

PORT OF HOUSTON AUTHORITY

EXECUTIVE OFFICES: 111 EAST LOOP NORTH • HOUSTON, TEXAS 77029-4327
MAILING ADDRESS: P.O. BOX 2562 • HOUSTON, TEXAS 77252-2562
TELEPHONE: (713) 670-2400 • FAX: (713) 670-2564



January 15, 2009

VIA E-MAIL

Houston-Galveston Area Council
3555 Timmons Lane, Suite 120
Houston, Texas 77027

Attn: Shelley Whitworth, Shelley.whitworth@h-gac.com

RE: Port of Houston Authority Comments on H-GAC Final Short List Control Strategies for On-road and Off-road for 8-Hour Ozone Plan

Dear Shelley:

The Port of Houston Authority (PHA) appreciates the opportunity to provide additional comments to H-GAC on the *Evaluation of Mobile Source Control Strategies for the Houston-Galveston-Brazoria State Implementation Plan* prepared by ENVIRON International Corporation dated December 5, 2008. The comments provided in this document are in addition to the comments provided to H-GAC in August 2008 on the Master List of Non-road Control Strategies for 8-Hour Ozone Plan. The PHA has been an active participant H-GAC's stakeholder meetings for the marine, ports, on-road and off-road mobile sources regarding these control strategies. With our past involvement in the stakeholder groups and our past comments, the PHA will focus this document on commenting on the measures presented as *#45 Development of a Port of Houston Clean air Action Plan that seeks to minimize emissions from ships, cargo handling equipment, on-road drayage trucks and port-related rail.*

It is our understanding from H-GAC and ENVIRON that these control strategies are being considered and comments requested on them for development into voluntary emission measures.

An important point that PHA would like to emphasize is that measures developed to work in other ports around the world, such as California or European ports, may not specifically transfer over and be successful in the Houston area for various reasons such as legal constraints, jurisdictional authority, market share, coastal geography, etc. However, this will not preclude the PHA from coming up with a similar plan or measure that will work for this area. Although all ports move cargo from ships to other modes or to other ships, not all ports operate the same. Ports in the USA are operated by local governments, state governments, and any mixture in between. Simply stated, a plan or a control strategy in one port simply may not work in another port.

With this in mind, PHA has embarked on the development of the Clean Air Strategy Plan (CASP) Approach document. This Approach document for the CASP will be the framework for the development, implementation, and analysis of control measures that will reduce PHA's impact to the air quality of the Houston region. The CASP Approach Document is expected to be publically released in January 2009 and the formation of stakeholder groups to contribute ideas to the CASP will begin in the First Quarter of 2009. In addition to the CASP Approach document, the PHA will be releasing the final draft of the *Goods Movement Emission Inventory (GMEI)* in January 2008 for stakeholder comments. The GMEI will be utilized as a baseline tool for the CASP programs.

With this in mind, we offer the following comments on **Control Strategy #45:**

Clean Port Initiative

PHA appreciates that H-GAC has recognized that comprehensive plans are important to this region's air quality improvements; however, the PHA was disappointed that only a "Port of Houston" plan was included as a control strategy with no regard to the other ports in the non-attainment region or governmental entities. Although, the Port of Houston has a greater overall market share in the area, any implementation of port related control measure will be most effective when all ports are involved. In addition, if governmental entities have a comprehensive plan for things they can control as a larger unit rather than individually bigger reductions may be achieved in a more effective manner. An example of this would be a regional idling policy.

Vessel Speed Reduction

As mentioned in the ENVIRON report and analysis, a Vessel Speed Reduction (VSR) program in the Houston Ship Channel (HSC) would not be as effective as it is in the Port of Los Angeles/Port of Long Beach areas because vessels in the Houston Ship Channel are already going slow speeds. Going any slower will make maneuverability of the vessel limited and would affect safety in the channel per the US Coast Guard and the Houston Pilots. The PHA has evaluated this measure in detail and provided this information in the past to H-GAC; however, it is likely that the PHA's CASP will evaluate VSR further out in Galveston Bay and the Gulf of Mexico. While these speeds are higher, double that in the HSC, it is believed that slowing vessels down will have little to no effect on regional air quality due to the distance and the constant sea breeze. If more information is needed in addition to data previously submitted, it will be provided upon request.

Reduction of At-Berth OGV Emissions

Reducing emissions at berth from cold ironing can be effective for some ships. Cold ironing works best when ships operate in liner type services that have the same vessels calling in a frequent rotation over a number of years to the same terminals. Additionally, another key factor is the amount of energy the ships use while at berth. Currently at the Port of Houston Authority there are some high frequency ships that are calling on the Barbours Cut Terminal. However, due to the small size of the ships (at berth loads will be below one megawatt) plus the fact that the terminal would have to be retrofitted, the cost per ton is expected be very high (ranging from \$60,000 to \$100,000 per ton NOx). Other older PHA

terminals will also have to be retrofitted if cold ironing is implemented. However, the Bayport Container Terminal was constructed with the future possibility of providing shore power, so the retrofit for this terminal will not be as costly. At this time though, Bayport is a newer terminal, so there has not been a long history of vessel calls to establish frequency and feasibility of cold ironing.

As mentioned in the ENVIRON report and analysis there are other technologies available to reduce emissions while at berth such as the "bonnet" technology, which is a scrubber device that is placed over the vessel's exhaust stack capturing all emissions. Technologies like this one are attractive in that retrofit to terminal and ships are nonexistent or minimal; however, this technology is relatively new with only two known demonstrations. Additionally, the purchase cost for the device is around \$10 million dollars and operation/maintenance cost exceeds \$2 million dollars annually. The "bonnet" technology and other similar control measures will be reviewed in the PHA CASP program for feasibility of implementation.

OGV Auxiliary Engine & Main Engine Fuel Standards

As the ENVIRON report and analysis has established, the fuel standards for the fuel used in ocean going vessels is regulated internationally through the IMO framework. Currently, the world fuel sulfur content is 2.7%. However, the global cap on sulfur will be 0.5% in 2020 which will reduce SO_x by 80% and PM by 75%. Additionally, the US EPA is planning to submit an application to the IMO for the US West, East, and Gulf coast (plus Canada) to be designated as an Emission Control Area. This designation will allow sulfur to be lowered to 1.0% in 2012 followed by a 0.1% cap in 2015. Additionally, any ship that operates in the designated ECA area will have to comply with IMO NO_x standards. Clearly, any additional local controls on fuels will be superfluous as international regulation is the most effective way to implement this kind of measure.

The PHA has been actively involved in supporting these measures at the IMO level as a US delegate for AAPA. On a national level, the PHA has been active participant in an EPA Office of International Affairs fuel switching feasibility study between the PHA and a western hemisphere port operations. This study and demonstration is currently in the initial study phase and will provide valuable insight for Gulf of Mexico regional goods movement operations in comparison to those activities on the West and East coasts. This study will become part of the CASP once fully developed by PHA and EPA.

OGV Main and Auxiliary Engine Emissions Improvements

Again, the international control through IMO is the most effective way to promote this measure. The Tier 2 international NO_x standards will be phased in from 2011 to 2016 and will provide modest NO_x reductions for ships built during this time. The more significant reductions will start in 2016 when the Tier 3 standard is implemented. Again, it would not be beneficial in implementing additional local measures because engines on vessels engaged in international trade are best regulated at the international level and local controls for only one port in the Gulf of Mexico would result in a significant economic disadvantage for the Houston-Galveston region and not necessarily lower overall emissions with the shift of cargo and additional transportation modes introduced to relocate the shifted cargo back to this area.

As detailed in these comments, the PHA believes international regulations are the most effective way to control emissions in the ocean going vessel sector. However, this does not mean the PHA would not still try to implement any voluntary project that would help benefit the Houston region. As mentioned before the CASP will be the framework used to implement any PHA related control strategy, and not just for ocean going vessels, but in all port related sectors (rail, harbor vessels, onroad drayage trucks, and cargo handling equipment). A vital portion of the CASP will seek TERP grant funding as well as other outside funding mechanisms that have not been identified at this time. With the overall CASP not fully developed or implemented, it is premature to develop voluntary control measures at this time.

The PHA anticipates these comments will be utilized to further develop and analyze voluntary control measures for the HGB SIP. The PHA appreciates the opportunity to provide these additional comments and will continue to work with H-GAC and TCEQ as an active stakeholder in the development of our CASP and evaluation of practical and feasible measures and solutions in reducing air emissions in the region. We look forward to working with H-GAC. Please let me know if the PHA can be of further assistance.

Sincerely,

A handwritten signature in black ink that reads "Dana Blume". The signature is written in a cursive, flowing style.

Dana Blume, P.G.

Environmental Program Coordinator – Air Quality & Sediment