

1200 New Jersey Avenue, SE Washington, DC 20590



Federal Transit Administration

SENT VIA EMAIL

September 26, 2023

Mr. Phillip Eng General Manager Massachusetts Bay Transportation Authority 10 Park Plaza Boston, MA 02116

Subject: Approval – Corrective Action Plan Revision for Special Directive 22-12, Findings 1 and 2 (FTA-23-12-MBTA-CAT4-1)

Dear Mr. Eng:

Thank you and your team for submitting a revised corrective action plan (CAP) that addresses Findings 1 and 2 from Special Directive 22-12 (Operating Conditions and Policies, Procedures, and Training) issued by the Federal Transit Administration (FTA) on August 31, 2022. This revised CAP addresses seven required actions specified in SD 22-12.

The Massachusetts Bay Transportation Authority (MBTA) submitted the first version of this CAP revision on July 31, 2023, as requested by the FTA. After internal discussions and review with FTA, the MBTA decided to further revise the CAP to adjust the dates of the action items to occur in series rather than in parallel as originally submitted. MBTA submitted the updated revision on August 28, 2023.

Approval of CAP Revision, FTA-23-12-MBTA-CAT4-1

The goal of this CAP revision is to better focus MBTA resources on actions needed to improve implementation of safety rules by operating and maintenance departments and to enhance MBTA's capabilities to identify the reasons for deviations between formal, established standards, rules procedures, and actual operations and maintenance practices. The CAP revision specifies three distinct phases of activity: a 12-month compliance pilot program focused on rules surrounding Personal Protective Equipment (PPE); development of a data dashboard and supporting processes to monitor MBTA's overall compliance with safety rules; and revision and enhancement of MBTA's Safety Rules Compliance Program (SCRP), including new forms, training, and digitization of program.

Based on careful review of the revised CAP, and crosswalk to ensure that all required actions from Findings 1 and 2 in SD 22-12 are addressed, FTA approves FTA-23-12-MBTA-CAT4-1.

With approval of this revised CAP, FTA will open new tracking for MBTA's responses to Findings 1 and 2 from SD 22-12 based on the action items specified in FTA-23-12-MBTA-CAT4-1 and will archive all previous submissions related to FTA-22-MBTA-CAT4-1. A through FTA-22-MBTA-CAT4-1. F and FTA-22-MBTA-CAT4-2.

We appreciate your efforts to enhance MBTA's safety performance, and we look forward to working with you as the MBTA continues to improve its safety rules compliance capabilities. If you have any question, please contact our Safety Management Inspection Coordinator Erin Powell at (771) 200-8016 or by email at Erin.Powell@dot.gov.

Sincerely,

Joe DeLorenzo

Associate Administrator and

Chief Safety Officer

Office of Transit Safety and Oversight

Enclosure: FTA-23-12-MBTA-CAT4-1 Corrective Action Plan Evaluation Matrix

cc: Ryan Coholan, Chief Operating Officer, MBTA

Timothy Lesniak, Acting Chief Safety Officer, MBTA

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Meredith Sandberg, Chief of Quality, Compliance, and Oversight,

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Jamie Van Nostrand, Chair, Massachusetts Department of Public Utilities (DPU)

Robert Hanson, Director, Rail Transportation Safety, DPU

Identification Number	Finding and Required Action	Proposed CAP Items	Estimated Start Date	Estimated End Date	FTA Comments
FTA-23-12-	Finding 1:	PPE Compliance Pilot			
MBTA-CAT4-	MBTA-CAT4- Documented operating	Set goal outcomes and measures for pilot: Determine and align upon measurable desired outcomes from PPE pilot and broader rules review process and governance.	8/01/23	9/15/23	Action Item Approved FTA notes that responsible parties for all action items are identified by Departments only (no specific names or titles). FTA will monitor the assignment of responsibility throughout CAP implementation and may request additional detail as part of CAP verification.
		2. Catalog current available data sources for PPE compliance: List data sources (i.e., RCP 101, RCP 041, employee injuries, Safety observations, capital programs QA data, eBuilder daily reports, NCRs). Identify SMEs, identify data location and provide status. Gain access to data.	8/01/23	9/15/23	Action Item Approved FTA will discuss how data has been identified and accessed during biweekly meetings.
		3. Review & assess data sets: Ingest data, evaluate what data is telling us, review for compatibility/format/records.	8/30/23	9/29/23	Action Item Approved
		4a. Mockup possible data visualizations and review with key stakeholders: Based on data review and assessment, develop a wireframe for possible data visualization/dashboards to check with non-data expert	8/25/23	10/6/23	Action Item Approved FTA will review wireframe as part of verification.

September 26, 2023

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	prioritized list of most frequently violated rules	stakeholders that it is fit for purpose.			
	and procedures with the most significant potential safety consequences. FTA-22-MBTA-CAT4-1.C Each department must	4b. Perform Gap Analysis on data: Determine if MBTA has all the data we need to identify trends in compliance; determine what data is missing/incomplete.	9/25/23	10/6/23	Action Item Approved
	develop and implement approaches, which could include audits, use of checklists and guides, campaigns, and training, to improve compliance. FTA-22-MBTA-CAT4-1.D Each department must report to the Safety Department monthly on its	5. Develop data to demonstrate PPE compliance: Using standard data science practices, develop data flows, identify KPIs, build a concept dashboard/report, socialize with people; get feedback; refine report and the process; improve data; add data as more becomes available, incorporate analysis.	9/15/23	12/1/23	Action Item Approved FTA will work with MBTA to confirm completion of these action items, including socialization of KPAs and data flows.
	compliance with identified key rules and procedures critical to the safety of activities performed by the department. FTA-22-MBTA-CAT4-1.E The Safety Department must review and audit these reports and compile a monthly compliance report for MBTA's	5a. Build dashboard/reporting on PPE compliance: Building off the existing PPE compliance dashboard, incorporate additional data points to gain a wider view of PPE compliance. Include information about the number of people on the ROW on day and night orders.	9/18/23	10/20/23	Action Item Approved FTA notes that the enhanced PPE compliance dashboard will be in place by October 20, 2023 FTA will monitor to confirm the changes made to the SCRP PPE forms to address FTA's comments are included in the dashboard and used in the corresponding audits.
	executive leadership team. FTA-22-MBTA-CAT4-1.F Each department must continue to review safety	5b. Socialize the dashboard/reporting: Present to SRCPSC (or appropriate organizational body), Exec Leadership and Chiefs of E&M,	10/23/23	11/17/23	Action Item Approved

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	data to assess effectiveness of actions and to improve		Capital, Construction Logistics, Operations – get feedback for improvements.			
	compliance with safety rules and procedures. FTA-22-MBTA-CAT4-2 MBTA must develop,	5c.	Improve dashboard: Make changes, as needed, to improve DB. Identify any additional data needed.	11/20/23	12/01/23	Action Item Approved
	document, and communicate a mechanism to monitor operations, and provide training to stakeholder safety and operating personnel on this mechanism, to enable the analysis and understanding of situations of noncompliance.	6.	Establish feedback loop to Departments: Establish process for informing depts about PPE compliance, present use of dashboards, request comments or ideas for areas of improvement.	10/23/23	11/17/23	Action Item Approved
		7.	Assess effectiveness of pilot: Continue publishing the dashboard/reporting monthly. Evaluate metrics for improvement with PPE compliance. Continue to improve data and dashboard.	12/01/23	8/16/24	Action Item Approved FTA will request access to monthly reports generated from dashboard and metrics used for evaluation as part of CAP verification.
		8.	Feedback into the overall compliance process: Develop lessons learned from pilot. Any steps missing from process? What kind of resourcing and timelines are realistic to achieve desired outcomes.	12/01/23	1/31/24	Action Item Approved
			Mechanism to Monitor Operations Rules Compliance (Steps to Support Operationalization)			
		9a.	Determine prioritized rules categories for establishing	9/11/23	11/22/23	Action Item Approved

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			compliance monitoring for select key rules: Establish and align with end users on a sequence of thematic compliance areas to cultivate data flows based on an agreed upon prioritization framework (e.g. high risk of noncompliance, hypothesis of frequent non-compliance, etc.)			
		9b.	Set goals and objectives: Determine and align upon measurable desired outcomes for rules compliance: KPIs	9/11/23	12/29/23	Action Item Approved
		9c.	Set cadence for review of progress toward goals: Determine level of compliance/improvements MBTA wants to achieve at a regular cadence (i.e., 1 year later, 2 years later)	9/11/23	12/29/23	Action Item Approved FTA will review cadence and prioritization and expects iterative enhancements.
		10.	Catalog current available data sources for compliance: List data sources, identify SMEs, identify data location and provide status. Gain access to data.	10/24/23	12/22/23	Action Item Approved
		11.	Review and assess data sets: Ingest data, evaluate what data is telling us, review for compatibility/format/records.	11/06/23	1/05/24	Action Item Approved
		12.	Perform Gap Analysis on data: Determine if MBTA has all the data we need to identify trends	1/08/24	2/01/24	Action Item Approved

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		in compliance; determine when data is missing/incomplete.	hat		
		13. Compile currently available into dashboard and reports identify trends: Update dashboard to show current vof thematic compliance with Operations at the MBTA	& view	2/01/24	Action Item Approved FTA will review dashboard, trend reports, and accessed data as pat of verification.
		14. Data transformation : Using standard data science practice develop data flows, identify build concept dashboards/reports, socialize with people; get feedback; report and the process; impredata; add data as more beconsided available, incorporate analysis	ces, KPIs, e efine rove omes	1/31/25	FTA will review data flows, use of KPIs, reports, and socialization at set intervals throughout this period as part of verification. FTA will focus on how management practices and on-the-ground procedures ensure the collection of quality of data to support the dashboard and ensure meaningful KPIs.
		14a Cultivate data flows: Usingavailable data, simplify datasand optimize most used que		4/05/24	Action Item Approved
		14b Confirm report/dashboard I Confirm what are the appropriate the confirm what are the propriate to reach reporting/dashboard (i.e., If injuries go over XXX/week, fluored; iterate)	priate	3/01/24	Action Item Approved FTA will review KPIs as part of verification.
		14c Build initial dashboard . prototype : Identify size of the world (i.e., # of people on the		3/11/24	Action Item Approved

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		ROW), visualize the data; set cadence for updating. Mock-up of dashboards.			FTA will expect meeting or briefing on prototype as part of verification.
		14d Present & review dashboard . with end users and frontline workers: Socialize the dashboards – does it tell us what we need to know about compliance? How can it be improved? Are there elements that are not being captured correctly?	3/11/24	4/12/24	Action Item Approved FTA will observe employee engagement activities as part of CAP verification.
		 14e Produce & distribute reporting to end users and frontline workers: Socialize the reporting is it usable for Departments to improve compliance? 	3/11/24	4/12/24	Action Item Approved FTA will observe employee engagement activities as part of CAP verification.
		14f. Provide feedback on dashboard/reporting: Review dashboard/reporting for usefulness; sanity check; how call it be improved?	4/12/24 n	4/26/24	Action Item Approved
		14g Socialize lessons learned from PPE compliance pilot; assess mechanism for improvement: Use any lessons learned from PP compliance pilot to inform the dashboards and reporting for other thematic compliance areas (e.g., Operator behavior, ROW safety, etc.		5/09/24	Action Item Approved FTA notes that PPE Pilot is largely owned by QCO and Ops Analytics. Lessons learned may not be as applicable for other Departments.

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		14h Improve dashboard: Use . feedback from 14e to improve; continue assessment through th length of the pilot; feedback loo to the front-line workers as compliance improves or declines	0	1/03/25	Action Item Approved
		14i. Improve reporting: Use feedback from 14f to improve; continue assessment through the length of the pilot; feedback loop to the front-line workers as compliance improves or declines.	of	1/03/25	Action Item Approved
		14j. Continue to develop data flows add to reporting: As data flows mature/become available, add t dashboard/reporting.		1/03/25	Action Item Approved FTA will conduct iterative verification regarding this CAP action item.
		15. Provide updated current reporting to SCRP steering committee: Establish cadence for updates to compliance dashboard. Submit updated compliance report to SRCPSC on monthly basis.		3/07/25	Action Item Approved
		16. Assess meeting structure, cadence, and purpose: Assess existing meeting structure for SRCP, Safety, event investigation and any meetings that lead to root cause determination or Rules/policy/procedure revision. Determine how they will work		1/24/24	Action Item Approved

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		with the SRCP and wor	king group		
		17. Mapping the existing r governance: Assess ho policies, procedures are revised; Rules – via SO; Administration's Policy procedures – each deprowns/updates their SO	w rules, e currently policies – WG; t	1/24/24	Action Item Approved
		18. Formalize process to in Departments when tree identified, both positive negative: SRCPSC to into operating departments are identified. Establish for report/email from Scommittee to Chief of I w/trends. Plan on mon feedback report for both (no trends identified, a completed etc or neg (trend of non-compliant identified, recommend be undertaken etc).	ends are re and form if trends in process GRCP Dept thly th positive II RCPs ative ice	6/07/24	Action Item Approved FTA will assess how SCRP Steering Committee informs operating and maintenance departments if trends have been identified regarding non- compliance and how the SCRP Steering Committee ensures the individual department's role in overseeing implementation of key safety rules, addressing non-compliance.
		19. Report to Executive Le Establish method to re executives (i.e., revise/ compliance to SDAR); r when Areas do not con required # of RCP audit positive and negative to	port to add eport nplete the s; report	6/07/24	Action Item Approved FTA wil review reports as part of CAP verification.

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		20. Establish method for determining root cause for no compliance: Establish process determining/investigating root cause for non-compliance of no major safety events; incorpora root causes identified by incident/event investigation.	for t on-	2/07/24	Action Item Approved FTA notes that MBTA's Safety Event Investigation Manual (Revision 3.2, October 2021) includes section 9.1 (Human Factors Analysis and Classification System (HFACS)) and Section 9.2 (Root Cause Analysis).
		21. Analyze data monthly: On a monthly basis, review notable safety events, assess contribut factors and create matrix to enable analysis to identify commonalities, to link to root causes. Continue throughout to pilot on a monthly cadence. Submit monthly.	ing	2/07/25	Action Item Approved FTA will review results of analysis as part of CAP verification.
		22. Assess workforce to support recause analysis investigations: Perform staffing analysis to identify # of employees neede whose roles and responsibilities include investigation for minor events/identified trends in nor compliance; consider a group alignment with Safety for SMS event investigation. Coordinate with work underway with SD 2 and 22-10.	d es r n- in & e	5/09/24	Action Item Approved FTA notes that MBTA's Safety Event Investigation Manual (Revision 3.2, October 2021) includes section 9.1 (Human Factors Analysis and Classification System (HFACS)) and Section 9.2 (Root Cause Analysis) and that MBTA Safety has developed training on implementing these procedures, which may be useful.
		23. Establish process for referral to Working Group responsible for rules assessment: Establish		3/08/24	Action Item Approved

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		process for SRCPSC to refer issue to Rules working group. Four WGs were established March 2023 and continue meeting regularly.	es		
		24. Revise charter for RAWG: Update charter to reflect purposed of RAWG. Include process for referral to RRWG when RAWG recommends any revisions, including a feedback loop to the RAWG and front-line workers from the RRWG.	10/24/23	12/08/23	Action Item Approved FTA will confirm representation of operations and maintenance departments addressed in SD 22-12 in the RAWG.
		25. Update the rosters : Revise four RAWG rosters to reflect shift to front line workers.	10/24/23	12/08/23	Action Item Approved
		26. Hold RAWG workshops: Establis cadence/series of workshops for 4 RAWGs; workshops to review top 3-5 most frequently violated rules, delve into root cause.		12/08/23	Action Item Approved FTA may observe workshops as part of CAP verification.
		27. Establish cadence of future meetings: Use results of workshop to determine appropriate cadence for RAWGs	10/24/23	12/08/23	Action Item Approved
		28. Establish process to refer rules changes to Rules Review Working Group (RRWG): Develo process to refer rules that requir revision to RRWG, including a		3/08/24	Action Item Approved

FTA Comments
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Action Item Approved
Action Item Approved Note: FTA has repeatedly expressed concern regarding the effectiveness of the SRCP as a mechanism for overseeing rules compliance. While FTA appreciates MBTA's focus on revamping and digitizing this program, and evaluating current SRCP governance, FTA also
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					ensuring its quality, through the administration of effective rules compliance checks.
		32a Evaluate compliance best . practices: Transit & other aviation, manufacturing) i best practices for rules compliance.	(i.e.	11/10/23	Action Item Approved
		32b Review SCRP manual and documents: Review SRCP manual, RCP forms, cader audits	5,52,25	12/08/23	Action Item Approved FTA will review revised materials as part of CAP verification.
		32c Evaluate current SCRP . governance: Map who ha authority to ensure RCP requirements are met; wh accountable when areas of comply with required cade Who reports and monitor cadence. Evaluate compose SRCP committee.	no is lo not ence. s on	2/23/24	Action Item Approved FTA likely will request briefing on activities and results for this action item.
		33. Gap assessment : Determine what is missing from our pland what is not aligned whe best practice.	orogram	3/08/24	Action Item Approved FTA will actively verify MBTA's conduct of the gap assessment, ensuring its thoroughness.
		34. Evaluate creating digital f Quantify what it would ta convert all RCP forms from to digital (automated/kna what digital equipment w	ke to n paper ck) and	11/10/23	Action Item Approved

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			needed by folks who perform audits. Assess potential benefits (i.e. data in real time, increase # of audits performed)			
		35.	Pilot of digitized forms: Select a HR line to pilot digital RCPs. Give appropriate employees digital device with the application; choose which (if not all) RCPs will be performed digitally. Run pilot for 120 days, evaluate with feedback from employees and revise as needed.	11/10/23	3/28/24	Action Item Approved
		36.	Recommend changes to SRCP: Recommend revisions to components of SRCP programs, potentially including duties and composition of SRCP committee; RCP forms and procedures; methods of administering audits; cadence of audits; scheduling of audits; appropriate governance	3/28/24	5/24/24	Action Item Approved In addition to reviewing all of the materials, FTA will expect a briefing on the proposed changes as part of CAP verification.
		37.	Feedback loop for recommended changes to SRCP: Socialize proposed changes with impacted departments; gather feedback from employees performing audits, as well as those reviewing outputs and identifying trends	5/27/24	7/26/24	Action Item Approved
		38.	Assess administrative support personnel for SRCP: Labor model for personnel required to support	5/27/24	7/26/24	Action Item Approved

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		SRCP across the authority; hire as needed.			FTA will look to assess coordination with workforce assessment activities underway in SD 22-9.
		39. Revise SRCP : Revise SRCP manual, audit forms and processes as needed.	7/27/24	10/25/24	Action Item Approved
		40. Develop training materials for revised SRCP materials: Develop LMS module; practical training elements as needed. Coordinate with efforts under SD 22-9.	10/27/24	12/10/24	Action Item Approved
		41. Training of personnel : Train impacted employees, in phases. Coordinate with training with ongoing work under 22-12 CAP 4.	12/10/24	3/28/25	Action Item Approved
		42. CAP verification : Perform verification activities.	3/27/24	8/25/25	Action Item Approved