



ITEM ID: 2023-301-0

TRANSMITTAL DATE: September 15, 2023

MEETING DATE: September 22, 2023

TO: Board of Directors

FROM: Donald Filippi, Chief Operating Officer

SUBJECT: Approval to negotiate a Sole Source multi-year contract with Corys Thunder, Inc. for Positive Train Control (PTC) Simulator Software and Hardware Maintenance

Issue

To ensure proper crew training, consistent with current versions of PTC locomotive software and hardware deployed in production, and to be compliant with the Authority's regulatory requirements as outlined in its PTC Safety Plan (PTCSP), a new maintenance contract is required with the Authority's existing train simulator vendor, Corys Thunder, Inc. A continued maintenance contract is critical to ensure Authority simulators are kept up-to-date with the latest software functionality, as well as to incorporate new functionality into the simulators, such as the development of the Wireless Crossing Nearside Station Stop (WCNSS).

Recommendation

Contracts, Operations, Maintenance, and Safety Committee recommended (5-0) the Board allow negotiations between the Authority and Corys Thunder, Inc. to establish a multi-year sole-source contract for PTC simulator software and hardware maintenance.

Strategic Commitment

This report aligns with the Strategic Business Plan commitment of:

- **Safety is Foundational:** The Authority is committed to remaining at the forefront of advancements in technology and processes to elevate the safety and security of our riders, employees, and the communities we serve. This report solidifies our dedication to promoting the development and implementation of Positive Train Control (PTC) system improvements in conjunction with capital and rehabilitation projects.

Background

In accordance with federal legislation (the Rail Safety Improvement Act of 2008 and the Surface Transportation Extension Act of 2015), the Authority has developed and deployed PTC, an advanced technology train collision/derailment avoidance system that uses safety-critical predictive enforcement to automatically engage the brakes and stop a train in advance of:

- Potential train to train collision,
- Train over-speed,
- Unauthorized entry into a track work zone, or
- Movement through a misaligned switch

Since June 2015, the Authority has successfully operated PTC “system-wide”, across its entire network of Authority-dispatched lines and its entire fleet of locomotives and cab cars, as well as achieving interoperability in October 2018 with partner railroads (BNSF, UPRR, Amtrak, and NCTD) so that Metrolink trains operating on foreign- owned lines and foreign-owned trains operating on Metrolink lines are also PTC protected. As part of the capital project to develop and deploy PTC, the PTC simulators were developed and delivered for the Authority by Corys Thunder, Inc., a subcontractor under the PTC Vendor/Integrator Contract. The PTC simulators are required as part of the Authority’s PTCSP for initial train crew qualification training and on-going refresher training. Once the PTC capital project was completed, a maintenance and support contract was required to keep the simulators up-to-date with the current software and hardware upgrades deployed on the Authority’s locomotive and cab car fleet. The Board awarded Contract MS281-19 to Corys Thunder, Inc. on June 8, 2018, with a not-to-exceed contract funding authorization amount of \$850,000 for the five-year term that expired on June 2023; in this contract, Corys Thunder, Inc. supported the upgrade of the PTC onboard software upgrade for the simulators, training, maintenance, and documentation.

Discussion

To ensure the proficiency and safety of the Agency’s PTC training program that train crews are required to undergo, it is essential to keep the simulators equipped with the latest software and hardware, particularly with the evolving Positive Train Control (PTC) and Human Machine Interface (HMI) features. Up-to-date simulators allow for effective training on new displays, enabling crews to seamlessly interact with prompts without diverting their attention from operating the train. Apart from the PTC software, it is equally vital to maintain the computer equipment supporting these simulators in optimal condition. The simulators rely on sophisticated computer hardware, and under the proposed service agreement, Corys Thunder, Inc. will be responsible for repairing or replacing any equipment, as they did in the recently expired contract.

The Authority highly values its continued partnership with Corys Thunder, Inc., particularly in light of pursuing the acquisition of additional simulators to accommodate newly acquired vehicle models, such as the F-125 Locomotives and the Diesel Multiple Units (DMUs). Given that Corys Thunder, Inc. has previously developed the first three simulators for the Authority, it is in the best interest of the Authority to continue working with them on the new simulators.

Extensive efforts were invested in collecting field data for integration into the Corys train simulators. This dataset encompassed crucial elements like signal placements, switch locations, bridges, and station platforms. The accurate representation of these features is pivotal for providing engineers with a precise training experience. This approach removes the necessity for multiple contracts with diverse vendors to maintain assorted simulators, thereby streamlining issue resolution and expediting PTC software upgrades. Opting for a new company to reprocess the collected data would entail substantial additional costs and complexities. Employing a singular simulator vendor would heighten operational efficiency and ensure a seamless, unified approach to simulator upkeep and enhancements.

Train crew training is an integral aspect of our Positive Train Control (PTC) curriculum and expanding the simulator fleet to accurately represent the locomotives we operate will ensure effective training that corresponds to real-world applications. Establishing another multi-year commitment to maintaining current and well-functioning simulators is essential to enhancing crew readiness and operational efficiency, ultimately contributing to the safe and successful operation of our services.

Budget Impact

The amount for which contract authority is requested is included in the Adopted Operating Budget 2023-24 (\$150,000.00) and Adopted Capital Budget for FY2021-22 (\$2,500,000.00). Funding for subsequent years will be requested through the annual budget or an equivalent process. There is no financial commitment with respect to subsequent years and work will be authorized only if funding is approved.

Next Steps

Upon approval of this request, the Authority will commence negotiation with Corys Thunder Inc, on a multi-year sole source agreement. Once both parties are in agreement, the Authority will request board approval for contract award.

Prepared by: Jairo Rodriguez, Senior Manager Train Control On-Board Systems

Approved by: Don Filippi, Chief Operating Officer