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Electronic Submittal

Subject: Off-Road Rule Comments to Executive Officer

Dear CARB:

On behalf of the Crane Owners Association (COA) and Mobile Crane Operators Group (MCOG), Sierra Research is submitting this response to CARB's solicitation for comments pursuant to the March 11, 2010 Executive Officer Hearing on the Regulation for In-Use Off-Road Diesel Fueled Fleets. Together, COA and MCOG ("Crane Owners") represent the majority of the mobile cranes operated in California. The Crane Owners appreciate staff's previous efforts to understand the unique challenges that the mobile crane industry faces with regard to compliance. However, the comments contained below are not limited to crane fleets and are likely applicable to a wide range of "large" off-road fleets.

With the goal of providing useful information, the Crane Owners have limited their comments to those issues for which input was solicited in the notice for the March 11, 2010 meeting. Each is discussed below.

March 1, 2010 and March 1, 2011 Compliance Deadlines and Costs

To determine the ability of crane fleets to comply with the first two compliance deadlines of the regulation, Sierra developed budget-level compliance plans for two typical "large" crane fleets. The compliance plans were developed using CARB's Excel-based Off-Road Fleet Calculator using the vehicle data reported through the DOORS system. Compliance actions were determined for the initial five years of the regulation (until the March 1, 2014 compliance date). Planning beyond this date would be highly speculative.

Costs were compared to the per-horsepower costs contained in the 2007 Initial Statement of Reasons (ISOR) for the original regulation. It is noted that the compliance plans include the benefits of the subsequent rule amendments, whereas the ISOR cost estimates do not. Additionally, the compliance plans associate no cost with retiring vehicles for credit when in fact, the loss of utility of these vehicles and their revenue may be significant. Therefore, the resulting cost comparisons are conservative. Table 1 summarizes the compliance plans and associated costs.

Table 1 **Compliance Example for Two Large Off-Road Mobile Crane Fleets**		
	Fleet A	Fleet B
Size	5,652 HP	14,185 HP
Average Model Year (weighted by HP)	1990	1996
Claimable Reduced Activity	20%	20%
2010 Compliance Actions and Cost[a]	• Repower 165 HP • Cost: $51,000	• Retire 306 HP • Cost: $0
2011 Compliance Actions and Cost[a]	• Retire 595 HP • VDECS on 200 HP • Cost: $18,000	• Retire 650 HP • VDECS on 1,038 HP • Cost: $102, 000
2012 Compliance Actions and Cost[a]	• VDECS on 536 HP • Cost: $42,000	• VDECS on 1,414 HP • Cost: $123,000
2013 Compliance Actions and Cost[a]	• Repower 250 HP • VDECS on 1,556 HP • Cost: $216,000	• Repower 1,375 HP • VDECS on 3,115 HP • Cost: $962,000
2014 Compliance Actions and Cost[a]	• Repower 250 HP • VDECS on 1,556 HP • Cost: $183,000	• Repower 730 HP • VDECS on 1,930 HP • Cost: $298,000
Total Cost for First 5 Years of Rule	**$510,000**	**$1,485,000**
Cost/ HP for First 5 Years of Rule	**$90/HP**	**$105/HP**
Cost/HP Each Year	**$18/HP**	**$21/HP**
Cost/HP Each Year from ISOR[b]	**$8.9/HP**	**$8.9/HP**

Notes:

(A) Repower costs assumed to be $310/HP from SCAQMD SOON Program Announcement PA #2010-04. VDECS costs assumed to be $12,000 (HP ≤ 175), $18,000 (175 ≤ HP < 300), $30,000 (300 ≤ HP < 400), $42,000 (400 ≤ HP < 600), $60,000 (HP ≥ 600), from CARB staff presentation, 12/18/2006 for up to 300 HP, extrapolated beyond.

(B) From April 2007, ISOR p. 41.

The above two examples show that the expected annual cost of the regulation is over twice the predicted cost contained in the ISOR. These costs do not include the costs of administrative actions, such as reporting, record keeping, and labeling of vehicles. The Crane Owners maintain that in the current business climate, its members cannot absorb costs of approximately $100,000 per 1,000 horsepower of equipment owned over the next five years.

AB 8 2X Amendments

The Crane Owners assert that while the AB 8 2X amendments do provide relief in the 2010, 2011, and 2012 compliance years, the resulting "balloon payment" created for the March 1, 2013 compliance deadline is problematic. First, as shown in Table 1 above, the costs in this compliance year are extreme at $38/hp and $68/hp for Fleets "A" and "B," respectively. Second, there is continued uncertainty as to whether repowers and/or new vehicle purchases during the compliance period of March 1, 2012, through March 1, 2013, can be completed with Tier 4 interim engines. Tier 4 interim engines are required to be manufactured starting in the 2011/2012 model year (for most common sizes). Sell-through provisions may delay the ultimate availability of vehicles and engines to the consumer beyond March 1, 2013.

Additional Amendments Needed

One possible solution is to reduce the required turnover and retrofit requirements to their original, pre-AB 8 2X levels for the March 1, 2013 compliance date (8% and 20%, respectively). Alternatively, CARB may consider allowing fleets to spread the excess repowers and retrofits over several years as opposed to requiring a "balloon payment" on March 1, 2013. Beyond these, any relief in the form of overall lower BACT turnover and retrofit requirements, less aggressive NOx and PM fleet targets, or delayed compliance dates is suggested.

Early Credits

Other than for "reduced activity credit," crane fleet owners have found that the early action credits contained in the rule provide virtually no regulatory relief, for the reasons described below.

Credit for Early Repowers: This credit provided incidental relief for those fleets that performed repowers for various reasons. However, due to the uncertainty of the regulation prior to the March 1, 2009 deadline, this credit generally did not motivate crane fleet owners to perform repowers for air quality reasons. Additionally, due to the foreseeable advent of Tier 4 engines, most owners adopted a strategy to minimize repowers with Tier 3 engines as these engines are likely to require a second compliance action in the latter years of the regulation.

Early NOx Replacement Credit: In order to claim the NOx early replacement credit, fleets would have had to replace 24% of their Tier 0 horsepower during the 36-month period beginning on March 1, 2006. No crane fleets are known to have retired Tier 0 vehicles to this extent. Even if a fleet did replace 24% of its Tier 0 vehicles during this time period, because credit is granted only in excess of this amount, it would be minimal.

Double Credit for Early NOx Retrofits: Due to the limited availability of suitable NOx retrofits and higher costs, crane fleet owners are not expected to utilize this credit.

Credit for Reduced Fleet Activity: Most crane fleet owners are expected to claim the 20% reduced activity credit based on non-vehicle-specific indicators. This credit has eliminated all compliance costs (other than administrative costs) for the March 1, 2010 deadline, and has eliminated costs of NOx turnover requirements for the March 1, 2011 deadline. Many fleets would have claimed greater than 20% reduced activity except for the 95% completeness standard required for per-vehicle usage records. Some owners found that hour records from 2007 were not extant. Others found that the process of compiling per-vehicle data, interpolating/extrapolating values not coinciding with the specific reporting dates required, and completing the worksheets to be too complicated to completed within the 30-day reporting window.

Credit for Early Retirements: Most fleets have not retired horsepower at a percentage that exceeds their reduced activity percentage. Therefore, this credit is not expected to be utilized.

Double Credit for Early PM Retrofits: As it was foreseeable from AB 8 2X that VDECS retrofits would not be required by the March 1, 2010 deadline, this credit generally was not utilized. Rather, many fleets opted to generate PM credit during this timeframe by retiring and not replacing Tier 0 horsepower.

Exemption from NOx Turnover – VDECS Installed Prior to March 1, 2011: Like other per-vehicle turnover exemptions, this one provides relief only if a fleet is in the position where all other vehicles in the fleet are exempt from turnover (due to recent model year, recently installed VDECS, specialty vehicle, etc.). In these cases, neither the BACT percentages nor the fleet averages will be achieved by the compliance deadline. Most fleets that have performed long-term planning do not predict this situation. In nearly all cases, the turnover compliance burden is merely shifted to non-exempt vehicles until either the BACT percentages or fleet averages are met. It is noted, however, that this exemption may provide meaningful relief for owners of vehicles for which a repower is not available.

Impact of Recession

Finally, the impact of the recession has been pronounced and prolonged for the crane industry. While we have not surveyed every fleet, those recently providing data have indicated that business revenue has declined by approximately 60% compared to 2007 values.

The Crane Owners appreciate the opportunity to submit these additional comments and look forward to your April 2010 report to the Board. Feel free to contact me directly with regard to the information contained in this comment letter.

Sincerely,

Allan Daly

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