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Bureau of Air Monitoring
& Mobile Sources

**RECIPROCATING INTERNAL COMBUSTION ENGINES
AIR GENERAL PERMIT REGISTRATION FORM**

Part II. Notification to Permitting Office

(Detach and submit to appropriate permitting office; keep copy onsite)

Instructions: To give notice to the Department of an eligible facility's intent to use this air general permit, the owner or operator of the facility must detach and complete this part of the Air General Permit Registration Form and submit it to the appropriate Department of Environmental Protection or local air pollution control program office which has permitting authority. Please type or print clearly all information, and enclose the appropriate air general permit registration processing fee pursuant to Rule 62-4.050, F.A.C. (*\$100 as of the effective date of this form*)

0251331-001

Registration Type

Check one:

INITIAL REGISTRATION - Notification of intent to:

- Construct and operate a proposed new facility.
 Operate an existing facility not currently using an air general permit (e.g., a facility proposing to go from an air operation permit to an air general permit).

RE-REGISTRATION (for facilities currently using an air general permit) - Notification of intent to:

- Continue operating the facility after expiration of the current term of air general permit use.
 Continue operating the facility after a change of ownership.
 Make an equipment change requiring re-registration pursuant to Rule 62-210.310(2)(e), F.A.C., or any other change not considered an administrative correction under Rule 62-210.310(2)(d), F.A.C.

Surrender of Existing Air Operation Permit(s) - For Initial Registrations Only

If the facility currently holds one or more air operation permits, such permit(s) must be surrendered by the owner or operator upon the effective date of this air general permit. In such case, check the first box, and indicate the operation permits being surrendered. If no air operation permits are held by the facility, check the second box.

- All existing air operation permits for this facility are hereby surrendered upon the effective date of this air general permit; specifically permit number(s): _____
 No air operation permits currently exist for this facility.

General Facility Information

Facility Owner/Company Name (Name of corporation, agency, or individual owner who or which owns, leases, operates, controls, or supervises the facility.)

South Florida Water Management District

Site Name (Name, if any, of the facility site; e.g., Plant A, Metropolis Plant, etc. If more than one facility is owned, a registration form must be completed for each.)

Pump Station S-332C

Facility Location (Provide the physical location of the facility, not necessarily the mailing address.)

Street Address: Junction of SW 228th Ave. and SW 270th St. (Lat: 25.30.55/Long: 80.33.36)

City: Miami

County: Miami-Dade

Zip Code: 33196

Facility Start-Up Date (Estimated start-up date of proposed **new** facility.)(N/A for existing facility)
Pump Station used for flood control. Station began operation approximately April 2002.
Station was owned and operated by US Army Corp of Engineers. Station transferred to the
District on December 15, 2010.

Owner/Authorized Representative

Name and Position Title (Person who, by signing this form below, certifies that the facility is eligible to use this air general permit.)

Print Name and Title: Fred Remen, Department Director, Field Operations South, Operations and Maintenance Resource Area

Owner/Authorized Representative Mailing Address

Organization/Firm: South Florida Water Management District

Street Address: 3301 Gun Club Road

City: West Palm Beach

County: Palm Beach

Zip Code: 33406

Owner/Authorized Representative Telephone Numbers

Telephone: (561) 682-2124

Fax: (561) 681-6232

Cell phone (optional):

Facility Contact (If different from Owner/Authorized Representative)

Name and Position Title (Plant manager or person to be contacted regarding day-to-day operations at the facility.)

Print Name and Title: Jeffrey Smith, Lead Environmental Scientist

Facility Contact Mailing Address

Organization/Firm: South Florida Water Management District

Street Address: 3301 Gun Club Road

City: West Palm Beach

County: Palm Beach

Zip Code: 33406

Facility Contact Telephone Numbers

Telephone: (561) 682-2516

Fax: (561) 681-6232

Cell phone (optional):

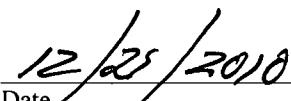
Owner/Authorized Representative Statement

This statement must be signed and dated by the person named above as owner or authorized representative

I, the undersigned, am the owner or authorized representative of the owner or operator of the facility addressed in this Air General Permit Registration Form. I hereby certify, based on information and belief formed after reasonable inquiry, that the facility addressed in this registration form is eligible for use of this air general permit and that the statements made in this registration form are true, accurate and complete. Further, I agree to operate and maintain the facility described in this registration form so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof.

I will promptly notify the Department of any changes to the information contained in this registration form.


Signature


Date

Fuel Consumption

If this is an **initial registration** for reciprocating internal combustion engine operations, provide an estimate of the total amount of fuel expected to be consumed over a 12-month period. Note: the general permit limits fuel consumption by all reciprocating internal combustion engines at the facility to 20,000 gallons per year of gasoline, 250,000 gallons per year of diesel fuel, 1.15 million gallons per year of propane, 40 million standard cubic feet per year of natural gas, or an equivalent prorated amount if multiple fuels are used

Pumping operations are based on environmental conditions. Fuel consumption during an active rainy season is estimated at 175,00 gallons.

If this is a **re-registration** for reciprocating internal combustion engine operations, provide the highest 12-month total fuel consumption amount, in appropriate units, for the last five years. Indicate the 12-month period over which this fuel consumption occurred.

N/A

Description of Facility

Below, or as an attachment to this form, provide a description of the reciprocating internal combustion engine operations at the facility in sufficient detail to demonstrate the facility's eligibility for use of this air general permit and to provide a basis for tracking any future equipment or process changes at the facility. Describe all air pollutant-emitting processes and equipment at the facility, and identify any air pollution control measures or equipment used.

Station operates four Caterpillar, Model 3406, 425 hp diesel engines that power four pumps. Station maintains one Cummins 56 hp (35 kW) diesel emergency generator. Diesel Oxidation Catalyst (mfr by CleanAIR Systems) were recently installed on each pump engine in order to comply with the NESHAP requirements (40 CFR 63, Subpart ZZZZ) to reduce CO emissions by 70% by the May 3, 2013 compliance date.



ASSURE™ DOC

The CleanAIR Systems ASSURE™ DOC (Diesel Oxidation Converter)

INSTALLATION, OPERATION AND MAINTENANCE MANUAL

If you have any questions regarding the ASSURE™ DOC,
please call CleanAIR Systems, Inc. at 800-355-5513 or 505-474-4120
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IMPORTANT SAFETY WARNING

THE FOLLOWING SAFETY WARNINGS SHOULD BE PASSED ON TO THE ULTIMATE CONSUMER USING ANY PRODUCT THAT IS EQUIPPED WITH A CATALYTIC DEVICE MANUFACTURED BY CLEANAIR SYSTEMS, INC. CLEANAIR IS RELYING ON THOSE WHO PURCHASE SUCH DEVICES TO PASS THIS WARNING TO THE ULTIMATE USER.

GENERAL INFORMATION: CARBON MONOXIDE POISONING

Internal combustion engines exhaust carbon monoxide. Carbon monoxide (CO) has the distinction of being one of the few commonly encountered gases that is both highly toxic and odorless. When inhaled, CO acts as a chemical asphyxiant by preferentially combining with hemoglobin in the blood stream. As a result, the hemoglobin is not able to transport its normal amount of oxygen, which results in under-oxygenation of tissues. Symptoms of low-level CO exposure include headaches, dizziness, confusion, and nausea. **However, loss of consciousness and death may result from continued or more intense exposure.** Because of the health hazards associated with CO inhalation, personal exposure limits have been imposed by the Occupational Safety and Health Administration (OSHA). The OSHA exposure limits, which are specified in the 29 CFR 1910.1000 (1991 Revision), allow for a 200 PPM Ceiling Limit and a TWA of 35 PPM per 8-hour shift/40-hr work week. It is strongly recommended that the OSHA 29 CFR 1910.1000 (Code of Federal Regulations) be consulted for more information on exposure limits for various hazardous materials. First aid procedures for treatment of overexposure victims can be obtained by requesting a MSDS (Material Safety Data Sheet) for CO from a chemical or gas supplier.

PROPER VENTILATION:

It is important to be aware that, although the products manufactured by CleanAIR Systems, Inc. reduce CO and hydrocarbon (HC) emissions by more than 85% under optimum conditions, the exhaust still contains CO. If the workspace is small or under-ventilated, CO may accumulate until it eventually exceeds OSHA limits. When this happens, action must be taken to remove workers from areas of high concentration. Operators should take precautions to ensure adequate ventilation of the workspace at all times.

WARNING

We recommend that this product be only used on diesel engines. Also, we recommend that you avoid the use of fuel and oil additives which contain lead, sodium, arsenic, phosphorous, mercury, antimony, zinc, copper, tin, iron, nickel and chrome. These additives will poison the catalyst and reduce its useful life.

Warranty Information

Manufacturer warrants for six months following the date of shipment or 1,000 hours of operation, whichever comes first, that the ASSURE™ DOC is free from defects in workmanship and material. The ASSURE™ DOC must be used in accordance with the Installation and Maintenance Manual supplied with the unit. The sole remedy for breach of the foregoing warranty shall be repair, replacement or refund of the initial purchase price of any defective product, as determined by Manufacturer, based on its sole evaluation and in its sole discretion. In no event shall Manufacturer be liable for special, indirect or consequential damages to the filter or engine, or for return shipping costs or other costs incurred in connection with use or return of the product.

The foregoing warranty is contingent upon proper use of Manufacturer's products, as outlined in the product manual, and will not apply to any damage resulting from misuse including but not limited to: maximum backpressure of 40 inches of water when engine is at full RPM and full load, improper installation, improper operation of any kind, negligence, alteration, under sizing, catalyst poisoning, or act of God. A Return Material Authorization number must be requested from Manufacturer before returning any product and used within the six-month warranty date.

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INTRODUCTION and OPERATION REQUIREMENTS

The ASSURE™ DOC (diesel oxidation converter) for diesel engines feature a high-performance, durable oxidation catalyst that is supported on a ceramic honeycomb substrate and housed within a stainless steel canister. This proprietary oxidation catalyst technology is available in both standard converters and converter/muffler combination systems. In many diesel engine applications, the oxidation catalyst can be retrofitted as a direct muffler replacement. The ASSURE™ DOC is a flow-through device designed to operate on diesel fuel with a maximum of 500 ppm sulfur level. The unit is designed to convert up to 99 percent of carbon monoxide (CO) and hydrocarbons (HC) and reducing diesel particulate matter (PM) by 10 to 50 percent. (For greater PM reduction – more than 85 percent – CleanAIR Systems offers the PERMIT™ catalyzed diesel particulate filter.) ASSURE™ DOC units are designed for on-road and off-road vehicles and equipment such as trucks, buses, construction equipment, mining vehicles, and power generation equipment.

HOW IT WORKS

The ASSURE™ DOC transforms pollutants into harmless gases through oxidizing, or burning, by combining them with free oxygen in the exhaust. Polluting emissions result from the incomplete combustion of fuel. Oxidation completes the combustion. In the case of diesel exhaust, CO, HC and to a lesser degree PM are oxidized into carbon dioxide and water vapor.

Diesel particulate matter is the most complex and troublesome diesel emission. PM includes both solid and liquid material. Although the chemical and physical compositions of the various particles differ, the basic fractions of PM are elemental carbon and heavy hydrocarbons. The ASSURE™ DOC reduces both the soluble organic fraction of PM, which is a liquid material consisting mostly of hydrocarbons, and the solid carbon portion by oxidizing them into carbon dioxide and water.

EXHAUST TEMPERATURE REQUIREMENTS

Temperature of the exhaust is an important factor to activate the catalyst coating. Below 200°C little to no catalyst activity is present. This means that emissions from the engine are not being reduced. As the exhaust temperature raises above 200°C the catalyst activity increases rapidly. For maximum PM reduction efficiency exhaust temperatures between 240°C and 360°C are optimum. The ASSURE™ DOC can with stand temperature as high as 1000°C without damage. This is well above the operating range of diesel engines that generally operate between 250°C and 350°C with some small high temperature excursions as high as 500°C

HEAT GENERATED BY THE ASSURE™ DOC

In general, the ASSURE™ DOC does not increase the exhaust temperature. The unit is oxidizing the unburnt fuel in the exhaust. However, in a diesel engine the unburnt fuel in the exhaust is at a very low concentration. This low concentration combined with the high flow rates, which carry the heat away, result in little or no temperature increase in overall exhaust temperature. However, because the converter adds mass to the exhaust system, the exhaust system around the converter will stay hotter longer. Caution must be taken when working around the converter for protection against burns.

FUEL - HOW FUEL EFFECTS ASSURE™ DOC PERFORMANCE

For the maximum performance in PM removal efficiency, it is recommended that the ASSURE™ DOC operate in conjunction with ultra low sulfur diesel fuel (ULSD), less than 50 ppm sulfur by weight. As the fuel sulfur content increases, the PM removal efficiency decreases. The maximum recommended fuel sulfur level to achieve significant PM reduction is 500ppm.

High sulfur fuel, greater than 500 ppm sulfur, will not damage the catalyst coating or the ceramic DOC.

INSTALLATION OF THE ASSURE™ DOC

SINCE EACH INSTALLATION IS UNIQUE. INSTALLATION SHOULD ONLY BE DONE BY QUALIFIED INDIVIDUALS WHO HAVE UNDERSTANDING OF THE EQUIPMENT AND HOW IT IS OPERATED. CLEANAIR SYSTEMS DOES NOT TAKE RESPONSIBILITY FOR IMPROPERLY INSTALLED UNIT OR ANY DAMAGE OR INJURY IT MAY CAUSE.

ASSURE™ DOC ON STATIONARY DIESEL EQUIPMENT

An ASSURE™ DOC system for a stationary diesel engine (generator set or water pump) has the same operational requirements for temperature and fuel as listed above. For larger engines, due to backpressure concerns, several DOC operating in parallel may be required. This can be accomplished by a manifold or incorporating the DOC inside a silencer.

INSTALLATION - STATIONARY

The ASSURE™ DOC can be supplied with slip-on connectors (exhaust tubing slipping into each other), bolt flange connections or inside an exhaust silencer. Since the ASSURE™ DOC needs heat from the exhaust to operate properly, units supplied with slip-on or bolt flange connections must be installed between the engine exhaust outlet and the exhaust silencer. To conserve heat, installation close to the exhaust manifold is preferential. To install the unit in the exhaust system, measure the length of the ASSURE™ DOC and remove the same length of straight exhaust tubing in the exhaust system making allowances for slip-on connections or bolt flanges and gaskets. Support the unit as necessary using bands around the center of the ASSURE™ DOC. CAUTION – DO NOT OVER TIGHTEN SUPPORT BANDS. DEFORMING THE METAL AROUND THE CENTER OF THE DOC WILL VOID THE WARRANTY. The ASSURE™ DOC can also be supported from the connecting tubing. WARNING: IF YOU ARE INSTALLING THE DOC IN A VERTICAL POSITION, EXTRA CARE MUST BE TAKEN NOT TO ALLOW THE DOC TO SLIP DOWN ON THE EXHAUST PIPE TO A POSITION WHERE THE PIPE COMES IN CONTACT WITH THE CERAMIC DOC. THIS WILL CAUSE DAMAGE TO THE CERAMIC DOC. FINISH CONNECTING THE EXHAUST SYSTEM AS NECESSARY.

ASSURE™ DOC units supplied inside a silencer should be installed no further than 10 feet away from the engine exhaust manifold. If the silencer is installed further than 10 feet from the exhaust manifold the exhaust tubing must be insulated to retain heat inside the exhaust. The silencer should be supported as required.

OPERATION IN NO-LOAD MODE - STATIONARY

In general, a diesel engine should not be operated for long periods in a no-load mode. The no-load mode produces large amounts of unburnt fuel that can fowl the engine. If the exhaust temperature is below 240°C the ASSURE™ DOC is not working.

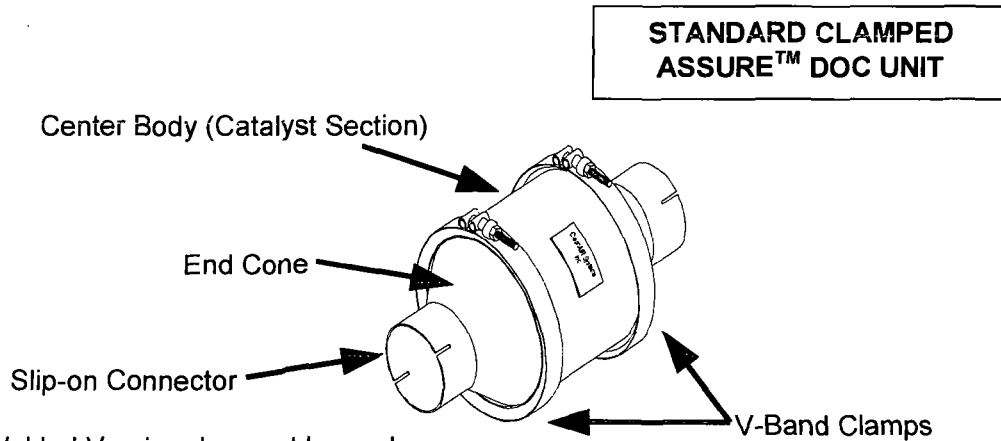
OPERATION UNDER LOAD - STATIONARY

Operating a diesel engine under load is the best operating condition for both the diesel engine and the ASSURE™ DOC. The engine and DOC were designed to operate at optimum performance when under a load. The recommended operating cycle of the engine is a cold start followed by a load of at least 30% for 4 cycle engines or 40% for 2 cycle engines for at least 1 hour. The duration between the cold start and load should be no longer than 20 minutes. This will ensure an exhaust temperature is high enough to continuously regenerate the DOC. This is the best possible mode of operation.

ASSURE™ DOC ON MOBILE DIESEL POWERED EQUIPMENT

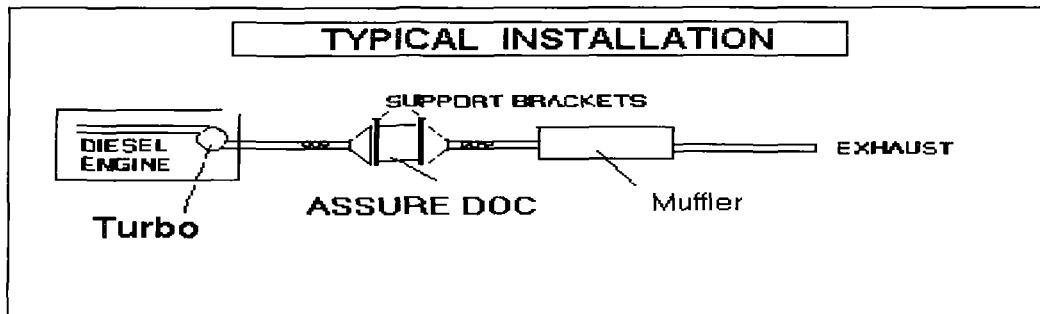
The ASSURE™ DOC can be built into *STANDARD UNITS*, with end cones to transition to the exhaust pipe or built inside a replacement muffler system. It is easily installed in the exhaust system by using standard muffler or seal type clamps.

STANDARD ASSURE™ DOC INSTALLATION



Note: Welded Version does not have clamps

If a muffler is going to be used in conjunction with the Standard ASSURE™ DOC, the ASSURE™ DOC must be in front of the muffler.



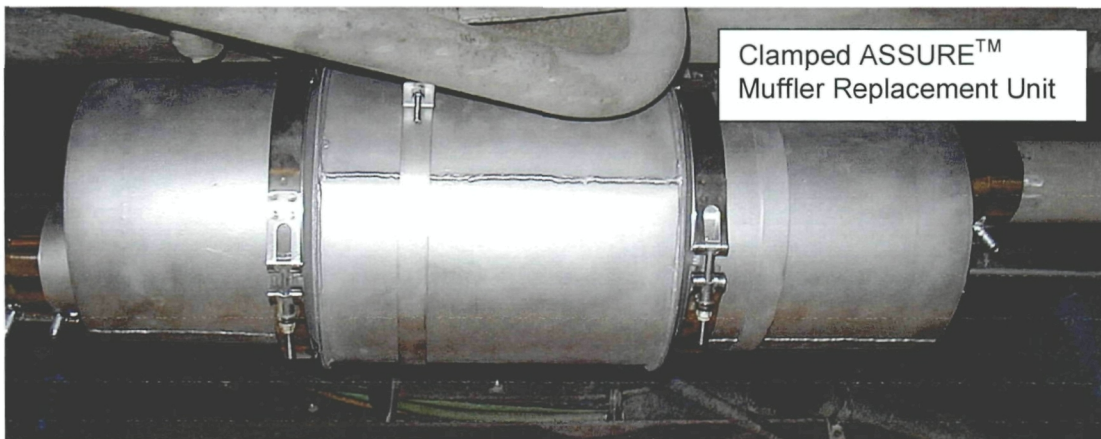
If installing a standard ASSURE™ DOC unit, bands can be placed around the center of the DOC to support it. CAUTION – DO NOT OVER TIGHTEN SUPPORT BANDS. DEFORMING THE METAL AROUND THE CENTER

OF THE DOC WILL VOID THE WARRANTY. The bands should be supported by the frame or some other solid structure. Care must be taken to isolate the DOC from vibration. This can be achieved with the use of flexible exhaust pipe. After determining the best location in the exhaust system for the DOC, remove the necessary length of pipe, if required. With the exhaust system now disassembled and bracing for the DOC determined, slip the DOC inlet over the exhaust pipe until about 2 inches are inside the end cone. **The end cone with the 1/8" NPT test port fitting is the INLET and must be installed toward the engine.** Now secure the DOC to the braces. Insert the exhaust pipe approximately 2 inches into the outlet cone. Once the DOC is in position, tighten all clamps and braces and check the V-band clamps for tightness.

WARNING: IF YOU ARE INSTALLING THE DOC IN THE VERTICAL POSITION, EXTRA CARE MUST BE TAKEN NOT TO ALLOW THE DOC TO SLIP DOWN ON THE EXHAUST PIPE TO A POSITION WHERE THE PIPE COMES IN CONTACT WITH THE CERAMIC DOC. THIS WILL CAUSE DAMAGE TO THE CERAMIC DOC AND VOID THE WARRANTY. FINISH CONNECTING THE EXHAUST SYSTEM AS NECESSARY.

MUFFLER REPLACEMENT ASSURE™ DOC INSTALLATION

ASSURE™ DOC muffler unit comes in two different styles. Clamped – where the DOC is held into the muffler by V-band clamps and Welded – where the unit is welded together as one continuous part. The clamped units allow removal of the DOC part for inspection or on the rare occasion for cleaning should the unit plug with particulate matter.





To install a replacement muffler unit, locate the existing muffler on the vehicle which the ASSURE™ DOC is going to be installed. By measuring the existing muffler and replacement ASSURE™ DOC unit, determine if they are the same size or if modifications will be required to the vehicle's exhaust system. Modification is sometimes necessary due to the size requirements of the ASSURE™ DOC. The size requirement of the ASSURE™ DOC is determined by the engine size. Sometimes the current stock muffler that is going to be removed is smaller than that required when a DOC unit is installed. This type of installation would require modifications to the current exhaust system.

The ASSURE™ DOC muffler unit will require support. Determine the best way to support the unit and incorporate the bracket design into the installation. CAUTION – DO NOT OVER TIGHTEN SUPPORT BANDS. DEFORMING THE METAL AROUND THE CENTER OF THE DOC WILL VOID THE WARRANTY. Remove the existing muffler, make the necessary modifications and install the unit with the support brackets required. Tighten all v-band clamps, bolts and exhaust clamp as required.

MAINTENANCE

The ASSURE™ DOC requires little maintenance. Periodic visual inspection of the external housing is recommended.

DOC PLUGGING FROM COLD EXHAUST TEMPERATURE

If the exhaust is too cold for too long the DOC can plug with particulate matter. Continued operation of an ASSURE™ DOC that has been plugged with particulate matter can damage the DOC or the engine if the back pressure of the DOC is greater than the recommended engine back pressure.

To determine if the DOC is plugged, compare the backpressure reading taken at the inlet of the ASSURE™ DOC, to the maximum recommended backpressure by the engine manufacturer. If the reading is above the manufacturer's limit, then the DOC is plugged and must be cleaned.

TROUBLE SHOOTING

Problem: Backpressure is too high - engine has lost power.

Cause/Action:

Check the backpressure of the ASSURE™ DOC using a gauge or a manometer connected to the inlet of the DOC. Check the engine specifications for back pressure limits.

Solution: Clean the DOC as described below.

Problem: "Blue smoke" is coming from the exhaust system.

Cause/Action:

A blue color smoke indicates that hydrocarbons are coming through the DOC. While the DOC can remove most hydrocarbons under normal conditions, an engine out of tune or one that has a bad injector can produce large amounts of hydrocarbon emissions and the DOC cannot oxidize all of them.

Solution: Check the timing and/or the injectors.

TO REMOVE THE ACCUMULATED PARTICULATE MATTER, FOLLOW THE INSTRUCTIONS BELOW:

1. Remove the converter from the exhaust system and, if it is a clamped version, remove the end cones to expose the catalyst. Note: On welded versions do not remove the end cones.
2. Blow out the converter by using air at a pressure not greater than 100 psi keeping the tip of the nozzle at least 2 inches away from the face of the catalyst. Continue passing air through the converter until the air coming from the converter is clean.
3. **SAFETY PRECAUTION:** When blowing out the converter, use a filter bag or other method to trap the particles removed from the converter. Do not breath the particles.
4. Place the converter back into the exhaust system and operate the engine. Be sure to tighten all clamps and fittings as necessary.



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

ADM 38-40

December 23, 2010

Florida Dept. of Environmental Protection - Receipts
P.O. Box 3070
Tallahassee, FL 32315-3070

**Subject: Air General Permit Registration Form
South Florida Water Management District
Pump Station S-332C**

Enclosed please find the Air General Permit Registration Form (DEP Form No. 62-210.920(1)(b)) and applicable application fee for the South Florida Water Management District (District) Pump Station S-332C. This is an initial Air General Permit for the station. The station was transferred from the U.S. Army Corps of Engineers to the District on December 15, 2010.

Please contact me at 561/682-2516 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffrey A. Smith".

Jeffrey A. Smith
Lead Environmental Scientist
Infrastructure Systems Section
Operations & Maintenance Resource Area

c: District O/M file (w/ enclosure)
Rick Garcia, Miami-Dade County DERM (w/ enclosure)



**South Florida
Water Management District**

**P.O. Box 24682
3301 Gun Club Road
West Palm Beach, FL 33416-4682**

**FLORIDA DEPT OF ENVIRON PROTECTION
2600 BLAIR STONE RD**

TALLAHASSEE FL 32399



SOUTH FLORIDA

WATER MANAGEMENT DISTRICT

3301 Gun Club Road

P.O. Box 24680

West Palm Beach, Florida 33416-4680



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Florida Dept. of Env. Protection
P.O. Box 3070
Tallahassee, FL 32315-3070