Air Resources Board

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Linda S. Adams
Secretary for
Environmental Protection

Arnold Schwarzenegger
Governor

August 17, 2006

Mr. Juan G. Andrade, Ph.D.
Regional Project and Sales Manager
Western USA and Latin America
Süd-Chemie Inc.,
21907 Lopez Street
Woodland Hills, California 91364

Dear Dr. Andrade:

The Air Resources Board (ARB) has reviewed the Süd-Chemie Inc. application for the verification of the EnviCat-DPF™ particulate filter. Based on the evaluation of the data provided, the ARB hereby verifies that the EnviCat-DPF™ particulate filter reduces emissions of diesel PM by 85 percent or greater (Level 3) for stationary prime and emergency standby (E/S) generators and pumps powered by off-road certified engines having particulate matter (PM) emission levels less than or equal to 0.2 grams per brake horsepower hour (g/bhp-hr). The Executive Order for the EnviCat-DPF™ particulate filter, including a list of the applicable engine families, is enclosed.

The required emissions and durability testing of the EnviCat-DPF™ particulate filter were performed per the testing protocol entitled "Süd-Chemie Inc. Catalyzed Diesel Particulate Filter Demonstration Testing For Emergency Standby Generator and Pump Applications," as approved by the ARB. As a part of the required testing, 1000 hours of durability testing, including 144 cold starts, were completed on the system with positive results, making the system eligible for verification. In addition, Süd-Chemie Inc. completed the required diesel fueled pump field demonstration to extend the verification to include diesel fueled stationary prime and E/S pumps in this verification.

The durability and testing were conducted on a diesel powered generator that emits PM emissions at a rate of 0.2 g/bhp-hr as tested on the ISO 8178 D2 cycle. Based on this PM emission rate, a verification is given for stationary prime and E/S diesel powered generators and pumps powered by certified off-road engines having PM emission levels less than or equal to 0.2 g/bhp-hr.

The verification is valid provided the following operating criteria are met:

Parameter	Value
Application	Stationary Prime and E/S Power Generation and Prime and E/S Pumping
Engine Type	Diesel, with or without turbocharger, without Exhaust-Gas Recirculation (EGR), mechanically or electronically controlled, off-road certified engines having PM emission levels less than or equal to 0.2 grams per brake horsepower hour (g/bhp-hr).
Minimum Exhaust Temperature for Filter Regeneration	The engine must operate at the load level required to achieve 400 degrees Celsius (ºC) for a minimum of 30 minutes. Operation at lower temperatures is allowed, but only for a limited duration.
Maximum Consecutive Minutes Operating Below Passive Regeneration Temperature	300 Minutes
Number of Cold Start and 30 Minute Idle Sessions before Regeneration Required	10
Number of Hours of Operation Before Cleaning of Filter Required	1,500 when using diesel with up to 500 parts per million by weight (ppm) sulfur, 2,000 when using Low Sulfur Diesel (<15 ppm Sulfur).
Fuel	California diesel fuel with less than or equal to 500 ppm* sulfur or a biodiesel blend provided that the biodiesel portion of the blend complies with ASTM D6751 (15 ppm sulfur), the diesel portion of the blend complies with Title 13 (CCR), sections 2281 and 2282 and the blend contains no more than 20 percent biodiesel by volume.
PM Verification Level	Level 3 Verification: At least 85% reduction of PM.

* The 500 ppm diesel fuel sulfur limit required by this Executive Order shall be superseded by a 15 ppm diesel fuel sulfur limit as of September 1, 2006, as required by Title 13 CCR, section 2281.

Since there may be significant variations from application to application, Süd-Chemie Inc. must review actual operating conditions (duty cycle, baseline emissions, exhaust temperature profiles, and engine backpressure) prior to retrofitting an engine with an EnviCat-DPF™ particulate filter to ensure compatibility.

Furthermore, the engine on which EnviCat-DPF™ particulate filter is installed should be well maintained and not consume lubricating oil at a rate greater than that specified by the engine manufacturer. Süd-Chemie Inc. must install the Dwyer, Series 300 AN 14, or

equivalent, backpressure monitor on all engines retrofitted with an EnviCat-DPF™ particulate filter.

ARB hereby assigns the EnviCat-DPF™ particulate filter the designated family name of:

CA/SUD/2006/PM3/NOO/ST/DPF01

This identification number should be used in reference to this verification as part of the system labeling requirement.

Additionally, as stated in the Diesel Emission Control Strategy Verification Procedure, Süd-Chemie Inc. is responsible for honoring their warranty (California Code of Regulations, Title 13, section 2707) and conducting in-use compliance testing (California Code of Regulations, Title 13, section 2709).

Should you have any questions or comments, please contact Ms. Bonnie Soriano, Air Resources Engineer, at (916) 327-5975 or Mr. Kirk Rosenkranz, Air Pollution Specialist, at (916) 327-7843.

Sincerely,

/s/

Daniel E. Donohoue, Chief
Emission Assessment Branch
Stationary Source Division

Enclosure

cc: Bonnie Soriano
Air Resources Engineer

Kirk Rosenkranz
Air Pollution Specialist