

## CALIFORNIA AIR RESOURCES BOARD

**DRAFT TECHNOLOGY ASSESSMENT:** )  
**ENGINE/POWERPLANT AND DRIVE-** )  
**TRAIN OPTIMIZATION AND** )  
**VEHICLE EFFICIENCY** )

**June 25, 2015**

### STATEMENT OF DAIMLER TRUCKS NORTH AMERICA

The California Air Resources Board (ARB) recently released the *Draft Technology Assessment: Engine/Powerplant and Drivetrain Optimization and Vehicle Efficiency* (hereafter Draft Assessment), as part of the greenhouse gas (GHG) Phase 2 rulemaking applicable to heavy-duty engines and vehicles. Daimler Trucks North America (DTNA) is a major manufacturer of heavy-duty vehicles, and DTNA's subsidiary Detroit Diesel Corporation (DDC) is a major manufacturer of heavy-duty engines. Because DTNA and DDC build both vehicles and engines potentially affected by ARB's proposed regulations and test procedures, we have a strong interest in the proposed standards and regulations. DTNA and DDC belong to the Truck and Engine Manufacturers Association (EMA), and we support comments provided by the association.

DDC was one of the first heavy-duty engine manufacturers to be certified to ARB's stringent 0.20 gram / brake horsepower-hour (g/bhp-hr) NO<sub>x</sub> standard and to the new 2014 Environmental Protection Agency (EPA) / National Highway Traffic Safety Administration (NHTSA) GHG and fuel efficiency engine regulations. DTNA's vehicle manufacturing divisions, Freightliner, Western Star, Freightliner Custom Chassis, and Thomas Built Buses, were the first to be certified to the new EPA/NHTSA GHG and fuel efficiency vehicle regulations – certifying DTNA's entire product line before any other manufacturer certified any portion of theirs. We strive daily to improve our customers' fuel efficiency – working with customers to educate them of the most fuel efficient options and guide their decisions throughout the engine and vehicle ordering process.

We generally support ARB's efforts to reduce fuel consumption and GHG emissions from heavy-duty vehicles. These efforts align with our own efforts to provide products with industry benchmark fuel efficiency. However, we have concerns about certain aspects of the Draft Assessment, and we believe that certain omissions from the report call into question whether the report in its current state is adequate for development of the ARB's Phase 2 GHG emission standards.

Our biggest concern with the report is that the ARB states that the fuel saving technologies pay for themselves, but by ARB acknowledges it fails to consider major costs, such as maintenance

and service costs, in that analysis. In the third paragraph on page III-1, the draft document states that “although a cost analysis is not included as part of this report, the costs associated with each technology will be offset in whole or part by the cost savings associated with reduced fuel consumption.” At the ARB Symposium On California’s Development Of Its Phase 2 Greenhouse Gas Emission Standards For On-Road Heavy-Duty Vehicles, on April 22, 2015, the ARB acknowledged that the Draft Assessment omitted service and maintenance costs for the technologies. DTNA respectfully objects to the ARB’s assertion that costs will be offset, when the ARB has not fully analyzed costs. The costs associated with each technology go beyond the initial purchase price. Technology costs necessarily include maintenance and service costs. So if the ARB wants to compare the cost of technologies with their fuel savings, the ARB must look at all costs.

An additional concern is that the ARB may overstate the fuel-saving benefits and market-readiness of the new technologies. We wish to discuss these topics with the ARB in a forum where we can maintain the security of our confidential business information.

Still an additional concern is, as the ARB recognizes, that NOx- and CO2-reductions counteract each other in many circumstances. For example, as the ARB acknowledges, EGR and ignition timing optimization for NOx reduction increase fuel consumption. While it is true that the addition of SCR technology allowed reductions to both GHGs and NOx, SCR is costly and has finite NOx-reduction capability. Further, as the ARB pushes for lower NOx emissions on test cycles like the cold FTP, achieving those lower emissions—even with SCR—requires increased GHG emissions, since the SCR catalyst must be heated to its operational temperature more quickly than currently. In short, it is incorrect to assume that there will other panaceas like SCR or assume that SCR systems have untapped capacity to further decrease both NOx and CO2 simultaneously. However, we would also like to point out that the vehicle efficiency technologies identified in the assessment will have the effect of reducing NOx emissions in proportion to the power demand reduction.

Several safety technologies listed in the report—such as automatic tire inflation, vehicle speed limiters and connected vehicles—should not only improve safety but also reduce GHG emissions. In turn, the ARB should consider crediting vehicles’ with a GHG savings if they incorporate such technologies. NHTSA has been actively involved or considering rulemaking on vehicle speed limiters and connected vehicles. And NHTSA has published a final rule for FMVSS 136 mandating electronic stability control on certain heavy-duty vehicles and is considering whether to pursue rulemaking for forward collision avoidance and mitigation systems. DTNA has a strong commitment to vehicle safety as demonstrated by our history of being first to market with many safety technology systems including antilock brake systems in 1987, obstacle detection systems in 1996, driver airbag systems in 1998, lane departure warning systems in 2006, seat belt pretensioner and side airbag systems for rollover protection in 2007,

adaptive cruise control and collision avoidance systems in 2007. DTNA was also first to market with stability control systems, offering roll stability control in 2002. As a safety innovator and leader, DTNA suggests that the ARB recognize the dual savings in safety and fuel consumption from these and other safety technologies. That is, DTNA suggests that California also consider GHG reductions associated with reduced accidents and road congestion resulting from these primarily safety-related technologies.

RESPECTFULLY SUBMITTED,

DAIMLER TRUCKS NORTH AMERICA  
AND DETROIT DIESEL CORPORATION