R.J. Corman EcoPower respectfully submits comment on the proposed removal of the Energy Storage option for Rubber-Tired Gantry Cranes. While EcoPower understands the CHE regulations which require the crane operators to repower their cranes over time initiates the upgrading of the engine in many cases to a cleaner Tier 4 engine and/or the placement of a Level 3+ VDECS device, EcoPower stills sees a cost-effective option with our EcoCrane hybrid repower kit for both DC and AC motor cranes. The first EcoPower technology repower kit has been demonstrating successfully in Vancouver, BC for nearly 3 years. Two other kits have also been demonstrating at the Vancouver ports for a slightly shorter period of time. The success of these units has been fantastic both in reliability and in fuel savings of 70% or more. The company that is operating those units is negotiating for additional kits.

Just recently in the U.S., EcoPower has installed a kit on an RTG crane operating at Long Beach Container Terminal and while the operation has only been for a couple of months now the overall response has been very promising and options for additional units have been initiated by LBCT. Even more recently, the Port of L.A. was successful in their applying for DERA funds for the EcoPower technology to be installed on an RTG crane operated by Ports America which is also very impressed by the technology.

The EPA has listed the EcoCrane on it's Emerging Technologies List back in December of 2009 while EcoPower continues to plan for emissions testing using a protocol that will capture the benefits of the energy storage system which results in the engine running nearly half as much as a typical RTG crane engine which does not shut down during operation. While our intent is to fully verify the EcoCrane technology with both the EPA and CARB (Level 2 or possibly Level 3+ w/ DPF) we see a role for incentive funding to help.

While our system does involve a replacement of the engine with a much smaller, more efficient engine (currently Tier 3, but Tier 4 NR in mid 2011) the Prop 1B funding could offset the costs of the system by funding the energy storage portion while the operator could fund the engine costs as is required by the CHE requirements. This would allow for a system that would result in much more emissions reductions than would have been realized by the CHE requirements themselves while saving the operators a great deal in fuel and maintenance costs.

Allowing the option of funding a cost-effective energy storage system for RTG cranes would allow CARB and the crane operators to work together on a solution that would greatly benefit both. While keeping the option available certainly does not require the operators, ports or CARB to approve such projects, it certainly allows for a possible solution that is proving to be a solution of choice by many. While fully converting to electric is an option to fund, it is not always the most cost-effective nor the choice of many crane operators as it limits flexibility.

Please consider this comment when deciding on the best approach for the Prop 1B/GMP Guidelines and allow EcoPower to further discuss our technology and its possible fit into the program with you.

A presentation on the EcoPower EcoCrane technology is attached for your convenience.

Thank you very much for the opportunity to comment.

Scott Carpenter GM-Emissions *RJ Corman Railpower LLC* <u>scott.carpenter@rjcorman.com</u> 814-434-7150 cell

























RTG 5+1/ DC bus	Idle control	15 lifts/hour average total	30 lifts/hour	Per 7200h (15lifts/h)
EcoPower	<0.5 USG/h	2.15 USG/h	3,17 USG/h	15480 USG
Cummins QSK 23	5.23 USG/h	7.22 USG/h	8.84 USG/h	51984 USG
Savings with EcoCrane	90%	70%	64%	-36504 USG
Cummins QSX 15	3.48 USG/h	5.50 USG/h	7.18 USG/h	39600 USG
Savings with EcoCrane	85%	61%	56%	-24120 USG
Deutz 1015	4.2	6.12	7.24	44064 USG
Savings with EcoCrane	88%	62%	55%	-27320 USG

EcoPower Emission Reduction RJ Corman **EcoPower Patented Technology** RTG 5+1 PM NOx+HC co DC bus GHG 0.1 tons/yr 2 tons/yr 0.35 ton/yr EcoPower 180 tons/yr Up to 0.7 ton/y Up to 32 tons/yr Up to 2.6 tons/y Tier 1 engines 610 tons/yr **Reduction with** 70% to 87% 70% to 85% 70% to 94% 70% EcoPower Up to 2.0 tons/y Up to 0.36 ton/y Up to 22 tons/yr **Tier 2 engines** 460 tons/yr **Reduction with** 61% to 83% 61% to 82% 61% to 91% 61% EcoPower











