THE METROPOLITAN TRANSPORTATION AUTHORITY
ACTING BY THE
MTA CONSTRUCTION AND DEVELOPMENT

RFI-0000398033

Request for Information for

Simplification of Wayside Train Control Architecture

2 Broadway, 8th Floor
New York, NY 10004-2207

Construction & Development

June 1, 2022

Subject: RFI-0000398033 – Simplification of Wayside Train Control Architecture

Dear Interested Parties:

The MTA Construction and Development Company ("MTA C&D") is issuing the enclosed Request for Information ("RFI") for proposed solutions for simplifying the existing wayside train control architecture.

I am MTA C&D's designated Point of Contact for this RFI. Please direct all communications related to this RFI, including all responses, to me by email at fabrizio.raho@mtacd.org. Please submit all responses on or before June 30, 2022.

Thank you for your participation.

Sincerely,

Fabrizio Raho
Contracts Supervisor
(646) 252-6039

1 INTRODUCTION

MTA seeks proposals for redesigning the wayside Communication Based Train Control ("CBTC") equipment, including the Auxiliary Wayside System ("AWS") which interfaces between the CBTC system and the existing legacy wayside signaling equipment.

MTA's current approach to deploying CBTC with the required AWS is to equip each relay room with a solid state interlocking or relay-based interlocking system, programable logic controllers, local control panels, and zone controllers with associated network connections and power distribution. MTA seeks proposed solutions that result in lower costs for design, layout and construction of the relay rooms and reduced reliance on track outages to test the completed train control system before deployment.

This RFI is issued exclusively to elicit information. It is not a Request for Proposal ("RFP") or any promise that an RFP will be issued to a Respondent in the future. This RFI does not commit MTA C&D to contract for any material or services and MTA C&D will not pay for any information or any costs incurred in responding to this RFI. MTA C&D shall have the right to use any information submitted in response to this RFI without obligation or compensation.

2 REQUEST FOR INFORMATION

A. Please propose a simplified wayside train control architecture that ensures efficient and safe system operation in nominal and degraded modes.

3 GUIDANCE IN PREPARATION OF THE RFI

A. In preparing the response, Respondent should consider multiple options including, but not limited to:

    i. The use of direct-drive input/output signals to reduce or eliminate relays;
    ii. Elimination of the programable logic controller(s) and interfaces to it; replacing it with logic residing with the Automatic Train Supervision or Zone Controller;
    iii. Elimination or combination of local control panels and all associated equipment and interfaces and replacing same with remote terminals;
    iv. Elimination of as many lineside signals and train-stops as possible, including all associated lineside cabling, boxes, and relay room-based equipment; and
    v. Any additional elimination or combination of specific room-based equipment.

B. Please also describe how the proposed simplified wayside architecture would manage degraded mode operations including, but not limited to:

    a. Entering and localizing passenger and variable-length work trains from non-CBTC Territories (territory controlled by legacy AWS or non-CBTC yards);
    b. Re-entering and localizing passenger and variable-length work trains within a CBTC Territory after a failure of wayside or carborne CBTC equipment (for clarity, this includes Data Communication System functionality); and

c. Safely managing train movements in non-CBTC mode (assume Restricted Manual mode).
d. Protecting CBTC mode trains from non-CBTC mode trains (including Wayside Signal Protection and Bypass).

C. Please explain whether the proposed changes to the train control architecture have any impact on the CBTC functional system requirements, including the Automatic Train Supervision and MTA's "I2S" Interoperability Interface Standard. (A copy of the I2S specification is available upon request subject to execution of a non-disclosure agreement).