



**Office of the Inspector General**

Metropolitan Transportation Authority  
111 West 40<sup>th</sup> Street, 5<sup>th</sup> Floor  
New York, New York 10018  
212-878-0000

June 15, 2016

Mr. Joseph Giuliatti  
President  
MTA Metro-North Railroad  
420 Lexington Avenue  
New York, NY 10170

**Re: Switch Testing and Inspections  
MTA/OIG # 2016-06**

Dear Mr. Giuliatti:

This letter serves as the Office of the Inspector General's final report on Switch Testing and Inspections that was previously presented to you in draft form on March 3, 2016. In your April 8, 2016 response, you indicated that our recommendations either had been or were in the process of being implementing. This final report incorporates your response.

In September 2015 and again in December 2015, this office conveyed initial findings from our investigation of Signals Division (Signals) personnel. We determined that New Haven Signal subdivision personnel, specifically, Assistant Inspector Jeff Lillquist and Signal Maintainers Ronald Burgess, Arthur Daly and Joseph Delfino, submitted false switch inspection reports. OIG recommended that the employees be disciplined, up to and including termination. Subsequently, Metro-North initiated disciplinary action. Before hearings were convened both Lillquist and Daly resigned. Burgess and Delfino were terminated.

During the course of our investigation, OIG had found that serious deficiencies in Signals' recordkeeping practices had made it possible for inaccurate and false reporting to go undetected by Signals management. In response to OIG's findings, Signals management has tightened controls over recordkeeping and established a process to verify that inspections are actually performed.

We have been informed that Metro-North is currently planning to replace Signals' current paper-based system for recording inspections with an electronic recordkeeping and asset management system (electronic recordkeeping system) which is anticipated to be functional by July 2017 at the earliest.

This letter examines the actions that Signals has taken to date to help ensure that employees are performing federally mandated inspections on a timely basis and accurately documenting the performance of such inspections. This letter also recommends additional actions that we believe

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Signals management should take to further strengthen its recordkeeping practices, in both the near-term (while Signals still relies on paper inspections) as well as after Metro-North implements an electronic system for recording inspections.

### *Discrepancies in Inspection Reports*

The Federal Railroad Administration (FRA) requires that the results of signal and switch inspections conducted in compliance with its regulations

...be recorded on preprinted or computerized forms provided by the railroad. Such forms shall show the name of the railroad, place and date, equipment tested, results of test, repairs, replacements, adjustments made and condition in which the apparatus was left. Each record shall be signed by the employee making the test and shall be filed in the office of supervisory official having jurisdiction.

Three subdivisions are responsible for signal inspections and testing: New Haven, Harlem & Hudson and Grand Central Terminal (GCT). Although the regulations do not specify when reports should be prepared, in our opinion, such reports should be completed and recorded on the same day that the inspections are performed to ensure accuracy.

OIG found that although signalmen in the Harlem & Hudson subdivision followed this practice, signalmen in the New Haven and GCT subdivisions did not. Instead, New Haven and GCT subdivision managers allowed signal personnel to complete all of their inspection reports at the end of each month for inspections that took place during the month. Allowing such leeway increased the risk of inaccurate and false reporting and undermined employee accountability.

OIG compared reported inspection dates to records generated by Metro-North's Automatic Vehicle Location Monitoring (AVLM) tracking system.<sup>1</sup> Using AVLM, OIG was able to verify Harlem & Hudson crews' presence at the relevant inspection sites on the exact date specified in their reports. In contrast, when AVLM placed New Haven crews at inspections sites, the dates listed on their inspections reports were often wrong.

We could only use AVLM data to verify some of GCT's reported inspection dates because in many cases, the signal equipment is located within walking distance from where crews are headquartered and AVLM data was not available for all vehicles. When we could compare the AVLM records to GCT's inspection reports, OIG was able to verify the GCT crews' presence at the relevant inspection sites on the exact date specified in their reports.

We discussed our findings with Senior Vice President for Engineering and the Director of the Signals Division on August 11, 2015. As a result of our discussions, beginning in November

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<sup>1</sup> Most of the devices that require inspection are located miles from where signalmen are headquartered. Signalmen drive to these locations using Metro-North vehicles equipped with AVLM.

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2015, all three subdivisions now require that signal personnel prepare inspection reports and fax copies thereof to their respective supervisory office on the day that inspections are completed. Requiring signal personnel to complete the reports on the day that the inspection is performed is an important step towards ensuring the accuracy of reporting.

In order to determine whether inspections were actually performed, OIG examined data from Metro-North's Rail Traffic Control Center (RTC) that corresponded to the dates and times we identified by analysis of AVLM records. For example, one particular monthly switch inspection test (Test 10A, Switch Obstruction) will cause the relevant section of track to flash on the RTC display since the test will render the switch temporarily inoperable. These display changes are recorded and constitute proof that the switch has been inspected. Conversely, the absence of such display changes proves that no inspection was performed.

Based on RTC data, OIG determined that Lillquist, Daly, Burgess and Delfino failed to perform many of their FRA mandated inspections during the period OIG reviewed. Consequently, we concluded that they had also falsified their inspection reports.

In response to our findings, Signals managers on all three subdivisions began conducting random audits and comparing RTC data with the inspection reports that are faxed to their respective offices. The Assistant Deputy Director for the New Haven subdivision told OIG that between September and December 2015, he conducted 20 such audits, and all of the audits indicated that the FRA required inspections had occurred. In 2016, his goal is to complete 10 audits per month on random shifts and locations.

#### *Additional Controls on Inspections and Recordkeeping*

The controls implemented by Signals management in November 2015, together with the random auditing in place, will help ensure that inspection reports accurately reflect when inspections were performed and also provide greater assurance that critical switch inspections are actually performed. However, there are additional actions that Signals management should take to further strengthen the subdivisions' recordkeeping and monitoring practices

Signal personnel was often assigned in pairs to perform switch inspections. According to the Signals Director, it is not unusual for signalmen from the same crew to split up after they arrive at an interlocking, with each signalman performing his/her own switch inspections. OIG analyzed the inspection reports prepared by one crew who claimed they regularly split up when performing inspections. Each report prepared by the crew members included inspection results for at least 12 switches, yet both employees simply signed the report without indicating which of the switches he/she individually inspected.

Each inspection report should clearly reflect which signalman is responsible for each of the inspections listed on the report. Each signalman should complete and sign a separate inspection report covering only the switches that he/she inspected.

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In addition, Signals' recordkeeping practices should be codified in a set of written guidelines and be uniform across all three subdivisions. However, Signals had not yet established such guidelines. Rather, each subdivision manager had been allowed to determine what is an acceptable practice for his/her area regarding fundamental recordkeeping matters such as, until recently, when inspection reports should be completed. OIG found that the lack of clear and consistent guidance allowed the New Haven subdivision to operate under lax procedures that made it possible for inaccurate and false reporting to go undetected.

As noted herein, Metro-North is in the process of purchasing an electronic recordkeeping system for signal inspections. Electronic recordkeeping is endorsed by the FRA and has many advantages over Metro-North's current system. Electronic recordkeeping could reduce reporting errors and would provide supervisors with tools to more easily ensure compliance with FRA inspection requirements. On January 8, 2016, OIG was briefed on the status of the project. At that time senior project management was not certain whether the electronic recordkeeping system would include GPS technology.

According to one supplier of electronic recordkeeping systems for rail operations that OIG spoke with, the mobile devices currently used by signalmen to record inspections could be GPS equipped. Using this technology, the recordkeeping system can be configured to ensure that signalmen complete inspection reports in the vicinity of the equipment they are inspecting at about the time of the inspection and not at some later date and time. Thus, Signals managers could easily determine from GPS and electronic recordkeeping system whether the signalman was at the inspection site on the claimed date of inspection.

Further, after electronic recordkeeping is implemented, Signals should continue to use RTC data to conduct random audits of inspection reports. A GPS-enabled electronic recordkeeping system as described above, would increase accountability, but would not ensure that the inspections actually occurred. Only RTC data can provide that level of assurance.

### **RECOMMENDATIONS**

While our work was ongoing, I brought these matters to your attention because of the critical nature of the signal system and the need to ensure accuracy and accountability in reporting inspections. The inaccurate reporting that we have found was not isolated to a single crew and most concerning, inaccuracies and falsifications went undetected by supervisors. The additional recommendations outlined below, we believe, will further strengthen Signals inspection controls and improve accountability.

OIG recommends that Metro-North Signals Division:

1. Require that each signal maintainer complete and sign a separate inspection report covering only those switches he/she inspected.

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2. Establish written guidelines for signal recordkeeping that apply to all three subdivisions.
3. Ensure that the electronic recordkeeping system procured by Metro-North incorporates GPS technology.
4. Continue to conduct random audits of inspection reports using Rail Traffic Control Center data after electronic recordkeeping is implemented.

### Agency Response

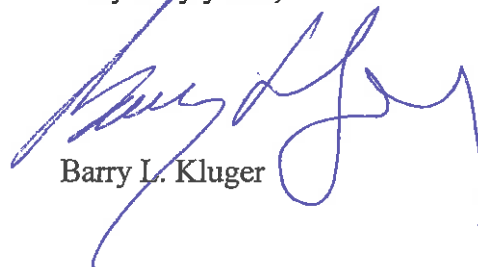
In response to our preliminary report, you provided a response dated April 8, 2016, which stated that "MNR management is certainly troubled by the findings of your investigation [and] will not tolerate actions by employees which jeopardize safety. Two employees have resigned... and we have taken the other two employees out of service as of December 2015."<sup>2</sup>

The letter states that Metro-North agrees with our four recommendations and specifies that:

- Signals personnel have been verbally instructed to complete and sign inspection reports covering only those switches that they have inspected. These instructions will be formalized in writing when the recordkeeping guidelines are completed (see below).
- Written guidelines for recordkeeping should be completed by the Second Quarter of 2016.
- Incorporating GPS technology into the electronic recordkeeping system "will bring multiple benefits to the Signals Division's work" and "will need to be coordinated with various departments, including Legal and Labor Relations as well as the affected operating groups."
- Random audits of inspection reports will continue.

As always, we appreciate the courtesy and cooperation afforded to us at all times by you and your staff and are encouraged by Metro-North's response to our findings. If you have any questions, please call me at (212) 878-0007 or Executive Deputy Inspector General Beth Keating at (212) 878-0022.

Very truly yours,



Barry L. Kluger

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<sup>2</sup> Metro-North dismissed Ronald Burgess on May 4, 2016; Joseph Delfino was dismissed on May 25, 2016.