




Agenda Item: G-2  
Agenda Date: June 18, 2020  
Agenda Placement: Regular  
Estimated Time: 15 minutes  
Continued Item: No

## Board Agenda Item

TO: Air Pollution Control District Board

FROM: Aeron Arlin Genet, Air Pollution Control Officer 

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SUBJECT: Results from the 2019 Vessel Speed Reduction Incentive Program

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### RECOMMENDATION:

Receive and file an update on the 2019 Vessel Speed Reduction incentive program.

### BACKGROUND:

Large marine vessels transiting off the coast of Santa Barbara County are a major source of air pollution, as they emit significant amounts of nitrogen oxides (NOx) and other pollutants. Over the long term, international rules will require cleaner engines on newly built vessels, which will reduce NOx emissions from the marine shipping sector. However, it will take 10-20 years to phase out the older, dirty engines, and in the meantime, the marine shipping sector continues to be the largest source of ozone precursor emissions within the county.

Reducing NOx emissions through voluntary incentives is a critical part of the District's strategy to help prevent exceedances of the state and federal ozone standards. The District's 2019 Ozone Plan, that was approved by your Board in December 2019, includes an inventory of ocean-going vessels and a discussion of the air quality impacts from this industry.<sup>1</sup> In recent years, the District and partners have implemented voluntary Vessel Speed Reduction (VSR) incentive programs for immediate air quality and whale protection benefits. Decreasing vessel speeds increases the fuel efficiency of most vessels and reduces emissions of multiple air pollutants, including NOx. Chapters 6 and 7 of the 2019 Ozone Plan include a description of the VSR program, and a commitment to continue to pursue emission reductions through VSR.

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<sup>1</sup> The 2019 Ozone Plan is available at [www.ourair.org/wp-content/uploads/2019-12-19-Final-Plan.pdf](http://www.ourair.org/wp-content/uploads/2019-12-19-Final-Plan.pdf).

The program began as a VSR Trial in 2014, where ships were asked to reduce their transit speed in the Santa Barbara Channel. In 2016, the program grew to include the region south of the Channel Islands. The program again expanded, in 2017, to include speed-reduction zones in the San Francisco Bay Area. Then in 2018, the program transitioned from incentivizing single transits to the “fleet-based” approach, which brought even more vessels into the program.

## **DISCUSSION:**

### **Program Summary**

The 2019 VSR program ran between May 15 and November 15, 2019. These dates coincide with the typical high ozone season and peak whale presence during their migration. Companies with containerships and auto/vehicle carriers were invited to participate in the VSR program since these vessel types frequently transit our region at high speeds (15-18 knots). Shipping companies were asked to voluntarily slow all vessels in their fleet to a speed of 10 knots or less. This 10-knot target is consistent with the whale protection advisories issued by the marine sanctuaries in both the Santa Barbara Channel and the San Francisco Bay Area regions. Slowing down to 10 knots reduces NOx emissions by approximately 15-40%, depending on the engine size and other parameters, while simultaneously reducing the risk of fatal ship strikes on whales.

The program’s financial awards and tiered recognition levels were based on each company’s success rate for their entire fleet of vessels. Those companies that operated a higher percentage of their fleet at a speed of 10 knots or less, received larger incentives and more recognition. The 2019 program had \$250,800 available for incentive funding. The incentive funds came from a state Supplemental Environmental Project (SEP), the Volgenau Foundation, and the Bay Area Air Quality Management District. Overall, three air districts, three national marine sanctuaries, and four non-profit organizations helped coordinate the 2019 program:

- Air Districts
  - Santa Barbara County Air Pollution Control District
  - Ventura County Air Pollution Control District
  - Bay Area Air Quality Management District
- National Marine Sanctuaries
  - Channel Islands National Marine Sanctuary
  - Greater Farallones National Marine Sanctuary
  - Cordell Bank National Marine Sanctuary
- Non-profit Organizations
  - Volgenau Foundation
  - California Marine Sanctuary Foundation
  - National Marine Sanctuary Foundation
  - Environmental Defense Center



## **2019 Program Changes**

The 2019 VSR program was different from previous programs as outlined below:

### **Earlier start date**

The 2019 program began on May 15 instead of July 1. The earlier start date was chosen to be consistent with the whale protection advisories issued by the marine sanctuaries and to achieve additional NOx reductions, as ozone exceedances can occur in the spring. With this change, the program now covers a full six-month time period.

### **Recognition awards based on combined regional efforts**

In previous programs, the partners noticed that some companies were more likely to slow down in the San Francisco Bay Area region while continuing to travel at faster speeds through the Santa Barbara Channel. In the interest of creating a more unified program along the California coast, the recognition awards for the program were calculated based on each company's combined efforts in both the San Francisco Bay Area and Santa Barbara Channel regions, rather than providing separate awards for each region.

## **Results and Awards**

Fifteen shipping companies participated in the 2019 program, representing approximately 80% of all the containership and auto/vehicle carrier traffic in both VSR regions. Shipping companies received financial awards at different levels based on their fleet compliance rate, which is the percent of distance that their vessels travelled at a speed of 10 knots or less. The four recognition levels were Sapphire (i.e., 75 - 100% of their distance traveled at 10 knots or less), Gold, Silver, and Bronze. Incentive amounts were determined based on the size of each fleet and the number of companies that reached each level. Below is the recognition and incentives earned by each participating company.

<b>Recognition Level</b>	<b>Company Name</b>	<b>Incentive Award<sup>2</sup></b>
<b>Sapphire: 75 - 100%</b>	Mediterranean Shipping Company (MSC)	\$50,000
	Hapag-Lloyd	\$50,000
	Polynesia Line	\$6,450
	Great American Lines Inc. (GALI)	\$2,850
<b>Gold: 50 - 74%</b>	Maersk	\$26,000
	CMA-CGM	\$26,000
	COSCO	\$18,500
	Evergreen	\$18,500
	"K" Line	\$15,500
	NYK-RoRo	\$15,500
	Pacific International Lines (PIL)	\$15,500
<b>Silver: 25 - 49%</b>	Yang Ming	\$4,500
	Hyundai Glovis	\$1,500
<b>Bronze: 10 - 24%</b>	Ocean Network Express (ONE)	\$0
	Matson	\$0
<b>Total:</b>		<b>\$250,800</b>

<sup>2</sup> Five companies – Polynesia Line, GALI, COSCO, Evergreen, and "K" Line – generously declined their incentive payment. This amounts to more than \$60,000 in declined awards, and those funds will be reinvested in the 2020 program.



Four companies achieved the Sapphire level for the 2019 program: MSC, Hapag-Lloyd, Polynesia Line, and GALI. MSC and GALI were able to repeat their outstanding performance from the 2018 program while Hapag-Lloyd was able to rise from the Silver level to the Sapphire level. Polynesia Line is a new participant in the program with only one vessel in their small fleet, but they quickly adapted to the program parameters and achieved the Sapphire level.

In the 2019 VSR program, companies in the Santa Barbara Channel region successfully slowed down to 10 knots or less for more than 71,000 nautical miles, which reduced the NOx emissions by approximately 430 tons. The 15 shipping companies achieved an overall cooperation rate of 52%, which dramatically surpasses the 2018 VSR program's cooperation rate of 32%. The table below summarizes the emission benefits from all of the VSR programs and demonstrates the success of the program as it has expanded over the years.

Year	2014	2016	2017	2018	2019
Area	Santa Barbara Channel	Santa Barbara Channel Region	Santa Barbara Channel Region & San Francisco Bay Area		
# Companies	7	10	11	12	15
# Vessels	14	25	44	280	349
Slow-speed Distance (nautical miles)	2,700	5,000	12,630	46,026	99,019
NOx Reductions (tons)	12.4	25.6	83.5	266	536
GHG Reductions (metric tons)	535	1,005	2,630	8,668	17,026

An awards ceremony was scheduled to be held on April 3, 2020 at the Port of Hueneme to recognize the 15 shipping companies that participated. However, due to the COVID-19 pandemic, the ceremony was postponed until a future date can be determined. In order to highlight the program's success, a news release was issued on May 19, 2020. Also, a fact sheet was developed for the 2019 program and it is available on the District's website: [www.ourair.org/air-pollution-marine-shipping](http://www.ourair.org/air-pollution-marine-shipping). In addition, the program partners have coordinated advertising in online trade journals and continue to promote the program in other ways.

## FISCAL IMPACTS

The program incentives were funded through a California Air Resources Board Supplemental Environmental Project (SEP), administered by the Ventura County Air Pollution Control District, in addition to funding from the Volgenau Foundation and the Bay Area Air Quality Management District. The District did not contribute incentive funding for the 2019 program; however, in-kind District resources were provided to design and implement the 2019 program, monitor vessel activities, quantify emission benefits, produce program materials, and coordinate outreach.

The District plans to continue these efforts for the 2020 program, which began on May 15. We will return to your Board with an update once the 2020 program concludes. The 2020 program incentives are funded primarily by a grant from U.S. EPA Region IX, through the Ventura County Air Pollution Control District.