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TO: Ca Air Resources Board
FROM: JOHN PATRICK MARTIN

SUBJ: DIESEL FUELED HEAVY DUTY DRAYAGE TRUCKS AT PORTS AND INTERMODAL RAIL YARD FACILITIES

Ladies & Gentlemen,

I have an educated opinion on this subject.

BONA FIDES:

Started out after H.S., age 17, as a Commercial Fisherman on the Nancy Hanks, our family boat, with a total of 4 brothers and 7 other crewmembers. Original docking was within the harbor with mostly Container Ships. Fish got scarce and we lost the boat, but I jumped ship two years before the loss to go in the USAF to get the GI Bill since it was my turn to support my Father who was disabled and who had been supported by the other three brothers. Put up $60/mo of my $90/mo USAF income and the USAF added $40 to send Pop $100/mo. That was good money in 1953 !

USAF educated their people free at Trinity Univ and Maryland Univ Overseas program. These were night programs and they added 8 college units for USAF training. I had about 16 units from Maryland (Dean's List) and 9 units of 3.66 gpa from Trinity. UCLA and Berkeley had to take all these units, I went to both and finished up at UCLA with a B.S. in Finance applied to Industrial Engineering.

Later, working for Continental Oil Co, I was sent to USC to get an MBA at Night. Later, I became a Management Consultant as an Industrial Engineer in Underground Coal Mines and I learned a great deal about Mine Safety and hazards such as Black Lung and siliconiosis. Went to work for the Garrett Corporation in the Automotive and Aerospace Industries and learned more about pollution. Turbochargers were first sold as smoke eliminators for Trucks and later on as a way to cut down on smog for cars by using the Turbos for 4 and 6 cylinder engines that were equivalent to V-8 power (with less smog and better milage).

I also managed the Aircraft section of that Turbo business before moving on to Aerospace with Fairchild Controls and Allied Signal (before Honeywell bought ASAC). In those jobs, I worked on Environmental Control Systems that pressurized, filtered, cooled, and heated aircraft safely and without pollution.

In between, I worked for a company providing systems to the USN, so my scope was different but including clean Nuclear Subs.

pg. 2..... OPINION SUMMARY ON DIESEL TRUCKS (I MANAGED CAR, H.D. TRUCKS, FARM TRACTORS, AND DIESEL ENGINES ON BOATS (Note, I was the Assistant Engineer on the Nancy Hanks with a four cylinder Marine Engine, turning 350 rpm, and powering a boat that could carry 130 tons. The way to go faster with a load was to inject more fuel into the engine until a lot of black smoke was generated.

Since I handled Diesel Engine Accounts, I understand SMOG production and other emissions on road engines, Agricultural Engines, and Marine Engines that are run inside the Harbor.

The prime problem with Diesel Engines is that they do not run clean at idle. Almost all truck engines have Turbochargers, which helps, but is not effective at engine idle.

Almost no Diesel Engines have been developed to run clean at idle or low speeds **and that is the mode that drayage trucks are in during their time on the docks. Turbocharger are driven by heat from the engine which does not develop much heat at low rpm or idle. The Turbocharger is a heat machine, not a pressure machine; It makes pressure only at higher rpm by extracting heat from the exhaust of an engine that is working hard to develop power. No or low power does nothing to help the engine run clean.**

Modern engines, well maintained, are naturally cleaner but not enough cleaner. It takes filtration to capture the pollutants as they exit the engine. Filtration of Diesel Engine Pollution is expensive. The gasoline engines use a Catalyst to heat the exhaust and run cleaner; nearly all new cars have this equipment.

Modern Diesel units need to be further developed to clean the exhaust downstream of the turbocharger (since the exhaust heat through the Turbo is needed to drive the other side compressor wheel to give a surplus of oxygen to burn all of the fuel).

There has been very little control of the Diesel performance at low speed or idle. The State of California must initiate a program to Filter the exhaust side of the emissions.

Older trucks with wear are not as clean as newer trucks. Visual smoke is evidence of pollution and says the emissions are dirty. The State is forcing action on harmful emissions that are not visible normally. That action is needed for health purposes where ever Diesel Trucks are driven close to homes of people breathing the air. Technology needs to be funded to protect people from sickness and live shortening chemicals.

I support strongly the Boards power to require improvement in Diesel exhaust emissions to a standard that does not effect human life, especially Harbors.

John P. Martin