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March 21, 2007

Clerk of the Board
California Air Resources Board
1001 "I" Street
P.O. Box 2815
Sacramento, CA 95812
(via email)

Subject: Crane Owners Comments on the Amendments to the Portable Equipment Registration Program and Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater

Dr. Robert Sawyer, Chair and Board Members:

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 amendments to the Portable Equipment Registration Program (PERP) and the Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater (Portable ATCM). We understand that CARB seeks to pursue adoption of these amendments during the March 22, 2007 Board meeting to be held in Sacramento. Similar comments were first submitted prior to the emergency amendments to these same regulations which were adopted at the December 7, 2006 Board meeting 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.

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

The proposed regulatory language was released as part of the February 2, 2007 Initial Statement of Reasons (ISOR). In the ISOR, CARB proposes 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 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 critical to the crane rental industry. A substantial fraction of cranes added to crane rental 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 well 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. However, as the attached letter from Liebherr Cranes, Inc. demonstrates, repowering of crane upper engines is generally infeasible and potentially illegal. Additionally, the attached email message from Terex- Cranes North America demonstrates that repowering a specific crane upper engine is infeasible. 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. Also, crane upper engines are frequently controlled by electronic control systems and software unique to the crane make, model, and model year.

In most cases, the control systems cannot be reprogrammed to accept a different model or model year of engine, nor can newer engines function properly in older cranes not equipped with compatible electronics.

For these reasons (and 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 several years ago. 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:

<u>Crane Upper Engines Equipped with a Level 3 VDECS</u>

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.

<u>Tier 1 and Newer Nonresident Crane Upper Engines</u>

Tier 1 and newer nonresident crane upper engines may be registered if all 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 or newer 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. 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 Initial and Continued of Registration of Resident Tier 0 Crane Upper Engines

The lattice boom crane exemption within the Portable ATCM was added to the regulation during the 45-day comment period as a result of input from the crane industry. At that time, the term "portable lattice boom crane engine" was intended to have the same meaning as "crane upper engine." Since many crane upper engines are found in lattice boom crane, the terms likely became synonymous. As mentioned above, the boom type (lattice versus hydraulic) does not affect the technological feasibility of a retrofit. Therefore, using the same rationale under which the lattice boom crane exemption was first established, all resident Tier 0 crane upper engines should now be eligible for the exemption, until 2020, regardless of boom type. Furthermore, the registrations of Tier 0 crane upper engines that have been granted CARB-approval for use until 2020 should be allowed to maintain their PERP registrations over the same period.

3. Allow Initial PERP Registration of All Resident Tier 0 Engines for 3 Years and Continued Registration for Tier 0 Crane Upper Engines

The current proposal does not allow the registration of any Tier 0 engines, regardless of whether 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. This will encourage the registration of cranes with Tier 0 upper engines, which will facilitate the forced retirement of these engines at the end of 2009. 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.

4. **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.

For example, 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.

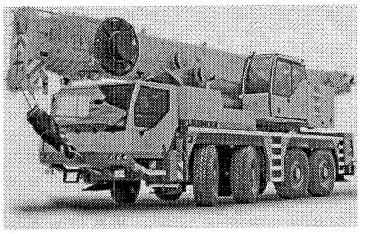
Sincerely,

Allan Daly

Encl.

cc: Sam Meyer, MCOG
Bill Davis, MCOG
Michael Vlaming, COA
Alvan Mangalindan, COA

LIEBHERR



LIEBHERR CRANES, INC.
4100 Chestnut Avenue
P O Drawer "O"
Newport News, VA 23605

2-20-07

Mr. Allan Daly
Sierra Research

Subject: Superstructure Engine repower/replacement for Mobile Cranes

Mr. Daly:
This reply will address only the superstructure (upper) engine and non current production cranes.

In reference to the replacement of superstructure engines, Liebherr's position is very clear, for non current model cranes, replacement or re-power is not economically possible and not allowed.

Liebherr's product line is referred to by model and serial number.
I will use as an example a LTM1160/2, a non production crane model.
Customers requesting a replacement engine are advised replacement engines are not available for this model crane.
The customer must rebuild the existing engine with approved factory parts.
This non-current model crane is not prepared to except a Tier three engine.
A tier three engine would require electronic ignition which the crane does not have.
The crane would also require additional cooling and air systems.

Changing an upper engine could change the load chart of the crane.
The upper engine of a crane is part of the counterweight system. Additional or less weight would result in a change to the lifting capacity of the crane which in turn would require a complete load test and re-programming of the computer.

Replacement of a engine without manufactures approval is a violation of OSHA and ANSI regulations.

Respectfully,

W. John Bray
W. John Bray
Manager-West
Liebherr Cranes, Inc.

Allan G. Daly

From: Gary Rubenstein
Sent: Thursday, January 04, 2007 3:02 PM
To: Mike Tollstrup
Cc: Gary Rubenstein; Allan G. Daly
Subject: Champion Crane Repower Request
Attachments: image001.png

Mike - below is an e-mail that Champion Crane received from Terex cranes regarding a request for cost/availability information regarding the replacement of an existing engine with a Tier 3 engine.

Gary

From: Joshua Cotton [mailto:JCotton@american-crane.com]
Sent: Tuesday, January 02, 2007 12:05 PM
To: hallett32@sbcglobal.net
Cc: championcr@aol.com
Subject: FW: AC-435 ser# 37236

John,

Here is the response from Germany concerning the retrofit of your engine.

Joshua Cotton
Training Manager
Terex-Cranes North America
202 Raleigh St.
Wilmington N.C. 28412
281-726-1030 Mobile
910-332-8570 Office
jcotton@american-crane.com

Josh,

great to hear from you!

We see no chance to change to a Tier3 EPA friendly engine. All new engines are computer controlled with CAN BUS system as you know. The electric of that AC 435 can not be modified easily nor is the money it takes to do all the engineering and changes/ parts worth it.

Kind regards / Mit freundlichen Gruessen
Guntram Jakobs
Manager International Sales

Terex-Demag GmbH & Co. KG

Dinglerstraße 24
66482 Zweibruecken

Von: Cotton, Josh
Gesendet: Dienstag, 19. Dezember 2006 23:50
An: Molinari, Scott, 1420; Jakobs, Guntram, 1240
Cc: Jones, Roger; Valentine, Kevin; Creel, Chris
Betreff: AC-435 ser# 37236

Guntram,

How are things in Germany, I hope all is well. Thing are going good in Wilmington.

I am not sure if this falls under your department however I am going to start with you. Mike Konle with Champion Crane has requested a quote to replace the OW engine on his AC-435 37326 with a tier 3 EPA friendly engine. He would like the following questions addressed specifically;

1. We need to know if this is possible since his crane has a mechanical injection pump etc.
2. We need to know the price and how soon this engine would be available.
3. He would also like to know if we TEREX-CRANES can install this engine and assist him in getting it recertified through Cal OSHA and the Calif Air Regulatory Board.

If this is not your dept can you please forward this to someone who can help me?

Thank you

Happy Holidays

Joshua Cotton
Training Manager
Terex-Cranes North America
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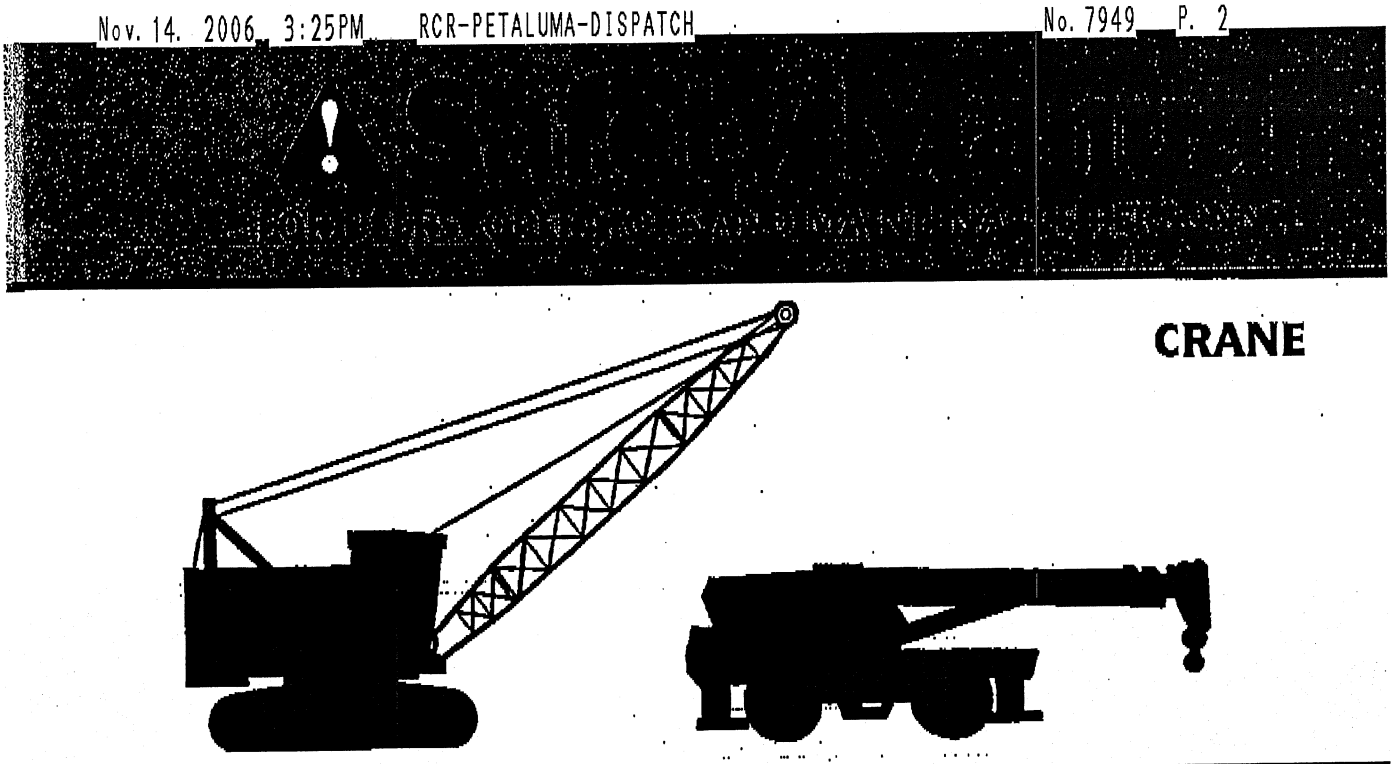
Wilmington N.C. 28412
281-726-1030 Mobile
910-332-8570 Office
jcotton@american-crane.com



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

WARNER & SWASEY

Airport Industrial Park
Winona MN 55987

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.

Form No. 7818
Replaces Form No. 7602

Printed in U.S.A. 6/78 1M V

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.