

Date: April 4, 2011

To: Honorable Chairman Joe A. Martinez
and Members, Board of County Commissioners

Agenda Item No. 8(C)(1)(A)

From: George M. Burgess
County Manager

Subject: Consumer Services Department Cooperative Extension EPA National Clean
Diesel Program Grant Application Resolution No. R-228-11

Recommendation

It is recommended that the Board of County Commissioners (Board) ratify the Mayor or Mayor's designee's action to apply for, receive, and expend United States Environmental Protection Agency (EPA) FY 2011 National Clean Diesel Funding Assistance Program funds in the amount of \$1,956,539. It is further recommended that the Board authorize the Mayor or the Mayor's designee to execute such contracts, agreements, Memoranda of Understanding (MOU), and amendments, after approval by the County Attorney, as required by program guidelines. It is also recommended that the Board authorize the Mayor or the Mayor's designee to apply for, receive, and expend additional funds that may become available during the term of the grant; to file and execute any amendments to the application for and on behalf of the County; and to exercise amendments, modifications, renewal, cancellation, and termination clauses of any contracts and agreements, subject to the approval of the County Attorney's Office.

Scope

The Miami-Dade Cooperative Extension Office of the Consumer Services Department will coordinate and administer a marine diesel engine repower rebate program that will provide 75% reimbursement for the purchase of an estimated forty-three (43) new, Category 1 and Category 2 marine diesel engines used in commercial fishing/charter vessels and commercial tug boats, to achieve diesel emissions reductions. Community benefits from diesel emissions reductions include: 1) positive health impact on Miami-Dade's densely populated low-income and working on-shore/riverfront communities, particularly those located within the City of Miami; and 2) a significant economic impact to the local fishing and tug industries through a projected 50% savings in fuel consumption. In addition, the project will: 3) help sustain our environmentally sensitive marine ecosystems found near the county's shores, from which the health of the lucrative fishing industry is dependent.

Fiscal Impact/Funding Source

If funded, this grant will provide a two-year grant award in the amount of \$1,956,539 to implement the rebate program. The required match in the amount of \$555,000 will be contributed by each participant commercial fishing/charter and tugboat vessel owner, through their required cost-share match of 25% of the purchase price for a new engine. A voluntary match by the Department in the amount of \$54,234 will also be contributed, comprising a 40% FTE of the Program Manager's salary and fringe benefits over a two-year period.

Track Record/Monitor

The Miami-Dade Cooperative Extension Office within the Consumer Services Department will implement and manage project activities funded through a grant agreement. The Office will handle the disbursement and expenditure of grant funds, and manage programmatic and fiscal reporting in accordance with project reporting and auditing procedures stipulated by the EPA.

Background

Miami-Dade County is the most populous county in Florida with one of the busiest ports in the U.S. which produces the highest overall total emissions by a deep sea port, with the highest individual emissions from hoteling and passenger ships. The Port also contributes the highest particulate emissions from maneuvering operations. In 1996, fishing and tug vessel services accounted for 74% (or 3,958) of the total U.S. commercial fleet with Category 1 and Category 2 diesel engines. Renowned as the "Fishing Capital of the World," Florida has among the top producing commercial fisheries in the country and is ranked number one in economic impact for its recreational fisheries. Within the state, Miami-Dade County is among the top counties with commercial fishing value and landings. In 2009, commercial vessel landings in Miami-Dade County are estimated at more than \$5.5 million and 1.7 million pounds of product. In 2008-2009, Miami-Dade County issued the second highest number of fishing licenses (2,353) and commercial vessel registrations (1,823) in the State.

Diesel emissions contain large amounts of particulate matter and toxicants, which contribute to serious public health problems including asthma and asthma related deaths; heart disease; several types of cancers; premature deaths; and others respiratory and related illnesses. Miami-Dade County ranks first in the State of Florida in: Asthma-related deaths (21); Cancer Incidence (11,476 events, 2007); Lung Cancer Incidence (1,285 events, 2007); Lung Cancer deaths (889, 2009) Cancer-related Deaths (3,908, 2005-07); Asthma-related deaths (25, 2009); Hospitalizations from or with Asthma (20,016, 2009); Chronic Lower Respiratory Diseases (CLRD) deaths (764, 2009); Hospitalizations from Chronic Lower Respiratory Diseases (CLRD) (including asthma) (10,543, 2009); and Deaths from Emphysema (81, 2009).

The replacement of older marine diesel engines is expected to achieve a significant reduction in diesel emissions through cleaner burning engines that meeting EPA emissions standards and also through an improved fuel efficiency, decreasing the amount of fuel consumed by the new engine.

The short turnaround time imposed by the application deadline did not allow sufficient time for the processing of the resolution, and its submission to the Board prior to submission of the application.



Assistant County Manager



MEMORANDUM
(Revised)

TO: Honorable Chairman Joe A. Martinez
and Members, Board of County Commissioners

DATE: April 4, 2011

FROM: R. A. Cuevas, Jr.
County Attorney

SUBJECT: Agenda Item No. 8(C)(1)(A)

Please note any items checked.

- "3-Day Rule" for committees applicable if raised
- 6 weeks required between first reading and public hearing
- 4 weeks notification to municipal officials required prior to public hearing
- Decreases revenues or increases expenditures without balancing budget
- Budget required
- Statement of fiscal impact required
- Ordinance creating a new board requires detailed County Manager's report for public hearing
- No committee review
- Applicable legislation requires more than a majority vote (i.e., 2/3's ____, 3/5's ____, unanimous ____) to approve
- Current information regarding funding source, index code and available balance, and available capacity (if debt is contemplated) required

Approved _____ Mayor

Agenda Item No. 8(C)(1)(A)

Veto _____

4-4-11

Override _____

RESOLUTION NO. R-228-11

RESOLUTION RATIFYING THE MAYOR OR MAYOR'S DESIGNEE'S ACTION TO APPLY FOR, RECEIVE, AND EXPEND UNITED STATES ENVIRONMENTAL PROTECTION AGENCY FY 2011 NATIONAL CLEAN DIESEL FUNDING ASSISTANCE PROGRAM FUNDS IN THE AMOUNT OF \$1,956,539; AUTHORIZING MATCHING FUNDS FROM THE CONSUMER SERVICES DEPARTMENT IN THE AMOUNT OF \$54,234; AUTHORIZING THE MAYOR OR MAYOR'S DESIGNEE TO EXECUTE SUCH CONTRACTS, AGREEMENTS, MEMORANDA OF UNDERSTANDING AND AMENDMENTS AFTER APPROVAL BY THE COUNTY ATTORNEY; AUTHORIZING THE MAYOR OR THE MAYOR'S DESIGNEE TO APPLY FOR, RECEIVE, AND EXPEND ADDITIONAL FUNDS THAT MAY BECOME AVAILABLE AND EXECUTE ANY AMENDMENTS TO THE APPLICATION AND EXERCISE AMENDMENTS, MODIFICATIONS, RENEWAL, CANCELLATION AND TERMINATION CLAUSES

WHEREAS, this Board desires to accomplish the purposes outlined in the accompanying memorandum, a copy of which is incorporated herein by reference,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA, that this Board ratifies the Mayor or Mayor's designee's action to apply for, receive, and expend United States Environmental Protection Agency FY 2011 National Clean Diesel Funding Assistance Program funds in the amount of \$1,956,539; authorizes matching funds from the Consumer Services Department in the amount of \$54,234; authorizes the Mayor or the Mayor's designee to execute such contracts, agreements, Memoranda of Understanding (MOU), and amendments, after approval by the County Attorney, as required by program guidelines; authorizes the Mayor or the Mayor's designee to apply for, receive, and expend additional funds that may become available; and authorizes the Mayor or the Mayor's designee to file and execute any amendments to the application for and on behalf of the County and to exercise amendments, modifications, renewal, cancellation, and termination clauses of any contracts and agreements, subject to the approval of the County Attorney's Office.

The foregoing resolution was offered by Commissioner **Audrey Edmonson**, who moved its adoption. The motion was seconded by Commissioner **Rebeca Sosa** and upon being put to a vote, the vote was as follows:

	Joe A. Martinez, Chairman	aye
	Audrey M. Edmonson, Vice Chairwoman	aye
Bruno A. Barreiro	aye	Lynda Bell aye
Jose "Pepe" Diaz	aye	Carlos A. Gimenez aye
Sally A. Heyman	aye	Barbara J. Jordan aye
Jean Monestime	aye	Dennis C. Moss aye
Rebeca Sosa	aye	Sen. Javier D. Souto aye

The Chairperson thereupon declared the resolution duly passed and adopted this 4th day of April, 2011. This resolution shall become effective ten (10) days after the date of its adoption unless vetoed by the Mayor, and if vetoed, shall become effective only upon an override by this Board.



MIAMI-DADE COUNTY, FLORIDA
BY ITS BOARD OF
COUNTY COMMISSIONERS

HARVEY RUVIN, CLERK

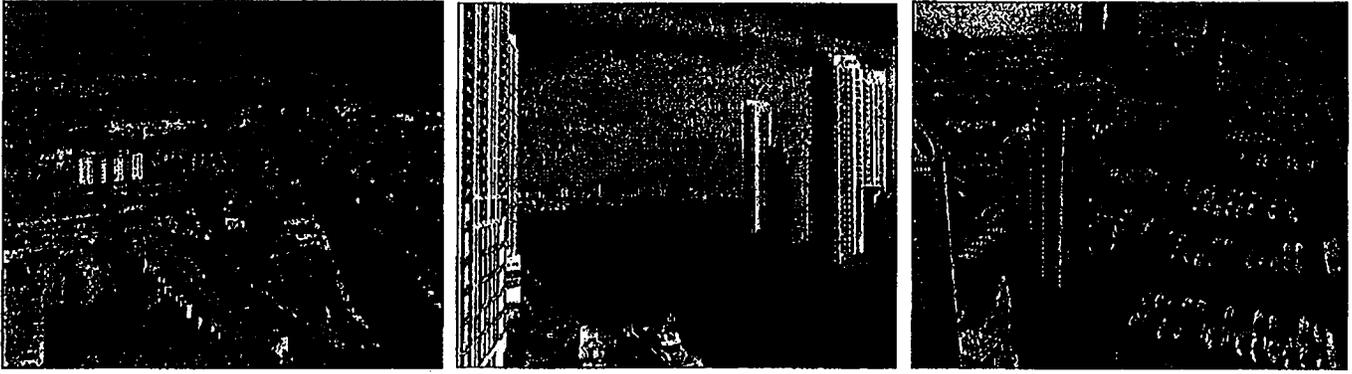
DIANE COLLINS

By: _____
Deputy Clerk

Approved by County Attorney as to form and legal sufficiency. GKS

Gerald K. Sanchez

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**Environmental Protection Agency (EPA) National Clean Diesel Funding Assistance Program
FY 2011 Request for Proposals (RFP) EPA-OAR-OTAQ-11-01**

PROJECT TITLE: Miami-Dade County Marine Engine Repower Rebate Program

APPLICANT INFORMATION:

Miami-Dade County, 111 NW 1st Street 19th Floor, Miami, FL, 33128; (305) 375-4742 (Phone) / (305) 375-4049 (Fax);
Daniel T. Wall, Director, Office of Grants Coordination; dtw@miamidadecounty.gov (Email); <http://miamidadecounty.gov/> (URL);
DUNS number: 13-191-0254

ELIGIBLE ENTITY:

Miami-Dade County is a local (County) unit of government comprised of over 50 governmental departments (or agencies) as well as a port authority. As such, Miami-Dade County is eligible to apply for assistance under this solicitation in accordance with 42 U.S.C. 16131(3) and CFDA 66.039:

REGIONAL OFFICE: U.S. EPA Region 4 - Air, Pesticides and Toxics Management Division, 61 Forsyth St., SW Atlanta, Georgia 30303, R4CleanDiesel@epa.gov (Email)

TOTAL PROJECT COST: \$2,565,773
MANDATORY MATCH: \$555,000

EPA FUNDS REQUESTED: \$1,956,539
VOLUNTARY COST SHARE: \$54,234

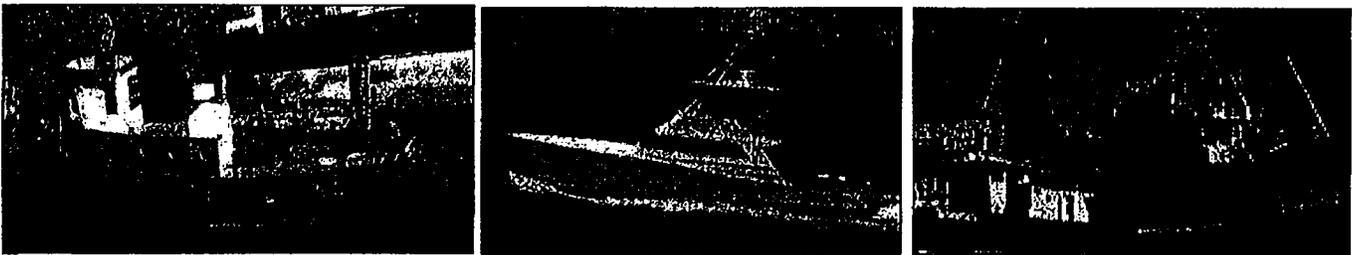
TARGET FLEET: Fleet Type - Marine and Ports (Commercial Vessels) / 43 Engines

TECHNOLOGY: Engine Repower/Replacement

MULTIPLE PROPOSALS: Miami-Dade County Sustainable Goods Movement Project

ENVIRONMENTAL JUSTICE AREA: The project will mitigate the negative impacts on air quality and public health that result from diesel emissions of commercial marine vessels and tugboats associated with goods movement in the Port of Miami, Miami River, and other coastal waterways in Miami-Dade County. The project will benefit densely populated low-income and working onshore and riverfront communities that receive a disproportionate amount of air pollution from diesel emissions associated with marine operations.

SHORT PROJECT DESCRIPTION: Miami-Dade County will coordinate and administer a marine diesel engine repower rebate program that will provide 75% reimbursement for the purchase of an estimated fifty new Category 1 and Category 2 marine diesel engines used in commercial fishing/charter vessels and commercial tug boats.



SECTION 1. PROJECT SUMMARY

Renowned as the "Fishing Capital of the World," Florida has among the top producing commercial fisheries in the country and is ranked number one in economic impact for its recreational fisheries. Within the state, Miami-Dade County is among the top counties with commercial fishing value and landings. In 2009, commercial vessel landings in Miami-Dade County are estimated at more than \$5.5 million and 1.7 million pounds of product.¹ In 2008-2009, Miami-Dade County issued the second highest number of fishing licenses (2,353)¹ and commercial vessel registrations (1,823)² in the State.

Fish production off our shores is heavily reliant on the health of unique and environmentally sensitive marine systems. South Florida is home to the largest coral reef tract in the continental U.S., many of which are found near intensely developed coastal shores. Miami is the only metropolitan area in the U.S. that borders two national parks (Biscayne National Park and Everglades National Park) and a state managed aquatic preserve (Biscayne Bay Aquatic Preserve) – all of which are partially to fully immersed in water.

Miami-Dade County proposes to implement a rebate program that will provide much needed funding to local commercial fishermen and tug companies for the repowering of older Category 1 and Category 2³ commercial marine engines in operation today. These engines are commonly found in our warm waters in commercial fishing, charter, and tug vessels. The environmental benefits of reduced diesel emissions and the economic benefit from fuel efficiency to be realized by the commercial fisherman and tug companies as a result of the proposed project will be maximized in Miami-Dade County's tropical climate which provides a year-round fishing season, and highly productive marine-dependent goods movement industries.

The intent of the program is to provide subgrants in the form of rebates not to exceed 75% of the cost of a new engine and installation. The program will require that all removed engines be replaced with engines certified to meet EPA emissions standards and that achieve a minimum cost effectiveness of amount of pollution prevented per funding dollar. The eligibility and funding criteria will be designed to prioritize projects including 2 stroke engines with high fuel use and those vessels carrying passengers to maximize public health impacts. Emphasis will also be placed on funding projects operating in the Port of Miami River, to maximize environmental justice objectives.

The replacement of older marine diesel engines is expected to achieve a significant reduction in diesel emissions through cleaner burning engines that meeting EPA emissions standards and also through an improved fuel efficiency, decreasing the amount of fuel consumed by the new engine. Some of the most prevalent engines in the industry are Detroit Diesel 71 series models (6V-71, 8V-71, and 12V-71) dating more than 20 years old. Their popularity has been attributed to their dependability and ease of maintenance; however, their fuel consumption rates are higher than modern engines. It is estimated that changing from an older 1990's (Cummins engine to a Tier 2 engine will achieve a 10% increase in fuel efficiency. Considering that a majority of the engines expected to participate would be pre-1990's engines, a 15% improvement in fuel efficiency is projected for this project. This is a conservative estimate because many of the engines that will be replaced were manufactured in the 1970's and 80's.

Each eligible commercial marine vessel applicant will be required to provide the program manager a rebate application and engine worksheet to establish eligibility and compliance with program criteria. Other documents that will be required include replacement engine dealer specification and price quote, proof of ability to pay from a financial institution or from the engine dealer, and a signed affirmation that the new engine will be properly maintained and operated in the waters off Miami-Dade County for a minimum of 5 years. All removed engines will be scrapped or rendered permanently disabled via drilling a hole through the engine block and manifold. Engine serial numbers, photographs of the removed engines, and follow-up site inspection documentation will be retained by the program manager.

A survey/call for letter of interest conducted with local fisherman and tug companies to evaluate the feasibility of the proposed rebate program resulted in receipt of over 45 letters of interest identifying more than 75 potential engines for repower within less than a two week span. More than 50% of the engines surveyed were built in 1995 or earlier and do

¹ 2009 Annual Landings Summary and 2008-2009 License /Permit Summary, Marine Fisheries Information Systems, Florida Fish and Wildlife Conservation Commission

² Florida Department of Highway Safety and Motor Vehicles 2009 Florida Vessel Owners Statistics

³ Category 1 and Category 2 marine diesel engines range in size from about 500 to 8,000 kW (700 to 11,000 hp and are used to provide propulsion power or as stand-alone generators for auxiliary electrical power on many types of vessels on a variety of vessels (i.e. tugboats, pushboats, supply vessels, fishing vessels, and other commercial vessels in and around ports).

not meet EPA's Tier certification standards. Additionally, a meeting was held with representatives from the commercial fishing industry, tug boat companies, and the Biscayne Bay Pilots Association to discuss the vessel and engine types and appropriate technology options for this targeted fleet. Tugboat vessels were included as eligible participants in the proposed engine repower rebate program as a result of these discussions with representatives who validated the need for the program for a minimum one to two tug vessels in their respective fleet and provided engine information as requested. Our local fisherman do not have in place a replacement schedule for their engines - a reality only further exacerbated by financial hardship attributed by our current fragile economy. Without this grant, these currently-owned engines will continue to be used until no longer operable.

Project Timeline		
Task/Activity	Start	End
1. Develop rebate criteria and application forms – Establish a minimum cost effectiveness for eligibility. Conduct research of model programs including those in place in California.	June 2011 (Month 1)	September 2011 (Month 4)
2. Distribute notification of rebate program – establish information on webpage, utilize county databases for industry contacts, provide literature and presentations to stakeholder groups and community partners.	October 2011 (Month 5)	December 2011 (Month 7)
3. Receive, evaluate, and process rebates	January 2012 (Month 8)	March 2012 (Month 10)
4. Maintain... -- Database of scrapped engine data, i.e. track engine replacements by engine name, model, and year for each new and old engine; replacement cost; labor hours per installation; and total amount of reimbursement. -- Required paperwork for each participant, i.e. applicant forms, invoices, engine photographs, inspection reports	April 2012 (Month 11)	June 2013 (Month 24)
5. Report progress of project goals to EPA	Quarterly Reports and within 90 days following the close of the project	

The Miami-Dade County Department of Consumer Services Cooperative Extension will lead the management of the rebate program, with supported by staff from other County departments through participation in a project working group. These departments/offices include: Department of Environmental Resources Management (DERM) Air Quality Management Office; Office on Sustainability (OOS); and the Office of Grants Coordination. The Agriculture Manager, who is the project manager for a currently funded engine replacement rebate program will be an advisor to this working group. *Dr. Lisa Krimsky*, Sea Grant Extension Agent for Miami-Dade County, will serve as the Program Manager at 400% FTE through an in-kind contribution over two (2) years to coordinate and oversee all program activities to include: facilitating fiscal and reporting requirements; implementation of a fair applicant selection process; coordination of pre-application conferences, coordinating and conducting engine inspections; coordinating the disabling of replaced engines; collecting and analyzing program data. A Program Assistant will be hired at 100% FTE to provide the Program Manager assistance with the day-to-day management of all project activities. An Accountant I will also be hired at 100% FTE over two years to facilitate all fiscal-related activities.

The replaced engines will provide a sustained emissions reduction benefit throughout the lifetime of the new diesel marine engine which is expected to have a minimum useful life period of 10 years, and likely exceed 20 years as demonstrated by the age of the replaced engines. The knowledge gained through this project will continue to benefit the industry and will serve as a model for other areas in the state, region, and country. Achieving savings in fuel and maintenance costs from the use of more efficient engines will likely promote the earlier replacement of engines on nonparticipant vessels.

The design of this project would allow for expenditures and activities to commence almost immediately following final development of a subgrant criteria and guidelines. No funds awarded under this subgrant program will be used to fund the costs of emissions reductions that are mandated under Federal, State, or local law, meeting the Restriction for Mandated Measures defined in Section III.D.1 of the RFP. The emissions reductions measures to be achieved by this program are solely voluntary and elective.

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SECTION 2. ENVIRONMENTAL RESULTS – OUTPUTS AND OUTCOMES

Within the funding period, the Miami-Dade Marine Diesel Engine Repower Rebate Program will achieve the activities, outputs, and outcomes outlined as follows:

Anticipated Outputs and Outcomes		
Activities	Outputs	Outcomes
Establish a subgrant/rebate program to repower/ replace Category I and II engine on local commercial marine vessels <ul style="list-style-type: none"> up to 75% reimbursement for commercial vessels 	Repower/ Replace approximately 43 old and inefficient diesel engines on Category 1 and 2 commercial marine vessels including: <ul style="list-style-type: none"> 9 – 60-90 HP engines 14 – 250-300 HP engines 16 – 310-375 HP engines 2 – 600 HP engines 2 – 900 HP engines 	<u>Short-term:</u> <ul style="list-style-type: none"> Successful retirement of engines Introduction of certified tier engines Injection of money to local engine distributors, installers, and national engine manufacturers <u>Medium-term:</u> <ul style="list-style-type: none"> 39,201 annual gallons diesel fuel reduction (15% reduction in fuel consumption) Reduce 0.34 tons/year of PM, 22.50 tons/year NOx, 0.07 tons/year HC, 2.74 tons/year CO, and 435.14 tons/year CO₂ Economic benefit to local fisherman and tug companies through utilization of cleaner, more fuel efficient engines Continued economic benefit to local distributors, installers, and national engine manufacturers <u>Long-term:</u> <ul style="list-style-type: none"> Lifetime Emissions Reduction in ambient air quality pollutants previously contributed by the retired engines as follows 3.37 tons PM, 224.97 tons NOx, 0.71 tons HC, 27.39 tons CO, and 4,351.36 tons CO₂ Improve air quality by reducing daily exposure of diesel exhaust by local residents and fishermen; Improve quality of life from reduction in asthma cases, associated health care costs, and missed/work and school days Increase lung function and decrease cardiopulmonary disease to county residents Preservation of jobs in the local fishing industry, local engine distribution/installation industry, and national manufacturing industry. Improve water quality of rivers, streams, and wetlands and increase protection of urban, coastal, and ocean waters.

Measurable outcomes were compiled for a total emissions reduction utilizing the suggested quantifier tool, as summarized in the table below. The quantifier tool does not account for the expected fuel consumption reduction associated with operating new, more efficient engines. Instead, a 15% emissions reduction (tpy) was applied based on the average fuel consumption of 6.8 gallons/year for older diesel engines and manufacturer estimates of fuel consumption for Tier 2 and Tier 3 engines in range of 2-3 gallons/hour. This calculation will allow for an estimate in the CO₂ emissions reductions associated with this project.

	NO_x (TPY)	PM (TPY)	HC (TPY)	CO (TPY)	CO₂ (TPY)	Diesel Reduced (gallons/yr)
Baseline	42.73	1.03	0.44	7.91	2900.91	261,343
TPY reductions from less fuel use	6.41	0.16	0.07	1.19	435.14	39,201
TPY reduction from new engine	16.09	0.18	0.01	1.55	0	0
Total TPY Reductions	22.50	0.34	0.07	2.74	435.14	39,201

Total Reduction %	52.6%	32.6%	16.2%	34.6%	15.0%	15.0%
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Plan for Tracking and Measuring Progress Towards Achieving Project Outputs and Outcomes: Part of the eligibility criteria for participation in the program will be that the vessel owners agree to provide Miami-Dade County an annual report including operating hours and fuel consumption.

SECTION 3. NATIONAL PROGRAMMATIC PRIORITIES

The goals and outcomes of this project align with and contribute to the following goals and directives of the FY 2011-2015 EPA Strategic Plan. Goal 1: Taking Action on Climate Change and Improving Air Quality; *Objective: Reduce GHG Emissions and Develop Adaptation Strategies to Address Climate Change*; *Effort: Developing standards to reduce GHG emissions from nonroad sources such as marine and aircraft and land-based nonroad equipment and locomotives.* Goal 2: Protecting America's Waters; *Objective: Protect Human Health (Reduce human exposure to contaminants in drinking water, fish and shell fish...)*; *Objective: Protect and Restore Watersheds and Aquatic Ecosystems (Protect the quality of rivers, lakes, streams, and wetlands on a watershed basis, and protect urban, coastal, and ocean waters.*

EPA also recognizes that diesel air pollution threatens revered and sensitive aquatic ecosystems and "reducing emissions from locomotive and marine diesel engines is important for reducing air quality impacts on cultural and fishery resources."⁴ Diesel emissions pollutants can enter aquatic/marine ecosystems either from direct atmospheric deposition, surface runoff, or leaching from nitrogen saturated soils. Excess nutrient inputs into these ecosystems can contribute to severe hypoxic or anoxic conditions; eutrophication and algal blooms; altered fish distributions, catches, and physiological states; loss of biodiversity; habitat degradation; and increases the incidence of disease. In conjunction with locomotives, marine diesel engines account for approximately 20% of mobile source NOx emissions and 25% of mobile source diesel PM2.5 emissions in the United States. Thus, the input of pollutants from marine diesel engines can actually result in fishery losses due to fish kills associated with low dissolved oxygen and toxic algal blooms. For Miami-Dade County, reductions of marine diesel emissions may not only indirectly preserve the local commercial fishing industry, but will also protect the state and nationally recognized marine areas that are sources of biodiversity, drinking water, recreation, agriculture, and tourism for the county.

Maximize public health benefits: With 2.5 million residents, Miami-Dade County is the most populous county in Florida and home to one of the busiest ports in the U.S., known throughout the world as both the Cruise Capital of the World and the Cargo Gateway of the America. In terms of emissions, the Port of Miami produces the highest overall total emissions by a deep sea port (57,682 MWs of Installed Power)⁵, with the highest individual emissions from hoteling and passenger ships. The Port also contributes the highest particulate emissions from maneuvering operations. In 1996, fishing and tug vessel services accounted for 74% (or 3,958) of the total U.S. commercial fleet with Category 1 and Category 2 diesel engines.⁶ These operations and their engines are abundant in our warm waters.

Diesel emissions contain large amounts of particulate matter and air toxics, which contribute to serious public health problems such as asthma and asthma related deaths, heart disease, cancer and lung cancer, premature deaths, etc. Miami-Dade ranks first in the State of Florida for following chronic diseases:⁷ Asthma-related deaths (21) Miami-Dade County ranks first in the State of Florida in: Cancer Incidence (11,476 events, 2007); Lung Cancer Incidence (1,285 events, 2007); Lung Cancer deaths (889, 2009) Cancer-related Deaths (3,908, 2005-07); Asthma-related deaths (25, 2009); Hospitalizations from or with Asthma (20,016, 2009); Chronic Lower Respiratory Diseases (CLRD) deaths (764, 2009); Hospitalizations from Chronic Lower Respiratory Diseases (CLRD) (including asthma) (10,543, 2009); and Deaths from Emphysema (81, 2009).

The project will maximize public health benefits by substantially reducing diesel exhaust exposure from commercial marine vessels by decreasing diesel emissions in areas with high concentrations of elderly residents, densely populated areas, and areas that receive a disproportionate amount of air pollution from vehicular traffic and other industrial sources.

⁴ *Summary and Analysis of Comments: Control of Emissions of Air Pollution from Locomotive Engines and Marine Compression Ignition Engines Less than 30 Liters Per Cylinder* Chapter 2 Air Quality and Health Impacts, EPA420-R-08-006, March 2008.

⁵ *Emission Inventories for Ocean-Going Vessels Using Category 3 Propulsion Engines In or Near the United States*, U.S. EPA, Draft Technical Support Document EPA420-D-07-007, December 2007.

⁶ *Commercial Marine Emissions Inventory for EPA Category 2 and 3 Compression Ignition Marine Engines in the U.S. Continental and Inland Waterways*, U.S. EPA, EPA420-R-98-020, August 1998.

⁷ Florida Community Health Assessment Resource Tool Set (CHARTS) at FloridaCHARTS.com.

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The eligibility and funding criteria will be designed to prioritize projects including 2 stroke engines with high fuel use and those vessels carrying passengers to maximize public health impacts. Some populations that will benefit include numerous workers and cruise passengers in the Port of Miami; customers and workers of numerous businesses (including restaurants and fish markets) on the Miami River; residential riverfront communities along 5.5 miles of the Miami River; residents and workers in the heavily urbanized Downtown, Miami; and other densely populated onshore residential communities. During fiscal year 2009, 4.1 million passengers traveled through the Port.

Disproportionately impacted areas: This project will serve to reduce disproportionate exposure to residential areas and activity centers near two ports, the Port of Miami River and the Port of Miami. The Miami River runs 5.5 miles directly through the City of Miami. In particular, the City of Miami (a large municipality with an estimated 433,136 residents) is home to the Port of Miami, the Miami River, and Downtown, Miami. It has historically had one of the highest poverty rates for families (25.3% vs. 26% national); one of the lowest median incomes (\$29,812 vs. \$51,425 national);⁸ an astounding 164,809 Assisted Housing Eligible Households⁹; a 23% elderly population (ages 60 and over); and 23,294 assisted housing units for the elderly.⁹ Their 418,480 residents comprise of 68.21% Hispanic; 21.60% African American; 3.47% White; and 8.21% other. Within the City of Miami there are three designated Neighborhood Development Zones (or distressed neighborhoods targeted for revitalization) located directly on the Miami River: Allapattah, Overtown, and East Little Havana.

Maps with community/neighborhood level data demonstrating the need for a diesel emissions reduction project, and identifying sensitive and environmental justice areas are included as Attachment A. The maps provide an illustration of the following data sets, relative to the Port of Miami and the Port of Miami River: Senior Population (65+), Concentration of Residential Healthcare Facilities (including Nursing and Adult Living and Care Facilities), and Deaths from COPD including asthma. The EPA EJView tool was used to evaluate areas of the proposed project. The demographic, health, industrial facility data sets were similar yet less detailed than local sources, and were, therefore not included in the attachment.

In 2001, the Miami River was Florida's fourth largest port in dollar volume. In addition to cargo shipping and handling, maritime businesses along the River include marine outfitters, shipyards and boatyards, commercial fishing and recreational boating services and marinas. A variety of unique neighborhoods, representing a broad cross-section of socioeconomic, cultural and ethnic backgrounds run adjacent to the Miami River. The majority of the neighborhoods are predominately residential in character. These neighborhoods are some of the oldest neighborhoods in the City of Miami as evidenced by the numerous structures built before 1926. The Melrose neighborhood is divided by the industrial uses of the working river and the adjacent single family and duplex community to the north. At the other end of the River the Midtown and Government Center Neighborhoods are predominately of an urban downtown character providing mixed uses including residential, business and governmental. As of 2002, there were thirty-three public and private elementary schools in the study area used to develop the Miami River Corridor Urban Infill Plan.¹⁰

The Port is on an island, separated only by water from nearby residential areas and commercial facilities. The Port is less than one mile east, across the Intracoastal Waterway from a major sports arena and open area market place; a new state-of-the-art performing arts center; and the Miami Central Business District. The Port has residential areas within a mile across the channels to the north and south, and high-rise condominiums and a low-income senior citizen housing facility is located to the west within 600 feet of Port property, an environmental justice consideration. *Emphasis will be placed on funding projects operating in the Port of Miami River, to maximize environmental justice objectives.*

Cost Effectiveness/Useful Life of Technology/Diesel Fuel Conservation: New Tier 2 and 3 engines are anticipated to decrease fuel consumption by more than 15% over older diesel engines targeted for replacement. As shown in the table below, the average useful life for Category 1 and 2 engines is 15,000 hours. Thus, the repowering of 50 vessels with new engines will save approximately 337,500 gallons per year or more than 3.3 million gallons of gasoline over the average useful life of the engine. This would reduce fishermen's costs by approximately \$1,098,900 per year at today's prices (\$3.256/gallon).

⁸ U.S. Census Bureau, 2005-2009 American Community Survey 5-Year Estimates.

⁹ City of Miami Five-Year Consolidated Plan for Fiscal Years 2009-2013

¹⁰ *Miami River Corridor Urban Infill Plan* prepared for Miami River Commission, City of Miami, and Miami-Dade County by Kimley-Horn and Associates, Inc

Category	Useful Life		Warranty Period	
	Hours	Years	Hours	Years
Category 1	20,000	10	10,000	5
Category 2	10,000	10	5,000	5

Cost effective estimates from the EPA Diesel Emissions Quantifier Tool are summarized in the table below. It is important to note that emissions reductions estimates and cost effectiveness were calculated on data received from interested parties as part of the survey responses. The project will be designed to maximize cost effectiveness, meaning that if minimum cost effectiveness per project were established, the actual cost effectiveness of engines replaced will likely be much higher.

	NO _x	PM	HC	CO	CO ₂
Group 1 (80 HP)	\$356,792.44	\$7,743,600.77	\$16,333,938.29	\$2,650,176.68	\$3,314.88
Group 2 (320 HP)	\$245,093.69	\$16,903,478.69	\$85,661,080.07	\$2,016,747.78	\$2,465.79
Group 3 (350 HP)	\$555,587.71	\$38,330,308.53	\$194,475,138.12	\$4,572,517.27	\$5,977.03
Group 4 (500 HP)	\$11,002.92	\$759,507.41	\$3,847,210.77	\$90,537.24	\$2,798.51
Group 5 (900 HP)	\$2,403.03	\$165,851.23	\$840,318.48	\$19,772.65	\$1,260.52

A community-based multi-stakeholder collaborative process to reduce toxic diesel emissions will be used to develop the criteria of the project and to develop the outreach and marketing plan and tools to maximize participation in the project. This will be achieved by continuing the communication with stakeholders that have provided data and input for the development of this project proposal and who have committed to supporting this project, including the Marine Industries Association of South Florida, the Miami River Commission, the Biscayne Bay Pilots Association, commercial fishing and charter company owners, tugboat operators, and others.

SECTION 4. REGIONAL SIGNIFICANCE The project addresses two of four sector-specific priorities for the region.

Clean Airports and Water Ports: The project will aid in the implementation of clean diesel operations at two water ports involving freight and people passing by targeting the replacement of older diesel engines on tug vessels operating in the Port of Miami, the world's top cruise port and Florida's top cargo port, and the Port of Miami River, Florida's fourth largest port in dollar volume. Projects operating in and out of these ports will be given funding priority.

Directly addresses the Freight movement needs of EJ communities as outlined in the November 2009 National Environmental Justice Advisory Council report titled "Reducing Air Emissions Associated With Goods Movement: Working Towards Environmental Justice": The funding of this project would directly address the key recommendation proposed by the NEJAC, to "Accelerate introduction of existing, cleaner technologies and systems by providing needed resources using incentives, regulatory actions, modifying existing funding and financing programs, creating new funding mechanisms, and offering technical assistance." This project would further support the NEJAC recommendation that "EPA should prioritize use of National Clean Diesel Campaign funding to improve the air quality within goods movement impacted communities by promoting the deployment of cleaner technology using certified and verified technologies." As described in detail in Section 4, the project is designed to reduce diesel emissions in areas with high concentrations of elderly residents, densely populated areas, and areas that receive a disproportionate amount of air pollution from vehicular traffic and other industrial sources.

SECTION 5. PAST PERFORMANCE-PROGRAMMATIC CAPABILITY AND REPORTING ON RESULTS

Past Performance in Successfully Completing and Managing Similar Federally Funded agreements within the Last 3 Years: Miami-Dade County has been the recipient of federal funding awards from the U.S. Environmental Protection Agency, U.S. Department of Energy, and U.S. Department of Health and Human Services, among others. Our most recent awards include: a FY 2009-10 National Clean Diesel grant was received by our Seaport Department for the repowering of gantry cranes and retrofit of cargo container handlers in the Port of Miami; an ARRA EPA National Clean Diesel grant to the Agricultural Manager's office within the Consumer Services Department for a rebate program for local farmers to repower engines in irrigation sets; and an ARRA SEDC grant to the Transit Department to add more hybrid bus vehicles to the fleet.

Miami-Dade County's Department of Environmental Resources Management (DERM) has received federal funding for air pollution and ambient air monitoring from the EPA for more than 30 years. The County has also been the recipient of the following project grant awards: Energy Star Power Management; Air Toxics Demonstration; EPA Communities in Motion; and EPA Voluntary Diesel Retrofit Grant Project. Additional Cooperative Extension grant experience comes from awards received by their cooperative partner, the University of Florida's Institute of Food and Agricultural Sciences Florida Sea Grant Program. The Florida Sea Grant Program has been the recipient of numerous federal funding awards from the National Oceanic and Atmospheric Administration, (NOAA) that is part of the Department of Commerce, as well as the National Science Foundation (NSF) over the past several years. It also manages over \$5 million and more than 100 research, extension, education and communications projects, often with multiple investigators from the public and private universities of Florida. Recent regional and extension awards include NOAA funds to: a) plan, prioritize and implement regional marine research and information needs for the Gulf of Mexico; b) investigate implications of "takings law" on innovative planning for sea-level rise; c) develop a regional fish extension and education program for Florida, and d) explore opportunity of bait fish as new product for Florida's aquaculturalists. NSF funds have been utilized to develop a regional Coastal Ocean Science Education Excellence (COSEE) program for the Gulf of Mexico region.

History of Meeting Reporting Requirements on Federally Funded Assistance Agreements within the Last 3 Years: Miami-Dade County has extensive experience in managing and complying with federal programmatic and fiscal requirements of the EPA. All grant projects are implemented within the respective County department with a project manager/coordinator, the appropriate complement of staff, and project resources. The County's Finance Department supports each grant project by providing oversight and end-processing of the fiscal component of each project in accordance with grant agreements and federal guidelines, which includes, but is not limited to establishing a project account; assigning a grant project index code; tracking the project using FAMIS (the County's Financial Accounting Management Information System); processing expenditures; and handling project close-outs and audits.

Past Performance in Documenting and/or Reporting on Progress Towards Achieving the Expected Outcomes and Outputs Under Federally Funded Assistance Agreements within the Last 3 Years: Documentation including technical and financial reports, and documentation achieving the expected outcomes and outputs of those projects have been submitted on a timely basis. Active EPA grant projects referenced above are in their last phases of implementation, have submitted quarterly reports through December 30, 2010, and project performance goals have and continue to be met.

Other Related Experience:

With a federally delegated local air quality program in place for close to forty years, Miami-Dade County (M-DC) has a strong understanding of the sources and the impacts of diesel emissions on local air quality and ultimately on our residents. We have been an active partner in furthering the objectives of EPA's National Clean Diesel Campaign and the shared goals of the Southeast Diesel Collaborative since their inception. The County has a strong record of environmental leadership and stewardship dating back to the early 1990's in the area of climate change mitigation and planning, including making strides in reducing emissions through fuel conservation initiatives. This includes implementation of programs such as the Long-term CO2 Reduction Plan, creation of the Climate Change Advisory Task Force (CCATF), membership in the Chicago Climate Exchange (CCX) pilot program, participation in the U.S. Cool Counties Program, and the joint establishment of the Southeast Florida Regional Climate Change Compact. In addition, for years, the Miami-Dade Board of County Commissioners, the Mayor, and County departments have been implementing policies and initiatives to address climate change and other important sustainability issues. This is evident in the more than 100 pieces of legislation contributing to sustainability have been adopted by the Board of County Commissioners.

The concepts of reducing emissions, conserving energy, becoming more green and sustainable are fast becoming guiding principles of our institution. These efforts were bolstered by the 2009 award of a \$12.5 million federal grant through the U.S. Department of Energy's Energy Efficiency and Conservation Block Grant program (EECBG). The award has also empowered local communities to make strategic investments to meet the nation's long-term goals for energy independence and leadership on climate change. The EECBG funds have enabled the County to jump start energy efficiency projects through thirteen grant-funded activities and has also enabled strengthening, leveraging of resources, and coordination of countywide sustainability efforts through the creation of the Office of Sustainability.

One of the driving forces behind emissions reductions initiatives is the county's goal to *reduce greenhouse emissions by 10 percent by 2015, working towards 80% reduction by 2050 to advance the Cool Counties Program commitment.* The

following are a few of the fuel reduction-related projects undertaken in 2009 and 2010 that bring us closer to that goal and directly contribute to a reduction in diesel emissions::

- The use of biodiesel at a blend of 5% across its fleet since April 2009. 132,774 gallons of diesel fuel were displaced in 2009.
- The use of ultra-low sulfur diesel (ULSD) in non-road vehicles for years before federally mandated.
- Hybrid fleet vehicles:
 - o 457 hybrid-electric sedans and 3 pilot plug-in hybrid electric vehicles
 - o 38 Diesel-electric hybrid buses were in operation in 2010. Approximately 62 hybrid buses are planned for purchase as replacements vehicles by 2015.
 - o 6 hybrid hydraulic diesel waste collection vehicles by the end of 2011.

SECTION 6. STAFF EXPERTISE AND QUALIFICATIONS

Miami-Dade County is uniquely experienced and qualified to successfully achieve the goals of the proposed project. Long standing emissions reduction initiatives addressing the imminent local impacts of Climate Change, including expected sea-level rise, also contribute to the county's commitment to prioritizing and successfully administering a program serving to achieve its overall adaptation and mitigation goals, such as the proposed project.

Miami-Dade Cooperative Extension is a liaison between the County, University of Florida's Institute of Food and Agricultural Sciences, and the U.S. Department of Agricultural that provides technical assistance to commercial agricultural growers, back yard gardeners, homeowners, and manages youth and family development programs. The Florida Sea Grant Program within the Miami-Dade Cooperative Extension acts to develop and extend science-based knowledge into the community in order to address critical coastal and marine issues. As the Sea Grant Extension Agent for Miami-Dade County, *Dr. Lisa Krinsky* is the point of contact between the marine industries and the county, which makes her well-suited to serve as the program manager for the rebate program. She has a PhD in Marine Studies from the University of Delaware and a BS degree in Environmental Science and Policy from the University of Maryland. The Florida Sea Grant Program works within the auspices of the National Oceanic and Atmospheric Administration and the University of Florida, and partners with Florida's citizens, industries, and governments to work towards a sustainable coastal economy and environment. They provide community outreach in the areas of: marine debris awareness; marine invasive species; monofilament recovery and recycling program; fisheries conservation; clean marina/boatyard program; and hurricane preparation for marine interests. Their outreach activities include promoting sustainable fishing practices to saltwater anglers to help reduce fishing mortality. The proposed program falls within the realm of each of Florida Sea Grant's four programmatic areas: healthy coastal and marine ecosystems, sustainable and hazard-resilient coastal communities, seafood production and safety, and climate change: impacts and adaptations.

Through participation in a program working group, Miami-Dade Cooperative Extension will benefit from expertise of staff within supporting County departments including: Department of Environmental Resources Management (DERM), Office of Sustainability (OOS), Office of Grants Coordination (OGC), and the Agricultural Manager's Office. As previously mentioned, DERM has successfully managed EPA grants for over 30 years. Staff from the Air Quality Management Division will provide the project support with quantifying diesel emissions reduction outcomes. Staff from OOS will act in an advisement role in the establishment of the rebate program. OOS leads development and implementation of the County's sustainability plan, GreenPrint; and collaborates with County agencies, business groups, non-profit organizations and other partners to protect and enhance the County's distinct environmental quality and livability. OGC will assist the project in the design of a fair, competitive application process for participant vessel owners, and provide guidance on grant managing/reporting matters as needed. OGC successfully manages over \$50 million dollars (federal and local) annually and is responsible for designing RFP processes for over \$100 million in grant awards to non-profit organizations and public agencies. Finally, lessons learned and processes developed through the implementation of the Agriculture Pump Rebate Program will inform the development of this project.

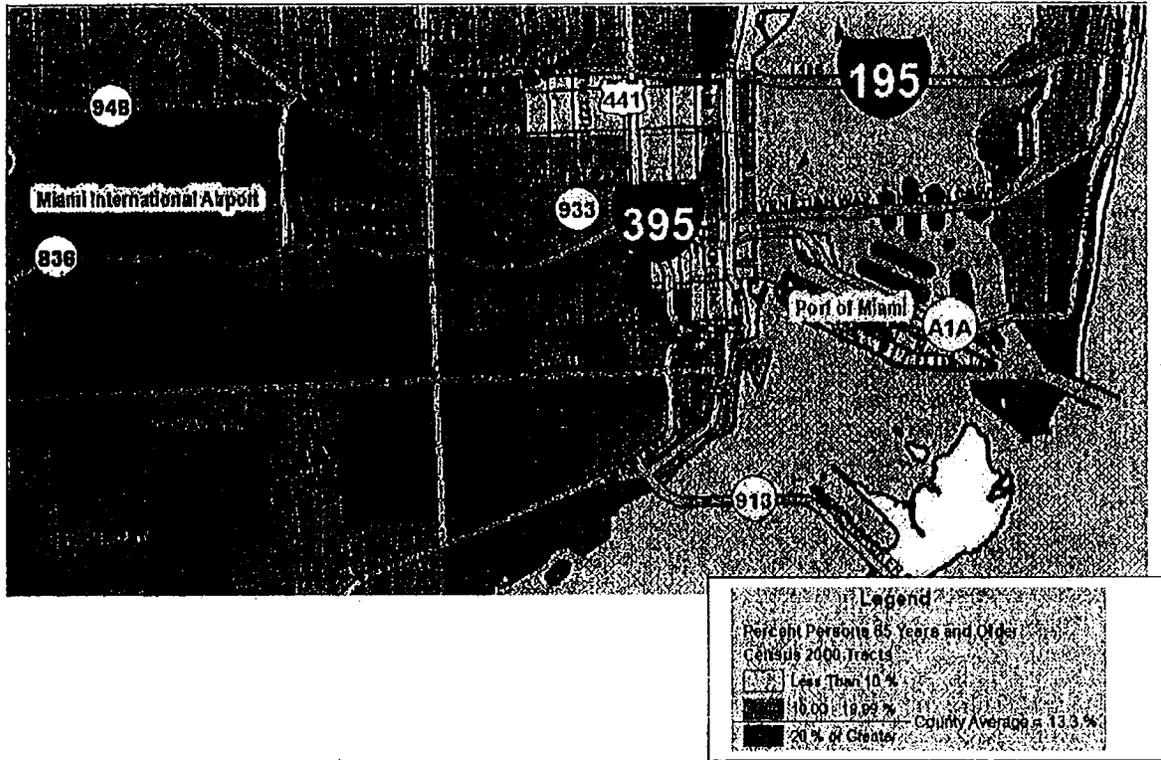
Section 7. Budget Detail

A total federal share in the amount of \$1,956,539 is requested for the proposed program of which a total \$609,234 comprises the cost-share match which include a mandatory match in the amount of \$555,000 to be contributed by each participant vessel owner through their obligatory 25% contribution towards the purchase of a new engine. A voluntary cost share in the amount of \$54,234 is also contributed to the program comprised of 40% FTE of the Program Manager's annual salary over two years, including fringe benefits. The total cost is \$2,565,773.

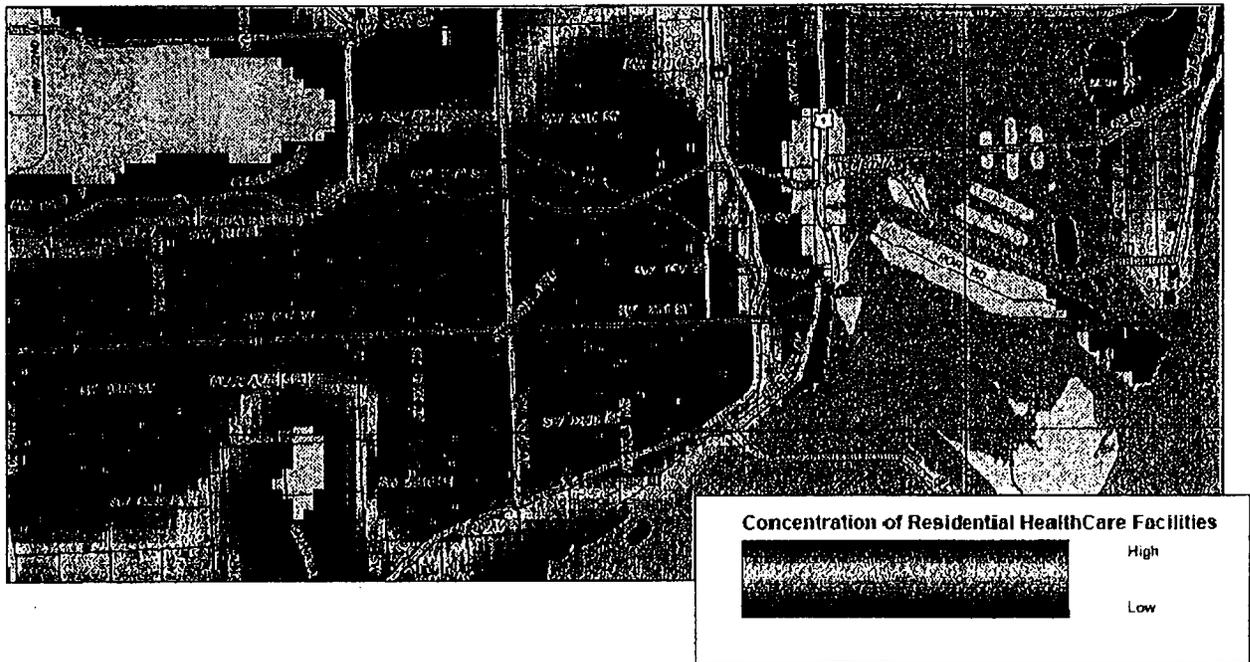
	EPA Funding	Cost-Share
Personnel		
Administrative Officer 2 (TBD) – \$50,270 (Y1) / \$54,292 (Y2) @ 1.0 FTE	\$82,580	\$0
Accountant I (TBD) - \$45,558 (Y1) / \$49,203 (Y2) @ 1.0 FTE	\$94,761	\$0
Program Manager (Dr. Lisa Krinsky) - \$47,710 (Y1) / \$51,527 (Y2) @ .40 FTE	\$0	\$39,695
Flex Dollars (\$1,100/person x FTE)	\$2,200	\$880
TOTAL PERSONNEL	\$203,723	\$40,575
Fringe Benefits		
FICA (.062 x FTE Salary)	\$12,631	\$2,516
MICA (.0145 x FTE Salary)	\$2,954	\$588
Retirement (.1264 x FTE Salary)	\$21,982	\$4,378
Group Life (.00017 x FTE Salary)	\$587	\$117
Health Plan (\$8,150/person x FTE)	\$28,600	\$5,720
Projected 5% Annual Increase for Y2	\$1,705	\$340
TOTAL FRINGE BENEFITS	\$68,459	\$13,659
Travel		
Local Travel for staff (\$1,080/yr x \$0.50/mile x 2 yrs) x 2 staff	\$2,160	\$0
TOTAL TRAVEL	\$2,160	\$0
Equipment		
Computers for Program Assistant and Accountant with Microsoft Office Suite [(\$900/computer + \$274/license) x 2 staff]	\$2,348	\$0
Digital Camera for Site Inspections Documentation	\$200	\$0
TOTAL EQUIPMENT		
Supplies		
Office supplies for project staff (\$700/yr x 2 yrs)	\$1,400	\$0
Printing/copies for project staff (\$1,000/yr x 2 yrs)	\$2,000	\$0
Program Marketing/Advertising in local newspapers (\$5,000/yr x 2 yrs)	\$10,000	\$0
TOTAL SUPPLIES	\$13,400	\$0
Contractual		
New Marine Engine Technologies 43 units parts and installation (75% federal share/ 25% match)		
(9) 60-90 HP engines @ approximately \$20,000 each	\$135,000	\$45,000
(14) 250-300 HP engines @ approximately \$46,000 each	\$483,000	\$161,000
(16) 310-375 HP engines @ approximately \$66,000 each	\$792,200	\$264,000
(2) 600 HP engines @ approximately \$70,000 each	\$105,000	\$35,000
(2) 900 HP engines @ approximately \$100,000 each	\$150,000	\$50,000
TOTAL CONTRACTUAL	\$1,665,000	\$555,000
Other		
Conference room reservations for pre-application workshops (\$250/location x 5 locations)	\$1,250	\$0
TOTAL OTHER	\$1,250	\$0
TOTAL INDIRECT	\$0	\$0
TOTAL FUNDING	\$1,956,539	\$609,234
TOTAL PROJECT COST	\$2,565,773	

ATTACHMENT A: SAMPLING OF COMMUNITY/NEIGHBORHOOD LEVEL INFORMATION
DEMONSTRATING THE NEED FOR A DIESEL EMISSIONS REDUCTION PROJECT

Senior Population

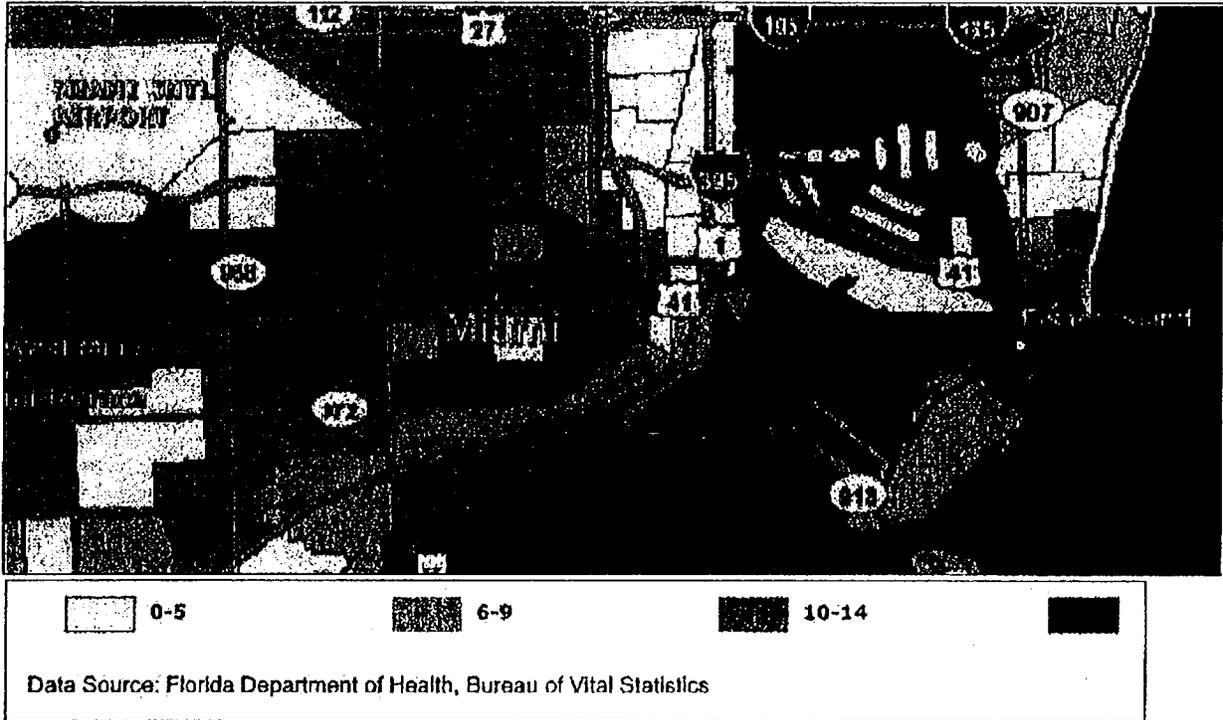


Concentration of Residential Healthcare Facilities (Including Nursing and Adult Living and Care Facilities)

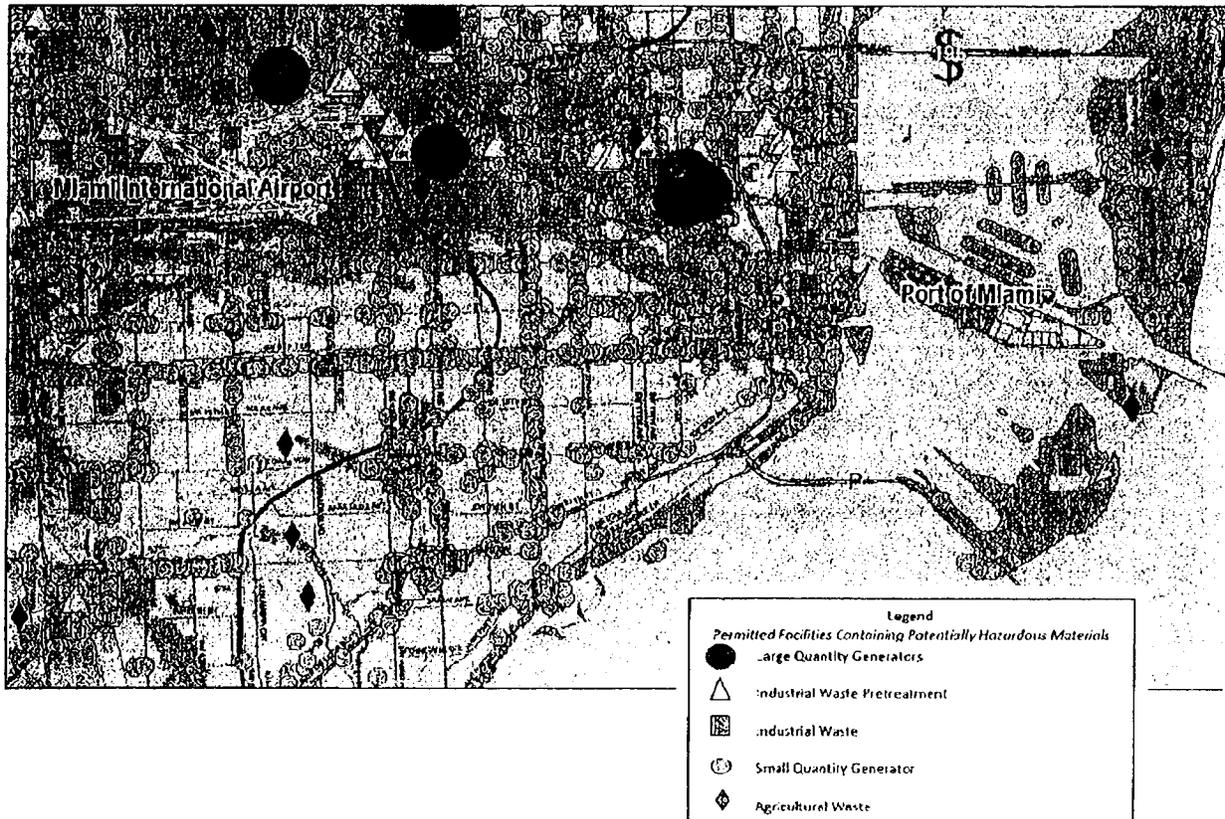


**ATTACHMENT A: SAMPLING OF COMMUNITY/NEIGHBORHOOD LEVEL INFORMATION
DEMONSTRATING THE NEED FOR A DIESEL EMISSIONS REDUCTION PROJECT**

Deaths from Chronic Obstructive Pulmonary Disease (COPD) Including Asthma



Permitted Facilities Containing Potentially Hazardous Materials



ATTACHMENT B: EPA DIESEL EMISSIONS QUANTIFIER (DEQ) INPUTS & OUTPUTS

Group 1 - Excursion/Passenger Vessels (60 – 90 hp); Average hp: 80 hp; Average Displacement: <1.2, 2.5 L>

Entries:

Quantity (engines): 9
Type: Propulsion
Model Year: 1998
Retrofit Year: 2011
Activity Hours (hr/yr/engine): 2,160
HP: 80
Fuel Type: ULSD
Fuel Volume(gal/yr for the group): 22,725
Displacement: 1.2 <= size < 2.5

Annual	NOx (tons/year)	PM (tons/year)	HC (tons/year)	CO (tons/year)	CO2 (tons/year)	Diesel- Equivalent (gallons/year)
Baseline of Entire Fleet	0.6392	0.0211	0.0173	0.1023	252.2475	22,725.0000
Baseline of Engines Retrofitted	0.6392	0.0211	0.0173	0.1023	252.2475	22,725.0000
Percent Reduced (%)	40.0%	61.8%	29.6%	31.3%	0.0%	0.0%
Amount Reduced Per Year	0.2557	0.0130	0.0051	0.0320	0.0000	0.0000
Daily	NOx (kg/day)	PM (kg/day)	HC (kg/day)	CO (kg/day)	CO2 (kg/day)	Diesel- Equivalent (gal/day)
Kilograms Reduced Per Day (kg/day)	0.6355	0.0324	0.0127	0.0794	0.0000	0.0000
Lifetime	NOx (tons)	PM (tons)	HC (tons)	CO (tons)	CO2 (tons)	Diesel- Equivalent (gallons)
Baseline of Entire Fleet	0.9173	0.0303	0.0248	0.1468	362.0037	32,612.9453
Baseline of Engines Retrofitted	0.9173	0.0303	0.0248	0.1468	362.0037	32,612.9453
Percent Reduced(%)	40.0%	61.8%	29.6%	31.2%	0.0%	0.0%
Amount Reduced	0.3669	0.0187	0.0073	0.0459	0.0000	0.0000
Amount Emitted After Retrofit, Retrofitted Engines	0.5504	0.0116	0.0174	0.1009	362.0037	32,612.9453
Amount Emitted After Retrofit, Entire Fleet	0.5504	0.0116	0.0174	0.1009	362.0037	32,612.9453
Capital Cost Effectiveness (\$/ton), Retrofitted Engines	\$54,507.54	\$1,070,349.36	\$2,725,377.07	\$436,060.33	\$0.00	\$0.00
Total Cost Effectiveness (\$/ton), Retrofitted Engines	\$490,567.87	\$9,633,144.27	\$24,528,393.59	\$3,924,542.97	\$0.00	\$0.00

ATTACHMENT B: EPA DIESEL EMISSIONS QUANTIFIER (DEQ) INPUTS & OUTPUTS

Group 2 - Commercial Charter Fishing (250 – 300 hp); Average hp: 320 hp; Average Displacement: <5, 15 L>

Entries:

Quantity (engines): 14
Type: Propulsion
Model Year: 1988
Retrofit Year: 2011
Activity Hours (hr/yr/engine): 1,177
HP: 320
Fuel Type: ULSD
Fuel Volume(gal/yr for the group): 104,006
Displacement: : 5.0 <= size < 15.0

Annual	NOx (tons/year)	PM (tons/year)	HC (tons/year)	CO (tons/year)	CO2 (tons/year)	Diesel- Equivalent (gallons/year)
Baseline of Entire Fleet	3.3114	0.0797	0.0332	0.6145	1,154.4666	104,006.0000
Baseline of Engines Retrofitted	3.3114	0.0797	0.0332	0.6145	1,154.4666	104,006.0000
Percent Reduced (%)	37.6%	16.7%	0.0%	19.5%	0.0%	0.0%
Amount Reduced Per Year	1.2455	0.0133	0.0000	0.1196	0.0000	0.0000
Daily	NOx (kg/day)	PM (kg/day)	HC (kg/day)	CO (kg/day)	CO2 (kg/day)	Diesel- Equivalent (gal/day)
Kilograms Reduced Per Day (kg/day)	3.0956	0.0330	0.0000	0.2972	0.0000	0.0000
Lifetime	NOx (tons)	PM (tons)	HC (tons)	CO (tons)	CO2 (tons)	Diesel- Equivalent (gallons)
Baseline of Entire Fleet	5.3510	0.1288	0.0537	0.9929	1,865.5248	168,065.2992
Baseline of Engines Retrofitted	5.3510	0.1288	0.0537	0.9929	1,865.5248	168,065.2992
Percent Reduced(%)	37.6%	16.7%	0.0%	19.5%	0.0%	0.0%
Amount Reduced	2.0126	0.0215	0.0000	0.1932	0.0000	0.0000
Amount Emitted After Retrofit, Retrofitted Engines	3.3383	0.1073	0.0537	0.7997	1,865.5248	168,065.2992
Amount Emitted After Retrofit, Entire Fleet	3.3383	0.1073	0.0537	0.7997	1,865.5248	168,065.2992
Capital Cost Effectiveness (\$/ton), Retrofitted Engines	\$22,855.50	\$2,142,702.84	\$0.00	\$238,078.09	\$0.00	\$0.00
Total Cost Effectiveness (\$/ton), Retrofitted Engines	\$319,976.96	\$29,997,839.80	\$0.00	\$3,333,093.31	\$0.00	\$0.00

ATTACHMENT B: EPA DIESEL EMISSIONS QUANTIFIER (DEQ) INPUTS & OUTPUTS

Group 3 - Commercial Charter Fishing (310 – 375 hp); Average hp: 350 hp; Average Displacement: <5, 15 L>

Entries:

Quantity (engines): 16
 Type: Propulsion
 Model Year: 1979
 Retrofit Year: 2011
 Activity Hours (hr/yr/engine): 1,174
 HP: 350
 Fuel Type: ULSD
 Fuel Volume(gal/yr for the group): 106,112
 Displacement: 5.0 <= size < 15.0

Annual	NOx (tons/year)	PM (tons/year)	HC (tons/year)	CO (tons/year)	CO2 (tons/year)	Diesel- Equivalent (gallons/year)
Baseline of Entire Fleet	3.6126	0.0870	0.0362	0.6703	1,177.8432	106,112.0000
Baseline of Engines Retrofitted	3.6126	0.0870	0.0362	0.6703	1,177.8432	106,112.0000
Percent Reduced (%)	37.6%	16.7%	0.0%	19.5%	0.0%	0.0%
Amount Reduced Per Year	1.3588	0.0145	0.0000	0.1304	0.0000	0.0000
Daily	NOx (kg/day)	PM (kg/day)	HC (kg/day)	CO (kg/day)	CO2 (kg/day)	Diesel- Equivalent (gal/day)
Kilograms Reduced Per Day (kg/day)	3.3772	0.0360	0.0000	0.3242	0.0000	0.0000
Lifetime	NOx (tons)	PM (tons)	HC (tons)	CO (tons)	CO2 (tons)	Diesel- Equivalent (gallons)
Baseline of Entire Fleet	3.6126	0.0870	0.0362	0.6703	1,177.8432	106,112.0000
Baseline of Engines Retrofitted	3.6126	0.0870	0.0362	0.6703	1,177.8432	106,112.0000
Percent Reduced(%)	37.6%	16.7%	0.0%	19.5%	0.0%	0.0%
Amount Reduced	1.3588	0.0145	0.0000	0.1304	0.0000	0.0000
Amount Emitted After Retrofit, Retrofitted Engines	2.2538	0.0725	0.0362	0.5399	1,177.8432	106,112.0000
Amount Emitted After Retrofit, Entire Fleet	2.2538	0.0725	0.0362	0.5399	1,177.8432	106,112.0000
Capital Cost Effectiveness (\$/ton), Retrofitted Engines	\$48,572.08	\$4,553,632.82	\$0.00	\$505,959.20	\$0.00	\$0.00
Total Cost Effectiveness (\$/ton), Retrofitted Engines	\$777,153.33	\$72,858,125.12	\$0.00	\$8,095,347.24	\$0.00	\$0.00

ATTACHMENT B: EPA DIESEL EMISSIONS QUANTIFIER (DEQ) INPUTS & OUTPUTS

Group 4 - Commercial Charter Fishing (500 hp); Average hp: 500 hp; Average Displacement: <5, 15 L>

Entries:

Quantity (engines): 2
 Type: Propulsion
 Model Year: 1989
 Retrofit Year: 2011
 Activity Hours (hr/yr/engine): 2,600
 HP: 500
 Fuel Type: ULSD
 Fuel Volume(gal/yr for the group): 14,200
 Displacement: 5.0 <= size < 15.0

Annual	NOx (tons/year)	PM (tons/year)	HC (tons/year)	CO (tons/year)	CO2 (tons/year)	Diesel- Equivalent (gallons/year)
Baseline of Entire Fleet	11.4295	0.2751	0.1146	2.1208	157.6200	14,200.0000
Baseline of Engines Retrofitted	11.4295	0.2751	0.1146	2.1208	157.6200	14,200.0000
Percent Reduced (%)	37.6%	16.7%	0.0%	19.5%	0.0%	0.0%
Amount Reduced Per Year	4.2990	0.0459	0.0000	0.4127	0.0000	0.0000
Daily	NOx (kg/day)	PM (kg/day)	HC (kg/day)	CO (kg/day)	CO2 (kg/day)	Diesel- Equivalent (gal/day)
Kilograms Reduced Per Day (kg/day)	10.6848	0.1140	0.0000	1.0257	0.0000	0.0000
Lifetime	NOx (tons)	PM (tons)	HC (tons)	CO (tons)	CO2 (tons)	Diesel- Equivalent (gallons)
Baseline of Entire Fleet	24.1840	0.5822	0.2426	4.4875	333.5112	30,046.0536
Baseline of Engines Retrofitted	24.1840	0.5822	0.2426	4.4875	333.5112	30,046.0536
Percent Reduced(%)	37.6%	16.7%	0.0%	19.5%	0.0%	0.0%
Amount Reduced	9.0963	0.0970	0.0000	0.8732	0.0000	0.0000
Amount Emitted After Retrofit, Retrofitted Engines	15.0877	0.4851	0.2426	3.6143	333.5112	30,046.0536
Amount Emitted After Retrofit, Entire Fleet	15.0877	0.4851	0.2426	3.6143	333.5112	30,046.0536
Capital Cost Effectiveness (\$/ton), Retrofitted Engines	\$7,695.46	\$721,449.29	\$0.00	\$80,161.03	\$0.00	\$0.00
Total Cost Effectiveness (\$/ton), Retrofitted Engines	\$15,390.92	\$1,442,898.58	\$0.00	\$160,322.06	\$0.00	\$0.00

ATTACHMENT B: EPA DIESEL EMISSIONS QUANTIFIER (DEQ) INPUTS & OUTPUTS

Group 5 - Commercial Charter Fishing (900 hp); Average hp: 500 hp; Average Displacement: <5, 15 L>

Entries:

Quantity (engines): 2
 Type: Propulsion
 Model Year: 1995
 Retrofit Year: 2011
 Activity Hours (hr/yr/engine): 3,000
 HP: 900
 Fuel Type: ULSD
 Fuel Volume(gal/yr for the group): 14,300
 Displacement: 5.0 <= size < 15.0

Annual	NOx (tons/year)	PM (tons/year)	HC (tons/year)	CO (tons/year)	CO2 (tons/year)	Diesel- Equivalent (gallons/year)
Baseline of Entire Fleet	23.7383	0.5714	0.2381	4.4048	158.7300	14,300.0000
Baseline of Engines Retrofitted	23.7383	0.5714	0.2381	4.4048	158.7300	14,300.0000
Percent Reduced (%)	37.6%	16.7%	0.0%	19.5%	0.0%	0.0%
Amount Reduced Per Year	8.9286	0.0952	0.0000	0.8571	0.0000	0.0000
Daily	NOx (kg/day)	PM (kg/day)	HC (kg/day)	CO (kg/day)	CO2 (kg/day)	Diesel- Equivalent (gal/day)
Kilograms Reduced Per Day (kg/day)	22.1916	0.2367	0.0000	2.1304	0.0000	0.0000
Lifetime	NOx (tons)	PM (tons)	HC (tons)	CO (tons)	CO2 (tons)	Diesel- Equivalent (gallons)
Baseline of Entire Fleet	158.1900	3.8080	1.5867	29.3532	1,057.7654	95,294.1806
Baseline of Engines Retrofitted	158.1900	3.8080	1.5867	29.3532	1,057.7654	95,294.1806
Percent Reduced(%)	37.6%	16.7%	0.0%	19.5%	0.0%	0.0%
Amount Reduced	59.4998	0.6347	0.0000	5.7120	0.0000	0.0000
Amount Emitted After Retrofit, Retrofitted Engines	98.6903	3.1733	1.5867	23.6412	1,057.7654	95,294.1806
Amount Emitted After Retrofit, Entire Fleet	98.6903	3.1733	1.5867	23.6412	1,057.7654	95,294.1806
Capital Cost Effectiveness (\$/ton), Retrofitted Engines	\$1,680.68	\$157,563.68	\$0.00	\$17,507.08	\$0.00	\$0.00
Total Cost Effectiveness (\$/ton), Retrofitted Engines	\$3,361.36	\$315,127.35	\$0.00	\$35,014.15	\$0.00	\$0.00

Attachment C

Revised October 2010

U.S. EPA National Clean Diesel
Applicant Fleet Description Marine Vessels

Recipient Information

Miami-Dade County Consumer Services Department	Calby	Grimes Peel	Director	140 West Flagler Street, Suites 901-904 Miami	FL	cbee@miamidade.gov	33130 (305) 375-5952
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Project 1 Information

Miami-Dade County Marine Engine Repower Rebate Program	Miami-Dade County	Marine	Approximately 50	Miami	Miami-Dade FL	4	\$ 1,956,539	Vessel Owners and Miami-Dade County	\$555,000 and \$54,234	yes
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Fleet 1 Information for MARINE VESSELS ONLY

The following groupings of engine types were developed based on more than 75 surveys received from interested parties. These are very rough estimates from the data provided in the survey

Current Vessel Information

Marine	10	Commercial Fishing	varies	auxiliary	TBD	1998	2160	80	Unknown	Tier 0	Unknown	1.2 <= size <2.5	Diesel (ULSD), 15 ppm
Marine	14	Commercial Fishing	varies	propulsion	TBD	1988	1177	320	Unknown	Tier 0	Unknown	5.0 <= size <15.0	Diesel (ULSD), 15 ppm
Marine	16	Commercial Fishing	varies	propulsion	TBD	1979	1174	350	Unknown	Tier 0	Unknown	5.0 <= size <15.0	Diesel (ULSD), 15 ppm
Marine	2	Tug Boat/Tow Boat	varies	propulsion	TBD	1989	2500	500	Unknown	Tier 0	Unknown	5.0 <= size <15.0	Diesel (ULSD), 15 ppm
Marine	2	Tug Boat/Tow Boat	varies	propulsion	TBD	1995	3000	900	Unknown	Tier 0	Unknown	5.0 <= size <15.0	Diesel (ULSD), 15 ppm

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Attachment C

Revised October 2010

U.S. EPA National Clean Diesel
Applicant Fleet Description Marine Vessels

New Vessel Technology Information												
22725	2011	TBD	Engine Repower	TBD	TBD	2011	2160	Unknown	Tier 2	As stipulated by Tier 2	17000	3000
104006	2011	TBD	Engine Repower	TBD	TBD	2011	1177	Unknown	Tier 2	As stipulated by Tier 2	42000	4000
106112	2011	TBD	Engine Repower	TBD	TBD	2011	1174	Unknown	Tier 2	As stipulated by Tier 2	62000	4000
14200	2011	TBD	Engine Repower	TBD	TBD	2011	2800	Unknown	Tier 2	As stipulated by Tier 2	64000	6000
14300	2011	TBD	Engine Repower	TBD	TBD	2011	3000	Unknown	Tier 2	As stipulated by Tier 2	94000	6000

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Lisa S. Krimsky
Curriculum Vitae

4600 Rickenbacker Causeway
Miami, FL 33149

(305) 421-4017
lkrimsky@ufl.edu

Education

University of Delaware, College of Marine and Earth Studies

- Ph.D. - Marine Biosciences, 2008

University of Maryland, College Park (UMCP)

- B.S.-Environmental Science and Policy, 2002
- Life Sciences Scholars Program, 2000

Roskilde University, Denmark's International Study Abroad Program in Marine Biology,
Spring 2001

Professional Experience

- | | |
|--------------|--|
| 2008-Present | Sea Grant Extension Agent II
University of Florida Institute of Food and Agricultural Sciences
Miami-Dade County |
| 2002-2003 | Faculty Research Assistant/Laboratory Technician
Oyster Restoration Lab, Dr. Kennedy Paynter, UMCP |
| 2002 | Research Internship, Dr. Paul Jivoff
Rutgers University Marine Field Station, Tuckerton, NJ |
| 2001-2002 | Student Research Assistant
Oyster Restoration Lab, Dr. Kennedy Paynter, UMCP |
| 1999 | Project Coordinator/Internship
Maryland Public Interest Research Group, UMCP |

Publications

Krimsky, L.S. and Epifanio, C.E. 2010. Growth of juvenile stone crabs, *Menippe mercenaria*, reared in the laboratory. *Journal of Crustacean Biology* 30(2): 336-338.

Krimsky, L.S., Gravinese, P.M., Tankersley, R.A. and Epifanio, C.E. 2009. Patterns of larval release in the Florida stone crab, *Menippe mercenaria*: an examination of three tidal regimes. *Journal of Experimental Marine Biology and Ecology*: 373(2): 96-101.

Krimsky, L.S. and Epifanio, C.E. 2008. Multiple cues from multiple habitats: Effect on metamorphosis of the Florida stone crab, *Menippe mercenaria*. *Journal of Experimental Marine Biology and Ecology*: 358, 178-184.

Steinberg, M.K., Krimsky, L.S. and Epifanio, C.E. 2008. Induction of metamorphosis in the Asian shore crab *Hemigrapsus sanguineus*: Effects of biofilms and substratum texture. *Estuaries and Coasts*: 31,738-744.

Presentations

Krimsky, L.S. 2010. "Kids, Let's Go Fishing Program." Extension Professional Associations of Florida. Orlando, FL. September 1, 2010.

Krimsky, L.S. and C.E. Epifanio. "Nursery Habitats of the Florida Stone Crab, *Menippe mercenaria*: Effect on megalopal metamorphosis and intra-cohort cannibalism." National Shellfisheries Conference. Savannah, GA. March 23, 2009.

Krimsky, L.S. and C.E. Epifanio. "The Young and the Unsettled: An examination of spawning and metamorphosis in the Florida stone crab, *Menippe mercenaria*." Rider University, Lawrenceville, NJ. October 12, 2007.

Krimsky, L.S. and C.E. Epifanio. "Effects of chemical cues on metamorphosis of the Florida stone crab, *Menippe mercenaria*." American Fisheries Society 135th Annual Meeting, Anchorage, AK. September 10-15, 2005. *Poster*.

Krimsky, L.S. and C.E. Epifanio. "Chemical inducers on the metamorphosis of the Florida stone crab, *Menippe mercenaria*." Estuarine Research Federation (ERF) 18th Biennial Conference, Norfolk, VA. October 16-21, 2005. *Poster*.

Krimsky, L.S. and P. Jivoff. "Fishery-induced effects on blue crab, *Callinectes sapidus*, reproductive potential." Rutgers University, Institute of Marine and Coastal Sciences, New Brunswick, NJ. August, 2002.

Honors and Awards

EPA Five Star Restoration Award, 2010

American Museum of Natural History: Lerner-Gray Grant for Marine Research, 2005

Policy Committee
Governor of State of Florida
Mr. Rick Scott
Designee: Ms. Patricia Hantz

Chair of Miami-Dade Delegation
Representative Carlos Lopez-Cantillo
Designee: Senator Andrew Perea

Chair of Governing Board of
South Florida Water Management
District
Mr. Eric Hernandez

Miami-Dade State Attorney
Ms. Katherine Fernandez-Ruafe
Designee: Mr. Gary Wexler

Mayor of Miami-Dade County
Mayor Carlos Aldemir
Designee: Mr. Tim Riken-Gomez

Mayor of Miami
Mayor Tomás Regalado

City of Miami Commissioner
Commissioner Frank Corallo

Miami-Dade County
Commissioner
Commissioner Bruno Barcoini
Designee: Ms. Marlene Avila

Chair of Miami River Marine
Group
Mr. Richard Rubin
Designee: Mr. Orrin Block

Chair of Marine Council
Mr. Ed Swalton
Designee: Mr. Phil Svedingham

Executive Director of Downtown
Development Authority
Mr. Alysia Robertson
Designee: Mr. Javier Belmont

Chair of Greater Miami Chamber
of Commerce
Mr. Harry Johnson
Designee: Ms. Myuan Kelly

Neighborhood Representative
Appointed by City of Miami
Commission
Dr. Ernest Munda

Neighborhood Representative
Appointed by Miami-Dade
Commission
Ms. Sallye Jade
Designee: Ms. Jane Capocelli

Representative from
Environmental or Civic
Organization Appointed by the
Governor
Mr. Horsetta Stuart Aguirre

Member at Large Appointed by
the Governor
Mr. Jay Carmichael

Member at Large Appointed by
Miami-Dade Commission
Ms. Sara Babon
Designee: Mr. Milton Lacer-Carrijo

Member at Large Appointed by
City of Miami Commission
Mr. Mickey Pizarro

Managing Director
Mr. Brett Wilson

Assistant Managing Director
Ms. Ashley L. Chase

Miami River Commission



c/o Robert King High
1367 NW 7th St, Suite D
Miami, Florida 33125
Office: 305-644-0544
Fax: 305-642-1196
email: miamiriver@bellsouth.net
www.miamirivercommission.org

January 13, 2011

Beverly H. Banister, Director
Air, Pesticides, and Toxics Management Division
U. S. Environmental Protection Agency -- Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

*RE: Miami-Dade County's EPA National Clean Diesel Project (Florida
Miami-Dade Marine Engine Repower Rebate Program)*

Dear Ms. Banister:

I am pleased to express my support for Miami-Dade County's application to the Environmental Protection Agency, Region 4, for the National Clean Diesel Funding Assistance Program. If funded, the Miami-Dade Marine Engine Repower Rebate Program will achieve significant diesel emissions reductions through engine replacements of older diesel engines on vessels still operating commercially in the county's Port of Miami, Miami River, and our environmentally sensitive Biscayne Bay Aquatic Preserve.

Diesel emissions reductions from category 1 and 2 engines on commercial marine vessels and tugboats will have many benefits for our community including: 1) positive health impact – on Miami-Dade's densely populated low-income and working onshore/riverfront communities, particularly those located within the City of Miami; and a 2) significant economic impact to the local fishing and tug industries through a projected 50% savings in fuel consumption. In addition, the project will: 3) help sustain our environmentally sensitive marine ecosystems found near the County's shores, from which the health of the lucrative fishing industry is dependent.

We believe the Miami-Dade Marine Engine Repower Rebate Program, designed to reduce diesel emissions from commercial marine fishing vessels and tugboats, will provide meaningful environmental, public health, and economic benefits to Miami-Dade County's 2.5 million residents. Therefore I strongly recommend funding of this important project.

Sincerely,

Eric Bustmann
Chair,
Miami River Commission



Florida Department of Environmental Protection

Biscayne Bay Aquatic Preserves
Biscayne Bay Environmental Center
1277 NE 79th St. Causeway
Miami, Florida 33138-4206

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Mimi A. Drew
Secretary

January 11, 2011

Beverly H. Banister, Director
Air, Pesticides, and Toxics Management Division
U. S. Environmental Protection Agency - Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

RE: Miami-Dade County's EPA National Clean Diesel Project (Florida/ Miami-Dade Marine Engine Repower Rebate Program)

Dear Ms. Banister:

I am pleased to write this letter of support Miami-Dade County's submission to the Environmental Protection Agency, Region 4. If funded, the Marine Engine Repower Rebate Program will potentially have significant beneficial environmental impacts for the Biscayne Bay Aquatic Preserves through reductions in diesel engine emissions by replacing older diesel engines on those commercial vessels operating in the county's Port of Miami and Miami River.

Biscayne Bay supports diverse submerged aquatic habitats including seagrasses and hardbottom assemblages consisting of solitary hard and soft corals, sponges, and algae. These communities provide essential habitat for at least 512 fish species, and commercially harvested blue crab, stone crab, spiny lobster, shrimp and sponges. Furthermore, Biscayne Bay is home to a number of threatened and endangered marine animals. The state managed Aquatic Preserve supports a large portion of Miami-Dade County's commercial fishing industry, including the bait shrimp industry. This program, which seeks to selectively remove the oldest and most inefficient marine diesel engines from the industry, would help to protect the bay's environmentally and economically important marine resources by reducing the amount of particulate matter and air toxins emitted from these vessels. In addition to protecting natural resources, this program could grant produce a 50% saving in fuel consumption for commercial vessel businesses.

I am happy to support this program which will work towards achieving the goal of Florida DEP's Office of Coastal and Aquatic Managed Areas by protecting the most valuable submerged lands and select coastal uplands in Florida.

Best regards,

Pamela Sweeney
Biscayne Bay Aquatic Preserves Manager



Rick Scott
Governor

Lillian Rivera, RN, MSN, PhD
Administrator

January 6, 2011

Beverly H. Banister, Director
Air, Pesticides, and Toxics Management Division
U. S. Environmental Protection Agency – Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

RE: Miami-Dade County's EPA National Clean Diesel Project (Florida/ Miami-Dade Marine Engine Repower Rebate Program)

Dear Ms. Banister:

On behalf of Miami-Dade County Health Department I am pleased to express my support for Miami-Dade County's application to the Environmental Protection Agency, Region 4, for the National Clean Diesel Funding Assistance Program. If funded, the Miami-Dade Marine Engine Repower Rebate Program will achieve significant diesel emissions reductions through engine replacements of older diesel engines on vessels still operating commercially in the county's Port of Miami, Miami River, and our environmentally sensitive Biscayne Bay Aquatic Preserve.

Diesel emissions reductions from category 1 and 2 engines on commercial marine vessels will have many benefits for our community including: 1) positive health impact – on Miami-Dade's densely populated low-income and working onshore/riverfront communities, particularly those located within the City of Miami; and a 2) significant economic impact to the local fishing industries through a projected 50% savings in fuel consumption. In addition, the project will: 3) help sustain our environmentally sensitive marine ecosystems found near the county's shores, from which the health of the lucrative fishing industry is dependent.

We believe the Miami-Dade Marine Engine Repower Rebate Program, designed to reduce diesel emissions from commercial marine fishing vessels, will provide meaningful environmental, public health, and economic benefits to Miami-Dade County's 2.5 million residents. Without reservation, we recommend funding of this important project. Please don't hesitate to contact me at 786-336-1259 should you require additional information.

Sincerely,

A handwritten signature in cursive script that reads "Lillian Rivera".

Lillian Rivera, RN, MSN, PhD
Administrator
Miami-Dade County Health Department



Miami-Dade County Health Department
8175 NW 12th Street, #300, Doral, FL 33126
Phone: (305) 324-2400 • Fax: (786) 336-1297
Website: <http://www.dadehealth.org>



GRANT TITLE: Miami-Dade Marine Engine Repower Rebate Program

PERFORMANCE PERIOD: 24 months

Object Class Categories	Year 1		Year 2		TOTAL PROJECT	
	(Federal)	(Match)	(Federal)	(Match)	Federal	Match
Personnel						
Administrative Officer 2 (Program Assistant) @ 1.0 FTE	\$50,270	\$0	\$54,292	\$0	\$104,563	\$0
Accountant I @ 1.0 FTE	\$45,558	\$0	\$49,203	\$0	\$94,761	\$0
Program Manager @ .40 FTE (in-kind)	\$0	\$19,084	\$0	\$20,611	\$0	\$39,695
Flex Dollars (\$1,100/person x FTE)	\$2,200	\$440	\$2,200	\$440	\$4,400	\$880.00
TOTAL PERSONNEL	\$98,028	\$19,524	\$105,695	\$21,051	\$203,723	\$39,694.72
Fringe Benefits						
FICA (.062 x FTE Salary)	\$6,078	\$1,210	\$6,553	\$1,305	\$12,631	\$2,516
MICA (.0145 x FTE Salary)	\$1,421	\$283	\$1,533	\$305	\$2,954	\$588
Retirement (.1264 x FTE Salary)	\$10,577	\$2,107	\$11,404	\$2,271	\$21,982	\$4,378
Group Life (.00017 x FTE Salary)	\$282	\$56	\$304	\$61	\$587	\$117
Health Plan (\$8,150/person x FTE)	\$14,300	\$2,860	\$14,300	\$2,860	\$28,600	\$5,720
Projected 5% Annual Increase	\$0	\$0	\$1,705	\$340	\$1,705	\$340
TOTAL FRINGE BENEFITS	\$32,659	\$6,516	\$35,799	\$7,142	\$68,458	\$13,658.93
Non-Personnel						
Travel						
Local Travel for Project Manager (1,080 miles/yr x \$0.50/mile x 2 staff) x 2 years	\$1,080	\$0	\$1,080	\$0	\$2,160	\$0
Travel - Sub-total	\$1,080	\$0	\$1,080	\$0	\$2,160	\$0
Equipment						
PCs for Program Assistant and Accountant with Microsoft Office Suite [(900 + \$274)*2]	\$2,348	\$0	\$0	\$0	\$2,348	\$0
Digital Camera for Site Inspections	\$200	\$0	\$0	\$0	\$200	\$0
Equipment - Sub-total	\$2,548	\$0	\$0	\$0	\$2,548	\$0
Supplies						
Office supplies for project staff	\$700	\$0	\$700	\$0	\$1,400	\$0
Printing/Copies for project staff	\$1,000	\$0	\$1,000	\$0	\$2,000	\$0
Program Marketing/Advertising	\$5,000	\$0	\$5,000	\$0	\$10,000	\$0
Supplies - Sub-total	\$6,700	\$0	\$6,700	\$0	\$13,400	\$0
Contractual						
New Marine Engine Technologies 43 units parts and installation (75% federal share/ 25% match)						
(9) 60-90 HP engines @ approximately \$20,000 each	\$67,500	\$22,500	\$67,500	\$22,500	\$135,000	\$45,000
(14) 250-300 HP engines @ approximately \$46,000 each	\$241,500	\$80,500	\$241,500	\$80,500	\$483,000	\$161,000
(16) 310-375 HP engines @ approximately \$66,000 each	\$396,000	\$132,000	\$396,000	\$132,000	\$792,000	\$264,000
(2) 600 HP engines @ approximately \$70,000 each	\$52,500	\$17,500	\$52,500	\$17,500	\$105,000	\$35,000
(2) 900 HP engines @ approximately \$100,000 each	\$75,000	\$25,000	\$75,000	\$25,000	\$150,000	\$50,000
Contractual - Sub-total	\$832,500	\$277,500	\$832,500	\$277,500	\$1,665,000	\$555,000
Construction - N/A						
Construction - Sub-total	\$0	\$0	\$0	\$0	\$0	\$0
Other						
Conference room reservations for pre-application workshops (\$250 x 5 locations)	\$1,250	\$0	\$0	\$0	\$1,250	\$0
Other - Sub-total	\$1,250	\$0	\$0	\$0	\$1,250	\$0
TOTAL NON PERSONNEL	\$844,078	\$277,500	\$840,280	\$277,500	\$1,684,358	\$555,000
Total Direct Charges	\$974,765	\$303,540	\$981,774	\$305,693	\$1,956,539	\$609,234
Indirect Charges	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL PROJECT COSTS	\$974,765	\$303,540	\$981,774	\$305,693	\$1,956,539	\$609,234
	\$1,278,306		\$1,287,467		\$2,565,773	