



August 29, 2017

Mr. Christopher Cannon
Director of Environmental Management / Chief Sustainability Officer
Port of Los Angeles
425 S. Palos Verdes Street
Post Office Box 151
San Pedro, CA 90733-151

Chris:

This letter serves as our formal letter of commitment for the Port of Los Angeles (POLA) grant proposal to redesign a 2,100 horsepower 6-axle locomotive to incorporate zero-emission (i.e., battery power) capability and demonstrate this capability under the Zero-Emission Track-Miles Locomotive Demonstration Project. The POLA proposal is being submitted under the 2016-2017 Grant Solicitation for Low Carbon Transportation and Fuels Investments and the Air Quality Improvement Program. This particular ARB solicitation is for Off-Road Advanced Technology Demonstration Projects.

VeRail will upgrade its current VR21C4-nz near-zero emission natural gas switcher locomotive, that is currently being manufactured for a demonstration in the ports of Los Angeles and Long Beach, to zero-emission track-miles capability by using a 2,100 HP battery system. Addition of this battery system will allow the locomotive to operate as either a 2,100 HP VR21C4-nz near-zero emissions locomotive or as a 2,100 HP VR21C-z zero-emission battery switcher locomotive. The battery system is designed to operate for a full eight to nine hour shift thus providing the ability to compare the locomotive operations in zero-emission mode to not only the VR21C4-nz near-zero emission switcher locomotive, but also to compare operation to the current fleet of 14 2,100 HP Tier 3+ diesel locomotives being operated in the ports by Pacific Harbor Line (PHL), who operates the rail switching operations in the ports.

VeRail has already been awarded \$1.6 million in grant finding from the South Coast Air Quality Management District (\$500,000 of this amount is from Southern California Gas and \$500,000 is from the US EPA) and \$600,000 from the Ports of Los Angeles and Long Beach (through their Technology Advancement Program) for the manufacturing of the VR21C4-nz locomotive that will be used as the basis for the VR21C-z battery locomotive capability upgrade. The VR21C4-nz project team has fully indicated there is no conflict between the existing project and the proposed upgrade to zero-emission track-mile capability. The requested funding will leverage the experience and benefits gained by the "nz" project to facilitate a first-of-its-kind locomotive demonstration of significant zero emission operation. As part of VeRail's commitment to this battery locomotive project, VeRail will contribute \$60,000 in engineering and administration as a cash contribution to the project.

We look forward to working with the Port of Los Angeles on this exciting zero-emission locomotive project. Should you have any questions regarding our support of this project, please do not hesitate to contact me at 513-454-8192 or via email at tmack@VeRail.com.

Sincerely,



Tom Mack
President and Chief Technology Office

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www.VeRail.com



September 6, 2017

Mr. Chris Cannon
Director of Environmental Management
Port of Los Angeles
425 S. Palos Verdes Street
San Pedro, CA 90733

Dear Mr. Cannon:

Voltabox of Texas (Voltabox) is pleased to continue its relationship with VeRail by committing to donate one battery pod valued at \$159,949 to the Zero-Emission Track-Miles Demonstration project as an in-kind match. Voltabox is the battery supplier for the VeRail VR21C-z demonstration locomotive and looking forward to this opportunity to demonstrate that Voltabox's advanced battery technology can be an effective solution in heavy-duty goods movement service, such as a switcher locomotive.

Voltabox is a pioneer in intrinsically safe high-performance Li-Ion batteries for all types of vehicles and stationary storage systems, with a specialization in heavy-duty applications. Manufactured in the United States, Voltabox batteries are used around the world in heavy-duty vehicle applications, including buses, underground mining equipment, and now locomotives. Voltabox has made significant advancements in Lithium Ion battery system technology and will be supplying a nickel-Manganese-Cobalt-Oxide Lithium-Ion (abbreviated LiNMC or simply NMC) high energy cell battery technology for this demonstration project.

Voltabox of Texas is excited for the opportunity to demonstrate its advance battery technology and be a part of this California Air Resources Board Off-Road Advanced Technology Demonstration Projects.

Sincerely,

Rick Herndon
COO

Signature

A handwritten signature in black ink, appearing to read "R. Herndon".



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www.americantraction.com

September 6, 2017

Mr. Chris Cannon
Director of Environmental Management
Port of Los Angeles
425 S. Palos Verdes Street
San Pedro, CA 90733

Dear Mr. Cannon:

American Traction Systems (ATS) is pleased to continue its relationship with VeRail and the Port of Los Angeles by committing to donate one charge input rectifier for the Zero-Emission Track-Miles Demonstration project at a dollar value of \$12,000. ATS is the manufacturer of the high voltage traction control modules and high-voltage battery control modules that will control the voltage and power from the battery system to the traction control modules on the VeRail VR21C-z demonstration locomotive.

ATS is a private, wholly American owned company specializing in the design and manufacturing of high power AC and DC Motor Control products. ATS is excited for the opportunity to demonstrate its high voltage traction control modules and high-voltage battery control modules as a part of this California Air Resources Board Off-Road Advanced Technology Demonstration Projects.

Sincerely,

Larry Machak
Business Development Manager