

**RICHMOND AREA MPO RSTP AND CMAQ
PROJECT SELECTION PROCESS**

CMAQ CANDIDATE PROJECT APPLICATION

To be considered for CMAQ funding, a proposed project must be consistent with the Long-Range Transportation Plan. Data necessary for evaluating the project must be submitted for each candidate project. Filling out the appropriate sections of this application will insure that the necessary data are submitted. One application is required for each project being proposed for CMAQ funding.

Form A must be filled out for each project. At the end of Form A, you will indicate the CMAQ Project Type that best fits your proposed project. Depending upon the CMAQ Project Type selected, you will be directed to fill out one of the following forms: Form B, Form C, Form D, Form E, or Form F. If you select the "Other" category, please contact RRPDC staff for input data requirements.

CMAQ FORM-A

Locality/Agency: Virginia Port Authority Date: 11/6/12
Prepared By: Heather Wood Phone: (757)682-
2152
E-Mail: hwood@portofvirginia.com Fax: (757) 683-
2151
UPC#: _____
Project Name: Green Operator – Richmond, or "GO-RICHMOND"
Drayage Truck Replacement Program
Project Location: Richmond Metro Area
Project Description: Provide 100 rebates that incentivize owners of 2003 and
older trucks that service the Port of Richmond to scrap
then replace their equipment with newer model year
trucks that produce lower emissions and are more fuel
efficient. Please see the attached.

Is this a new Project? Yes
Is this project included in the Long-Range Transportation Plan?
Yes, the proposed project is included with in two projects in the
2035 Richmond Area MPO LRTP: Port Opportunity Zone and
Marine Highway.

Estimated Start Date: 1/2013
Estimated Completion Date: 12/2015

CMAQ FORM – A (Continued)

Need for and Benefit to be Derived from Project: (Probable impact on air quality)
 Please see the attached. Thank you!

Project Cost and Funding:

Total Project Cost: \$1,680,000

Indicate Requested CMAQ Funding Per Fiscal Year Below:

Fiscal Year 1:	Year: <u>2013</u>	Requested CMAQ Amount:	<u>\$500,000</u>
Fiscal Year 2:	Year: <u>2014</u>	Requested CMAQ Amount:	<u>\$500,000</u>
Fiscal Year 3:	Year: <u>2015</u>	Requested CMAQ Amount:	<u>\$500,000</u>
Fiscal Year 4:	Year: _____	Requested CMAQ Amount:	\$ _____

Are there additional funds available for this project? \$180,000

If yes, provide the following information: Please see attached.

Projected income from scrapped vehicles,

1. A signed letter or initialed memo from the county administrator or town manager (i.e., CAO) supporting the availability of funds for all projects during the three year funding cycle.
2. A timeline indicating when the funds will be available. This can be included as an attachment to the CAO's memo, or, if the project is already noted in the county's Capital Improvement Program (CIP), this could be referenced and attached

CMAQ Project Type

(Please check ONE below and then use the associated form to complete your application)

- | | | |
|-------------------------------------|--------------------------------------|---|
| <input type="checkbox"/> | Citywide Signal System | USE FORM-B, Section 1 |
| <input type="checkbox"/> | Intersection Geometric/Timing | USE FORM-B, Section 2 |
| <input type="checkbox"/> | Signal System Coordination | USE FORM-B, Section 3 |
| <input type="checkbox"/> | Park & Ride Lots | USE FORM-C |
| <input type="checkbox"/> | Bicycle/Pedestrian | USE FORM-D |
| <input type="checkbox"/> | Transportation Demand Management | USE FORM-E |
| <input type="checkbox"/> | Transit Service (New or Expanded) | USE FORM-F, Section 1 |
| <input type="checkbox"/> | Transit Vehicle Replacement/Purchase | USE FORM-F, Section 2 |
| <input type="checkbox"/> | Transit Shelter/Facilities | USE FORM-F, Section 3 |
| <input checked="" type="checkbox"/> | Other | Contact PDC Staff for Input Data Requirements |



THE PORT OF VIRGINIA



Project Title: Green Operator – Richmond, or “GO-RICHMOND” Drayage Truck Replacement Program

Applicant Information: Virginia Port Authority
600 World Trade Center
Norfolk, VA 23510

DUNS Number: 963211396
www.portofvirginia.com

Contact Person: Heather L. Wood, Director, Environmental Affairs
Phone: (757) 683-2152 Fax: (757) 683-2151 Email: hwood@portofvirginia.com

Eligible Entity: The Virginia Port Authority was established in 1952 as a political subdivision of the Commonwealth of Virginia for the purpose of stimulating commerce of the ports of the Commonwealth, promoting the shipment of goods and cargo through the ports, improving the navigable tidal waters within the Commonwealth, and In general to perform any act or function which may be useful in developing, improving, or increasing the commerce of the ports of the Commonwealth.

MPO: Richmond Regional Planning District Commission

Total Project Cost:	\$1,500,000	Grant Request
	<u>\$180,000</u>	Program Income Truck Scrap
	\$1,680,000	Total Cost

Project Period: 3 year term

Target Fleet: 100 Class 8b dray trucks (tractors) that service the Port of Richmond

Overview: Provide 100 rebates that incentivize owners of 2003 and older trucks that service the Port of Richmond to scrap then replace their equipment with newer model year trucks that produce lower emissions and are more fuel efficient.

Section 1. Project Summary

In 2008, the Virginia Port Authority (VPA) voluntarily launched the "Green Operator" (GO) Truck Retrofit and Replacement Program for drayage truck fleets that transport cargo serving marine terminals in Hampton Roads and Front Royal, Virginia. Using financial and operational incentives GO has encouraged truck owners to voluntarily scrap their older, higher emission, heavy-duty diesel trucks then replace them with newer, more fuel-efficient, lower emissions producing trucks or retrofit their existing trucks with EPA verified technology. These incentives are necessary to improve air quality because the significant majority of drayage independent contractors (IC) lack the financial capacity and credit history to replace their trucks. Therefore these owners will keep using their old, high emission equipment until it dies, which could take decades.

Green Operator has been phenomenally successful. Through September 2012, GO has scrapped 123 older trucks and retrofitted Level 1 or 2 devices on 216 trucks. GO has become a respected brand name in the Virginia drayage truck community. Trucks that haul for over 40 companies have participated. The Green Operator logo can be seen on posters in area dealerships and trucking companies, and on decals adhered to participating trucks throughout Virginia and surrounding states. In addition, Green Operator has become a model for voluntary truck replacement programs in states across the nation, including Texas, Georgia, South Carolina, North Carolina, Maryland, Delaware, and Pennsylvania.

VPA would like to expand their Green Operator program to trucks that service the Port of Richmond. Older, higher emission trucks service this growing port, which is similar to other VPA ports. Unfortunately, these truck owners also share the characteristic of poor credit and limited financial capacity with drivers that service other Virginia ports. Green Operator could implement their proven strategies to improve air quality in and around the congested areas of the port. Awarded funds would be used as rebates to incentivize owners of 2003 and older drayage trucks to scrap their old equipment then upgrade to a newer truck that produces lower emissions and is more fuel efficient.

Based on a census of trucking companies that service the Port of Richmond and their extensive experience in similar projects, VPA projects demand from 100 owners of 2003 and older trucks that would scrap their truck during the three-year project.

The GO – Richmond program would be marketed, administered, and partially funded through a partnership between the Virginia Port Authority and Meadowbrook Leasing (Meadowbrook). Meadowbrook Leasing, a specialty, used truck lender would be an option to provide financing and truck location services to eligible owner-operator truckers with higher risk, credit profiles. Their inclusion in the program is critical because of their proven capability of leveraging federal funds to approve weak credit applicants for financing with low cost terms. Other lenders would welcome to participate in this program.

This application respectfully requests \$1,500,000 in CMAQ funding assistance for Green Operator to expand their proven scrap and replacement program to improve air quality at the Port of Richmond.

Section 2. Overall Approach

Scrapping old, high emission trucks

The primary goal of the Green Operator program at the Port of Richmond will be to destroy 100 engines installed in 2003 and older model year trucks. These class 8b trucks are in the portion of the Richmond fleet that does not have the emission technology improvements manufacturers implemented with 2004 models and once again improved in 2007.

Owners do not want to scrap their older trucks because they are necessary to earn a living. They would only do this if they could replace their old truck with a newer, better, affordable truck. Green Operator solves this conundrum by issuing qualifying owners a substantial rebate that makes the purchase of a newer and better truck, affordable. The funds for the rebate that would compel truck owners to scrap then upgrade their equipment would come from a CMAQ grant as proposed in this application.

Replacing with newer, lower emission trucks (2 Options)

The GO program for Richmond would offer a rebate to incentivize the owner of each 2003 and older truck that regularly services the Port, to scrap their older truck then replace it with a newer truck. There would be two rebate amounts

offered, which would vary by the age of the replacement truck. An owner purchasing a 2004-2007 model year truck retrofitted with a Diesel Oxidation Catalyst would receive a \$10,000 rebate. Purchasing a 2008 or newer model year truck equipped with a Diesel Particulate Filter would earn the owner a \$20,000 rebate.

There is an important rationale as to why the rebate amounts vary. The rebates are meant to lower the net truck sales price and reduce lender risk so that the monthly payments fall well below \$1,000. Also, by offering a wide range of replacement truck model year options it provides buyers with more choices that hopefully compel them to scrap their old truck.

Federal funds and program income

100% of the requested \$1,500,000 grant funds would be used for rebates. All administrative, marketing and other expenses to operate the program would be absorbed by Virginia Port Authority and Meadowbrook Leasing. Additionally, Program Income would be generated when the scrapping company pays for destroying the old trucks. Based on historical data from the existing GO program, income paid from scrapping each old truck is projected at \$1,800. These funds will cover the cost of the Diesel Oxidation Catalyst required in the 2004-2007 model year trucks. Any excess Program Income would be added to the rebate to reduce the Buyer's acquisition cost of a replacement truck.

Importance of grant funds to each key party: Buyer and Lender

The rebate helps to create a "marriage" between the two parties critical in making a scrap and replacement program work; the truck buyer and their lender. Virtually every prospective buyer in this program will need financing to acquire a truck because they don't have the capital to buy it outright. More specifically a buyer needs a lender willing to approve him for credit and offer affordable monthly payments to compel scrapping of the old truck. On the other side of the equation, the lender needs a low investment in the truck compared to its market value, so risk is reduced. The bigger the spread, the further the lender can widen their lending criteria to approve more applicants, lower the interest rate and extend the term; resulting in an affordable monthly payment.

Funding for those who most need help

The proposed grant funds would be targeted for scrapping and replacing trucks owned by independent contractors, which are the majority of trucks that service VPA ports. Most trucks owned by trucking companies have already been replaced. Those companies that still own old trucks usually have the financial resources to replace trucks without rebate funding.

Independent contractors or "Owner-Operators" mostly operate old, higher emission trucks for three reasons: 1) they don't have savings of \$5,000 to \$10,000 for down payment required by mainstream truck lenders for later model trucks. Port IC's are amongst the lowest paid in the trucking business. 2) most can't qualify for financing due to their poor credit history. As of May 2012, an analysis of 437 port truck buyer credit applicants found that 83% are categorized as, "sub-prime credit" (TransUnion credit scores below 600). There are no lenders that finance trucks to this high risk niche without several thousand dollars of down payment 3) For the minority of IC's who actually have the required down and credit rating, they almost certainly can't afford the monthly payment which could range from \$1,400 to \$1,700 for 2008 trucks (earliest models with 2007 engines). See Table 1.

Although its very challenging (if not impossible) for a dray truck driver to attain financing to get a newer truck, most would prefer a newer model because of its improved fuel economy, lower maintenance costs and extended duty cycle. The GO Program gives these owners the opportunity to upgrade. However, without this funding most drivers will continue to drive their old trucks until there is a catastrophic repair required, which can take many years.

Credit approvals and declines

Meadowbrook Leasing would provide a variety of services for the program if the Port of Virginia were granted this funding request. The most critical would be to provide financing of eligible trucks for program applicants. Meadowbrook is a lender that specializes in financing class 8 trucks for drayage drivers. As such the organization has proven their capability to approve financing for a wide array of applicants with sub-prime credit profiles at well below market interest rates.

In all programs in which it leverages federal funds, Meadowbrook accepts responsibility as stewards of public money very seriously. The company is always wary of applicants that don't appear as though they could pay their truck note. Although Meadowbrook credit criterion would be very flexible in this program; some applicants will not be eligible for rebate funds.

Those in bankruptcy, a threat to file for bankruptcy, or having federal or state tax liens will be refused. The decision to deny them a rebate is as much about fiscal prudence as it is the fear of potential public backlash for providing federal government financial assistance to individuals with significant debt problems.

Financing terms

The rebate for each replacement truck will encourage lenders to expand their credit criteria, which increases approvals. The rebate also reduces a lender’s risk, which allows for lower interest rates and longer terms. This importantly decreases the monthly payment, which is the most important payment factor for most independent contractors.

The table below highlights the significant differences in the finance contracts offered for two sample, qualifying trucks that do and don’t include a rebate. This is intended to illustrate the importance of the rebate in creating compelling finance terms so owners will upgrade their truck.

The column, “Without Rebate” is practically irrelevant because so few independent contractor owners could qualify for or want this financing. The vast majority of these dray truck owners wouldn’t have the adequate down payment or credit history. For the very few owners that could qualify for these terms, even fewer could afford them.

The terms in the “With Rebate” column detail the likely ranges of the finance terms if a driver qualifies for the program and financing. With the rebate used to pay down part of the truck cost, the lender has lower risk. Now the lender can widen their credit criteria, which increases the likelihood of approving an applicant. The lender can also importantly reduce their interest rate and increase the term (contract length).

Table 1.

Sample Credit Qualification and Financial Terms		
2009 Used Truck for Drayage Buyers. Price of \$50,000		
	Without Rebate	With Rebate
Est Approval Rate	5%	65%
Interest Rates	12.0% to 19.5%	8.5% to 14.9%
Term (months)	32 to 36	36 to 48
Advance Payment	\$7,500	\$20,000 (Rebate)
Financed Amount	\$42,500	\$30,000
Monthly Payment	\$1,411 to \$1,714	\$739 to \$1,038

The Est Approval Rate is the projected percentage of total credit applicants that would receive an approval by a lender. Interest Rates and Terms are estimates of offers by lenders. Advance Payment for “Without Rebate” is the average amount required of a typical dray truck owner who has poor credit history. Financed Amount is the price of the truck less the Advance Payment. Monthly Payment is based on the calculation of the variables above. It also considers that \$1,000 of the Advance Payment could be used as a documentation fee and therefore does not reduce the purchase price.

Table 2.

Sample Credit Qualification and Financial Terms		
2006 Used Truck with DOC for Drayage Buyers. Price of \$32,000		
	Without Rebate-No DOC	With Rebate-DOC
Est Approval Rate	5%	65%
Interest Rates	12.0% to 19.5%	8.5% to 14.9%
Term (months)	32 to 36	36 to 48
Advance Payment	\$5,000	\$10,000 (Rebate)
Financed Amount	\$42,500	\$28,000
Monthly Payment	\$897 to \$1,089	\$542 to \$762

Participating truck owners can select any lender for their replacement truck. Program lenders that receive the significant benefit of public funds must agree to requirements that ensure the investment of public funds provides the best “dividends” on air quality improvement. These details are in Section 4, “Sustainability of the project beyond the project period” in this application.

Successfully Marketing the GO Program

VPA and Meadowbrook have significant expertise marketing the GO program. VPA enjoys a strong relationship with trucking companies and independent contractors who service their port. Green Operator is seen as a “can-do” program in the port community having replaced or retrofitted 339 trucks. The team successfully promotes GO through trucking companies and dealerships as well as leveraging the GO website (www.greenoperator.org) and Twitter account ([vagreoperator](#)). In 2010, VPA and Meadowbrook successfully established the Green Operator Hotline as a customer service center. The Hotline became a centralized source for truck owners to learn about the program and for applicants to be guided through the scrap, rebate and replacement process. Staffed with truck and finance experts, they also helped to create a waiting list of 130 qualified applicants while GO was between funding. The team is confident they can implement similar, successful strategies to execute this project in Richmond if awarded this grant.

Green Operator Eligibility Requirements

To qualify for the GO program, VPA would require truck owners and equipment meet the following requirements:

1. Truck to trade-in/scrap: 2003 and older model year, operational at the time of scrapping, and regularly transports cargo to and from Port of Richmond facilities during the past 12 months.
2. Application: Complete the Green Operator application
3. Replacement Truck: 2004 - 2007 model year truck retrofitted with a Diesel Oxidation Catalyst or a 2008 or newer model year truck equipped with a Diesel Particulate Filter. The truck dealer must provide results from a “Dyno” and oil test for the truck proving it meets industry-accepted measurements. This provides confidence in using public funds to provide a rebate for each truck that can last many years into the future.

The Green Operator Program Process

The following steps are the proven primary highlights in processing, scrapping and replacing a truck that would be managed by the Program team.

1. Applicant completes and submits the Green Operator application package to the Program. (Appendix 1)
2. Program verifies through an inspection that the truck to scrap operates & meets program requirements.
3. Program verifies the applicant services its facilities through ID confirmation and additional documentation.
4. Program sends a letter to the applicant confirming qualification of a rebate. The rebate must be issued within 90 days of notification.
5. Applicant can select a qualifying replacement truck and apply for financing at the dealer and lender of their choice.
6. Dealer forwards to the Program the Bill of Sale, truck specifications, truck photos and Dyno + oil test results.
7. Lender signs a document stating the applicant has approval for financing of the replacement truck.
8. Program coordinates scrapping of the truck engine in accordance with EPA guidelines and provides documentation and video or still photography as proof of scrapping.
9. Scrap yard sends proceeds to Program (Program Income).

10. Program sends the rebate and scrapping funds by check or wire transfer to the truck dealer, lender or applicant as appropriate.
11. Applicant picks up their replacement truck at their dealer, which affixes two Green Operator decals to the truck. Driver provides appropriate proof of purchase, new title and registration application to Program.

Port of Richmond Truck Replacement Demand

In October 2012, VPA queried trucking companies that control trucks which service the Port to project the demand for this proposed project in Richmond. Consistent with experience at other VPA ports, demand for a Green Operator project in Richmond would be substantial. VPA estimates a total of 100 trucks scrapped and replaced in this three-year project. This would break out to roughly equal quantities during each project year. During each year of the project, the projected demand for replacement would be equally divided between 2004-2007 and 2008 and newer model year trucks.

Table 3.

Projected timeline to scrap and replace in Green Operator – Richmond				
Project Year	Quantity	Replacement MY	Rebate	Public Funds
Year 1	16	2004-2007	\$10,000	\$160,000
Year 1	16	2008 and newer	\$20,000	\$320,000
Year 2	17	2004-2007	\$10,000	\$170,000
Year 2	17	2008 and newer	\$20,000	\$340,000
Year 3	17	2004-2007	\$10,000	\$170,000
Year 3	<u>17</u>	2008 and newer	\$20,000	<u>\$340,000</u>
Total	100			\$1,500,000

Immediate program implementation

The proposed program would immediately begin soliciting application and scrapping and replacing trucks upon receipt of the award because of their experience managing similar programs. The Norfolk port trucking community has a high level of trust in Green Operator and is already comfortable with the kind of work it does; replacements and retrofitting. Through GO marketing to the Richmond port trucking community, we can tell our success stories and provide references of our satisfied truckers. Also, the GO team knows how to make a scrap and replacement program work. Program forms, data collection, marketing and outreach materials are in place, ready for implementation.

Section 3. Environmental Improvement and Additional Benefits

The Green Operator – Richmond project will achieve a significant improvement in public health through a reduction in diesel emissions. These reductions will improve local air quality and reduce negative health effects and health care costs for the local population of Richmond, Virginia and millions of others who live throughout the state. An additional benefit is the conserving of diesel fuel through the improved fuel economy in newer trucks that replace older, scrapped trucks. The benefits of the funding provided in this program should sustain for many years to come.

Reducing diesel emissions and fuel consumption

The Green Operator project in Richmond will destroy 100 engines in 2003 and older model year, heavy-duty diesel trucks in the drayage truck fleet carrying cargo that services the Port of Richmond. The program will permanently disable the old truck engines by following EPA guidelines. There will be significant annual reductions of NOx, PM and CO. The replacements would be 2004-2007 model year trucks retrofitted with new Diesel Oxidation Catalysts or 2008 and newer model year trucks factory equipped with Diesel Particulate Filters.

Data was entered into the EPA Diesel Emission Quantifier. The results were then exported to a spreadsheet so that the Diesel Oxidation Catalyst retrofitting could be computed. See **Appendix 2**. The following assumptions were made: Class 8b truck, 100 1997 truck engine scrapped (average MY), replace with 50 2006 trucks retrofitted with Diesel Oxidation Catalysts and 50 2009 trucks factory equipped with Diesel Particulate Filter, 50,000 vehicle miles traveled per year, 9,090 gal/year/truck, average idling of 2 hours/day and fuel economy savings of 10% from improved engine technology.

Table 4.

Lifetime Emission Reduction - Short Tons					
Truck*	Nox	PM2.5	HC	CO	CO2**
2006 with DOC	620.7	22.0	21.9	151.2	
2009 with DPF	<u>774.3</u>	<u>38.1</u>	<u>28.6</u>	<u>200.8</u>	
Total	1,395.0	60.1	50.5	352.0	

*2006 truck is retrofitted with a DOC and 09 truck has factory installed DPF

** EPA Quantifier did not correctly calculate data

Table 5.

Cost Effectiveness - Short Tons					
Truck*	Nox	PM2.5	HC	CO	CO2**
2006 with DOC	\$805	\$22,715	\$22,848	\$3,307	
2009 with DPF	<u>\$1,291</u>	<u>\$26,243</u>	<u>\$35,000</u>	<u>\$4,980</u>	
Weighted Average	\$1,075	\$24,952	\$29,730	\$4,261	

*2006 truck is retrofitted with a DOC and 09 truck has factory installed DPF

** EPA Quantifier did not correctly calculate data

Diesel Oxidation Catalysts

The project requires that DOC's are retrofit in all 2004 - 2007 replacement trucks. This is a very affordable method of improving emission reductions. A DOC, which replaces the standard truck muffler, costs about \$1,500 for the part and labor to install. This will be paid from the Program Income received from scrapping the old truck. Any surplus funds remaining from this Program Income will be added to the rebate to reduce the costs to the buyer of purchasing the truck. The emissions reductions improve when scrapping and adding a DOC for PM from 45% to 56%, for HC from 33% to 67% and CO from 54% to 68%.

Table 6.

Emission reduction by retrofitting a DOC on 2004-2006 trucks			
	PM	HC	CO
Overall reduction from 97 to 06	45%	33%	54%
Reduction from 06 to 06 with DOC	20%	50%	30%
Overall reduction from 97 to 06 with DOC	56%	67%	68%

Maximizing public health benefits

This project will provide significant cost effective public health benefits in the Richmond-Petersburg EPA-designated air quality "Maintenance" area (8-hour ozone) with moderate population density and a disproportionate diesel emissions burden. These benefits are both qualitative and quantitative.

- Qualitative
 - *Emission benefits to urban areas:* As in many port communities, Port of Virginia facilities are located in densely populated residential communities, which also tend to be areas of low socio-economic status and environmental justice neighborhoods. Frequent drayage truck traffic operates in and around the Hampton Roads and Richmond regions with year round population densities of 1.7 million and 1.2 million, respectively. As a result, the air quality improvements achieved by the GO program directly benefit the residents of these areas.
 - *Reduces emissions along interstate goods movement corridors:* Movement of drayage freight between the Richmond port and the many distribution centers and factories near it, routinely travel on Interstates 95, 64, 195, 295, and 895 as well as state and local routes. Emissions improvements will improve the health of those that live and frequently travel in these corridors.
 - 100 truck owners should have improved economic outlooks because they will earn more money with their better equipment.

- Quantitative
 - The EPA Diesel Emission Quantifier (DEQ) estimates the annual health benefits of this project will cause an annual reduction of 4.62 PM2.5. Not including the benefits of the DOC on the 04-07 replacement trucks, there is an annual cost of \$140,000 and \$1,600,000 of annual health benefits.

Sustainability of the project beyond the project period

The program will sustain beyond the project period for several reasons:

- 1) 100 old trucks will never pollute again because the engines will be destroyed.
- 2) 100 newer trucks, per EPA DEQ will last 12-20 years longer than the trucks that would have been scrapped.
- 3) Replacement trucks will require passing dyno and oil tests, to assure that public funds are used on high quality trucks that will last for years into the future.
- 4) Participating lenders must assure that Federal Funds will only be given to the best credit risks possible to increase sustainability.
- 5) Financing of owners would require personal guaranties and their credit would be reported to national credit reporting bureaus. This increases buyer accountability and therefore their commitment to make payments.
- 6) Owners receiving these rebates would be contractually obligated to continue servicing the VPA during the term of the finance contract, assuring their continued service at VPA.
- 7) All trucks will include GPS asset protection devices which simplifies locating a truck in case of repossession.
- 8) Trucks repossessed during the finance contract would require financing to port drivers who scrap a truck *without* using another rebate. This will likely increase the quantity of trucks scrapped from 100 to 110.

Community-Based Multi-Stakeholder Collaborative Process

VPA will be working with the Virginia Department of Environmental Quality as a stakeholder in the EPA Ozone Advance process. The VPA will be working with VDEQ, the Virginia Department of Transportation, and the Virginia Department of Rail on this initiative. The Green Operator and Green Operator – Richmond programs, as well as the VPA's other air quality improvement measures will be included in the Ozone Advance process.

Measurement and Accountability

Virginia Port Authority will consistently evaluate the progress of the proposed program during the project period. This includes monitoring the success of program marketing, applications, documentation compliance, reporting and progress towards goals. Additional details include:

- Data will be recorded in Google Docs spreadsheets which authorized personnel can access 24/7. Reports include
 - Owner Status Report – status of each Interested program applicant - **Appendix 3**
 - Daily Activity Report – qty of inquiries, applications, engine scraps and replacements. **See Appendix 4**
 - Project Summary Report – data crucial to emission and activity reporting - **Appendix 5**
- Quarterly summary reporting
 - Spreadsheet that details each rebate and projected environmental improvement data
 - Planned project activities and actual progress in completed and future quarters
 - Summary of expenditures on project activities completed and future quarters
 - Technical problems or issues and their resolution
- Detailed final report within 90 calendar days of project completion. This report will include a summary of project activities, expenditures, and labor hours expended on the project; a discussion of problems, successes, and lessons learned from the project; and a detailed projection of emissions benefits that will be achieved by the project.

Section 4. Organizations, Roles, Leadership and Past Performance

Virginia Port Authority

The Virginia Port Authority is the primary state agency responsible for international transportation, commerce, operations and marketing of the Port of Virginia and Port of Richmond. VPA ports are some of the busiest in the nation. Port operations are in Hampton Roads and Richmond, which VPA leases from the city of Richmond.

Operations at these terminals result in the emission of air pollutants mainly from internal combustion engines from mobile vehicles and equipment. These sources include cargo ships, heavy-duty on-road trucks, rail car movers, trains, tug boats, and non-road container handling vehicles and equipment. The drayage truck fleet that services the Port of Richmond facilities transports commercial goods to and from many nearby major distribution centers. Therefore much of this traffic exists in a highly concentrated area. VPA data analysis shows that an average drayage truck services the port 2-3 times each day, therefore the truck routes are "short-haul" that don't stray far from the docks. This means that most of the trucks targeted for scrapping in this project produce emissions that stay in communities near the Port of Richmond. The Port of Richmond is surrounded by 9 locations on the FY12 Priority County and Area List: Cities independent of counties include Richmond, Petersburg, Hopewell, and Colonial Heights. The Counties are Charles City, Chesterfield, Hanover, Henrico, and Prince George. Emissions benefits achieved through this grant would benefit this same area as well as Richmond and Northern Virginia NAAQS areas. The Richmond Deep Water Terminal and supporting service providers (truck, rail, and vessel operations) operate within the Richmond-Petersburg 1997 NAAQS Ozone Maintenance Area.

The VPA has implemented several strategies to reduce air emissions including an equipment replacement program that requires manufacturers to provide "on-road" tiered engines in "off-road" classified cargo handling equipment purchased by the VPA and its terminal operator. Between 1999 and 2005, this strategy effectively reduced emission of pollutants (NOx, CO, PM, and VOC) from VPA's cargo handling equipment by 33 percent despite a 55 percent increase in cargo volume at the Port. In July 2007, the VPA furthered its efforts to reduce emissions by becoming the first East Coast port to voluntarily convert its diesel fuel supply to ULSD. All cargo handling equipment at VPA's marine terminals operate on ULSD resulting in a 36 percent reduction in PM and 99 percent reduction in NOx from the VPA's 2005 baseline inventory. In 2008, the VPA showcased their innovation by launching the first voluntary drayage truck retrofit/replacement program at a U.S. port. The Green Operator Program has replaced or retrofitted over 339 trucks since 2008. In 2012, the VPA expanded "Green Operator" to incentivize steamship lines to fuel switch while at berth at VPA facilities. Presently, 60 Maersk and Maersk Line Limited vessels participate in this program.

Although VPA has been very successful in reducing diesel emissions from Port activities, air quality is still a concern given the commercial and transportation related activity in the region. The Port of Virginia's air quality data is included in the region's approved air quality maintenance plan and the Port of Virginia will be working with the Virginia Department of Environmental Quality as a stakeholder in the EPA Ozone Advance process. The Green Operator and Green Operator – Richmond programs and VPA's other air quality improvement measures will be included in the Ozone Advance process.

As the Eligible Entity in this application, VPA will set program goals and monitor their status, assure that all CMAQ grant rules are adhered to, set scrap and replacement requirements, provide approval for each applicant and truck to receive a rebate, verify all document requirements have been met before releasing rebate funds, supply adequate personnel to work on administrative functions, complete required reports and verify their on-time completion.

Heather Wood is the VPA's Director of Environmental Affairs and is responsible for the Port of Virginia's environmental programs and regulatory affairs related to the operation and development of marine terminal facilities. Mrs. Wood has 15 years of government affairs and project management experience related to the maritime industry and the environment. *For bio see Appendix 6.*

Meadowbrook Leasing

Meadowbrook collaborates with government, non-governmental organizations and business to create and implement leading edge finance solutions that reduce diesel engine emissions and fuel consumption. The company leverages its capital with expertise in the disciplines of finance, trucking and clean diesel technology to assist partners in achieving their environmental goals. It currently participates in clean truck finance programs at the ports of Savannah, Charleston and Norfolk as well as the rail yards of Chicago. The company provides their partners with turnkey solutions, which include

marketing, sales, wholesale truck purchasing, equipment financing, scrap management and environmental outcome reporting.

As a program administrator, Meadowbrook will follow the highest ethical standards and all federal rules, while providing various critical functions. These include running a customer service hotline, marketing, dealer and lender qualification, scrap yard qualification, truck scrap coordination and verification, replacement truck qualification and verification, rebate distribution, emission tracking, GPS installation coordination and provide partners with 24/7 access to live program data. Meadowbrook would also provide its lending services to truck owners that require financing to acquire a replacement.

Scott Cohen is the President of Meadowbrook Leasing. Mr. Cohen has over a decade of experience in the specialized niche of financing used, heavy-duty trucks to owner-operators and small fleets. *For resume see Appendix 7.*

Section 5. Budget Detail

Table 7.

Equipment	CMAQ Funding	Program Income
Income from scrapping 100 truck engines. Average of \$1,800 each.		\$180,000
Rebates used towards purchase of 100 replacement trucks	\$1,500,000	
Total Equipment	\$1,500,000	\$180,000
Project Total		\$1,680,000

GREEN OPERATOR Program

Replacement Truck Rebate Application



The Green Operator (GO) program provides a \$20,000 rebate as incentive for qualifying owners to scrap their 1995-2003 trucks and replace them with 2008 or newer vehicles. The program's goals are to replace older vehicles with more emission-efficient engines that service the Port of Virginia.

Do not scrap an old truck or purchase a replacement truck without express written authorization from Green Operator. Failure to follow Program Eligibility and Process may result in not receiving a rebate.

Green Operator Program Eligibility and Process

1. Applicant who owns a 1995-2003 model year class 8 truck that regularly services the Port of Virginia during the past 12 months, completes the Green Operator application package.
2. VPA or its designated contractor inspects the truck to scrap to verify it operates & meets program requirements
3. VPA or its designated contractor verifies the applicant services its facilities through ID confirmation
4. Letter sent to applicant confirming qualification of a rebate. Rebate must be issued within 60 days
5. Applicant can select a qualifying replacement truck and apply for financing
6. Dealer forwards Bill of Sale, truck specifications, truck photos and confirmation the truck includes a 2007 engine
7. Lender signs a document stating the applicant has approval for financing of the replacement truck
8. VPA or its designated contractor coordinates scrapping of the truck engine in accordance with EPA guidelines and provides documentation and video as proof of scrapping
9. Scrap yard sends proceeds to the dealer, lender or applicant as required, to reduce cost to the applicant
10. VPA or its designated contractor sends rebate check to truck dealer, lender or applicant as required.
11. Applicant picks up their replacement truck at dealer, which affixes two Green Operator decals to the truck. Provides appropriate proof of purchase, new title and registration application.

GREEN OPERATORS "GO" Program
Funding Assistance Application Checklist & Submission Instructions



Incomplete applications will not be reviewed.

Green Operator Application Check List

1. ____ Completed application
2. ____ Copy of valid Virginia Port ID card and Transportation Worker Identification Card (TWIC) (front and back)
3. ____ Copy of a valid Driver's License (front and back)
4. ____ Copy of the current vehicle title, registration and current insurance for the Class 8 vehicle to be replaced (must be 1995-2003)
5. ____ A Green Operator representative will take pictures of the vehicle and evaluate for eligibility (only scrap when a GO team member informs you to do so).
6. ____ Provide both DMV title AND dealer invoice on 2008 truck (only when GO team member informs you to do so).

Complete and Submit Application to

To be determined

**GREEN OPERATOR Program
2012/2013 Replacement Truck Rebate Application**



I. APPLICANT INFORMATION (Please type or print legibly.)

Company Name:		EIN (Employer ID #):	
Registered Owner:		ICC#:	
Authorized Representative:		Virginia Port ID #:	
Number of Employees (Independent Owner Operators will most likely be 1):			
Type of Business (Licensed Motor Carrier or Independent Owner-Operator):			
Address:			
City:		State:	Zip:
Program Contact and Title (Please list if different from above):			
Telephone:		Fax:	
E-mail:			

II. SCRAPPED VEHICLE INFORMATION (If applying for more than one truck please provide the information below for each truck requested. Please note that older vehicles must be scrapped according to MARAMA requirements and EPA acceptable means of disposal.)

Truck Information

Truck Make:	Truck Model:
Truck Year:	GVWR (lbs.):
Vehicle ID Number (VIN):	
Truck License Plate Number:	Licensing State:

Engine Information

Engine Make:	Engine Model Year:
Engine Model:	Horsepower:
Serial #:	Engine Family Name:
Fuel Type (Diesel, CNG, LNG, etc.):	

Operational Information

Does Your Odometer Work?	Current Odometer Reading: (<input type="checkbox"/> Place a check here if this reading is an estimate.) (<input type="checkbox"/> Place a check here if this odometer has rolled over and please indicate number of times)
Date of Odometer Reading:	Annual Miles (Jan. 1-Dec. 31, 2010):
Years Truck Owned: *You must have owned your truck for at least one year, according to the date on your title, to be eligible	Title Number:

Is your truck currently in operation or is it sitting? _____

Which port(s) do you serve? _____

Estimate the average number of trips made each week to the Port of Virginia, over the past year:
_____ trips

How many days each week have you driven this truck for work, on average, over the past two years?
_____ days

What do you typically haul (check all that apply)?

_____ Containers _____ Dry Bulk _____ Liquid Bulk _____ Break Bulk

Lien Information

This vehicle being replaced is free and clear of all liens (Yes or No): _____

(If you answered "No", you agree to pay off all indebtedness, receive lien releases and deliver a clear certificate of title free of any and all liens as a condition to delivery of your old truck for scrappage and receipt of grant funds for a replacement truck.)

III. NOTICE OF OBLIGATIONS

I do hereby certify the following (Please read and initial next to each item):

1. _____ I have reviewed and understand the application, including this Notice of Obligations, and that all of the information I have submitted is true and correct.
2. _____ I will not submit any other applications for funding of this same truck(s) under this program.
3. _____ Program funds were not used to previously upgrade the equipment identified in this application.
4. _____ I will make the old truck available for pre-award inspections and destruction and make the new truck available for inspection after the award is made.
5. _____ Neither the truck owner nor the truck has any outstanding violations of Port of Virginia regulations.
6. _____ I have already paid or otherwise settled all outstanding violations against the old truck. (Applicants with outstanding violations at the time of the application will be ineligible for funding during the current round of solicitations but may reapply in subsequent solicitation periods)

IV. COMPANY COMMITMENT

The applicant for funding assistance must sign this document.

I certify that I am the authorized representative of the company applying for the funding and that the information provided herein is true, accurate and complete to the best of my knowledge and belief.

Name: _____

Title: _____

Date: _____

Signature: _____

(Note: Original signature required.)

APPENDIX 2.

Detailed Report from the Diesel Emissions Quantifier

10/30/2012

Type	Target Fleet	Class/Equipment	Number of Vehicles	Model Year	Retrofit Year	Technology Description	Fuel Type	Fuel Volume	Calculated Fuel Volume	Vehicle Miles Traveled/Year (VMT)	Idling Hours/Year
On Highway	Short haul	Class 8a (33,001-60,000)	50	1997	2013	Engine Replacement	Regular Diesel (ULSD), 15 ppm	454500	454500	50000	450
On Highway	Short haul	Class 8a (33,001-60,000)	50	1997	2013	Engine Replacement	Regular Diesel (ULSD), 15 ppm	454500	454500	50000	450

Horsepower	Usage Rate/Year	Number of Vehicles Retrofitted	New Model Year	Diesel Fuel Reduced (gallons)	Reduced Idling (hours)	Installation Cost	Unit Cost
		50	2006	457500	0	\$0	\$10,000
		50	2009	45450	0	\$0	\$20,000

Percent Reduced (NOx, %)	Baseline of Vehicles Retrofitted per year (NOx, tons/year)	Amount Reduced per Year (NOx, tons)
67.00%	71.2667	47.7462
83.80%	71.2667	59.5626

Lifetime Baseline of Vehicles Retrofitted (NOx, tons)	Lifetime Amount Reduced (NOx, tons)
926.4676	620.7012
926.4676	774.3134

Lifetime Amount Emitted After Retrofit, Retrofitted Vehicles (NOx, tons)
305.7664
152.1542

Capital Cost Effectiveness (\$/ton), Retrofitted Vehicles (NOx)
805.54
1,291.47

Percent Reduced (PM2.5, %)	Baseline of Vehicles Retrofitted per year (PM2.5, short tons/year)	Amount Reduced per Year (PM2.5, short tons)	Amount Reduced per Year (PM2.5, short tons) with DOC	Percent Reduced (PM2.5%) with DOC	Lifetime Baseline of Vehicles Retrofitted (PM2.5, short tons)	Lifetime Amount Reduced (PM2.5, short tons)	Lifetime Amount Reduced (PM2.5, short tons) with DOC	Lifetime Percent Reduced (PM2.5%) with DOC	Lifetime Amount Emitted After Retrofit, Retrofitted Vehicles (PM2.5, short tons)	Lifetime Amount Emitted After Retrofit, Retrofitted Vehicles and DOC (PM2.5, short tons)	Capital Cost Effectiveness (\$/short ton), Retrofitted Vehicles (PM2.5)
45.00%	3.0217	1.3611	1.69322	56.04%	39.2825	17.6939	22.01162	56.03%	21.5886	17.27088	28,256.33
97.00%	3.0217	2.9311	n/a	n/a	39.2825	39.104	n/a	n/a	1,1785	n/a	26,243.97

55,7979

26882.73
24951.92

Percent Reduced (HC, %)	Baseline of Vehicles Retrofitted per year (HC, short tons/year)	Amount Reduced per Year (HC, short tons)	Amount Reduced per Year (HC, short tons) with DOC	Percent Reduced (HC%) with DOC	Lifetime Baseline of Vehicles Retrofitted (HC, short tons)	Lifetime Amount Reduced (HC, short tons)	Lifetime Amount Reduced (HC, short tons) with DOC	Lifetime Amount Reduced (HC%, short tons) with DOC	Lifetime Amount Emitted After Retrofit, Retrofitted Vehicles (HC, short tons)	Lifetime Amount Emitted After Retrofit, Retrofitted Vehicles and DOC (HC, short tons)	Capital Cost Effectiveness (\$/short ton), Retrofitted Vehicles (HC)
33.10%	2.5294	0.8374	1.6834	66.55%	32.8876	10.8858	21.8837	66.55%	21.9958	10.9879	45,931.48
86.80%	2.5294	2.1978	n/a	n/a	32.8876	28.5712	n/a	n/a	4,3103	n/a	35,000.23

39,457

38016.07
29729.52

Percent Reduced (CO, %)	Baseline of Vehicles Retrofitted per year (CO, short tons/year)	Amount Reduced per Year (CO, short tons)	Amount Reduced per Year (CO, short tons) with DOC	Percent Reduced (CO%) with DOC	Lifetime Baseline of Vehicles Retrofitted (CO, short tons)	Lifetime Amount Reduced (CO, short tons)	Lifetime Amount Reduced (CO, short tons) with DOC	Lifetime Amount Reduced (CO%, short tons) with DOC	Lifetime Amount Emitted After Retrofit, Retrofitted Vehicles (CO, short tons)	Lifetime Amount Emitted After Retrofit, Retrofitted Vehicles and DOC (CO, short tons)	Capital Cost Effectiveness (\$/short ton), Retrofitted Vehicles (CO)
53.60%	17.2191	9.2332	11.62897	67.54%	223.8486	120.0313	151.17649	67.54%	103.8173	72.67211	4,165.58
68.70%	17.2191	15.4475	n/a	n/a	223.8486	200.8178	n/a	n/a	23,0308	n/a	4,979.04

320,8491

4675.09
4261.43

Percent Reduced (CO2, %)	Baseline of Vehicles Retrofitted per year (CO2, short tons/year)	Amount Reduced per Year (CO2, short tons)
100.70%	5,044.95	5,078.25
10.00%	5,044.95	504.485

Lifetime Baseline of Vehicles Retrofitted (CO2, short tons)	Lifetime Amount Reduced (CO2, short tons)
65,584.35	66,017.25
65,584.35	6,585.42

Lifetime Amount Emitted After Retrofit, Retrofitted Vehicles (CO2, short tons)
-432.9
59,025.92

Capital Cost Effectiveness (\$/short ton), Retrofitted Vehicles (CO2)
7.57
152.48
20.67

Port of Virginia Truck Replacement Program
 Confidential and Proprietary
 // data is for sample purposes

APPENDIX

Name	Tel #	Carrier	Truck to Scrap	Valid VPA ID & TWIC	Est Scrap	Replacement	Rebate Issue	Est	Notes
Carlton Roberson	757-687-8004	PB Industries	96 Freightliner # 2HSFHAER9TC039075	Yes	10/12/2012	10/13/2012	10/15/2012	Rec'd application	10/15/12: Sent rebate and scrap income to lender 10/13/12: Carlton picked up the truck 10/12/12: Rec'd docs from scrapyard 10/9/12: Rec'd confirmation of lender approval 10/7/12: Found truck. Rec'd all requirements from dealer. 10/3/12: Received Port visit data - truck qualifies. Will search for truck. Sent approval letter. 10/1/12:
Anastacio Pizarro	757-220-4166	Mason Dixon	97 Peterbilt #2YEANJUS9TC039075	Yes					
Douglas Fletcher	757-271-9176	Hudd Transportation	01 International #2YTNSJOK9TC039075	Yes					
Edward Caudle	757-532-8858	Blackhawk Logistics	02 Peterbilt #2POINH19TC039075	Yes					
Gary Moore	757-859-0432	Teton Transportation	03 Freightliner #2QRVFEDEW9TC039075	Yes					
James Fulton	757-229-2583	Teton Transportation	95 Kenworth #2MNBVCXS9TC039075	Yes					
John Shuler	757-817-9953	Robin Hood Trans.	97 International # 2FGHJKLW9TC039075	Yes					
Roman Pearson	757-435-9316	Eagle Systems	99 Freightliner #2YTBFCDE9TC039075	Yes					
Joe Richardson	757-693-3726	Continuum Transport	02 Freightliner #2QSAZSA9TC039075	Yes					
Michael Hardy	757-596-5144	Old Dominion	03 International #2LJNHYYUJ9TC039075	Yes					

APPENDIX 4

APPENDIX 4

Port of Virginia Truck Replacement Program
 Daily Activity
 All data is for sample purposes

<u>Date</u>	<u>New Inquiries</u>	<u>New Program Apps</u>	<u>Scrap</u>	<u>Replacement</u>
10/1/12	3	0	0	0
10/2/12	1	0	0	0
10/3/12	0	1	0	0
10/4/12	0	2	0	0
10/5/12	2	1	0	0
10/8/12	3	1	0	0
10/9/12	0	1	0	0
10/10/12	1	0	0	0
10/11/12	1	0	1	0
10/12/12	2	1	0	1
10/15/12	2	1	0	0
10/16/12	1	0	1	1
10/17/12	2	1	1	0
10/18/12				
10/19/12				
10/22/12				
10/23/12				
10/24/12				
10/25/12				
10/26/12				
10/29/12				
10/30/12				
10/31/12				
11/1/12				
11/2/12				
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11/23/12				
11/24/12				
11/25/12				
11/26/12				
11/27/12				
11/28/12				



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Virginia Port Authority
600 World Trade Center
Norfolk, Virginia 23510-1679
Telephone (757) 683-8000
Fax (757) 683-8500

Jerry A. Bridges
Executive Director

ISO Certified: 9001
 Quality Management System -
 14001 Environmental
 Management System

HEATHER L. WOOD

Heather Wood joined the Virginia Port Authority (VPA) as Director of Environmental Affairs in October 2001. Under the direction of the Sr. Deputy Executive Director, Ms. Wood is responsible for the Port of Virginia's environmental programs and regulatory affairs related to the operation and development of the Commonwealth's marine terminal facilities including Newport News Marine Terminal, Norfolk International Terminals, APM Terminals, Portsmouth Marine Terminal, Richmond Deepwater Terminal and the Virginia Inland Port located in Warren County, Virginia.

Prior to Ms. Wood's arrival at the VPA, she served as a Senior Environmental Engineer for the Virginia Marine Resources Commission and an Environmental Planner for Virginia's Chesapeake Bay Local Assistance Department. In addition, Ms. Wood served as a Virginia Governor's Fellow and held positions with McGuireWoods, L.L.P in Richmond and Charlottesville, Virginia.

In 2011, Ms. Wood was appointed to the Virginia State Water Control Board by Governor Bob McDonnell, and received the Virginia Port Authority's W. Wright Harrison Award for distinguished service.

Ms. Wood presently serves as Secretary of the American Association of Port Authorities Environment Committee and Chairman of the Virginia Maritime Association - Environmental Awareness Committee. She is also a graduate of Lead Hampton Roads (2004) and Lead Virginia (2008) and serves as Vice Chairman of the Board of Governors of St. Margaret's School in Tappahannock, Virginia.

Ms. Wood holds a Master of Business Administration degree from the Mason School of Business at the College of William and Mary, a Master of Arts degree in Marine Affairs from the University of Virginia, and a Bachelor of Arts degree in Economics from Randolph Macon Woman's College, Lynchburg Virginia.

APPENDIX 7.

SCOTT D. COHEN

111 Deer Lake Road, Suite 130, Deerfield IL 60015

work: 847-967-2552 cell: 773-251-2307

scott.cohen@meadowbrookinc.com

Professional Experience

Meadowbrook Leasing, Deerfield, IL 2010-Present
A specialty lender that collaborates with government, non-governmental organizations and business to create and implement leading edge finance solutions that reduce diesel engine emissions and fuel consumption.

President and Founder

Founded company in 2010

- Assisted EPA in designing their SmartWay Finance Program RFP (2007) which focuses on encouraging the creation of innovative financing programs that achieve emission and fuel reduction
- Assisted Community Development Transportation Lending Services' with restructuring of their existing \$1.1 million EPA grant to make more efficient use of their funding. Provide marketing services and financing of trucks, which leverage public funds in this voluntary program.
- Advised CDTLS on their winning application for \$2.6 million of SmartWay Finance Program funds for financing of cleaner trucks in the rail yards of Chicago and ocean ports of Savannah and Charleston. Provide marketing services and financing of trucks, which leverage their public funds in this voluntary program.
- Supported Port of Virginia by providing a variety of services for their Green Operator replacement truck program which includes; marketing directly to truck companies and owner-operators, streamlining the application process, refining the truck scrapping process, operating a toll-free hotline that served as a central point of contact for applicants which improved customer service and provided a readily available truck financing option for participants.

Cobalt Finance, Deerfield, IL 2000-Present
A specialty lender that has financed over 3000 Class 8 trucks to independent contractors and small fleets across the nation.

President and Co-founder

Founded company in 2000

- Finance and Accounting
 - Raised two rounds of private debt offerings totaling over \$9,000,000.
 - Secured Bank of America \$25,000,000 line of credit in 2005.
 - Secured Cole Taylor Bank \$10,000,000 line of credit in 2002.
 - Oversaw quarterly bank audit and annual public audits.
 - Processed 95% of payment receipts through ACH (automated clearing house) system.
- Marketing
 - Lead marketing team that developed and promoted finance programs and related products to hundreds of dealerships and carriers across the nation.
 - Developed products for dealer finance managers to sell at point of sale: Guaranteed Asset Protection, Debt Protection, and Roadside Relief.
 - Launched The Cobalt Agency, which sold insurance products to truck owners.
 - Published Cobalt Convoy, a quarterly newsletter promoting Cobalt's finance and value added products as well as industry info.

- Implemented Club Cobalt incentive program to encourage increased funding from Dealers.
- Underwriting and Funding
 - Developed a proprietary scoring model to efficiently process applications and effectively predict future lease payoff.
 - Processing capacity to review 500 applications per month.
 - Funded 90% of contracts by wire transfer.
- Account Services
 - Created account services manual based on proprietary collection techniques.
 - Repossessed 90% of targeted equipment within 30 days of assignment.
 - Assessed repossessed equipment within 2 weeks to determine remarketing strategy

Michael Scott (1995-2000) Founded furniture design, contracting and sourcing company. Developed custom products for retailers including Target, Bed Bath and Beyond, Sears and Sam's Club. Sourced product, negotiated and oversaw quality control process with factories in Taiwan, China, Thailand and Indonesia.

Professional Affiliations

- American Truck Dealers: Finance Panel 2009 Convention, Educational Workshop Leader 2007 Convention
- Used Truck Association: Member. Finance Panel Moderator 2005 Convention
- Truck Paper: Finance Panel Moderator - Regional Meetings 2005
- Entrepreneurs Organization - Chicago chapter

Education

Bachelor of Science, Business Administration and Finance
University of Southern California, Los Angeles, California



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Ting Xu
Manju S. Ganeriwala, *State Treasurer*

Virginia Port Authority
600 World Trade Center
Norfolk, Virginia 23510-1679
Telephone (757) 683-8000
Fax (757) 683-8500

Rodney W. Oliver
Interim Executive Director

ISO Certified: 9001
Quality Management System -
14001 Environmental
Management System

- Project Title:** Port of Richmond Crane Procurement – Expand 64 Express Services
- Applicant Information:** Virginia Port Authority
600 World Trade Center
Norfolk, VA 23510
Duns Number: 963211396
www.portofvirginia.com
- Contact Person:** Jeffrey A. Florin, Deputy Director COO
Phone: (757) 683-2150 email: jflorin@portofvirginia.com
- Eligible Entity:** The Virginia Port Authority was established in 1952 as a political subdivision of the Commonwealth of Virginia for the purpose of stimulating commerce, promoting the shipment of goods and cargo through the ports, improving navigable tidal waters within the Commonwealth, and in general to perform any act or function which may be useful in developing, improving, or increasing the commerce of the ports of the Commonwealth.
- MPO:** Richmond Regional Planning District Commission
- Total Project Cost:** \$4,200,000 Crane Procurement Cost
- Project Period:** Planned crane procurement and commissioning over 2 fiscal years
- Overview:** Procurement of second cargo handling crane, utilizing ultra-low sulfur, at the Port of Richmond. Crane is needed to facilitate goods movement as the 64 Express Marine Highway service between Hampton Roads, VA and the Port of Richmond increases cargo carried and expands to daily service. The second crane also provides redundancy in the event of a maintenance issue to the existing crane. Redundancy is a requirement for customers to utilize the 64-Express repetitively without fear of service disruptions to their supply chains.

**RICHMOND AREA MPO RSTP AND CMAQ
PROJECT SELECTION PROCESS**

CMAQ CANDIDATE PROJECT APPLICATION

To be considered for CMAQ funding, a proposed project must be consistent with the Long-Range Transportation Plan. Data necessary for evaluating the project must be submitted for each candidate project. Filling out the appropriate sections of this application will insure that the necessary data are submitted. One application is required for each project being proposed for CMAQ funding.

Form A must be filled out for each project. At the end of Form A, you will indicate the CMAQ Project Type that best fits your proposed project. Depending upon the CMAQ Project Type selected, you will be directed to fill out one of the following forms: Form B, Form C, Form D, Form E, or Form F. If you select the "Other" category, please contact RRPDC staff for input data requirements.

CMAQ FORM-A

Locality/Agency: Virginia Port Authority Date: 10/26/2012
Prepared By: Jeffrey Florin - VPA Phone: 757-683-2150
E-Mail: Jflorin@portofvirginia.com Fax:
UPC#: _____

Project Name: Barge Service Additional Crane
Project Location: Port of Richmond - Richmond, VA

Project Description: Procurement of a low sulfur fuel mobile harbor crane (MHC) for the Port of Richmond, which will allow expansion of the existing barge service that removes trucks from the highways by transporting containers between Hampton Roads and Richmond via the James River. The second MHC will allow for the service to be more frequent, expanding from 2-day service growing into a daily service. The barge that will use the crane services uses ultra low sulfur diesel, providing substantial emissions reductions compared to trucks and providing congestion relief to the crowded I-64 corridor. This crane also provides redundancy and resiliency in the event of a maintenance failure to the existing crane, a requirement to secure customers with repetitive cargo shipment.

Brief description of project. If applicable, include additional data or maps as attachments.

Is this a new Project? Yes
Is this project included in the Long-Range Transportation Plan? Yes
Estimated Start Date: April 2013
Estimated Completion Date: Aug. 2013

CMAQ FORM – A (Continued)

Need for and Benefit to be Derived from Project: (Probable impact on air quality)
 This project allows additional cargo movement by barge to be handled which will improve air quality by reducing the NOx levels approximately 4 tons per year as well as reduce the CO2 levels over 2,100 tons per year. These numbers do not include additional ancillary reduced emissions from other vehicles remaining on the highways that experience any level of congestion relief. This is especially true for the Hampton Roads Bridge Tunnel, where traffic is regularly congested, and up to 9.1% of trucks that pass through the tunnel may be diverted onto the inter-terminal barge service with the addition of this second crane for the Port of Richmond.

Project Cost and Funding:

Total Project Cost: \$4,200,000

Indicate Requested CMAQ Funding Per Fiscal Year Below:

Year: <u>2013</u>	Requested CMAQ Amount:	<u>\$1,000,000</u>
Year: <u>2014</u>	Requested CMAQ Amount:	<u>\$3,200,000</u>
Year: _____	Requested CMAQ Amount:	\$ _____
Year: _____	Requested CMAQ Amount:	\$ _____

Are there additional funds available for this project? No

If yes, provide the following information:

1. A signed letter or initialed memo from the CEO, county administrator or town manager (i.e., CAO) supporting the availability of funds for all projects during the three year funding cycle.
2. A timeline indicating when the funds will be available. This can be included as an attachment to the memo, or, if the project is already noted in the county's Capital Improvement Program (CIP), this could be referenced and attached

CMAQ Project Type

(Please check ONE below and then use the associated form to complete your application)

- | | |
|---|---|
| <input type="checkbox"/> Citywide Signal System | USE FORM-B, Section 1 |
| <input type="checkbox"/> Intersection Geometric/Timing | USE FORM-B, Section 2 |
| <input type="checkbox"/> Signal System Coordination | USE FORM-B, Section 3 |
| <input type="checkbox"/> Park & Ride Lots | USE FORM-C |
| <input type="checkbox"/> Bicycle/Pedestrian | USE FORM-D |
| <input type="checkbox"/> Transportation Demand Management | USE FORM-E |
| <input type="checkbox"/> Transit Service (New or Expanded) | USE FORM-F, Section 1 |
| <input type="checkbox"/> Transit Vehicle Replacement/Purchase | USE FORM-F, Section 2 |
| <input type="checkbox"/> Transit Shelter/Facilities | USE FORM-F, Section 3 |
| <input checked="" type="checkbox"/> Other | Contact MPO Staff for Input Data Requirements |

Second Crane for Inter-Terminal Barge Service

This attachment provides supplemental information to the Richmond MPO CMAQ Application process

Project Overview

The Virginia Port Authority currently operates an Inter-Terminal Barge service between the marine terminals in Hampton Roads Virginia and the Port of Richmond approximately 90 miles to the west. This service currently operates twice per week, carrying containers in each direction (both to Richmond and from Richmond).

This barge operation is currently constrained by the fact that there is a single dated crane that is leased from the City to load and unload containers at the Port of Richmond. If the crane is down for maintenance, the barge service is typically cancelled because of the logistics and rental costs up to \$30,000 per eight hour shift associated with renting a backup crane. The addition of a second crane allows for both increases in the frequency of service (up to six trips per week) and provides a needed second crane to keep the operation in service at all times, even if a crane is down for maintenance. Initially, the barge will add another trip to three trips per week upon acquisition of the additional crane, with 6 times per week or daily service as the long term goal for the inter-terminal barge service.

The addition of the second mobile harbor crane (MHC) will allow for further reductions in the NO_x and VOC levels associated with transferring trucks on the congested highways of Hampton Boulevard and Interstate 64 to James River transport by barge. The selected crane is more efficient and more productive than the existing crane and will likely be used as the primary crane, while the existing leased crane will be used as a back-up. Productivity is expected to double from current 15 moves per hour to close to 30 moves per hour, which is required when handling the higher volumes expected and results in less time at the berth and lower truck, tug, and crane emissions. In addition, daily service allows more trucks to be removed from the congested highways in coastal Virginia and the southeastern Richmond region (specifically Interstate 64), providing smoother traffic flow for all highway users.

Emissions Reductions

The VPA used an Integrated Terminal Model, developed by Moffatt & Nichol and calibrated to EPA mobile source standards to calculate emissions reductions associated with the inter-terminal barge service and the use of Ultra Low Sulfur Diesel over truck trips. The model was calibrated to the baseline actual values and then used to forecast future year cargo handling hours (along with the ship call schedule, truck trips, rail-switching and line haul activity in one integrated terminal model). The resulting equipment hours were used to calculate emissions. Each individual piece of cargo equipment, including the on-road trucks and tug boats, has its own emissions calculation based on EPA's non-road model. Heavy duty truck and tug boat emission factors are based on EPA Best Practices Guide (ICF 2006). Idling Emission factors are taken from EPA guidance document EPA 420-B-04-2002 (Jan 2004).

A. **Model Specifics** – The emissions reductions for this application were specifically calculated by:

- Determining the baseline emissions from the existing truck operations using heavy duty trucks and the barge operation using the ultra-low sulfur diesel
- Comparing the tug and truck emissions for cargo movements
- Determining engine operating times for on-terminal operations using the barge versus using trucks

B. **Environmental Outputs**

- The primary outputs from the model are the NO_x, VOC, and CO₂ levels associated with the current barge conditions compared to the proposed case with the more frequent service.

C. **Results** – The results show modest reductions in NO_x levels, with little change in VOC levels and substantial reduction to CO₂ levels. These numbers were calculated once the barge service is running 6 times per week, with an 80% utilization rate. These numbers are deemed reasonable as the potential market for 100,000 containers using the barge service has been identified, but the current service decreases the market demand. Potential new customers that would shift their business to Richmond have been identified and the reliability and productivity provided by this new crane will help secure that business.

- NO_x levels were calculated to decrease by approximately **4 tons per year** once the daily tug operation is running at 80% capacity.
- This represents a reduction in NO_x levels for these truck movements of approximately **9%**.
- VOC levels did not show any substantial change from the truck to the barge movements. Less than $\frac{1}{2}$ a ton per year change was determined in the model.
- CO₂ levels were calculated to decrease sharply using the barge service, with **over 2,100 tons per year** saved when using the barge service in place of trucks
- This represents a 31% decrease in CO₂ levels for the barge service compared to the trucks along the route.

Congestion Reduction

A significant component of the inter-terminal barge service is the reduction in heavy trucks from the congested highways. Four major areas will be analyzed for this project, including Terminal Boulevard directly outside of NIT, the Hampton Roads Bridge Tunnel (HRBT), a significant chokepoint for the Hampton Road's Region, I-64 in James City County (the approximately halfway point between the two terminals), and I-64 near the Port of Richmond in Henrico County.

- A. **Terminal Boulevard** – Removing 80 round trips from Terminal Boulevard outside of NIT will decrease the number of trucks **14%** on this route that connects NIT to the interstate system.
- B. **Hampton Roads Bridge Tunnel** – Removing trucks from the crowded HRBT would decrease the number of trucks approximately **9%** through the tunnel.
- C. **I-64 – Midpoint** – In James City County along Interstate 64, VDOT lists that there are approximately 29,000 vehicles per day, with 7% trucks. This represents approximately 2,030 trucks each day. Removing 80 trucks per day would decrease the number of trucks **4%** in this area.

D. **I-64 – Richmond** – Just before the I-295 split, there are approximately 34,000 VPD, with 7% trucks. Removing 80 trucks per day would decrease the trucks in this section of road about 3%.

Conclusion

Providing the necessary funds to purchase the \$4.2 million crane will allow the barge operation to move from a twice per week service to a daily service. This daily service will reduce CO2 levels significantly, decrease NOx levels produced from the port and its operations, and have little effect on the VOC levels. The number of trucks using the crowded I-64 corridor will also decrease, with reductions in truck traffic ranging from 3%-14% along the truck route to Richmond. With trucks typically causing congestion at a rate of 3 to 1 when compared with cars and with the weight of the trucks impacting roads at a higher rate as well, these reductions are substantial and a positive improvement for the Hampton Roads and Richmond Regions.

Appendix A – Emissions Calculations

Emissions data was determined using the Integrated Terminal Model, developed by Moffatt & Nichol and analyzed for the 2011 Air Emissions Inventory for the Virginia Port Authority.

Table A-1: Emissions in Tons for Truck vs. Barge Service – 1 way trip

Pollutant	# Trips Assumed	NOx	VOCs	CO2
Truck Service	80	.1052	.0049	16.834
Barge Service	1	.0956	.0056	11.646
Difference		.0096	-.0007	5.188

Sample Calculation – NOx

6 round trips from 2 round trips = 4 more round trips per week

52 weeks per year

2 trips each way (table shows 1 way and 4 round way trips were added)

0.0096 = Difference in tons for each 1 way trip

$4 * 52 * 2 * .0096 = 3.99$ tons per year reduction

VOCs

$4 * 52 * 2 * -.0007 = 0.29$ tons per year added

CO2

$4 * 52 * 2 * 5.188 = 2,158.21$ tons per year reduction

Appendix B – Congestion Calculations

Route	Terminal Blvd	HRBT	I-64 - Midpoint	I-64 – Richmond
AADT	28,000	44,000 (1-way)	29,000 (1-way)	34,000 (1-way)
% Trucks	4%	2%	7%	7%
# Trucks	1,120	880	2,030	2,380
% Reduced Trucks	14.3%	9.1%	3.9%	3.4%

