March 14, 2012

Clerk of the Board, Air Resources Board
1001 I Street
Sacramento CA 95814

RE: Transport Refrigeration Unit Air Toxic Control Measure Modified Statement of Reason

Rulemaking Procedure Failed "Authority", "Consistency" and "Reference" Requirements of Government Code 11349.1

The Air Resources Board's (ARB) usage of Office of Environmental Health Hazard Assessment (OEHHA) "Air Toxics Hot Spots Program Risk Assessment Guidelines" ("the Guidelines") to characterize the health risk impact of Transport Refrigeration Units (TRU) congregating at distribution centers violates California Rulemaking Law under the Administrative Procedures Act in the following ways:

Authority

While we do not dispute ARB's authority to adopt regulations pertaining to the emissions of TRUs or to, generally, perform health risk assessments under the authorities cited in the regulation, we do believe that their authority to regulate is bounded by the cited statute and that the scope of the rulemaking proceeding exceeded the authorities granted to the ARB under the current law.

OEHHA's "Air Toxics Hot Spots Program Risk Assessment Guidelines" were promulgated pursuant to Health and Safety Code 44360, which was codified into law by AB 2588 (Connelly - 1987) and subsequently amended by SB 1731 (Calderon – 1992). The Act requires that toxic air emissions from stationary sources (facilities) be quantified and compiled into an inventory according to criteria and guidelines developed by the ARB, that each facility be prioritized to determine whether a risk assessment must be conducted, and that the risk assessments be conducted according to methods developed by OEHHA.

As stated by OEHHA itself, "mobile sources and rail lines do not come under the purview of the Hot Spots program"[1].

Attempts to include mobile sources in the Air Toxics "Hot Spots" Information and Assessment Act, including AB 2546 (De La Torre) and AB 1101 (Oropeza), have failed at the legislature.

TRUs are considered mobile sources. Health and Safety Code 39618 states "Refrigerated trailers shall be classified as ***mobile sources*** and shall be regulated by the state board on a statewide

[1] http://www.oehha.ca.gov/air/hot_spots/SRP/combinedsmall.pdf

basis to prevent confusion concerning whether the trailers are stationary sources when not being driven."

Accordingly, the ARB clearly lacks the authority to introduce the Guidelines into a rulemaking proceeding pertaining to mobile sources as the granting of such authority has twice been rebuffed by the Legislature.

Consistency

The ARB's usage of the Guidelines to promulgate regulation is not consistent with the intent of AB 2588 or the subsequently adopted Health and Safety Code sections which codified the Act.

On September 15, 1987 Assemblyman Connelly wrote a letter to then Governor Deukmejian recommending passage of his bill. He notes:

> *AB 2588...proposes only to gather information about emissions and possible health effects to identify whether, and where, problems exist –not to further regulate or control.*

Consistent with the author's intent, the Act requires facilities which manufacture, formulate or use hazardous materials to submit an inventory of toxic air contaminants to their local district every four years. Facilities categorized as "high priority" by the district are required to submit a health risk assessment developed using the OEHHA "Air Toxics Hot Spots Program Risk Assessment Guidelines". If the district determines there is a significant risk, the facility is required to conduct an airborne toxic risk reduction audit and develop a plan to implement reduction measures. The district does not use these guidelines to promulgate sector-wide regulations based on the health risk posed by any individual facility.

As discussed previously under the "Authority" section, the Legislature has twice rejected including mobile sources in the Air Toxics "Hot Spots" Information and Assessment Act, where such inclusion would merely subject mobile source emissions to the information gathering and risk reduction gathering requirements of AB 2588.

The ARB's usage of the Guidelines to, in part, regulate mobile sources manages to not only be inconsistent with the legislative intent of AB 2588, but also manages to exceed the intended authority granted to promulgate regulations based on information gathered pursuant to the Act. Assemblyman Connelly was quite clear on this matter: The Act gathers information; it does not regulate.

Reference

The ARB failed to reference Health and Safety Code Section 44360, the underlying statute which enables the Guidelines. Any portion of the rulemaking proceeding on which the Board relied upon these guidelines to adopt, amend, or repeal the regulation or were influenced by the

health risk assessment promulgated according to these guidelines would fail the "Reference" standard in Government Code 11349.1(a)(5).

The Guidelines Substantially Influenced Rulemaking Proceeding

The ARB based its health risk characterization in the Initial Statement of Reasons on methodology promulgated pursuant to the Air Toxics "Hot Spots" Information and Assessment Act:

> *The ARB recommended methodology used to estimate the potential cancer risks is consistent with the procedures presented in the OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines (OEHHA, 2003; OEHHA, 2009) and is shown in Appendix D.*
>
> *Following the OEHHA guidelines, we assumed that the most impacted individual would III-9be exposed to modeled diesel PM concentrations for 70 years.*

This health risk assessment went on to substantially influence both the rulemaking package itself and the Board's subsequent deliberations. Mentions in the Initial Statement of Reasons of the Guidelines or near source health risk assessments based on the Guidelines include:

- Public Health Impacts. Page ES-8 and ES-9
- Extend ULETRU compliance date for MY 2003 and Older TRUs that met LETRU Standards by December 31, 2009 or December 31, 2010. Page II-7
- Alternative 3: For MY 2004 and newer TRUs, delay compliance with the ULETRU
    - in-use standard one, two, or three years, extending the operational life of TRU engines
    - from the current seven years to eight, nine, or ten years. Page II-35.
- Health Risk Assessments. Page III-8.
- Cancer Risk Characterization. Page III-9
- Fig. III-1: Potential Cancer Risk from TRUs at Distribution Centers. Page III-9
- Appendix D: METHODOLOGY FOR ESTIMATING THE POTENTIAL HEALTH IMPACTS FROM DIESEL TRANSPORT REFRIGERATION UNIT ENGINE

Although the above section is only a partial list, it demonstrates that the Guidelines substantially impacted and informed the analysis done by ARB Staff in the Initial Statement of Reasons.

ARB Staff then went on to present information to the Board based on the OEHHA methodology in question. As demonstrated in the transcript from the October 21, 2011 Board Hearing, ARB staff specifically cites the health risk characterization, per the Guidelines, as the determinant factor on the operational life amendment:

> *"With respect to extending the operational life for model year 2004 and newer engines, our evaluation showed that the estimated potential cancer risk near many distribution*

centers is still a concern at the existing seven-year requirement. Increasing the operational life one, two, or three years would erode cancer risk reductions by 11, 23, and 42 percent." [2]

We believe this focus on "near source risk" is a clear break with the traditional purpose of an Air Toxic Control Measure which falls squarely under the purview of the Air Toxic "Hot Spots" Information and Assessment Act. As cited previously, OEHHA specifically states that "mobile sources and rail lines do not come under the purview of the Hot Spots program."

Recommendations

We would ask that ARB staff address three key areas through subsequent amendments:

1. As requested in our previous comments and as supported by ARB Staff in 2003[3], adjust emissions inventory to properly reflect the modes of operation of TRUs.
2. Re-evaluate proposed operational life amendments based on revised inventory.
3. Re-evaluate whether proposed operational life amendments achieve the goals set out by the Diesel Risk Reduction Plan, which is still the primary guidance document for the "need and appropriate degree of regulation" for diesel exhaust Air Toxic Control Measures and the apportioned emissions reduction goals set for TRUs under California's State Implementation Plan as required by the Clean Air Act.

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[2] http://www.arb.ca.gov/board/mt/2011/mt102111.pdf - Testimony of Air Pollution Control Officer Rod Hill

[3] http://www.arb.ca.gov/regact/trude03/isor.pdf - *"U.S. EPA's May 23, 2003 proposal allows the use of a new steady-state test cycle for TRU engines (ref 40 CFR Part 89, Subpart G, section 1039.645). The proposed test cycle is intended to be more representative of the way TRU engines actually operate than the currently used 8-mode test cycle, which includes modes of operation that TRUs never use (e.g. idle at no-load, 10 percent and 100 percent of rated torque at rate speed, and 100 percent of rated torque at intermediate speed). The proposed test cycle has four modes...The amount of PM emission factor reduction ranges from 25 percent to 60 percent, depending on engine model...Staff supports the proposed TRU test cycle, provided manufacturers use the test cycle for all pollutants. Staff also supports this provision of EPA's proposal, as applied to new engine certifications since it allows an optimized reduction of actual emissions and prevents the costly over-design of the emission control system to cover modes of operation that are not used in practice."*

Thank you for the opportunity to comment on this regulation. We have attached our 45 day comments for reference. If you have any questions, please contact Chris Shimoda at (916)373-3504.

Eric Sauer, VP of Policy Development
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October 19, 2011

Clerk of the Board
1001 I St.
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RE: Notice of Public Hearing to Consider Proposed Amendments to the Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate.

We would first like to thank the California Air Resources Board (ARB) for allowing us the opportunity to submit these comments. The California Trucking Association (CTA) is a non-profit trade organization representing 2000+ trucking companies operating inside and out of California including many owners and operators of TRUs.

Revised Particulate Matter (PM) Emission Inventory Supports Regulatory Relief

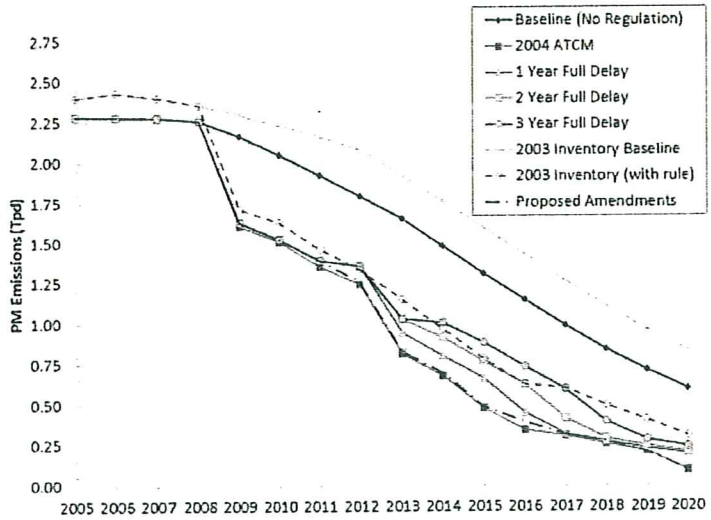

Fig. 1 – PM Emission Inventory, TRU ISOR 2011

As the above diagram demonstrates, the current emission inventory supports regulatory relief of at least a 2 Year Full Delay. In aggregate, a 2 Year Full Delay (9 Year TRU Operational Life) achieves the emission reductions required to meet State Implementation Plan requirements.

Revised Particulate Matter (PM) Emission Inventory is Inaccurate; Inflated by 25-60%

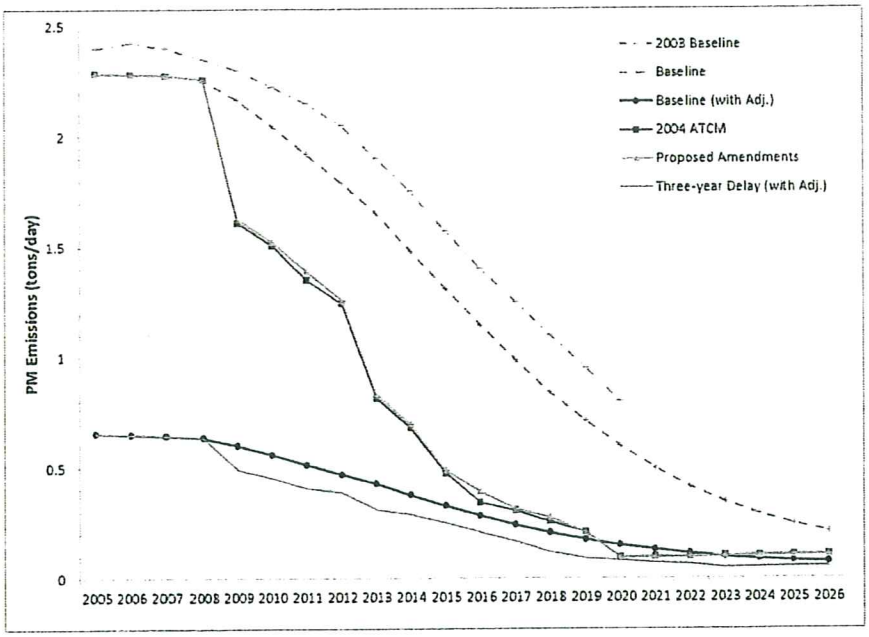

Fig. 2 – PM Emission Inventory, Sierra Research 2011

CTA's Refrigerated Carriers Conference contracted with Sierra Research to model the emission inventory when adjusting for a four mode test cycle instead of the eight mode test cycle staff utilized to model emissions. As you can see, the two resulting inventories are hugely disparate. It should be noted that the four mode test cycle is acknowledged, by staff itself, to be more representative of real-world TRU emissions. Staff argued as such in the 2003 Initial Statement of Reasons for this rule: http://www.arb.ca.gov/regact/trude03/isor.pdf

> *U.S. EPA's May 23, 2003 proposal allows the use of a new steady-state test cycle for TRU engines (ref 40 CFR Part 89, Subpart G, section 1039.645).* ***The proposed test cycle is intended to be more representative of the way TRU engines actually operate than the currently used 8-mode test cycle, which includes modes of operation that TRUs never use (e.g. idle at no-load, 10 percent and 100 percent of rated torque at rate speed, and 100 percent of rated torque at intermediate speed). The proposed test cycle has four modes:*** *75 percent and 50 percent torque at maximum test speed, and 75 percent and 50 percent torque at intermediate test speed. The weighting factors for each of these four modes would be split equally at 25 percent. TRU engine manufacturers have told staff that some Tier 1 and many Tier 2 TRU engines may be able to meet the LETRU in-use performance standards, if the engine certification data is evaluated with the steady-state TRU test cycle. Initial staff evaluation of modal engine certification data indicates that emission factors will be less for the proposed test cycle compared to the current test cycle.* ***The amount of PM emission factor reduction ranges from 25 percent to 60 percent, depending on engine model.*** *But, staff found that nitrogen oxide (NOx) emission*

factors may increase for some engines when using the proposed steady state TRU test cycle.

Staff supports the proposed TRU test cycle**, provided manufacturers use the test cycle for all pollutants. Staff also supports this provision of EPA's proposal, as applied to new engine certifications **since it allows an optimized reduction of actual emissions and prevents the costly over-design of the emission control system to cover modes of operation that are not used in practice.

After 2003, the EPA has since disallowed engines to be certified for use in TRUs if "the engine is sold in a configuration that allows the engine to operate in any mode not covered by the test cycle described in this section. For example, this section does not apply to an engine sold without a governor limiting operation only to those modes covered by the test cycle described in this section."(40 CFR 1039.645(f)(3))

Therefore, you cannot accurately model the emissions from TRU fleets without using the updated EPA four mode test cycle. ARB staff has had eight years since the last revision to remedy this problem and has taken no reasonable steps to do so as no such efforts are documented in the ISOR.

Table 1 of §1039.645—Discrete-Mode Cycle for TRU Engines

Mode number	Engine speed[1]	Torque (percent)[2]	Weighting factors
1	Maximum test speed	75	0.25
2	Maximum test speed	50	0.25
3	Intermediate test speed	75	0.25
4	Intermediate test speed	50	0.25

[1]Speed terms are defined in 40 CFR part 1065.

[2]The percent torque is relative to the maximum torque at the given engine speed.

Fig 3. EPA required TRU four mode test cycle – 40 CFR 1039.645

CTA Suggests ARB Take Appropriate Action to Comply with Health and Safety Code 39665(b)(1)

Health and Safety Code 39665(b)(1) requires that reports on regulations adopted as Air Toxic Control Measures, such as the one currently in question, address "to the extent data can be reasonably be made available":

"The rate and extent of present and anticipated future emissions, the estimated levels of human exposure, and the risks associated with those levels."

As noted above, since 2003, ARB staff has known it was incorrectly modeling particulate matter emissions by 25-60% above real world emission factors by using an eight mode test cycle which is inconsistent with the EPA's required four mode test for TRU engines.

Government Code 11349(d) requires that regulations be consistent and "in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions or other provisions of law."

Continuing to model TRUs emission factors using an eight mode cycle is not consistent with 40 CFR 1039.645 which states that an engine may not be certified for sale in a TRU unless it is tested and governed to operate on a four mode test cycle. Furthermore, it is impossible to satisfy the requirements of Health and Safety Code 39665(b)(1) to estimate levels of human exposure and the risks associated with those levels without forecasting the rate and extent of present and anticipated future emissions on the best, statutorily required tests available.

TRU Regulation Among Least Cost-Effective

Regulation or ATCM	Diesel PM Cost-Effectiveness (dollars/pound PM)
TRU ATCM 2011(Sierra Research/4-mode)	$118-$222
Ocean Going Vessels at Berth	$173
Public Fleets Rule	$159
TRU ATCM 2011 (Staff/8-Mode)	$83
TRU ATCM 2011 1-Year Delay	$52
Truck and Bus Rule	$46
In-Use Off Road Diesel Rule	$40
Solid Waste Collection Vehicle	$32
TRU ATCM 2011 2-Year Delay	$27
Cargo Handling ATCM	$21
TRU ATCM 2003	$10-20
TRU ATCM 2011 3-Year Delay	$9

If properly adjusting for four mode test data (25-60% reduction in PM), thereby accounting for a truer cost per pound reduction estimate, the TRU regulation becomes among the most expensive regulations in the ARB portfolio. When using overstated eight mode test data the TRU regulation nearly doubles the per pound reduction cost of the Statewide Truck and Bus Rule when using 2011 dollars (rule staff uses 2003 dollars to reach $83 per pound reduced; $88 in 2011 dollars).

Extending operating life by two to three years more closely aligns the rule with original cost-effectiveness estimates.

Flawed Economic Impact Analysis Does Not Comply With Government Code 11346.3

Staff incorrectly reports a net cost savings to businesses in the section titled "Estimated Costs to Businesses" (page V-11). Because their cost-effectiveness assumptions have been revised

upwards by a factor of 4-8 times since their original rulemaking, it would be appropriate for staff to revisit the potential for significant adverse economic impact on California business enterprise associated with these grossly inflated costs, not simply the modest savings associated with their amendments.

Thank you for the opportunity to comment on this regulation. If you have any questions, please contact Chris Shimoda at (916)373-3504.

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