> Additionally, ASTM D 7039-04 has received approval for diesel sulfur testing under of 40 CFR 80.584 and 80.585.

EPA's determination relies on the accuracy and completeness of the information provided by WPSC in the July 14, 2008 petition and is appealable under Part 78. If you have any questions about this determination, please contact Louis Nichols at (202) 343-9008. Thank you for your continued cooperation.

Sincerely,

/s/

Sam Napolitano, Director  
Clean Air Markets Division

cc: Constantine Blathras, EPA Region 5  
Andy Seeber, WDNR  
Louis Nichols, CAMD

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<sup>2</sup> "EPA 2005 Sulfur in Diesel Fuel Round Robin Test Plan and Data Analysis", (SwRI Project No. 03.11382.02) December 2005.