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December 1, 2006

Mr. Michael Tollstrup
California Air Resources Board
1001 "I" Street
P.O. Box 2815
Sacramento, CA 95812

Subject: Crane Owners Comments on the Emergency Amendments to the Portable Equipment Registration Program and Portable Diesel Engine Airborne Toxic Control Measure

Dear Mr. Tollstrup:

On behalf of the Mobile Crane Operators Group (MCOG) and the Crane Owners Association (COA), collectively the "Crane Owners," we are pleased to submit the following comments for consideration in the adoption of emergency amendments to the Portable Equipment Registration Program (PERP) and the Portable Diesel Airborne Toxic Control Measure (Portable ATCM). We understand that CARB seeks to pursue adoption of these amendments during the December 7, 2006 Board meeting to be held in Bakersfield.

MCOG and COA are trade organizations representing approximately 20 member crane rental companies that own and operate approximately 1,000 cranes statewide. While the Crane Owners are supportive of ARB's efforts to improve air quality through the reduction of emissions of precursors to ozone and particulate matter (including Diesel particulate matter), we are concerned that both the current PERP requirements, and the changes under consideration by ARB, will leave Crane Owners with equipment that, while essential to building and maintaining California's infrastructure, will be unusable in California. Therefore, we are submitting the following comments and proposal pertaining to the crane rental industry, and request their inclusion into the formal regulatory language.

1. **Allow PERP Registration of Certain Nonresident Tier 1 and Newer Crane Upper Engines**

   Under the "Regulatory Concepts" discussed during the November 20, 2006 public consultation meeting, CARB proposed to "open" the PERP for Tier 1 and Tier 2 engines that have demonstrated California residency during the period commencing on March 4, 2004, and ending on October 1, 2006. To demonstrate residency, the owner would be required to produce purchase, service, or jobsite

documentation. This "open" period will continue until January 1, 2010, provided the above residency requirement is satisfied. We are assuming that it is CARB's intent to harmonize the language of the Portable Diesel Engine ATCM accordingly.

We recognize that the proposed amendments will address the registration of any unregistered Tier 1 or higher, portable (upper) crane engines currently operating within California. However, CARB's current proposal continues to prohibit the purchase of used dual-engine cranes from out-of-state (or from within California when residency cannot be established). This prohibition would persist, even if portable crane engines purchased from out-of-state were retrofitted with Verified Diesel Emission Control Strategies (VDECS), or if repowering such equipment were infeasible.

The ability to purchase used cranes is the lifeblood of the crane industry. A substantial fraction of cranes added to crane fleets are purchased as used equipment. Crane upper engines are typically small in size (<150 HP), yet are associated with some of the most expensive equipment units contained in the PERP. For example, a new all-terrain crane may have a purchase price in excess of two million dollars. The purchase price is reduced by as much as 50% for a comparable used crane (5-10 years old). Therefore, the inability of an owner to purchase a used crane has an indirect economic cost of over one million dollars. Although this cost is great, the emissions benefit from a Tier 3 engine compared to a Tier 1 engine is minimal, mainly because these portable engines are small and have low annual hours of operation.

For other (non-crane) types of portable equipment, a possible solution could be repowering the unit with a new (Tier 3) engine. As the attached letter from Liebherr Cranes, Inc. demonstrates, however, repowering of crane upper engines is largely infeasible and potentially illegal. As the crane upper engine is part of the counterweight, a small weight change resulting from an upper engine repower could have a significant effect on a crane's lifting capacity and interfere with the electronic controls programmed into the crane's positioning system. For this reason (and possibly others), altering or repowering a crane upper engine is expressly prohibited by crane manufacturers. We have attached pages from the operation/safety manuals of three other manufacturers to illustrate this point. We believe that this is the reason that the "lattice boom crane" exemption was added into the Portable ATCM. At that time, it was believed that this issue affected only cranes with lattice booms; however, it is now understood that this affects all dual engine cranes, regardless of boom type.

A manufacturer's prohibition on altering cranes affects the certification of the crane required under federal Occupational Safety & Health Administration (OSHA) regulations. These regulations state:

> *No modifications or additions which affect the capacity of safe operation of the equipment shall be made by the employer without the manufacturer's written approval. If such modifications or changes are made, the capacity, operation, and maintenance instruction plates, tags, or decals shall be changed accordingly. In no case shall the original safety factor of the equipment be reduced. [40 CFR 1926.550(a)(16)]*

The above OSHA regulation does allow for the possibility of repowering or retrofitting a crane upper engine if manufacturer's approval is granted. Therefore, the Crane Owners are proposing that the following two categories of crane upper engines be eligible for PERP registrations, under the following limited conditions:

Crane Upper Engines Equipped with a Level 3 VDECS

Any crane upper engine, including Tier 0 and nonresident engines, may be registered if a Level 3 VDECS has been installed and is properly operating.

Tier 1 and Newer Nonresident Crane Upper Engines

Tier 1 and newer nonresident crane upper engines may be registered if both of the following conditions are met. Nonresident, Tier 0 crane upper engines would not be eligible unless they have been retrofitted with a Level 3 Verified Diesel Emission Control System (VDECS), as described above.

- The applicant must demonstrate that it is not feasible to repower the crane upper engine. This demonstration may include a statement of prohibition from the manufacturer or a statement of infeasibility from a replacement engine dealer.

- The applicant must demonstrate that it is not feasible to retrofit the crane upper engine with a Level 3 VDECS. This demonstration must include either an analysis of available VDECS at the time of application, a statement of prohibition from the crane manufacturer, or a statement of infeasibility from the VDECS manufacturer.

- The applicant must demonstrate that the purchase of a new crane would not be cost effective. The cost effectiveness of the incremental reductions will be determined according to the methodology described in CARB's 2005 Carl Moyer Program Guidelines, with the exception that the cost effectiveness thresholds will be set at the NOx, ROC, and PM_{10} BACT cost effectiveness levels used in stationary source permitting by the home district of the crane. The most similar crane commercially available may be substituted if a comparable new crane is no longer manufactured. Assumptions on annual hours of use will become PERP conditions.

2. **Allow PERP Registration of Resident Tier 0 Engines For 3 Years**

The current proposal does not allow the registration of any Tier 0 engines, regardless if California residency can be established. While it is unfortunate that many owners failed to register or permit their portable engines during previous "open" periods of the PERP, we believe it is overly punitive to force this equipment out of service immediately. Under the existing Portable ATCM, Tier 0 portable engines are allowed to operate through December 31, 2009. After this date, they must be retired from service in California. A process was also established whereby Tier 0 lattice boom crane engines may continue to operate until 2020 if CARB approval is granted.

As the Portable ATCM facilitates the retiring of most Tier 0 engines by 2010, the PERP regulation should be harmonized to allow continued operation for the same time period. We believe it is obvious and essential to allow these engines into the "system" now, if their retirement is to be mandated in three years. Given the compliance history of the PERP, we believe that continued exclusion of Tier 0 engines may increase their persistence rate in the fleet after 2010. Every effort to identify and register Tier 0 portable engines should be made at this time. Furthermore, the registration of resident lattice boom cranes that have been granted CARB-approval for use until 2020 should be allowed to maintain their PERP registration over the same period.

We believe that a residency requirement should be established for any Tier 0 engines in this category prior to issuance of a PERP. This would prevent the importation of Tier 0 engines from out of state.

3. **Eliminate Penalties for Portable Engines Operating in Areas where a District Permit to Operate Has Not Been Required Under District Rules, such as the BAAQMD and SBCAPCD**

It is an oversimplification of the regulatory landscape to assume that every unregistered/unpermitted portable engine has been operating in violation of air district permitting regulations and therefore should be subject to penalties.

The rules and regulations of the Bay Area AQMD contain explicit exemptions for portable engines operating in a broad range of situations. Specifically, BAAQMD Regulation 2-1, Sections 113 & 114 exempt portable engines from permit requirements if they operate at a location for less than 72 hours; meet the Vehicle Code definition of "special construction equipment"; perform road construction, widening, or rerouting activities; or perform building construction activities at any source not otherwise requiring a permit. In combination, these provisions exempt most portable engines from permit requirements in the nine-county BAAQMD, which includes the Cities of San Jose, San Francisco, and Oakland—the third, fourth, and eighth largest cities in the state.

Additionally, Santa Barbara County APCD Rule 202, Section F contains permitting exemptions for portable engines used in construction. This would include most crane engines. Additional exemptions contained in the rule apply to temporary sources operating less than 60 days.

We therefore request that, because of the exemptions for portable equipment contained in district rules, no penalties be assessed for PERP applications where the home district is the BAAQMD or the SBCAPCD. Registration of these engines would be entirely voluntary due to no underlying district permit requirement. This provision in no way would limit a district or CARB from issuing a violation or penalties for engines operating in violation of the requirement for a district permit.

The Crane Owners appreciate CARB's consideration of these comments in the amendment of the PERP and the Portable Diesel Engine ATCM. Feel free to contact me at (916) 444-6666 if you require any further information concerning the issues addressed herein.

Sincerely,

Gary Rubenstein

Encl.

cc: Seth Hammond, MCOG
Michael Vlaming, COA

LIEBHERR CRANES, Inc.

4100 Chestnut Ave., P O Drawer "O", Newport News, VA 23605

Question #5 Engine replacement:

There are two types of engine replacements that must be addressed: Lower, (carrier engine) & Upper, (superstructure engine)

Lower:

For the purposes of this question, I will only address AT cranes, (All Terrain), but most of the caveats we mention below apply to most two-engine cranes.

Items to be considered when replacing a carrier engine in an AT crane are overall engine measurements, air supply, water/cooling systems, PTO drives. All terrain cranes are manufactured with a narrow frame which limits the type of engine that can be installed.

If all above factors are met the next problem is the electronics. An older AT crane with a Tier 1 or 2 engine does not have the necessary electronics to accept a Tier 3 engine. It may be possible to get the engine to run, but the emissions would not be controlled.

Estimated cost for engine only replacement would be $750,000 to 950,000.

Upper:

Liebherr, as I am sure all other AT manufacturers, would not allow a user to replace an upper engine.

<u>The upper engine is a part of the crane counterweight system.</u>

At the time the crane is manufactured, it is load tested with assigned counterweights (including the weight of the engine). The computer (LICCON in the case of Liebherr) is programmed for a specific load at a specific radius.

Any change to the counterweights (including engine) would result in a red flag of the crane, meaning the manufacturer would advise the user the crane is no longer safe to operate. Enforcement for the manufacture is difficult. Other agencies such as OSHA, Caltrans would be advised.

As with the lower engine, additional cooling, exhaust, air, PTO drive & electronics are necessary.

Liebherr does not have replacement engines for older model cranes and thus we have no estimate of cost for this operation.

Tier 3 engines are installed in new model cranes only.

W. John Bray
Sales Manager – West
LIEBHERR Cranes, Inc.

CRANE

CIMA

FOREWORD

- The Department of Labor, Occupational Safety and Health Administration, publishes safety and health regulations and standards under authority of the Occupational Safety and Health Act (OSHA). Its address is: Occupational Safety and Health Administration, U.S. Dept. of Labor, Washington, D.C. 20210.
- American National Standards Institute (ANSI), c/o The American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, NY 10017, includes standards for safe operation, inspection, and maintenance in their ANSI/ASME B30.5.

Unauthorized modifying of machines creates hazards. Machines should not be modified or altered unless prior approval is obtained from the manufacturer.

DO NOT OPERATE any crane that has been modified without the manufacturer's written approval.

IMPORTANT: If you do not have the manufacturer's manual(s) for your particular machine, get a replacement manual from your employer, equipment dealer, or from the manufacturer of your machine. Keep this safety manual and the manufacturer's manual(s) with your machine.

BADGER DIVISION

Airport Industrial Park
Winona MN 55987

WARNER & SWASEY

IMPORTANT SAFETY NOTICE

Safe operation depends on reliable equipment and the use of proper operating procedures. Performing the checks and services described in this manual will help to keep your crane in reliable condition and use of the recommended operating procedures can help you avoid unsafe practices. Because some procedures may be new to even the experienced operator we recommend that this manual be read, understood and followed by all who operate the crane.

Warning and caution notes have been included throughout this manual to help you avoid injury and prevent damage to the equipment. These notes are not intended to cover all eventualities; it would be impossible to anticipate and evaluate all possible applications and methods of operation for this equipment.

It is important that any procedure not specifically recommended by Warner & Swasey be thoroughly evaluated from the standpoint of safety before it is placed in practice.

Do not modify this machine without written permission from the Warner & Swasey Company.

Keep this manual with the crane at all times.

NOTICE

The Warner & Swasey Co. retains all proprietary rights to the information contained in this manual.

The Company also reserves the right to change specifications without notice.

COVERED UNDER U.S. PATENTS 4038794, 3368696 & 2984373

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SERVICE AND REPAIRS

Service and repairs to the crane must only be performed by a qualified person. All service and repairs must be performed in accordance with manufacturer's recommendations, this handbook and the Service Manual for this machine. All replacement parts must be Grove approved.

Any modification, alteration or change to a crane which affects its original design and is not authorized and approved by Grove Worldwide is STRICTLY PROHIBITED. Such action invalidates all warranties and makes the owner/user liable for any resultant accidents.

Before performing any maintenance, service or repairs on the crane:

- The boom should be fully retracted and lowered and the load placed on the ground.
- Stop the engine and disconnect the battery.
- Controls should be properly tagged. Never operate the crane if it is TAGGED–OUT nor attempt to do so until it is restored to proper operating condition and all tags have been removed by the person(s) who installed them.

Recognize and avoid pinch–points while performing maintenance. Stay clear of sheave wheels, holes, and lattice work in crane booms.

After maintenance or repairs:

- Replace all guards and covers that had been removed.
- Remove all tags, connect the battery and perform a function check of all operating controls.
- Load tests must be performed when a structural or lifting member is involved in a repair.

LUBRICATION

The crane must be lubricated according to the factory recommendations for lubrication points, time intervals and types. Lubricate at more frequent intervals when working under severe conditions.