**STATE OF CALIFORNIA**

**AIR RESOURCES BOARD**

**Public Meeting to Consider the Air ) Meeting Date:**

**Resources Board and California Air )**

**Pollution Control Officers’ Association ) July 23, 2015**

**Risk Management Guidance For )**

**For Stationary Sources of Air Toxics ) Agenda Item 15-6-8**

**COMMENTS OF THE**

**TRUCK AND ENGINE MANUFACTURERS ASSOCIATION**

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1. **Introduction**

The Truck and Engine Manufacturers Association (“EMA”) hereby submits its comments regarding the Proposed **“*Risk Management Guidance for Stationary Sources of Air Toxics*”** (“Draft Guidance”), dated July 13, 2015, that CARB has made available for public review. CARB presented and discussed the Draft Guidance at two public workshops on June 16, 2015 in Diamond Bar, California, and on June 18, 2015 in Sacramento, California. EMA submitted written comments to CARB staff on June 26, 2015, but it appears that staff has not made any changes to the Draft Guidance in response to EMA’s comments. Accordingly, EMA is resubmitting the comments for consideration by the Board.

EMA represents the world’s leading manufacturers of internal combustion engines, including the engines utilized in numerous and varied stationary sources throughout California. EMA was a key stakeholder in developing the air toxics control measures (“ATCM”) for stationary diesel generators, including backup emergency generators, and for portable diesel engines, and has worked with air districts throughout California (“Districts”) to develop and implement regulations and emissions standards applicable to stationary engines. EMA and its members have a direct and vital interest in ensuring that regulations and standards affecting stationary engines in California are based on sound science, and are technically and economically feasible.

1. **EMA Supports The Development Of Guidance Documents To   
   Address The Potentially Higher Public Health Risk Estimates  
   Resulting Solely From OEHHA’s Revised Risk Assessment Methodology**

The recent revisions that California’s Office of Environmental Health Hazard Assessment (“OEHHA”) made to the State’s risk assessment methodology and procedures necessarily will result in higher estimated risk levels attributable to ambient levels of air toxics. More specifically, due to the increased emphasis placed on the potential impacts to children, the resultant risk calculations could be higher by a factor of 1.5 to 3. This raises the issue of how best to implement this “increase” in risk, which is driven not by any actual increase in air toxics (to the contrary, ambient levels of air toxics are going down), but rather solely by new risk-calculation methods. As noted in the Draft Guidance, one of the key next steps following from the incorporation of the revised OEHHA methods into the Districts’ air toxics risk assessment process will be to properly communicate to the public that any calculated increase in risk from a stationary source is the result of methodology changes, and not any actual changes in the level or toxicity of the emissions from the source itself. To that end, the Draft Guidance needs to explain how CARB and the Districts can ensure that the public will be made more fully aware of the underlying reasons for any increase in reported risk – i.e., changes in the methodology and math for calculating risk for permitting purposes, not changes in actual source emissions.

CARB also should emphasize in the Draft Guidance that statewide and local data clearly demonstrate that CARB’s regulatory programs are successfully and significantly reducing air toxic emission levels across the State. The success of those programs should not be diminished or obscured by newly calculated risk estimates derived from OEHHA’s revised calculation methodologies. The fact remains that air toxics have been reduced very dramatically over the past twenty years. More specifically, since CARB’s adoption of the Diesel Risk Reduction Plan in 2000, the potential risk attributable to diesel particulate has been reduced statewide by more than 75%, and is on pace to outstrip CARB’s goal of an 85% reduction by 2020. CARB and the Districts need to ensure that the public knows about the significant and continuous improvements in California’s air quality. Revised mathematical formulas for calculating theoretical risks should not be allowed to obscure the very real reductions in actual emissions and risks that have been and are being achieved.

To the extent that the Draft Guidance discusses the need for subsequent risk assessments or regulatory developments applicable to stationary or portable diesel engines, CARB and CAPCOA also need to ensure that any follow-up actions, including any revised ATCMs or BACT determinations, incorporate the latest information on current diesel technologies and emissions levels. In that regard, EMA should be included as a primary stakeholder in CARB’s efforts to revise the ATCM for Portable Diesel Engine as well as the Guidance for Emergency Standby Diesel Engines.

1. **The Guidance Needs To Incorporate And Better Emphasize   
   The Improvements In Diesel Technology And The Resulting  
   Significant Reductions In Diesel Emissions**

As noted, CARB should focus more attention in the Draft Guidance on explaining and highlighting the numerous CARB and District programs and regulations that have resulted in very significant reductions in ambient air toxics throughout the State. In particular, Section I-E of the Guidance should highlight the tremendous success of the State’s regulatory programs to reduce air toxics and diesel PM (“DPM”) in California. Further CARB should emphasize that those real emission reductions are not affected by OEHHA’s changes to the methodology for assessing and calculating potential risks.

In the case of diesel emissions, rather than simply noting that diesel emissions are believed to be a major source of air toxics, the Draft Guidance should explain in much more detail the very significant reductions in ambient levels of diesel emissions that have resulted from the development of ultra-clean, new-technology diesel engines. The existing suite of mobile source and stationary source regulations, as successfully implemented through CARB’s Diesel Risk Reduction Plan, has worked exceedingly well to reduce diesel emissions and hence exposure to DPM. More specifically, the current EPA and CARB regulations governing emissions from on-highway and nonroad diesel engines have reduced PM emissions to near-zero levels (0.0008 g/bhp-hr). As the entire on-highway and nonroad diesel fleet transitions to the new-technology diesel engines, and as growing numbers of “Tier 4” stationary engines are installed, the benefits of near-zero PM emissions will continue to multiply across the State.

In recognition of these advancements, the Draft Guidance should emphasize that current California regulations and incentive programs governing diesel emissions will continue to reduce the amount of diesel emissions and the ambient concentrations of DPM. Similarly, any final Guidance should clearly state that, despite any change in estimated risk levels as a result of OEHHA’s revised calculation procedures, the existing diesel risk reduction programs in California are sufficient to address any health risks attributable to DPM now and into the future, such that the diesel PM issues (as identified in CARB’s Diesel Risk Reduction Plan) have been essentially resolved. The Draft Guidance’s failure to highlight the many positive aspects of the remarkable improvements and reductions in ambient air toxics will result in an incomplete and potentially misleading report to the general public. CARB’s Diesel Risk Reduction Plan has been a success, and should be highlighted as such.

Another topic that should be mentioned in Section I-F of the Draft Guidance, as well as in the other Guidance sections relating to diesel PM, is that the OEHHA Unit Risk Factor (URF) for diesel PM (a unit risk factor that EMA continues to believe is invalid) is based on workers’ exposure to estimated emissions from uncontrolled diesel locomotive engines dating back to the 1950s, 1960s and 1970s, long prior to the development and deployment of modern emission-control technologies, including catalyzed diesel particulate filters (DPFs). Consequently, new-technology diesel engines have emissions profiles that are qualitatively and quantitatively different from the emissions assessed in developing the OEHHA unit risk factor. New-technology diesel engines are equipped with DPFs that reduce particulate matter emissions and hydrocarbons by 99% or more. In addition, new-technology diesel engine emissions no longer contain high levels of elemental carbon or adsorbed hydrocarbons and PAHs, which were characteristic of the emissions from the 1950-1980 time frame, and which were thought to be the emission constituents of greatest concern. To be complete, the Guidance needs to highlight those key facts.

Moreover, because there has been no re-evaluation of the OEHHA URF (questionable to begin with) to address the significantly different emissions profile of new-technology diesel engines, application of the “old” OEHHA risk value to today’s diesel engines is simply not valid. This adds to the uncertainty of the reported risk estimates from diesel PM, and most certainly overestimates the risk ascribed to diesel PM emissions in the Draft Guidance. Accordingly, those issues also need to be addressed in the Draft Guidance in order to provide the public with a more accurate and up-to-date discussion of the markedly reduced potential health risks from diesel PM.

1. **The “NOx Surrogate Method” To Estimate Diesel   
   PM Emissions Is Invalid And Should Not Be Used   
   Or Referenced In The Draft Guidance**

The footnotes to Figure I-2 and Table I-1 on pages 7 and 8 of the Draft Guidance indicate that the estimates of diesel PM concentrations used to produce the reported cancer risk from ambient DPM were derived using a “NOx surrogate method.” The referenced “NOx surrogate method” is technically invalid, and has not been adequately verified or peer-reviewed. Consequently, it should not be used or referenced in any final Guidance.

The NOx surrogate method was originally proposed by CARB staff in 2008 in connection with CARB’s efforts to quantify the potential health effects of ambient PM (which includes, but is not limited to, diesel PM). The original document (entitled, *Methodology for Estimating Premature Deaths Associated with Long-term Exposures to Fine Airborne Particulate Matter in California, Draft Staff Report*, May 2008) was distributed for public review and comment, at which time EMA submitted technical comments explaining that there is no valid and constant proportional correlation between ambient levels of NOx and ambient levels of DPM. Indeed, emissions of NOx and PM from diesel engines are inversely related, not correlated in a fixed proportional manner. Not surprisingly, CARB received many significant negative comments on the overall proposed methodology to estimate mortality effects of PM, and subsequently held a workshop to discuss the matter further. Thereafter, CARB correctly abandoned the originally proposed methodology and instead prepared a report that used methods U.S. EPA had developed to estimate mortality from ambient levels of PM. That Staff report was subsequently presented to the CARB Board and approved.

Because CARB abandoned the “NOx surrogate method” for assessing PM mortality, EMA’s concerns and comments regarding the proposed “NOx surrogate method” were never addressed or resolved, and a scientific peer review of the methodology was never undertaken.

EMA’s objections to the NOx surrogate method are detailed in EMA’s original written comments on the 2008 draft report. As EMA stated then, the supposed proportional correlation between ambient levels of NOx and ambient levels of DPM is invalid for multiple reasons, including the following:

* For diesel engines, there is no set or constant relationship between engine-out levels of PM and NOx emissions. To the contrary, those emissions are inversely related in significantly varying ways.
* Diesel engines are not the only source of NOx emissions in ambient air. Consequently, assigning a quantitative amount of PM from a single source category (diesel engines) based on an ambient level of a different pollutant from many other sources is not valid.
* Data and information from past studies such as the Gasoline-Diesel PM Split Study in California show that there is no constant proportional relationship between NOx and PM emissions from diesel-fueled vehicles.
* The fractional scaling factor used in the NOx surrogate method is arbitrary and fundamentally incorrect.
* The studies used to derive the purported proportional NOx:PM relationship are outdated by several decades and certainly no longer apply to the mix of new-technology diesel engines and vehicles currently in-service in California, which utilize advanced catalyzed DPFs and selective catalytic reduction (SCR) systems.
* The DPM levels estimated through the use of the NOx surrogate method do not agree with source apportionment methods used to estimate DPM in California.
* The NOx surrogate method was never published and has never been subject to any actual peer review. It was and remains fundamentally incorrect and invalid.

The foregoing issues and concerns with the NOx surrogate methodology remain valid today. In fact, the arguments against the validity of the NOx surrogate method have strengthened significantly with the introduction of on-highway and nonroad engines utilizing state-of-the-art SCR technologies that reduce NOx emissions to near-zero levels. Accordingly, even if any NOx:PM correlation pertained with respect to earlier-generation diesel engines, which it did not, it is no longer valid, since today’s new-technology diesel engines emit near-zero levels of both PM and NOx.

In addition to deleting the reference to the NOx surrogate method to assess ambient risks, the final Guidance should clarify and state that the NOx surrogate method should not be used to estimate DPM from any specific source for the purposes of risk assessment or to conduct any “hot spot” analysis. Any risk assessment for individual sources of diesel emissions must be based on the PM emitted from that specific source and not on an estimate of ambient DPM surrounding the facility. CARB needs to clearly state that any estimates of ambient DPM are not an appropriate measure of DPM emissions for any specific risk assessment or permitting application.

1. **Section III Should Include Information On Overall Cancer   
   Risks To The General Population From All Causes To Place   
   Ambient Air Toxics Risk In Proper Perspective**

Section III of the Draft Guidance is intended to provide background and public communications information. Although the document provides definitions of many of the terms and programs relating to risk assessments, the section should be expanded to provide information that would assist in communicating with the public regarding the actual relative risks of air toxics.

The Draft Guidance currently lacks any meaningful perspective on the risks associated with air toxics in California. To provide that proper perspective, the document should include information on cancer rates and risks to the general population from all causes and types of cancer. Such information will provide the basis for regulators and Districts to communicate more effectively about the actual “relative” risks associated with air toxics, and will give the public more accurate information about the relative impact of air toxics on the overall likelihood of developing cancer. Inclusion of such background information would greatly enhance the usefulness of the Draft Guidance.

1. **Conclusion**

EMA appreciates the opportunity to provide comments on the Draft Guidance and looks forward to working with CARB and the Districts when specific ATCMs are considered for revision. In the meantime, CARB should emphasize in the Draft Guidance the very significant progress that has been made in reducing diesel emissions to near-zero levels. Further, the information in the Draft Guidance that is based on use of the NOx surrogate method should be deleted, since that method has never been validated or undergone appropriate peer review, and is now clearly outdated and fundamentally flawed. The Guidance also would benefit from the addition of background information on the overall cancer risks faced by the general population from all causes, so that the truly incremental cancer risk from air toxics can be put in the proper perspective.

EMA looks forward to working with CARB staff to improve the Guidance document, and to implement any necessary revisions to the ATCMs relating to stationary and portable diesel engines.

Respectfully submitted,

TRUCK AND ENGINE MANUFACTURERS

ASSOCIATION